



TOTAL
TOOLING
SYSTEM

Vol.
13

General Catalog



Tooling System of the Highest Quality

With our superior technologies and state-of-the-art production facilities, we guarantee to offer "High Precision" and "High Quality" tools to your satisfaction.

Through our activities as a specialized manufacturer of tooling since 1967, BIG Daishowa has the distinction of having the highest market share in Japan and we continue to increase the number of our customers in the world-wide market and gain their trust.

BIG will help develop the market through providing the total care that only we can provide. We are proud to contribute to the manufacturing industry by developing innovative toolings and cutting tools for the next generation.



Awaji Factory No.2



MEGA TECHNICAL CENTER



Osaka Factory



Awaji Factory No. 1



Logistics Center



Awaji Factory No. 3



Awaji Factory No. 4



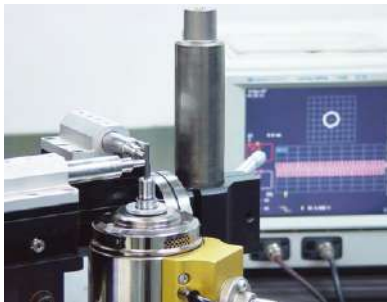
Awaji Factory No. 5



Awaji Factory No. 6



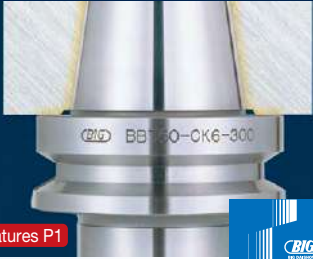
Accurate inspection carried out under strictly controlled quality standards



Total Tooling System

This catalog contains patents and trademarks of the BIG DAISHOWA group pending and patented at the Japan Patent Office. Some patents and trademarks may also have been applied for countries other than Japan.

Dual Contact System



Features P1



BIG-PLUS Spindle System

BBT SHANK	A1
BDV SHANK	B1
BBT-M SHANK	E10

Dual Contact System



HSK TOOLING SYSTEM

Features P3

HSK-A Type	C1
HSK-E Type	C51
HSK-F Type	C57
HSK-T Type	E15

Dual Contact System



MILLTURN TOOLING

Features E1

BBT-M SHANK	E10
HSK-T Type	E15
BIG CAPTO SHANK	E23
Cartridge	E7

For High Speeds



Clamping diameter:
ø0.45 - ø8.05

MEGA MICRO CHUCK

Features P6/P7

BBT SHANK	A1
BDV · DV SHANK	B1
HSK SHANK	C1/C51/C57
ST SHANK	D1
BIG CAPTO SHANK	E35
For N/C Lathes	F1

For High Speeds



Clamping diameter:
ø0.25 - ø25.4

MEGA NEW BABY CHUCK

Features P6/P8

BBT SHANK	A3
BDV/DV SHANK	B2
HSK SHANK	C3/C53/C58
BIG CAPTO SHANK	E36

For High Speeds



Clamping diameter:
ø3 - ø12

MEGA E CHUCK

Features P6/P9

BBT SHANK	A7
BDV SHANK	B4
HSK SHANK	C7/C59
BIG CAPTO SHANK	E39

For High Speeds



Clamping diameter:
ø16 - ø50

MEGA DOUBLE POWER CHUCK

Features P6/P10

BBT SHANK	A9
BDV SHANK	B5
HSK SHANK	C9/C60
BIG CAPTO SHANK	E41

Hydraulic Chuck



Clamping diameter:
ø3 - ø42

HYDRAULIC CHUCK

Features P11

BBT SHANK	A13/A72
BDV SHANK	B9
HSK SHANK	C12/C55/C61
ST SHANK	D2
BIG CAPTO SHANK	E43
For N/C Lathes	F7

Collet Chuck



Clamping diameter:
ø0.25 - ø20

NEW BABY CHUCK

Features P13

BT SHANK	A23
DV SHANK	B11
HSK SHANK	C16
ST SHANK	D3
BIG CAPTO SHANK	E42
For N/C Lathes	F2

Runout Adjustable Chuck

Runout Adjustable RA Holder



NEW HI-POWER
MILLING CHUCK
.....A32/C20

NEW BABY CHUCK
.....A28/C18

Milling Chuck



Clamping diameter:
ø12 - ø50.8

NEW HI-POWER MILLING CHUCK

Features P15

BBT/BT SHANK	A29
BDV · DV SHANK	B7
HSK SHANK	C19
ST SHANK	D5
BIG CAPTO SHANK	E45

Milling Chuck



Clamping diameter:
ø16 - ø32

MEGA PERFECT GRIP

Features P16

BBT SHANK	A33
DV SHANK	B6
HSK SHANK	C21

Side Lock Holder for Mold Making



Clamping diameter:
ø3 - ø20

MOLD CHUCK

Features P17

BBT SHANKA34
HSK SHANKC22

Shrink Fit Holder



Clamping diameter:
ø4 - ø20

SHRINK CHUCK

BBT SHANKA35
HSK SHANKC23
ST SHANKD6
BIG CAPTO SHANKE46

Boring Tool



CK BORING SYSTEM

Features P18

BORING HEADA39
BBT/BT SHANKA75
IV/DV SHANKB13
HSK SHANKC25/C62
ST SHANKD9
BIG CAPTO SHANKE49

Built-In Damper

SMART DAMPER CK BORING SYSTEM

Features P21

BBT SHANKA78
HSK SHANKC26
ExtensionA78
EWN BORING HEADA51
SW HEADA41



Built-In Damper

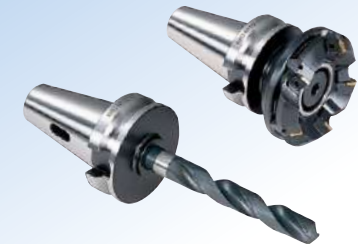


SMART DAMPER FACE MILL ARBOR TYPE H

Features P21

BBT SHANKA116
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HSK SHANKC29

General Tools



General Tools

BBT/BT SHANKA113
BDV SHANKB15
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BIG CAPTO SHANKE50

Tapper



MEGA SYNCHRO TAPPING HOLDER

Features P23

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Tapper



TAPPER SERIES

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Angle Head



ANGLE HEAD

Features P27

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Coolant Feed



Hi-JET HOLDER

Features P26

BBT SHANKA165
DV SHANKB26

Speed Inserter



HIGH SPINDLE

Features P26

BBT SHANKA175
BDV SHANKB25

Air Spindle



Fine Machine Tooling

AIR TURBINE SPINDLE

Features P29

BBT SHANKA171
BDV SHANKB24
HSK SHANKC49

Other Tools



FLANGE FACE CLEANER

BT SHANK.....A177
DV SHANK.....B27

Pullstud Bolt



PULLSTUD BOLT
G32

Caution
 Only use PULLSTUD BOLTS made by BIG. Accuracy is not guaranteed if poor-quality PULLSTUD BOLTS are used.

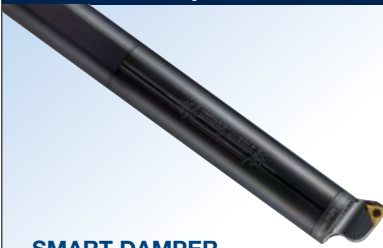
N/C Lathe Tooling



N/C LATHE TOOLING

Features P5
F1

Built-In Damper



SMART DAMPER BORING BAR

Features P21
F13

Measuring Tool



Centering Device for Small Lathes

CENTERING TOOL

Tool Offset Sensor

LATHE MASTER

.....F15

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TOOLING MATE UNIVERSAL

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TOOLING MATE

.....H1

Peripherals



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TORQUE FITH3

Peripherals



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ST LOCK
H4

Peripherals



WIPER CLEANER
H5

TK CLEANER
H5

TAPER CLEANER
H6

Peripherals



TOOLING CLEANER
H7

SPINDLE CLEANER
H8

Peripherals



T-SLOT CLEAN
H9

CHIP BLOWER.....H10

Peripherals



TOOLING WAGON
H11

Touch Probe & Edge Finder



POINT MASTER SERIES **Features P31**
I1

Touch Probe & Edge Finder



ACCU CENTER **Features P31**
I5

3D MASTER RED **Features P31**
I5

Tool Offset Sensor



BASE MASTER SERIES **Features P32**
I6

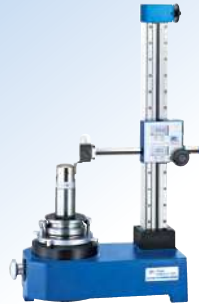
Tool Offset Sensor



TOOL MASTER

Features P32
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Tool Presetter



**TOOL
PRESETTER
TPS**
.....I9

Measuring Instrument



High-Precision Test Bar
DYNA TEST Features P34
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Measuring Instrument

Ceramic Taper Gauge
DYNA CONTACT

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Measuring Instrument



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ATC ALIGNMENT TOOL
.....I16

Measuring Instrument



Precision Electron Level
LEVEL MASTER Features P33
.....I17

Measuring Instrument



ACCU STAND I18

Indexable Insert Endmill



FULLCUT MILL Features P36
BBT SHANK J1/J7
BDV SHANK J2/J9
HSK SHANK J3/J11
ST SHANK J2/J10
BIG CAPTO SHANK J13

Face Mill Cutter



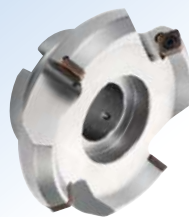
**FULLCUT MILL
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Aluminum/Cast Iron High-Speed Machining Cutter



SPEED FINISHER Features P37
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Face Mill Cutter



SURFACE MILL Features P38
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Chamfering Tool



C-CUTTER MINI Features P39
..... J22

Chamfering Tool



C-CUTTER Features P40
..... J30

Chamfering Tool




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..... J33

Chamfering Tool



R-CUTTER Features P41
..... J34

Chamfering Tool for Drilling Machine



C-CUTTER BOY Features P43 J37

Spot Drilling/Chamfering Tool



C-CENTERING CUTTER Features P42 J38

Centering + Chamfering Tool



CENTER BOY Features P42 J40

Back Spot Facing Tool



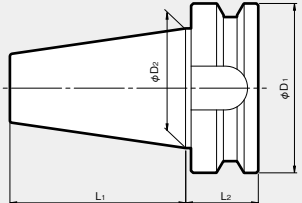
BF-CUTTER Features P43 J41

Back Spot Facing Tool



AUTOMATIC BACK SPOT FACER J43

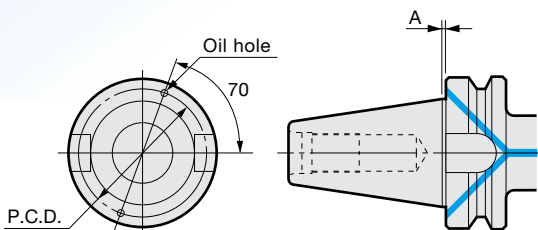
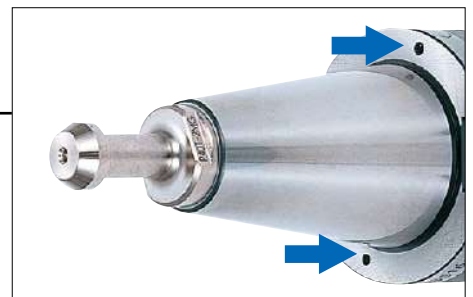
Data



Taper Shank Standard Outer Diameter Dimensions Table
.....End Section

Flange Through Tooling DIN69871/B

We also offer German DIN69871/B Flange Through Tooling specification with coolant supplied to the cutting edge from the machine spindle flange face.



Size	P.C.D.	A
BBT40	54	1
BBT50	84	1.5
BT40	54	2
BT50	84	3

BBT and BT holders have different lengths between the gauge line and flange face. Use of the correct holder for each machine spindle is required.

Please contact us for details.

<p>BBT/BT SHANK</p> <p>JIS B 6339 (BIG-PLUS) JIS B 6339</p>	<p>A</p> <p>A1 - A177</p>
<p>BDV/DV SHANK</p> <p>DIN 69871 A/B (BIG-PLUS) DIN 69871 A/B</p>	<p>B</p> <p>B1 - B27</p>
<p>HSK SHANK</p> <p>Form A DIN 69893-1 Form E DIN 69893-5 Form F DIN 69893-6</p>	<p>C</p> <p>C1 - C63</p>
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For models that start with BBT, BT, BDV, DV, IV, HSK, ST and C (BIG CAPTO)

(Example) BBT30 - **32-L150** Index with this model, excluding BBT, BT, BDV, DV, IV, HSK, ST and C.

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I

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HSK C11 · C60
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BDV B4
HSK C7 · C59
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(High-Rigidity Taper Type) **BBT** A1
BDV/DV B1
HSK C1 · C51 · C57
BIG CAPTO E35

MEGAER MEN
MER**S****N**
MERN
MERPS
MES-
MG**EOR**
MG**NOR**
MGN
MGN**F**
MGN**S**
MGN**S-****J**
MGN**S-PS**
MGN**T**
MGR**/L**
MGR**/L**
MGR**TL**
MGR**A-N**
MGR-TL/P
MGT-

MGT-**-**
MGT-**M/U/P-**
MGT**OR**
MGT**SA**
MGT**SAH**
MGT**SAM**
MGT**SS**
MGT3-

MGT36-

MGT36

MPS-
MTA-

MW
MW**E**
MW0404
MW16SS
MW16BS

N

NBA**B**
NBA**-M**
NBB
NBB**S**
NBC-**E**
NBC-**CE**

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SDF□	FMH basic holder (For Built-in Damper SMART DAMPER)--- BBTA116 BDV B16 HSK C29
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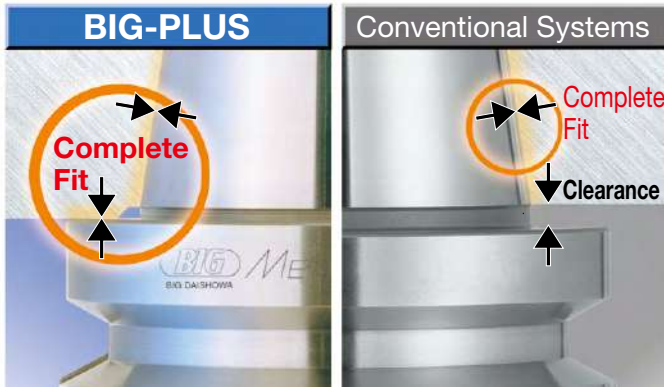
W

WC □□ 02	Insert (CK)A89
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X

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XF2	Air dryer regulator.....A174

- BBT A1**
SHANK
- BDV B1**
SHANK
- BBT-M E3**
SHANK



- This system creates simultaneous dual contact between the taper and flange face by establishing a complete gauging system.
- Manufacturers in use: 69 in Japan, 114 overseas



23rd Invention Grand Prize/Ikemoto Award for Distinguished Invention

The many advantages of using BIG-PLUS

- **Improved** surface finish and dimensional accuracy
- **Extended** tool life
- **Prevention** of fretting corrosion caused by heavy cutting
- **Improvement** of ATC repeatability
- **Elimination** of Z-axial movement at high speeds
- **Improved** roundness of boring operations

Draw-in amount of the holder is the key to perfect face contact!

Before the holder is clamped, there is a slight clearance at the flange face. Axial movement of the clamping equipment causes the main spindle to expand due to elastic deformation, achieving perfect face contact. In this way, axial movement is essential to guarantee perfect face contact.

<Reference values>

Spindle size	Clamping force	Axial movement
#40	800kg	20 μm
#50	2,000kg	20 μm

※ Reference figures. Axial movement may differ depending on spindle design, clamping mechanism, etc.

Increased contact diameter provides more rigidity

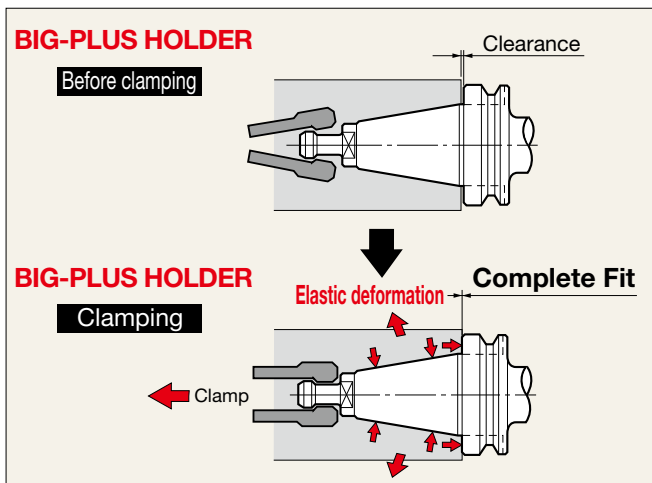
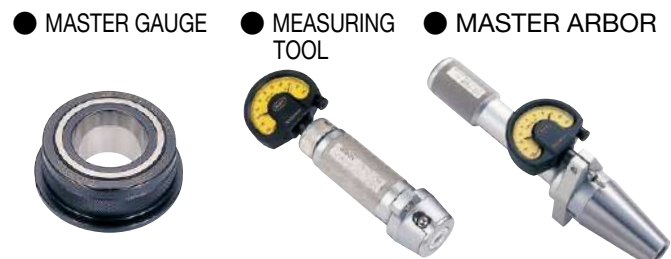
A conventional BT toolholder is supported on a reference diameter called the gauge face. On the contrary, a BIG-PLUS toolholder is supported on the flange face, which brings remarkable improvement to rigidity.

For BT30	ø31.75 → ø46
For BT40	ø44.45 → ø63
For BT50	ø69.85 → ø100

Strict gauge control through the established gauge system

BIG-PLUS spindles produced by licensed machine or spindle builders are strictly controlled in dimensions by the **(BIG)** original MASTER GAUGE. Only the trademarked BIG-PLUS HOLDERS can achieve the optimal performance of these spindles fully and safely.

(BIG-PLUS Spindle exclusive gauge)



It is highly recommended to consult with the machine tool manufacturer in order to specify the BIG-PLUS spindle before introducing a new machining center in your facility.

7/24 taper dual contact system, the simplest available with excellent results

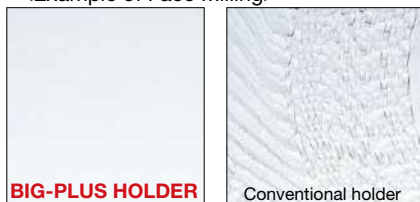


The ultimate combination of “BIG-PLUS Spindle” and “BIG-PLUS HOLDER”

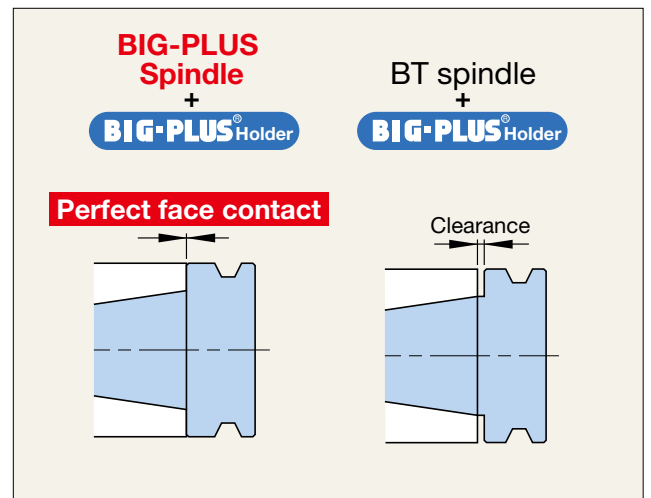
The **BIG-PLUS Spindle System** achieves maximum dual contact performance by combining the **BIG-PLUS HOLDER** and **BIG-PLUS Spindle**. The BIG-PLUS HOLDER can also be used with existing BT spindles with standard specs. However, this will not achieve dual contact. To realize superior dual contact performance, use a BIG-PLUS HOLDER with a BIG-PLUS Spindle. Please be aware that dual contact holders other than BIG-PLUS holders may damage BIG-PLUS spindles.

We recommend the **BIG-PLUS HOLDER** for the **BIG-PLUS Spindle**.
Avoid using both the BIG-PLUS HOLDER and BT Holder together with the BIG-PLUS Spindle.

<Example of Face Milling>



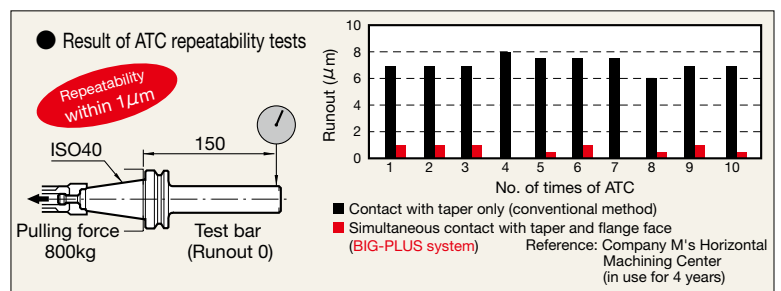
Machine: #40
Tool: Face Mill (ø125)
Workpiece: A2017
Cutting Depth: 2.4mm



With the exception of the flange face position dimensions, the BIG-PLUS HOLDER is in accordance with the MAS-BT standard.

Improvement of ATC repeatability

The taper and flange face are securely retained when the holder is attached to the machine spindle, improving ATC repeatability. As a result, this achieves significant effects including improved chuck runout accuracy and dimensional accuracy for boring.



BIG-PLUS spindles have been adopted by licensed machine or spindle builders around the world under strictly controlled dimensions using BIG's Master Gauge. In order to protect the spindle or prevent possible accident, only use toolholders with the BIG-PLUS trademark.

A Type C1

E Type C51

F Type C57

T Type E13

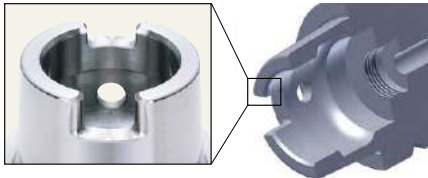


● A hollow dual contact system series with superior accuracy.



Drive key is important for torque transmission

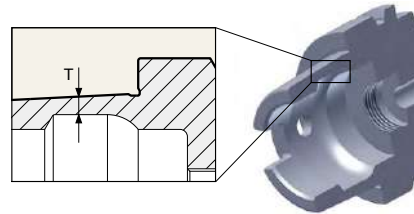
The torque transmission of HSK-A type is commenced via the drive key grooves located at the smaller end of the taper. The curved surfaces on the outer drive key groove are important. This curved surface is designed to take the required torque. To achieve precise dimensions of the curves and drive key groove width, BIG provides finish machining of all tools after heat treatment.



Premium material selection

Since HSK is a hollow taper shank, the material has a critical role for optimum performance.

For this purpose, BIG uses carefully selected materials with optimal hardness and strength to prevent product failure.



HSK size	T
25	1.09
32	1.25
40	1.92
50	2.60
63	3.47
100	5.17
125	6.45

New series of each HSK type

ISO12164 & DIN69893-1

A Type A40, A50, A63, A100, A125

DIN69893-5

E Type E25, E32, E40, E50

DIN69893-6

F Type F63



Other HSK sizes are also available.
Please contact us for details.

HSK turning tools for millturn machines

ISO12164-3

HSK-T Type

T63, T100

The abundant Cartridge range and revolutionary modular systems improve turning efficiency on millturn machines.



Advice



The torque transmission of HSK-A type is commenced via the drive key grooves located at smaller end of the taper. The round surface within the grooves is especially designed to make contact for rotation. Thus it is possible to determine a tool's quality by the finish of this curved surface.

● Polygon tapered dual contact tooling system adopted by ISO standards.



CAPTO is a trademark licensed by Sandvik Coromant.

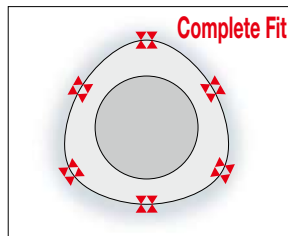
Polygon tapered dual contact tooling system

Sandvik Coromant AG developed, in 1989, a triangular polygon shaped 1/20 taper dual contact system. BIG DAISHOWA launched licensed production in 2000. Polygon taper maintains close contact and eliminates radial clearance, making it an ideal interface for turning. ISO standardized in November 2008.



Outstanding cutting edge height repeatability

The polygon taper without clearance achieves high repeatability of cutting edge height, as well as secure function as a drive.



Abundant rotating tool series

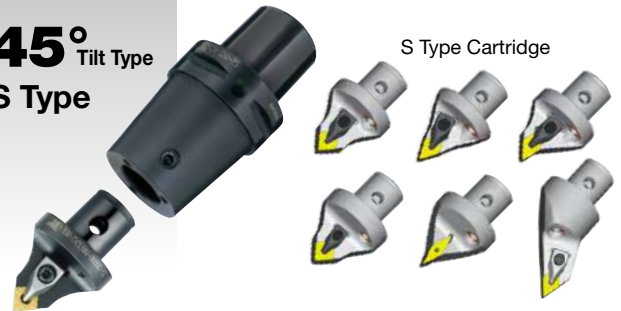
Collet Chuck, Milling Chuck, Boring Tool, Tapper, Sensor, Endmill Cutter, Arbor... A wide range of tool holders are available.



Turning tool series ideal for millturn machines

The abundant cartridge range and revolutionary modular systems improve turning efficiency on millturn machines.

45° Tilt Type
S Type



S Type Cartridge

90° Right Angle Type
F Type



F Type Cartridge

C3
C4



NEW

BIG CAPTO's

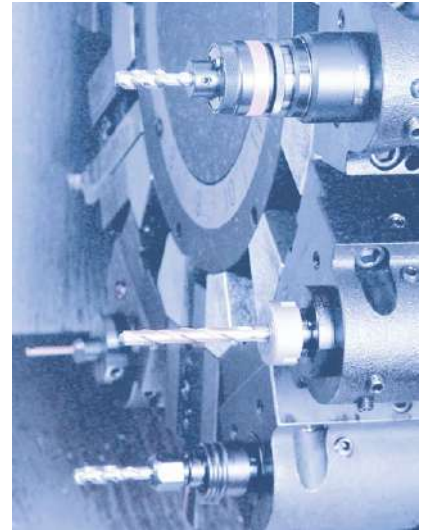
C3/C4 Series for turning is now available. E25

N/C Lathe Tooling

Details F1



● Improving the efficiency of NC lathes and supporting productivity through reliable technology



Abundant series including holders for small lathes and tapping attachments



Ultra-slim nut.
Ideal for small lathes with limited space.
MEGA MICRO CHUCK



Ideal as a basic holder for lathes.
NEW BABY CHUCK



Achieves stable machining with highly accurate chucking repeatability.
MEGA ER GRIP



Easy and reliable compensation of center of sleeve holder in turret lathe.
CENTERING HOLDER



High-precision Hydraulic Chuck that allows easy tool change using a single wrench.
HYDRAULIC CHUCK

NEW



Improves thread quality and tap life by reducing thrust loads to 1/10.
MEGA SYNCHRO TAPPING HOLDER

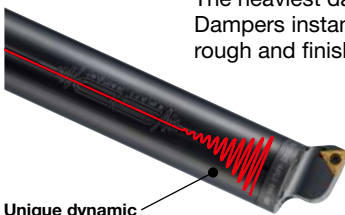


B Type with tap depth control.
E Type with built-in torque limiter.
AUTO TAPPER B/E



Tool offset sensor. Setup of tool offset position without a trial cut.
LATHE MASTER

SMART DAMPER for internal turning



Unique dynamic damper adopted

Internal Turning Tool with Built-In Damper
SMART DAMPER Boring Bar F13



Efficient centering of turning tool holder



With a Dial Gauge always facing front, toolholder centering can be done with an eye on the gauge. Unique centering tool for lathes with superior visibility.

F15

Centering Device for Small Lathes
CENTERING TOOL PAT.
CTL-90



BBT A1
SHANK

BDV/DV B1
SHANK

HSK C1
SHANK

ST D1
SHANK

BIG CAPTO E35
SHANK

For **N/C** F1
Lathes



● Optimal nut shape, ideal for high-speed rotation, can be securely locked using the Mega Wrench.

Ultimate tool balance

Tool balance has been pursued throughout all stages from design to manufacturing processes. The max. spindle speed required by each series has been achieved.

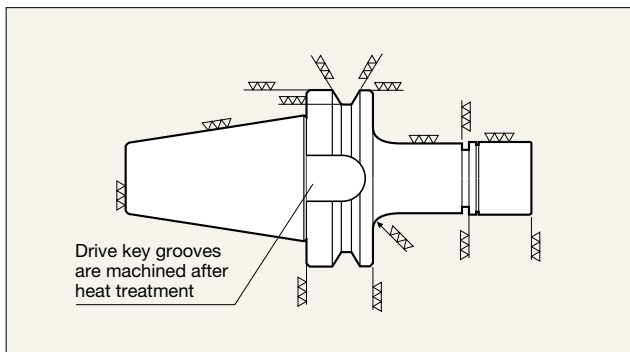
Highly balanced design

+

Thoroughly polished periphery

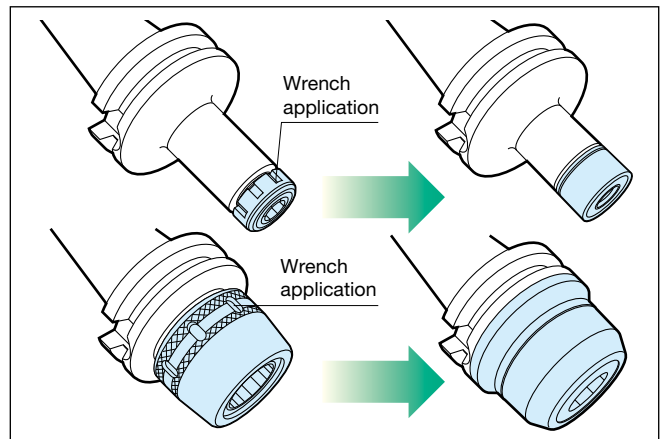
+

Balance inspection using a high-precision dynamic balancer



Notch-free design MEGA NUT (PAT.) prevents vibration and reduces noise

In 1996, as a pioneer of the high speed era, (BIG) announced a new type of clamping nut that does not require wrench application. These nuts offer superior balance, and eliminate vibration during high speed rotation. This ideal nut design not only reduces whistling noise and splattering coolant, but also assures increased strength of the nut itself.



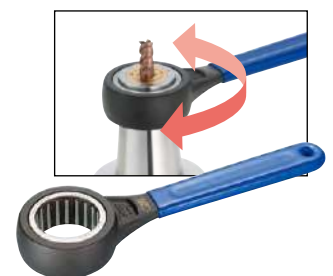
Strict quality control from manufacturing to shipping



Serial number is laser-marked on each Mega Chuck. Production history is stored for use under strict quality control.

Mega Wrench makes nut fastening work easier

The unique Mega Wrench has a one way clutch system which is capable of evenly applying force to the entire nut periphery for safe and secure tightening. Furthermore, the ratchet function offers outstanding workability and reduces the burden of nut tightening work.



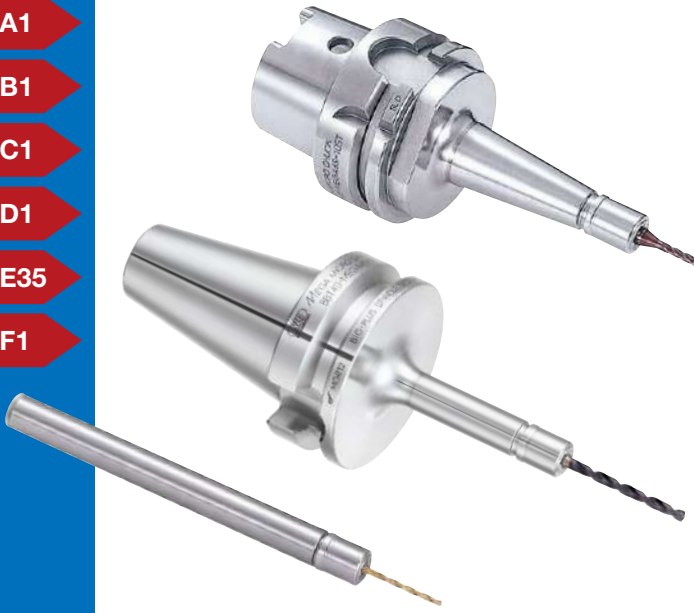
Advice



The MEGA CHUCK series are adapted to diversifying spindle interfaces and high spindle speeds. BIG exports this brand to the world with uncompromising quality control from material selection, precision to inspection.

MEGA MICRO CHUCK PAT.

- BBT** A1
SHANK
- BDV/DV** B1
SHANK
- HSK** C1
SHANK
- ST** D1
SHANK
- BIG CAPTO** E35
SHANK
- For **N/C** F1
Lathes



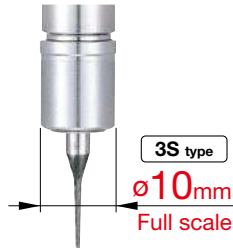
● Ultra-slim design of $\phi 10\text{mm}$ nut diameter minimizes interference with the jig and workpiece.



Extremely slim design with $\phi 10\text{mm}$ nut diameter

(3S type)

Slim design avoids interference. Ideal for small mold making combining high speed and high precision.



Collet accuracy: Within $1\mu\text{m}$ at nose

Unique and compact design of taper and cylindrical guide achieves stable accuracy within $1\mu\text{m}$ at nose.



Ultra-high precision

Micro Collet

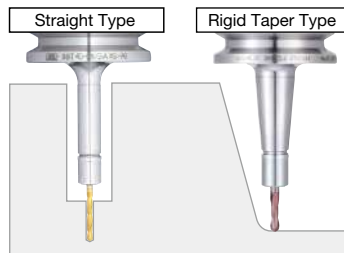
Abundant 0.1mm step series!!

● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within $1\mu\text{m}$	Within $3\mu\text{m}$

Slim design to reduce workpiece interference

"Straight Type" for minimal interference and "Rigid Taper Type" for increased rigidity are available.



2 way coolant supply

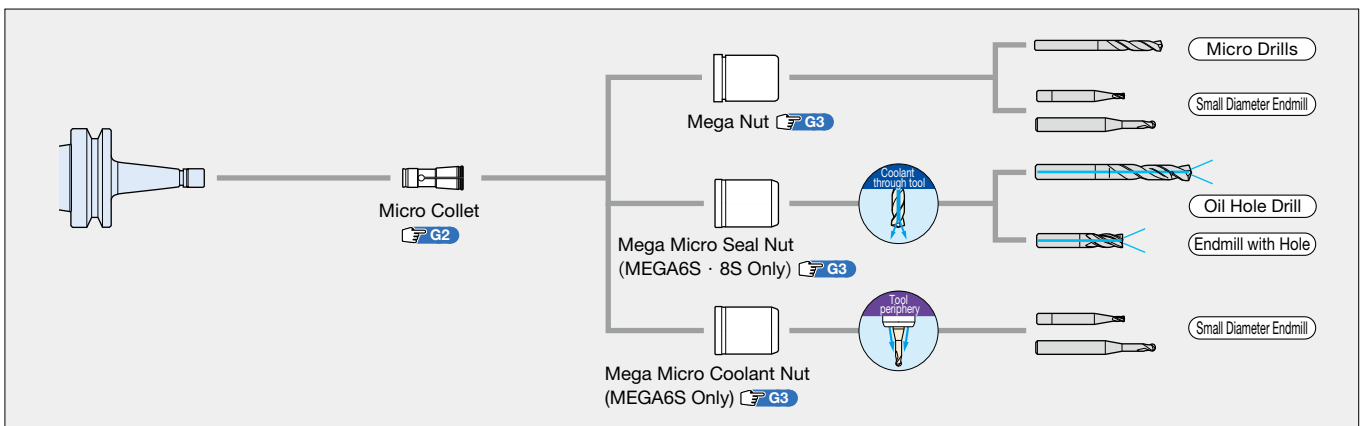
Select a coolant nut suitable for the lubrication method.



MEGA MICRO SEAL NUT
Through Tools



MEGA MICRO COOLANT NUT
Jet Through



MEGA NEW BABY CHUCK PAT.

- BBT** A3
SHANK
- BDV/DV** B2
SHANK
- HSK** C3
SHANK
- BIG CAPTO** E36
SHANK



- Makes high speed machining possible in addition to its high accuracy and versatility.
- MEGA25N series added with maximum clamping diameter of $\phi 25.4$.



1 μ m high precision collet

Materials, production methods, heat treatment... everything is selected for precision. All collets undergo an accuracy inspection twice for strict quality control.

● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within 1 μ m	Within 3 μ m

2 way coolant supply

A coolant nut with oil sealing functionality. Removing the internal PS Ring allows jet-through coolant supply.

Coolant pressure 7MPa

MEGA PERFECT SEAL PAT.

Standard collet compatible

Coolant through tool

Jet Through

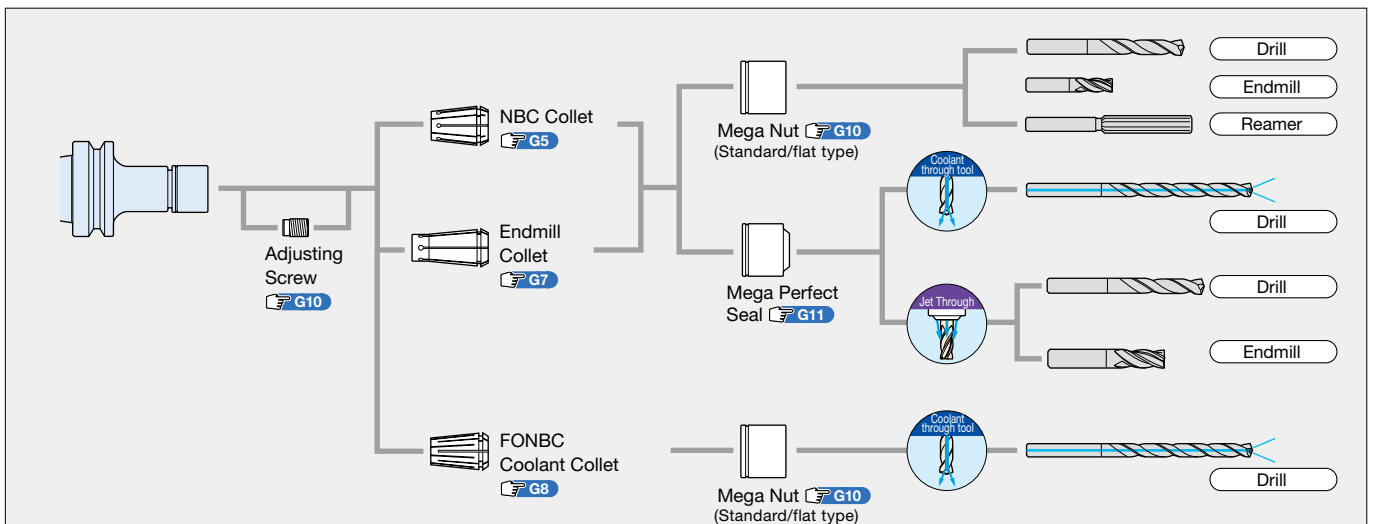
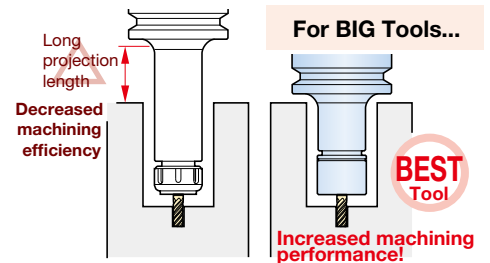
G11

An abundant variety of bodies

Ideal length and diameter of holder is the key to precision machining. Select the optimum from the wide range available.

If selection is limited;

Increased tool extension reduces performance



BBT A7
SHANK

BDV B4
SHANK

HSK C7
SHANK

BIG CAPTO E39
SHANK



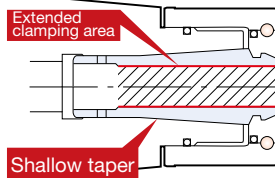
● A collet chuck holder for endmilling that makes both high speed and powerful endmilling possible.



Collet designed for heavy duty gripping force

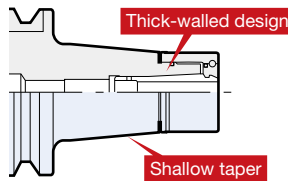
The shallower taper and long tool shank clamping length of the MEGA E Collet improve concentricity and gripping force in order to achieve better surface finishes and stable clamping performance.

Within **1 μm** at nose
4d within **3 μm**



Substantial body eliminates chatter

The chuck body is designed to be thicker in order to prevent chatter and deflection of the work surface during endmilling. Tapered body enhances damping effect by varying vibration frequency.



2 way coolant supply

A coolant nut with an oil sealing function. Removing the internal PS Ring allows jet-through coolant supply.

Coolant pressure
7MPa



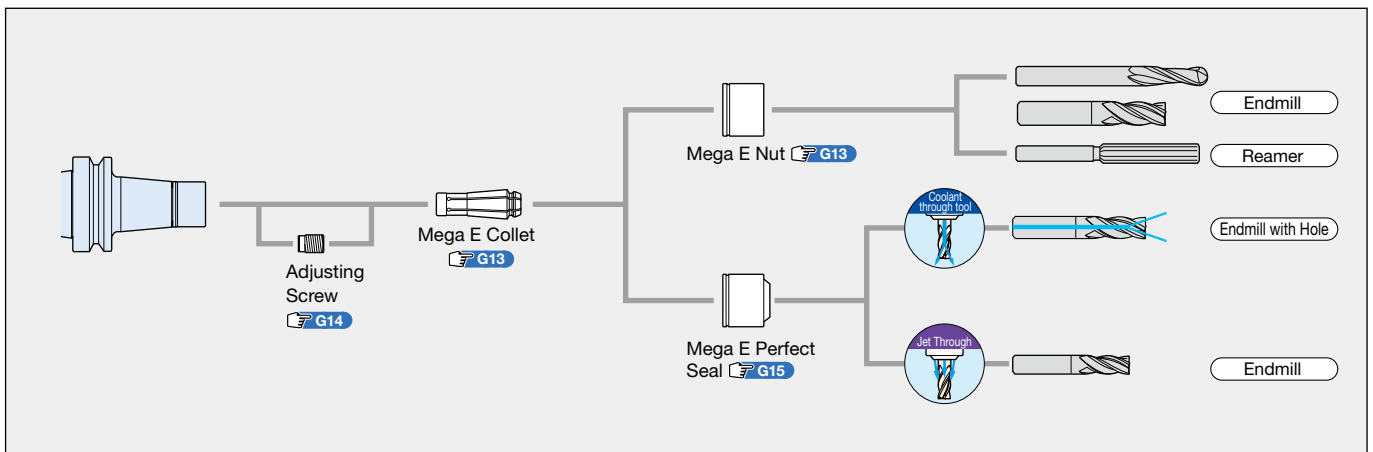
MEGA E PERFECT SEAL PAT.

Coolant through tool



G15

Jet Through



MEGA DOUBLE POWER CHUCK

- BBT** A9
SHANK
- BDV** B5
SHANK
- HSK** C9
SHANK
- BIG CAPTO** E41
SHANK

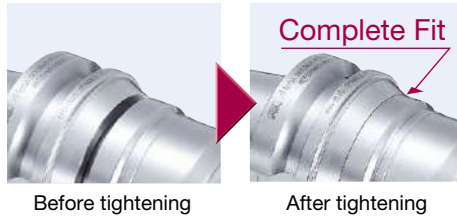


● The evolved Milling Chuck, equal to integration with machine spindle.



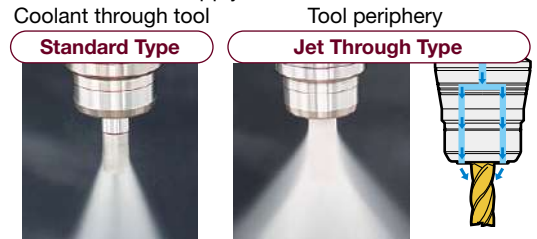
Complete fit of nut and body

Tightening the nut achieves dual contact between the body and end surface of the nut.
This superior rigidity assures heavier duty machining without chatter.



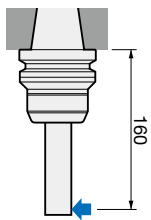
Secure coolant supply

Two types are individually designed for the most effective coolant supply.

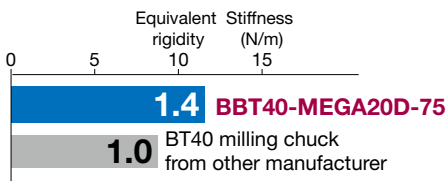


Coolant is ejected from the chuck nose.
Reliable coolant supply to cutting edge periphery.

Rigidity increased by 1.4 times combined with dual contact.

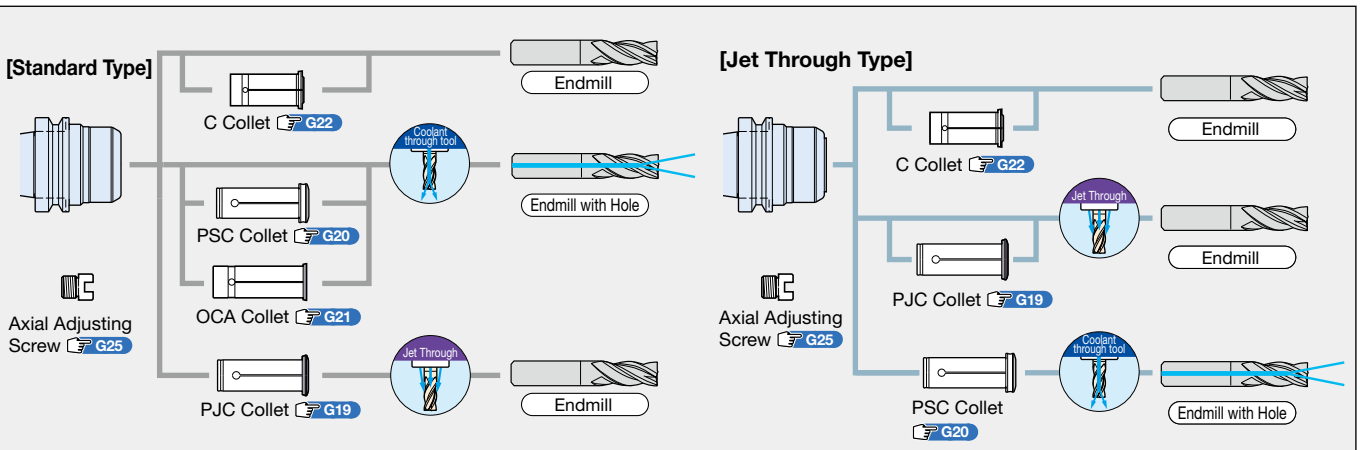


1.4 times higher total rigidity is achieved compared to a competitor's milling chuck.



High Accuracy Straight Collet G19

High accuracy straight collet with runout suppressed to a minimum. Select in accordance with the coolant usage.



Runout accuracy within 3 microns

BBT A13
SHANK

BDV B9
SHANK

HSK C12
SHANK

ST D2
SHANK

BIG CAPTO E43
SHANK

For N/C
Lathes F7



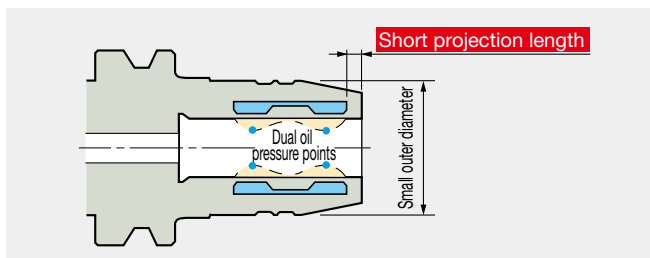
- Supports high runout accuracy for machining with endmills, carbide drills and burnishing reamers.
- Enhanced lineup of a range of clamping diameters and length variations.



Internal structure with increased accuracy and rigidity



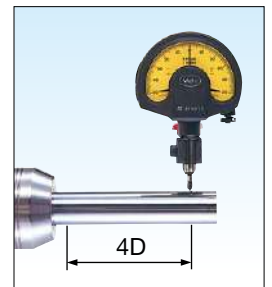
The integrated structure of the body and clamp sleeve gives greater rigidity and achieves better accuracy compared to the traditional two-part construction sealed with O-rings. 2-point tightening with dual hydraulic chambers and a short overhang area where the tool is not clamped give improved runout accuracy.



Runout accuracy within 3µm

High precision runout accuracy within 3µm at 4D. High runout accuracy improves the workpiece surface finish and extends tool life.

High precision runout accuracy within **3µm** (center alignment repeatability within 1.5µm)



Easy to attach and remove with one wrench



The cutting tool can be clamped or unclamped easily and securely with just one wrench.

Complete sealing mechanism prevents oil-leaks

Specially selected material and shape of the hydraulic plunger seal prevents leakage of oil and decrease in gripping force. The complete seal design avoids minute cutting particles of graphite or ceramics from entering into the toolholder. This enables usage on tool grinding machines.



Advice



No matter how high precision the holder is, if oil or dust is adhered to the inside of the holder then it is impossible to utilize its full capacity. Ensure to clean the inner periphery of the Hydraulic Chuck before clamping tools.

Abundant lineup in length and clamping diameter.
Meets diverse machining applications.



Super Slim Type PAT.



Slim design eliminates interference.
Ideal for high precision 5 axis machining.

Tip diameter Min. $\varnothing 14\text{mm}$
Max. $60,000\text{min}^{-1}$ (HSK-E25)



HSK-E25/E32/E40/E50/F63 Series

Ultra-compact and high precision.
Hydraulic chuck suitable for small machining centers.



Prebalancing
 $0.5\text{g}\cdot\text{mm}$ or less (HSK-E25)



Super Slim UP Series

Ultra-high precision

1 μm
ULTRA PRECISION

Runout Accuracy within
1 μm
at 4D

UP

Amazing runout accuracy within $1\mu\text{m}$ at 4D.
The ultimate precision hydraulic chuck.
HSK-E25/E32/E40 Type

Jet Through Type PAT.

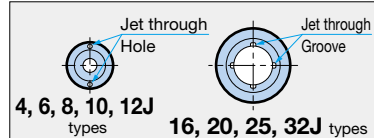


Tip diameter Min. $\varnothing 20\text{mm}$
Max. $35,000\text{min}^{-1}$

Securely supplies coolant or oil mist to the tool periphery.
Delivers outstanding results with high accuracy finishing in 5-axis machines.

- HDC4J to 12J models allow jet through to be switched to center through by assembling the accessory plug.

Coolant hole at nose supplies coolant.



BT A23
SHANK

DV B11
SHANK

HSK C16
SHANK

ST D3
SHANK

BIG CAPTO E42
SHANK

For N/C F2
Lathes



● High-precision collet chuck system with an accuracy of 1 micron at nose.

● The perfect tool to use in drilling, endmilling, reaming and tapping.
(Clamping diameter $\phi 0.25 - \phi 20$)



High-precision collet equal to the sub-micron level

(Clamping diameter $\phi 0.25 - \phi 20$)

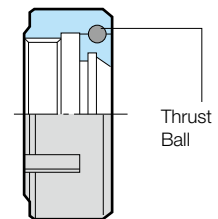
The **BIG** New Baby Collet uses know-how cultivated through years of experience to produce a world top-class high-precision collet subjected to two complete strict quality management inspections, covering everything from material and machining methods to heat treatment.

● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within 1μm	Within 3μm

New Baby Nut ensures high accuracy

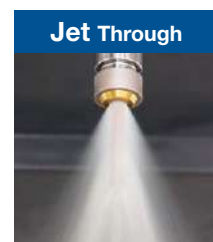
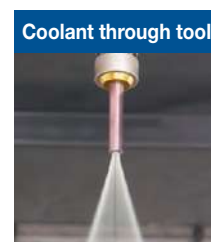
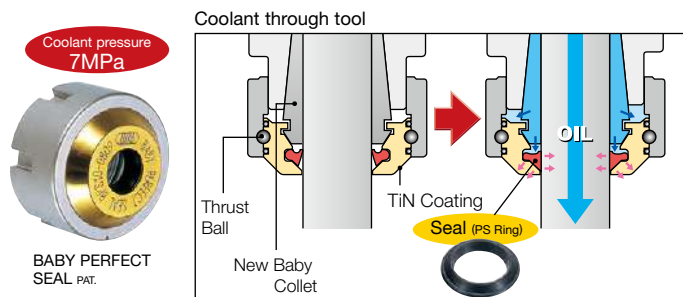
The double effect of precision threads finished after heat treatment and the smooth tightening of the thrust balls without torsion on the collet achieves stable high-precision collet tightening. Furthermore, the mechanism acts to prevent the thrust ball from jumping out due to centrifugal force generated by high speed rotation, promising stable machining.



Coolant method to suit the application

The sealing functionality of the PERFECT SEAL means that the higher the coolant pressure is, the tighter the PS Ring adheres to the tool shank, increasing the sealing effect. The secure sealing function allows coolant to be securely supplied to the tip for high-pressure machining in high-speed applications. A sealing nut is used with a standard collet.

A coolant nut with oil sealing functionality. Removing the internal PS Ring allows jet-through coolant supply.



G28

Advice



The runout accuracy heavily affects finish quality and tool life. For the endmill, we recommend the use of an E Collet or a high accuracy collet with $\phi 0.1$ mm collapsibility for high precision micro machining, depending on the application and the tool used.

A basic holder ideal for drilling, reaming and endmilling.



Runout Adjustable RA Holder PAT.

A28-C18

Simple structure allows for easy adjustment of runout accuracy!

Tool edge runout **2µm** or less

Compensates for increased runout of machine tool spindles caused by extended use. Simple structure allows for easy adjustment in the machine.

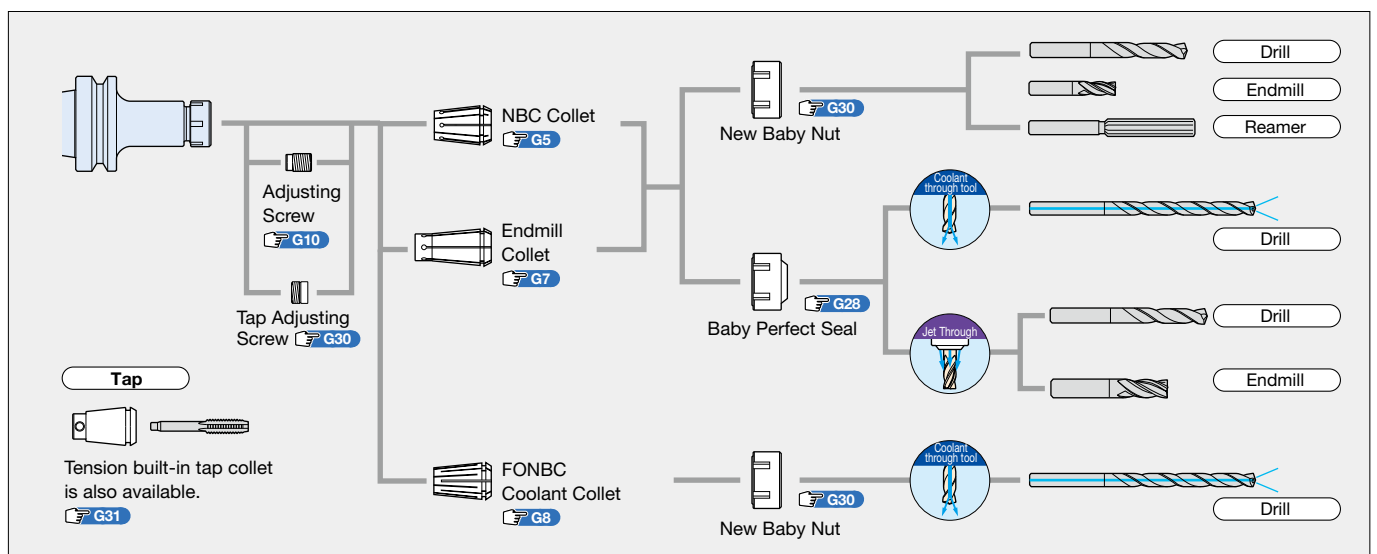
- Uniform hole diameter
- Improved surface roughness
- Increased tool life

Tension inclusive Tap Collet



M2 - M12

A New Baby Collet with a taper integrated. Existing New Baby Chuck functions as taper combined with this tap collet.



Advice



It is essential to regularly clean the chuck, collet and nut to maintain accuracy and durability. We recommend the cleaner series for convenient cleaning.

MILLING CHUCK NEW Hi-POWER MILLING CHUCK

BBT/BT
SHANK **A29**

BDV/DV
SHANK **B7**

HSK
SHANK **C19**

ST
SHANK **D5**

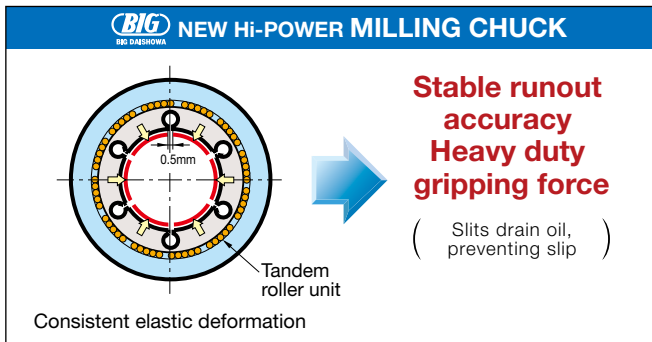
BIG CAPTO
SHANK **E45**



- Highly rigid chuck for resistance against chatter.
- Supports endmilling with its heavy duty gripping force and high runout accuracy.



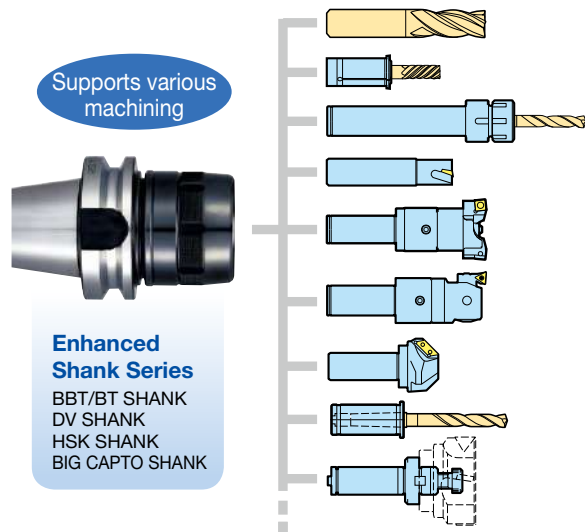
Reliable slit design ensures high accuracy



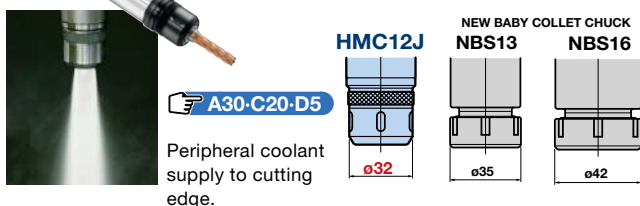
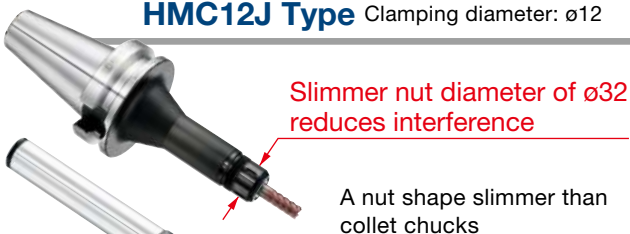
A unique BIG slit shape is adopted to achieve both the essential runout accuracy and gripping force which are the key elements of a milling chuck. Stable clamping is possible due to sufficient elastic deformation and the ability to remove oil film from the tool shank.

The Milling Chuck is also ideal as a basic holder

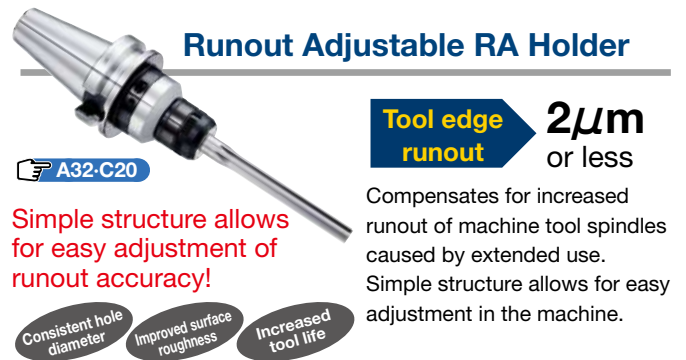
Allows the reliable use of straight collets as well as boring bars, arbors such as face milling cutters. Also optimal as a basic holder.



HMC12J Type Clamping diameter: $\phi 12$



Runout Adjustable RA Holder



Since the Milling Chuck is a base-holder able to clamp various cylindrical shank tools, it is no exaggeration to say that a single choice will determine the performance of the machine tool. Versatile usability for various machining applications from heavy cuts to fine-cuts with superior gripping force, collapsibility, accuracy, rigidity and durability.

BBT A33
SHANK

DV B6
SHANK

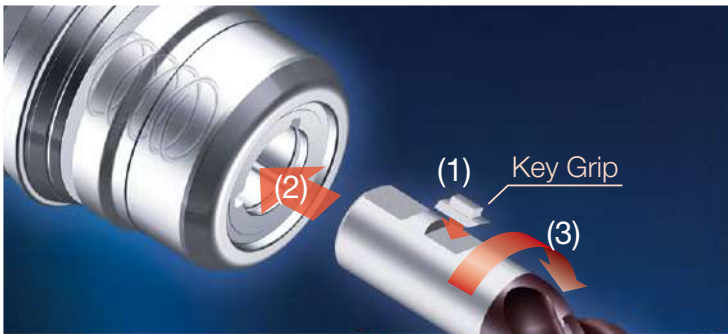
HSK C21
SHANK



- **No slip, no pullout.**
The absolutely reliable milling chuck.
- **For machining difficult-to-cut materials**
such as titanium or Inconel.
- **Accepts industry standard Weldon flat cutters.**
(Can be used with additional machining for tools without a flat section.)



The unique Key Grip locking mechanism prevents the tool from slipping or pulling out during heavy machining



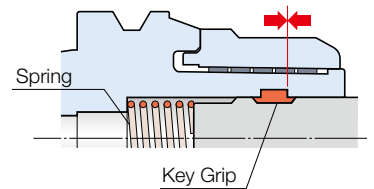
Simple and easy handling with secure clamping

- (1) Place the Key Grip onto the flat part of the endmill.
- (2) Set the spring into the bore of chuck, then insert the endmill in alignment with the groove.
- (3) Rotate the endmill and set the stopper pin.
- (4) Clamp the tool until the nut contacts to the chuck body completely.



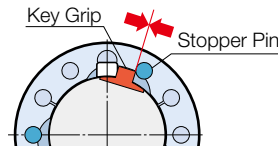
Non-Pullout mechanism

The Key Grip engages in the groove of the chuck body to ensure no tool pullout.



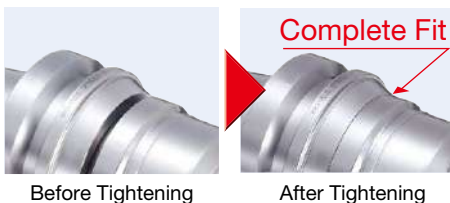
Non-Slip Mechanism

The Key Grip maintains contact with the Stopper Pin to prevent any slip.



Complete fit of nut and body

Tightening the nut achieves dual contact between the nut and body for rigidity close to that of an integral cutter.



Flood jet through coolant



A sufficient volume of jet-through coolant is ejected from vents in three locations.



Various tools with cylindrical shanks with flats in accordance with different standards are usable on the MEGA Perfect Grip, including JIS B 4005, ISO3338-2, DIN1835-1 or others.

BBT A34
SHANK

HSK C22
SHANK

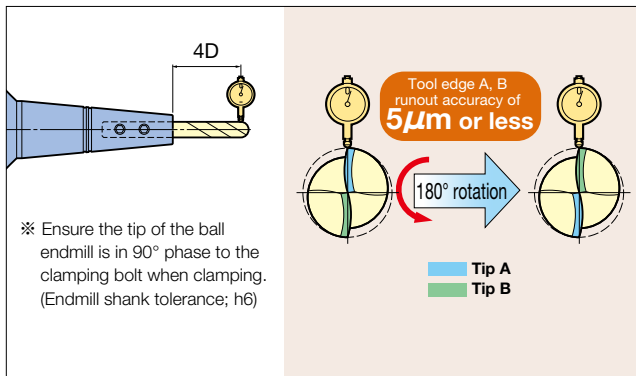


- Interference-free tool layout is available without special equipment with just one wrench.
- A side lock holder in a class above the rest with superior balance and BIG-PLUS effect.



Runout accuracy within 5μm

2-flute ball endmills achieve a runout accuracy within 5μm. Both easy handling of side lock holder and high accuracy are realized.

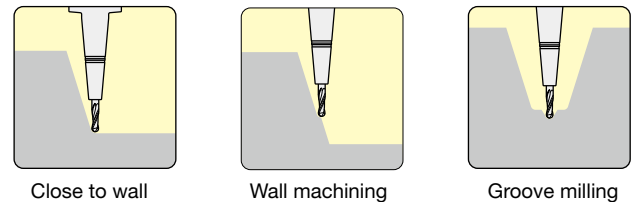


Balanced design realizes high speeds

With the entire outer diameter precision ground, stable machining is realized at high speeds.

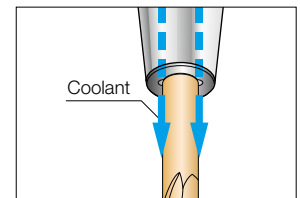
Slim and tapered design minimizes interference

Interference is minimized with mold making. Also useful in machining draft angles of molds.



Secure coolant supply to tool periphery

Center through coolant or oil mist can be ejected through the two coolant slits, allowing for a secure supply of coolant to the cutting edges. This helps in machining hard materials.



Advice



When machining molds, it could be difficult to supply coolant to tool tip externally depending on the shape of workpiece. Center through specification Mold Chucks supply coolant to the tool periphery, allowing high pressure coolant to be supplied to tool tips even for ball endmills without coolant holes.

Various boring heads **A38**

BBT/BT SHANK **A75**

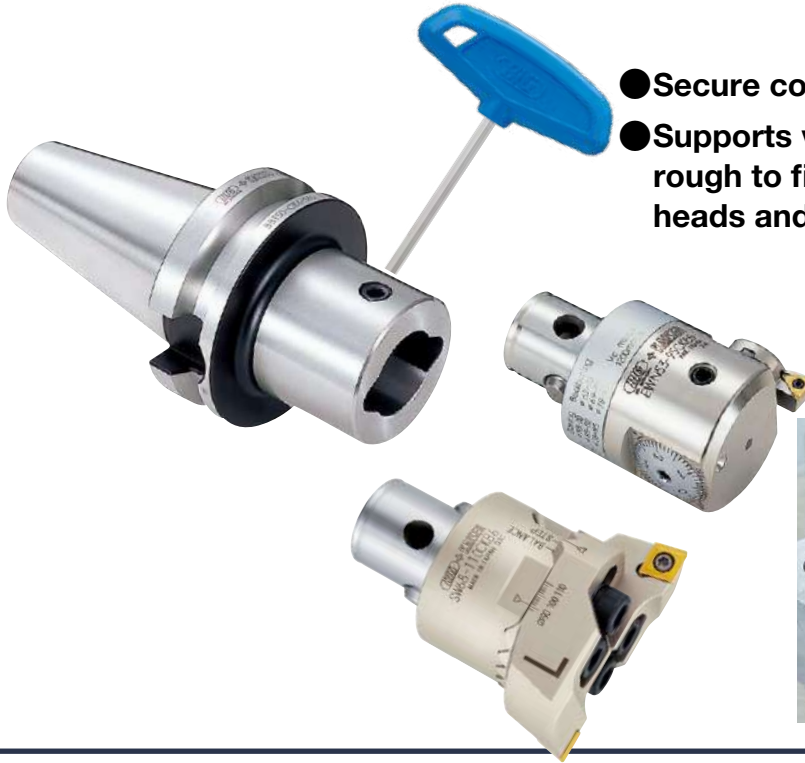
IV/DV SHANK **B13**

HSK SHANK **C25**

ST SHANK **D9**

BIG CAPTO SHANK **E49**

Cutting Conditions **A103**



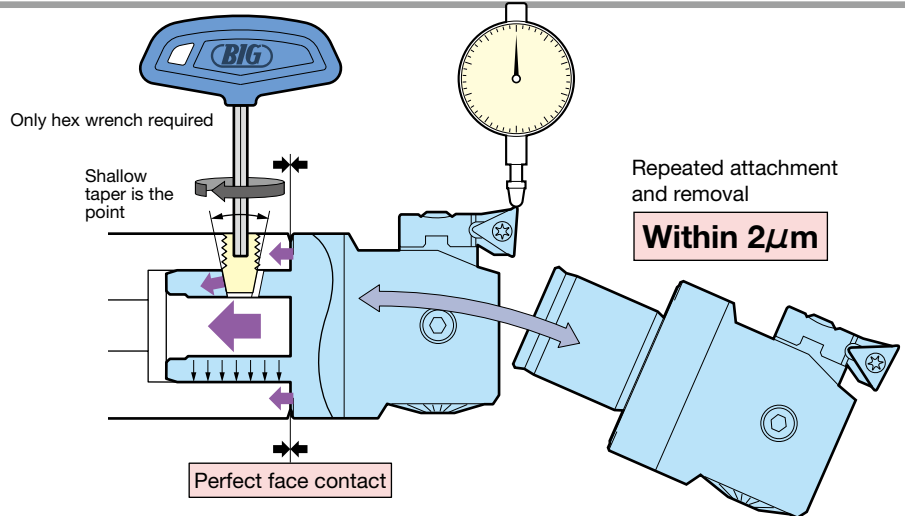
- Secure contact using a single wrench.
- Supports various applications from rough to finish boring with abundant heads and accessories.



Secure contact using a single wrench! The simplest modular boring clamping system

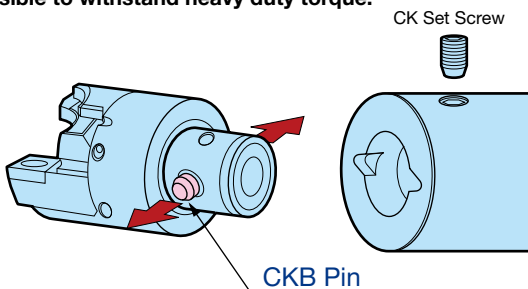
The CK is a simple method for securely and powerfully clamping flange faces with a single wrench.

Moreover, even if the same boring head is repeatedly attached and removed, the cutting edge position does not vary by 2 microns. This accurate clamping allows boring diameter setup to be done with a boring head only, increasing the machine utilization and drastically reducing labor.



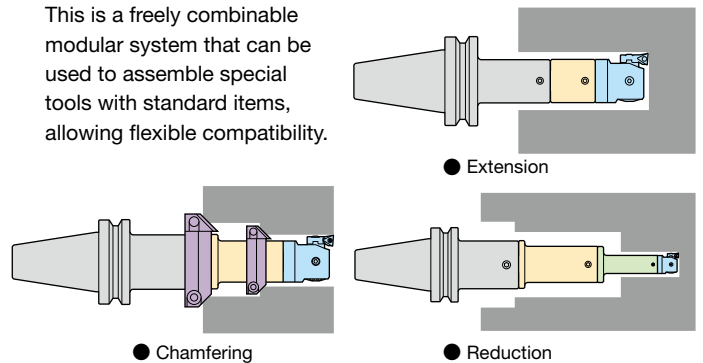
Safe structure at high torque

Adopts a proprietary CKB pin for rough boring at high cutting torque. **The CKB pin is of floating type which gives it good horizontal balance, dampening cutting torque and making it possible to withstand heavy duty torque.**



Rapid adaptation to special tools

This is a freely combinable modular system that can be used to assemble special tools with standard items, allowing flexible compatibility.



Advice



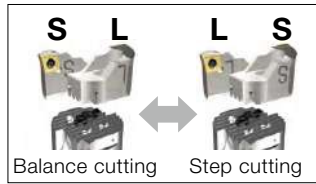
Micron order adjustment is possible while installed in a machine. This decreases machine down time drastically especially in large item small scale production. The modular system allows for flexible tool layout in boring depth and diameter appropriate for each workpiece.

CK BORING SYSTEM

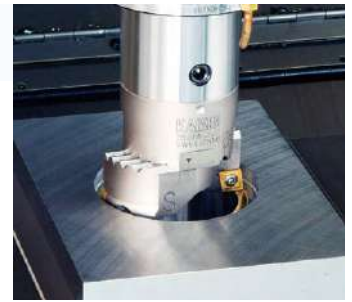
ROUGH BORING HEAD Pursuit of rigidity



High rigidity
SW BORING HEAD PAT. **A39**
 ● $\phi 20 - 203$
 ● Serrated for high connection rigidity



Adapted for both balance and step cutting by simply changing positions of standard Cartridges. (for blind holes)



Roughing Head with Built-In Damper
SMART DAMPER SW BORING HEAD PAT. **A41**
 ● Smart Damper with SW head
 ● Closely adjacent vibrating point and damper achieve a high damping effect.



100% completely balanced cutting
RW BORING HEAD **A45**
 ● $\phi 25 - 150$
 ● Abundant Cartridges
 ● Fine axial adjustment



Boring tool for small-diameter 2-flute roughing
MW BORING HEAD PAT. **A44**
 ● $\phi 16 - \phi 21$
 ● Versatile $\phi 20$ shank
 ● Spiral groove for improved chip evacuation

FINISH BORING HEAD Insert Holder Type Quick micron-level adjustment



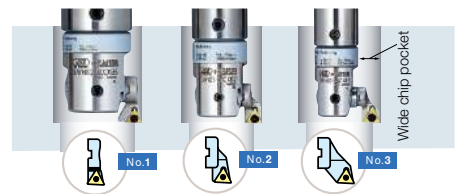
Prebalanced design/Multifunction head
EWN BORING HEAD **A49**
 ● $\phi 20 - 203$
 ● Prebalanced design supports high-speed boring
 ● Abundance of insert holders

Back boring available as standard
 Supports back boring by simply reversing the Insert Holder.



Digital boring head
EWE BORING HEAD **A50**
 ● $\phi 41 - 203$
 ● Digital display allows the adjustment amount to be read at a glance
 ● Fully waterproof and dustproof structure (IP69K equivalent)

Emphasis on chip evacuation properties
 Replacing the Insert Holder makes it possible to secure sufficient clearance for chips.



Display Resolution $1\mu m/\phi$



High speed
EWB BORING HEAD **A55**
 ● $\phi 32 - 105/\phi 100 - 203$ (Aluminum)
 ● $0.01mm/\phi$ scale

Vc Max. 2,000m/min

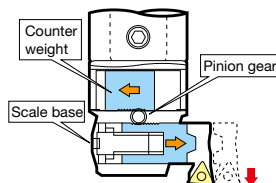
Built-in damper
SMART DAMPER EWN BORING HEAD **A51**



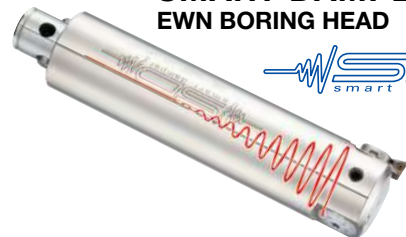
Lightweight special aluminum head 600/800g

Built-in automatic precision balancing unit

The counter weight moves as the diameter is adjusted, allowing the balance to be automatically compensated.



No change to "Z" dimension even if diameter is adjusted!



● Integrated EWN BORING HEAD and SMART DAMPER.
 ● Closely adjacent vibrating point and damper achieve a high damping effect.

FINISH BORING HEAD Cylindrical Tool Type

Abundant toolholder series



High precision EWN BORING HEAD

A61

- $\phi 1 - 54$
- 0.01mm/ ϕ scale plus 1 micron vernier
- Combine with carbide shank for stable deep-hole boring



Compact high precision boring head EWN04-7/04-15

A59

- $\phi 1 - 7/\phi 1 - 15$ (EWN04-7)
- O.D. $\phi 18.5$ ultra-compact design
- Max. 30,000min⁻¹



Digital boring head EWE BORING HEAD

A62

- $\phi 1 - 54$
- Digital display means the adjustment amount can be read at a glance
- Waterproof and dustproof structure (IP69K equivalent)

Display Resolution
1 $\mu\text{m}/\phi$



Max.
16,000min⁻¹

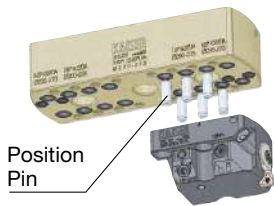
High speed EWB BORING HEAD

A63

- $\phi 1 - 50$
- 5 $\mu\text{m}/\phi$ precision diameter adjustment
- Built-in manual precision balancing function

CK7 LARGE DIAMETER BORING SERIES

● New, safer mechanism



Position Pin

Using the position pin fastens the head or clamp base to the slide. Prevents the head from flying off due to high-speed rotation caused by programming errors.

Aluminum high speed type

● Lighter weight for greater speed

Uses hardened aluminum components, tough yet lightweight. (Slide/Clamp Base)

Vc Max.
2,000m/min

● Center through supported

Reliable coolant supply to finishing and roughing cutting tool peripheries.



(For Roughing) TW200 BORING HEAD

- $\phi 200 - 830$

A47



(For Finishing) EWN200 BORING HEAD

- $\phi 200 - 880$

Precision head with outstanding operability. Back boring available.

A57

PIN TURNING HEAD

- $\phi 0.5 - 686$
- Realizes finishing accuracy not possible with contouring.



A73



ACCESSORIES

Various shanks/ accessories **A75**



Combine with a CK Shank for a wide range of applications not limited to boring.

Built-In Damper SMART DAMPER ^{PAT.}

A78-C26

- Unique dynamic damper eliminates chatter.



CK Extension

SD
smart damper

CK SHANK

CK BORING SYSTEM

SW A41
EWN HEAD

BBT A78
SHANK

HSK C26
SHANK

FACE MILL
ARBOR TYPE H

BBT A116
SHANK

BDV B16
SHANK

HSK C29
SHANK

Boring Bar

Details F13

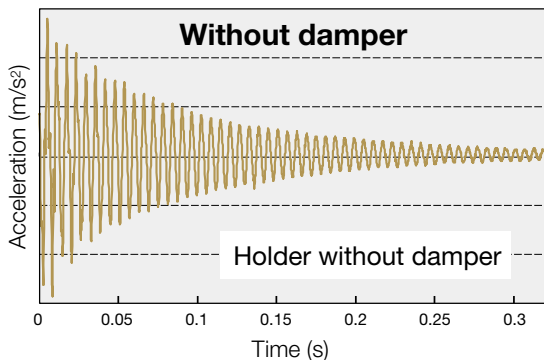
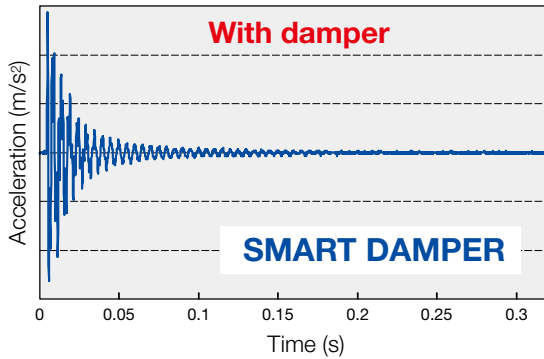


- Unique dynamic damper eliminates chatter!
- Achieves high speed and high efficiency machining for work requiring a long projection length.

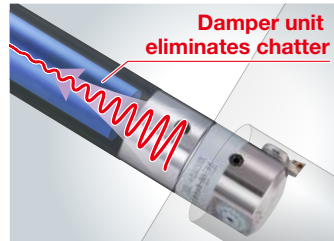


Comparison of oscillatory waveforms with and without dampers

The Smart Damper incorporates a damping mechanism and reduces chatter instantly. The Smart Damper solves various problems caused by chatter due to long projection, such as inadequate surface roughness, defective dimensions of machined workpiece and shortened tool life.



Chatter suppressing mechanism



An incorporated unique damper that functions as both a counter damper and friction damper. Patent-pending counter weight maximizes effect of the friction damper. Chatter is absorbed effectively and higher machining accuracy is achieved.

Finish Boring of Ductile Cast Iron (FCD500)

× = Chattering ○ = Good ◎ Excellent surface finish

Boring holder	Cutting speed (m/min)			
	25	50	100	150
Holder without damper	○	×	×	×
Built-in Damper SMART DAMPER BBT50-CKB6DP-380	○	○	○	◎

Results: 6 times greater productivity.
Superior surface finish and better tool life due to increased cutting speed.

Cutting Conditions

Machine	Horizontal MC	BIG-PLUS BBT50	Insert radius	R0.4
Boring diameter	ø68mm		Feed	0.2mm/rev
Depth	408mm (L/D=6)		Depth of cut	0.3mm/ø



Chatter caused by long tools could be solved by reducing the bending force. Using an insert with smaller nose radius is effective in boring operation, and using a cutter with large peripheral cutting edge angle helps for face milling.

Abundant series available for various machining requirements

CK Boring Series with Built-In Damper

High-efficiency deep hole finish boring is available



EWN BORING HEAD Type

Boring head with a built-in damper. The EWN Boring Head functions are maintained, featuring integrated damper.

SW BORING HEAD Type PAT.

Boring head with a built-in damper. Damper located closer to the cutting edge provides greater damping effect.

CK Shank Type PAT.

A damper is built into the CK Shank. L/D = 6x

CK Extension Type PAT.

Just combine it with your standard CK Boring Head/CK Shank to achieve damping countermeasures.



Highly reliable scale plate
With vernier scale
enabling 1-micron adjustment



FACE MILL ARBOR TYPE with Built-in Damper

For face milling with long projection length

Basic Holder
(BBT50/BDV50/HSK-A100)

Damper head

FMH22 / FMH27



Basic holders of different lengths can be used with one damper head (for BBT/BDV/HSK Shank in common).



Caution

If attaching both a Basic Holder and damper head, note that the damper head cannot be removed once it has been used for work.

Internal Turning Tool with Built-in Damper BORING BAR

Eliminates chatter in internal turning. The heaviest damper in the SMART DAMPER series instantly absorbs chatter in both rough and finish operations.



Cartridges can be exchanged according to the application.

BBT A127
SHANK

BDV/DV B14
SHANK

HSK C33
SHANK

ST D8
SHANK

BIG CAPTO E47
SHANK

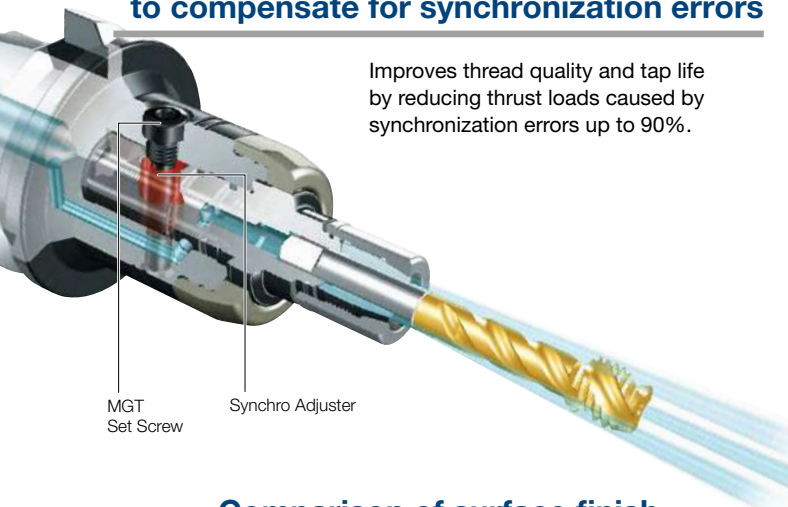
For N/C F10
Lathes



- Compensates for synchronization errors during synchronized tapping
- Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.



Unique new mechanism built in to compensate for synchronization errors



Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.

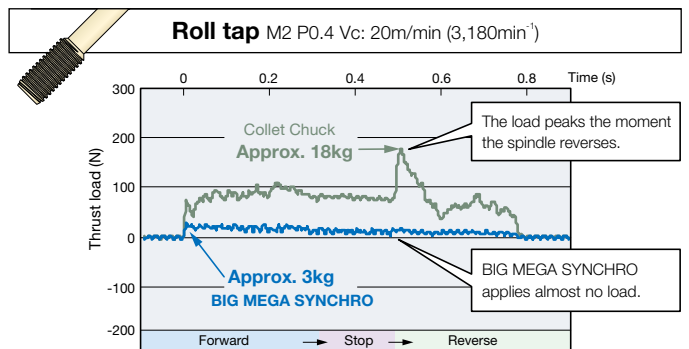
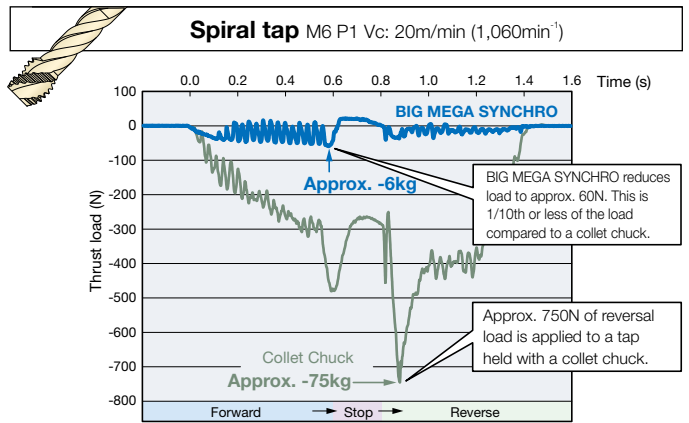
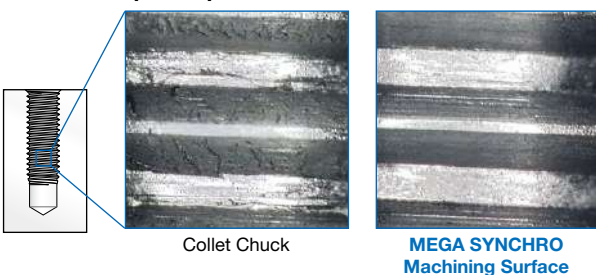
Reduces thrust load on both the tap and workpiece.

Due to feed misalignment occurring when the rotation is changed from forward to reverse, or tolerance to the tap pitch, 100% synchronization is hardly ever achieved. **(BIG) MEGA SYNCHRO** minimizes the thrust load to both the tap and workpiece to improve thread quality and tap life.

Comparison of surface finish

Tapping of difficult-to-cut materials with collet chuck tends to cause a compressed burr on the thread surface. **(BIG) MEGA SYNCHRO** compensates for synchronization errors and minimizes cutting load. Fine surface finish of threads is achieved.

Spiral tap M5 P0.8 Material: SNCM420



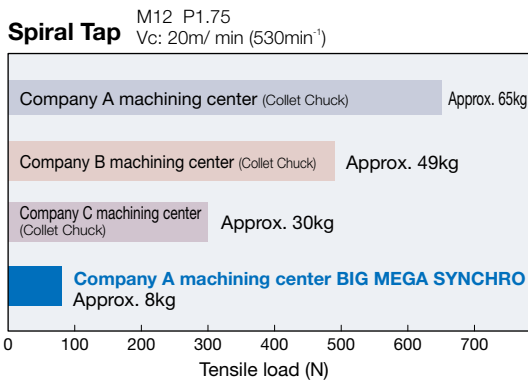
There are many cases where the tapping process comes last in parts-processing. Thus it is vital to choose the appropriate tapper for secure tapping. This applies to synchronized tappers as well. Please be careful if taps break or compressed burrs are caused frequently.

Abundant lineup from small to large diameter tapping.



Difference in loads depending on machining centers

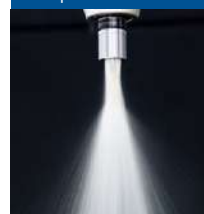
The movement of the machine differs even at the same rpm, creating a completely different load. Even with maximum load Company A machining centers, the use of BIG MEGA SYNCHRO drastically reduces the load.



Center through cooling available as standard

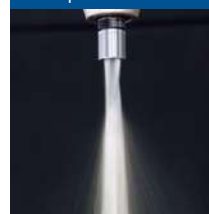
Coolant is supplied both through the tool and to the tool periphery simultaneously, even for taps with oil holes.

For taps without oil holes



Coolant is supplied through slits

For taps with oil holes



Coolant is supplied through both the tap hole and slits

Lineup of types from small to large diameters

<Small Diameter Tap MGT3 PAT.>



Compensation mechanism eliminates synchronization errors and controls dynamic runout accuracy at high speed, providing stable thread quality and extended tap life.

Tapping range
M1 - M3

BBT/HSK/Cylindrical Shank Type
For N/C Lathes

<Large Diameter Tap MGT36 PAT.>



Compensation for synchronization error eliminates heavy thrust loads of large diameter tapping.

Tapping range
M20 - M36
BBT/BDV/HSK/CK Shank Type

BBT/BT A136
SHANK

HSK C35
SHANK

BIG CAPTO E48
SHANK

For **N/C** F10
Lathes



- Abundant series with various functions, from tap depth control to torque limiter.
- BIG's precision technology supports secure and accurate tapping.

BIG Tapper Series products are available to suit various tapping requirements

AUTO TAPPER B/R

Slim and high spec + low cost

The slimmest tapper with depth control within $\pm 0.15\text{mm}$.



M3 - M30
Depth control
Radial float mechanism (R Type)

AUTO TAPPER B A139/C35/F11

AUTO TAPPER R A140

AUTO TAPPER E

Smoother floating function

First choice for machining centers, with smooth axial float and torque adjustable tap collet.



M3 - M36
Torque limiter

A86/A143/E48/F11

DRILL TAPPER

Ideal for large diameter tapping

A tapper equipped with properties ideal for large diameter tapping with large machining centers.



M30 - M52
Torque limiter **A145**

SYNCHRONIZED TAP HOLDER

Quick change TC type tap collet

Flexible tool layout for synchronized tapping is available in combination with **BIG+KAISER** CK long shanks.



M2 - M30 (M52)

A86/A136/C35/E48

Advice



Accidents such as tap breakage could ruin the entire workpiece.

The cause of the breakage, wear of the tap or collision of the tap with the bottom of the hole, is a factor to determine the appropriate function of the tapper, torque limiter or automatic depth control

BBT
SHANK A165

DV
SHANK B26



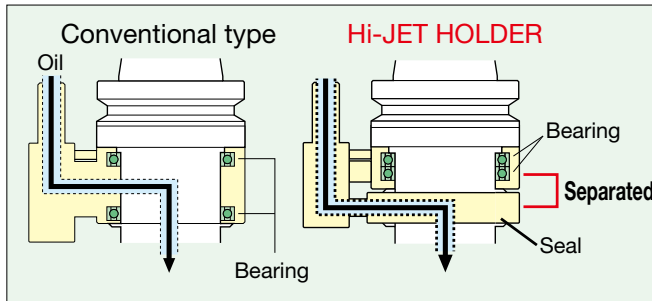
- Unique separated housing keeps coolant out of bearings. (for water-soluble coolant only)



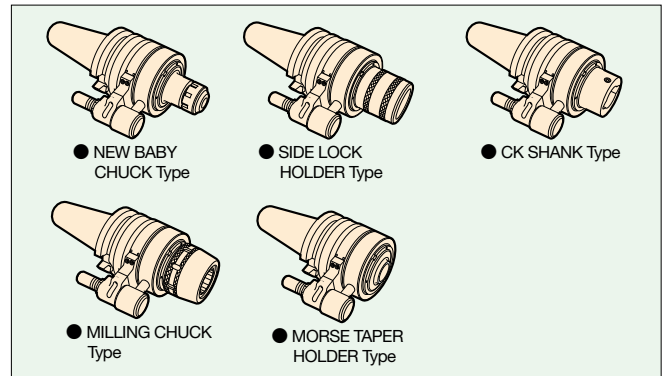
A Stop Block is required for use.

Unique separable structure improves the holder life

Ingress of the coolant to the bearings is eliminated by separating the bearing housing from the coolant channel, which elongates toolholder life drastically.



Abundant series lineup to support various machining



BBT
SHANK A175

BDV
SHANK B25

Speed Inserter
HIGH SPINDLE



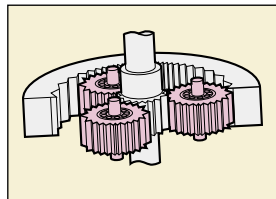
- Increased speed for small diameter endmilling and drilling.
- Multiplies the spindle speed 4, 5, or 6 times.



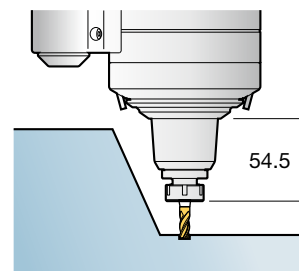
A Stop Block is required depending on the type.

High performance, low vibration drive mechanism

A planetary gear system that has been constantly refined and upgraded over the years since BIG first announced the Speed Inserter in 1970. Ground gears are used to achieve low-vibration rotation.



Long nose type for mold machining (GTX)



Low heat generation design drastically reduces spindle expansion. Ideal for long small diameter machining such as molds. Long nose is ideal as an interference countermeasure.



Although high-speed machines are becoming more popular, rigidity is still a concern when heavy-duty machining is the main process. Using the High Spindle only in sections where high speeds are strictly required in a pinpoint manner will reduce equipment costs.

BBT
SHANK A147

BDV
SHANK B17

HSK
SHANK C36



- An abundant series of high rigidity Angle Heads for systematic machining of multiple surfaces.
- Entire series is a dual contact specification as standard. Further increased rigidity.



A Stop Block is required for use.

Spiral bevel gears used



All series are heat treated first and adopt spiral bevel gears with finish machined teeth. This suppresses tooth runout, eliminating noise and vibration to achieve solid machining precision.

Unique special sealing mechanism



The conventional sealing mechanism has been further enhanced with improved waterproofing and dustproofing effects.

4 types available to suit the application (select from our abundant lineup to suit the shape of the workpiece.)

AG90 Series

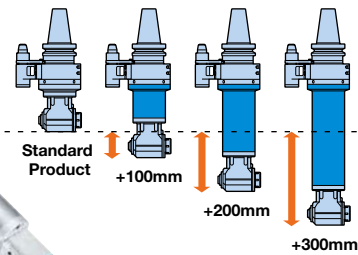


TWIN HEAD

- High Precision Collet Chuck System
- NEW BABY CHUCK Type**



Long Type



Long types with +100mm, +200mm or +300mm additional length compared to standard units are newly available.



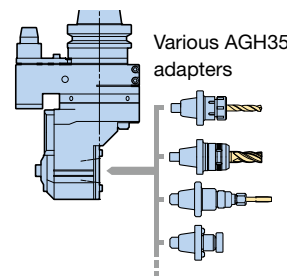
- Through Tools
- Through Tool**



- Powerful $\phi 32$ specification
- HMC32 Type**



- Replaceable adapter type
- BUILD-UP Type**



Various AGH35 adapters

AG45 Series



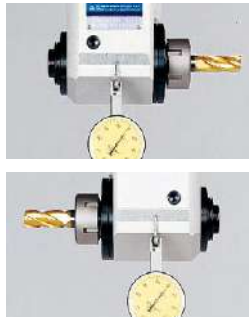
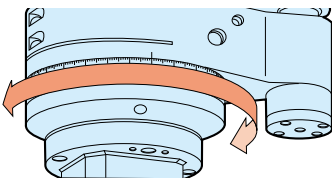
- 45° spindle angle
- NEW BABY CHUCK Type**

Enhanced Angle Head series compatible with various multi-axis machining.



360° cutting edge directions available

With a head reference surface on both sides of the spindle angle, the cutting edge direction can be speedily set.



SPECIAL DESIGNS

We are able to design and manufacture special Angle Heads such as special angle or long type models to meet various machining requirements.



SLIM HEAD
FMC16
Specifications



SPECIAL HEAD
SCA25.4
Specifications



Flange Specifications
HMC25
Specifications



● Dedicated for drilling/tapping
Compact Type



● Weight under 2 kg
Clears ATC weight restrictions
BBT30 Lightweight Type



● For Face Milling
Face Milling Type



● Built-In tap depth control
Tapper Type

AGU Series



● 1° increment flexible angle
Universal Type



● Adjustable within 30°
AGU30 Type

Small bore type



● Bore $\phi 30$ - Tool clamping diameter: $\phi 3$ - $\phi 6$



Min. bore diameter $\phi 30$

Max.
80,000
min⁻¹

BBT
SHANK A171

BDV
SHANK B24

HSK
SHANK C49

For small diameter
drilling/endmilling

RBX

Ceramic ball
bearing type

Max. spindle speed 80,000min⁻¹



● High-speed micro-machining can be performed on a normal machining center, eliminating the need of an expensive high-speed machine!

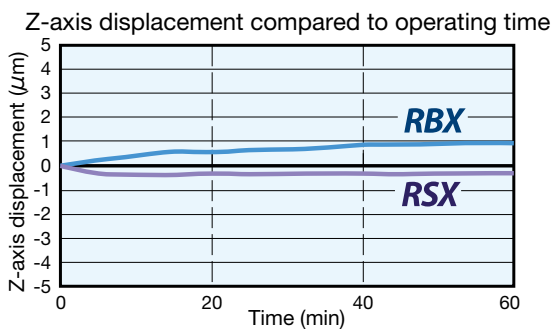
A Stop Block is required depending on the type.



Extended tool life with minimal thermal displacement

High speed rotation of the machine spindle generates heat, causing spindle expansion and Z-axial displacement. This displacement results in dimension defects of precision molds or tool breakage in micro machining.

The Air Turbine Spindle utilizes air for both driving and cooling the spindle simultaneously, thus the Z-axis displacement is eliminated.



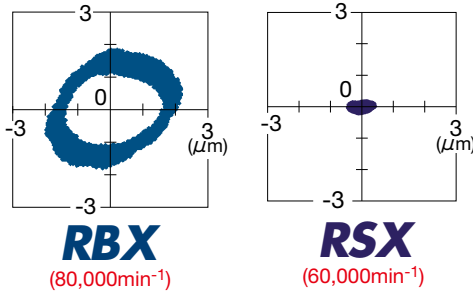
Outstanding dynamic runout accuracy

Most problems associated with micro-machining are caused by poor dynamic runout of a machine spindle.

We have established a runout measuring system that can detect spindle movement during rotation at high speed and achieved the best dynamic runout accuracy.

<Measuring Example>

Plotted position of test bar (16 mm) at max. spindle speed



Improved machining accuracy

Improved tool life

Environmental measures

Saving on power consumption

Minimizes loss of energy compared with power consumption of machine spindle rotation.

Air pressure: 0.5MPa, Air consumption: 200L/min
(Ex.: Compressor output 2.2kW 250L/min)

Low-noise design (Within 65dBA)

Air channels and turbine are optimized for low noise.

So quiet that you can even hear the cutting noise of the micro tools.

Automatic tool change (RBX ATC Type)

ATC is made possible by supplying air via Stop Block.

Unmanned operation results in increased machining efficiency.



ATC compatible

Advice



Choosing a toolholder with high runout accuracy is one of the most important factors when micro-machining. Accuracy of the nut and collet is also essential, not to mention elimination of machine spindle rotation.

For ultra-small diameter drilling

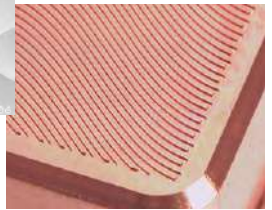
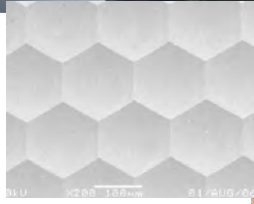
RSX

Highest runout accuracy

Hydrostatic air bearing type

Max. spindle speed **60,000min⁻¹**

Ultra-high precision type



● **Ideal for micro-drilling and mold machining of optical components!!**
The hydrostatic air bearings achieve dynamic runout accuracy of world leading standards.

■ **Ultra-low vibration design**

Perfect dynamic balance is obtained for ultra-low vibration. A notch-free nut eliminates unbalance at high speed rotation.

※Cutting tool is clamped with an exclusive wrench.



[Application range examples]

Machining range		RBX5	RBX7	RSX
Drill	ø0.1mm or less	△	△	
	ø0.1 - 0.3mm	○	○	◎
	ø0.3 - 0.5mm	○	◎	
	ø0.5 - 1.0mm	◎	○	○
Endmill	ø1.0 - 1.5mm	△	X	△
	ø0.5mm or less	○	◎	◎
	ø0.5 - 1.0mm	◎	◎	△
	ø1.0 - 1.5mm	◎	△	X
Jig grinding		◎	◎	◎
Practical max. spindle speed (min ⁻¹)		50,000	80,000	60,000
Bearing type		Ceramic ball		Hydrostatic air

The table is just for reference. Machining range may change according to material, cutting conditions and cutting tools.


Application example	Pre-hardened steel	Aluminum	Aluminum
Holder used	RBX5	RBX7	RSX
Tool	ø1.5mm tapered rib endmill	ø0.5mm deep rib endmill	ø0.03mm drill
Workpiece	Pre-hardened steel HRC40 (NAK55)	Aluminum (A2017)	Aluminum (A2017)
Spindle speed	40,000min ⁻¹	70,000min ⁻¹	60,000min ⁻¹
Feed	1,000mm/min	1,500mm/min	20mm/min
Effect	Stable machining can be achieved even with a high-resistance tapered endmill	Outstanding runout accuracy permits super thin wall cutting	Step amount 0.005mm Drills 60 holes or more

Details I1




- Measuring is the decisive factor for the following process.
Sensor series minimizes machine down time.
- Quick detection of reference position.







The 3-dimensional touch sensor series that detect touch-position instantaneously.
3-D touch probe
POINT MASTER PRO
For all workpieces and machine tools
I1



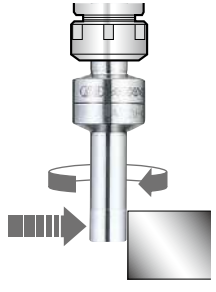
POINT MASTER
For use with conductive workpieces and machine tools
I3
Detection with LED and beep



The all-rounder dial-read 3-D measuring instrument
3D MASTER RED
I5



Battery-less slide type simple edge finder
ACCU CENTER
I5



The **Automatic Touch Sensor Series** is also available for various measuring needs, such as for unmanned operation.



NEW ZERO SENSOR **OPT2500**

Advice
Make sure to check the coating material on the cutting tool before using conductive compact sensors. TiN coatings are conductive, but some multi-layer coatings do not conduct electricity. High speed machine tool spindles often use non-conductive ceramic bearings. Select sensors available for any material for use under nonconductive environments.

Details I6



- Quick detection of workpiece offset and tip position.
- Abundant series available for various tool materials and diameters.
- Repeatability within $1\mu\text{m}$ (2σ).
(BASE MASTER, BASE MASTER MINI)

BASE MASTER SERIES

360° lighting allows for detection from any direction.

BM-50H **NEW**

For use with conductive cutting tools, workpieces, and machine tools



BM-50GH **NEW**

For all cutting tools, workpieces and machine tools



BM-100GH
with 100mm
reference height
also available.



BM-50MH **NEW**

For all cutting tools, workpieces and machine tools



Tool
diameter
from $\phi 0.05$
mm

BASE MASTER MINI SERIES

Compact design avoids tool/workpiece interference.

BMM-20D

For all cutting tools, workpieces and machine tools

Ultra-compact design with an outer diameter of $\phi 20\text{mm}$



With loupe



BMM-10H

For all cutting tools, workpieces and machine tools

Ultra-compact design with a reference height of 10mm



BMM-20H **NEW**

For all cutting tools, workpieces and machine tools

Compact/lightweight design. Highly visible wide emitter.



TOOL MASTER



Tool offset detected using a dial gauge.

TM-100N

For all cutting tools, workpieces and machine tools



Notifies the height with LED and buzzer



Advice



The accuracy of measurement is greatly affected by the environment. The specifications and height accuracy of the Base Master are applied at $20^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ temperature and $55\% \pm 5\%$ humidity. If precision measuring is required in conditions other than stated above, please compensate the height by comparing with a gauge block.

Precision Electron Level **LEVEL MASTER**

Details I17

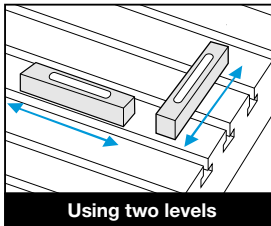


High precision of
0.01mm or less per 1m

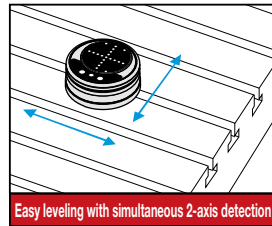
- Ideal for level management of machine tools/precision assembly devices.
- 2-axis simultaneous level detector.

2-axis simultaneous detection High precision of 0.01mm/1m

Notifies leveling completion with LED and beep



Using two levels



Easy leveling with simultaneous 2-axis detection

2-axis simultaneous detection makes leveling drastically faster and more economical, compared to the conventional process of using two separate levels.

HIGH Mode

When level is
0.01mm/1m or
less

LOW Mode

When level is
0.1mm/1m or
less

Notification with LED (blue) and beep

Centering Device for Small Lathes **CENTERING TOOL** PAT.

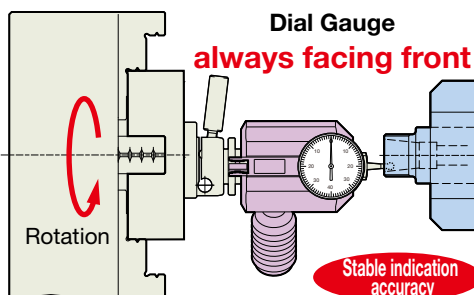
Details F15



- Dial gauge always stays in front of the operator.



Unique centering tool with superior visibility



Dial Gauge
always facing front

Stable indication
accuracy

- With a Dial Gauge always facing front, toolholder centering can be done with an eye on the gauge.
- Fine adjustment mechanism aids easy centering (2mm adjustment amount).
- Unrestricted mounting positions with a magnet base.
- Compact design of 90mm total length, ideal for small lathes.

Details I11



Static/dynamic precision test bar
DYNA TEST

- For maintenance and inspection of machine tool spindle
- A machine maintenance tool of the highest quality for use as a precision measurement instrument.
- Calibration certificate and traceability diagram available upon request. (with charge)

Tool clamp measuring device for pulling force
DYNA FORCE



DYNA TEST

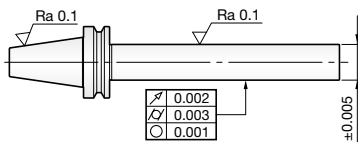
Static

Test bar with a focus on superb quality and accuracy. Prevents trouble through the periodic inspection of machine runout accuracy.

- A high-precision test bar developed by BIG's precise machining technology.
- Periodic accuracy evaluation eliminates machining defects.
- Abundant variation to suit the standards of each holder.

Precision standard of BIG Daishowa Test Bars

BIG Daishowa provides high quality test bars, produced under a strict quality control system.



Runout accuracy	0.002mm
Roundness	0.001mm
Cylindricity	0.003mm
Surface roughness	Ra: 0.1 μm
O.D. tolerance	±0.005mm

Dynamic

Evaluates the dynamic runout accuracy of the machine spindle by measuring the runout while rotating at practical speeds.

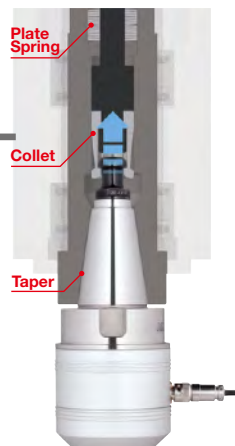
Knowing the dynamic accuracy of the machine tool spindle affected by centrifugal forces, vibrations and heat will aid in finding the appropriate cutting parameters for actual machining.



DYNA FORCE

Measures pulling force of machine tool spindle, a vital factor of machine tool performance.

The pulling force produced by the clamping device of machine tools could deteriorate due to degradation of disc springs or wear of the components of the booster. Pulling force is especially vital when it comes to dual face contact spindle interface, thus regular inspection is recommended.



A calibration certificate and traceability diagram is offered upon request with charge for reliable use of these measuring instruments, or for the customers certified with ISO9000. Please contact us for details.

※ Traceability is defined under JIS Z8103 as "the establishment of a pathway related to national and international standards in which standard instruments or measuring instruments are continually calibrated according to higher-level measurement standards."

Advice



The spindle is the most essential part of a machine tool. Maintaining the accuracy of the spindle is almost equal to extending the life of the machine tool itself. Even periodical inspection of the runout accuracy makes a large difference.

Ceramic Taper Gauge for Machine Spindle Taper Inspection **DYNA CONTACT**

Details I14



- A ceramic taper gauge allowing inspection of machine spindle tapers at a glance.
- Surpasses functions of steel taper gauges.

Compatible Spindles
BBT(BT)30/40/50
BDV(DV)30/40/50



Machine spindle taper inspection is essential for high-precision machining

High Durability

Higher hardness than steel for good scratch resistance.

High Visibility

Made of ceramic (white), it allows even a thin coating of Prussian blue to show up clearly.



- Rustproof
- Non-magnetizing
- No aging deterioration
- 10x the wear resistance of steel
- Same linear expansion coefficient as steel

Details H3

Tightening Fixture for Collet Chucks with Torque Indicator **TORQUE FIT**



- Get your collet chuck tightening right!
- Notification by buzzer of the correct torque value.

Collet Chuck exclusive

Cannot be used with Milling Chucks, etc.

High-precision machining starts with correct tightening.

Insufficient Tightening

Tool Tip
Position Change →

Machining Defects

Dimensional Defects

Over-Tightening

Collet Deformation
Runout Problems →

Shortened Tool Life

Shortened Holder Life

- Torque values of the **BIG** BIG DAISHOWA-made collet chucks are preset.
- Notification by buzzer near the correct torque value.
- USER mode allows setting of desired torque value.
- Notification by ERROR LED of overtightening.
- Exchangeable adapters matched to various holder interfaces.



- Use only after turning on the power supply, since use without power can lead to malfunctions.
- Use after securely fixing to a workbench or surface plate.
- **Dedicated for Collet Chuck use, so cannot be used with Milling Chucks, etc.**

Compatible holders are the BIG-made "MEGA MICRO CHUCK", "MEGA NEW BABY CHUCK", "MEGA E CHUCK", "NEW BABY CHUCK" and "MEGA SYNCHRO TAPPING HOLDER".

Indexable Insert Endmill **FULLCUT MILL** FCR / FCM Type

Details J1



FCM Type

Multifunction Ramping Cutter FCR Type



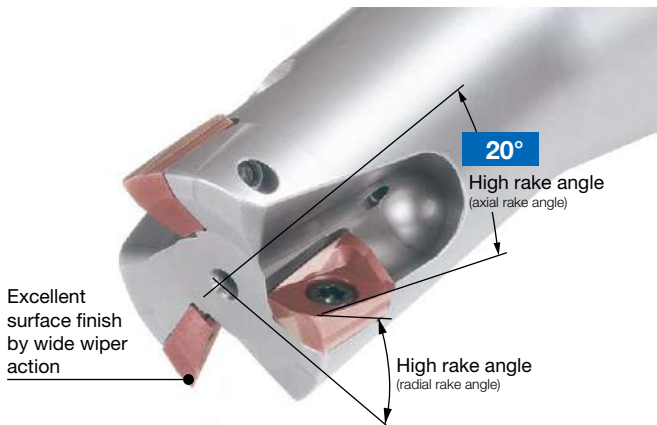
- Indexable insert endmills with both excellent sharpness and toughness, achieving the performance of solid endmills.
- Integrated dual contact shank for increased power even with compact machines!



FCM Type

FCR Type

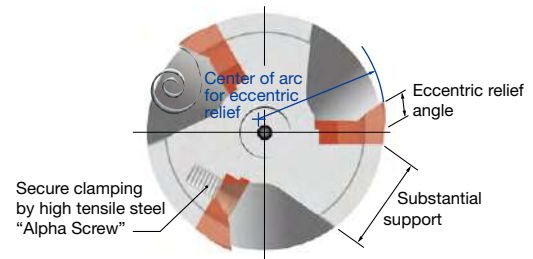
Sharp cutting edge with large radial and axial rake angles



Positive high rake cutting edge for both radial and axial directions achieves smooth and quiet endmilling.

The first indexable endmill with an eccentric relief angle

The eccentric relief angle originating from solid endmills is adopted. Tough and sharp cutting edges are realized.



- Strong cutting edge reduces edge chipping

FCR Type Cutter diameter: $\phi 16 - \phi 33$
Multifunction 3D cutter that realizes both heavy and stable ramping.

Ramping Helical milling Peck-drilling Grooving Shoulder milling

Edge breakdown

Cutting edge is located close to body dia.

High clearance angle

Ideal clearance angle

General Cutter

FULLCUT MILL

Eccentric relief angle
An eccentric relief angle improves the cutting edge toughness and stays sharp, using the traditional solid endmill cutting edge shape technology.

FCM Type Cutter diameter: $\phi 12 - \phi 100$
Low resistance, high efficiency cutter especially for cross-feed machining.

Grooving Shoulder milling



Indexable endmills are usually perceived as for rough milling. However, BIG FULLCUT MILL is designed to have a similar cutting edge shape to solid endmills to realize sharp cutting and low cutting resistance. This makes it very effective to use on small machine tools or machines with linear slides.

High Speed Cutter for Aluminum and Cast Iron **SPEED Finisher**

Cutter diameter: $\varnothing 50$, $\varnothing 63$, $\varnothing 80$, $\varnothing 100$, $\varnothing 125$, $\varnothing 160$

Details J19

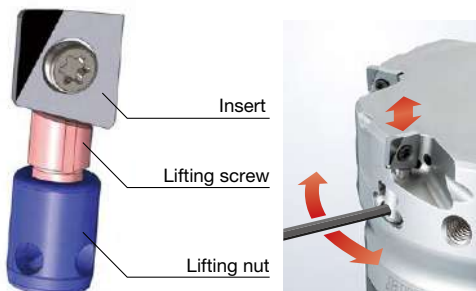


- Greatly improves the surface finish in ultra-high-speed machining!
- Achieves $Rz = 0.55\mu\text{m}$ for die-cast aluminum ADC12 and $Rz = 0.67\mu\text{m}$ for gray cast iron FC250.



Speedily adjusts the cutting edge height

It has a simple and highly operable mechanism in which the cutting edge height is adjusted after clamping the insert by turning the lifting nut from the side, then directly pushing up the insert with the lifting screw. Since the lifting screw has a fine pitch (0.25mm), accurate adjustment is possible.



Adjustable in μm increments. Exclusive presetter

Presetter that allows adjustment in true micron increments

Presetter that allows cutting edge adjustment in micron increments.

With a soft contact function that prevents damage to delicate cutting edges. While it is simple, it allows all cutting edges to be perfectly aligned in a short time, which even non-contact presetters could not accomplish. Purchase together with the SPEED FINISHER body.

With dial gauge stabilizing function



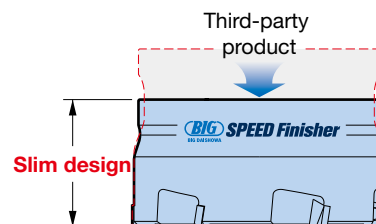
Combines light weight and high rigidity

The slim body allows increased rigidity and reduced vibration and deflection. Therefore, height difference of the machined surface is minimized.

Also, as it is lighter than other cutters, it can be safely used with a small #30 taper machining center.

Direct coolant supply to the cutting edge

Use in combination with the Face Mill Arbor Type H allows coolant to be supplied directly to the cutting edge. This prevents welding and biting of chips in aluminum cutting.



Not only has the finishing surface roughness been improved, but by correctly aligning the cutting edge height, feed per tooth can also be increased for the same surface roughness, allowing high-efficiency machining. As the insert uniformly touches the workpiece, the life can also be extended.

Face Mill Cutter **FULLCUT MILL** ARBOR TYPE

Cutter diameter: $\phi 50$, $\phi 63$, $\phi 80$, $\phi 100$

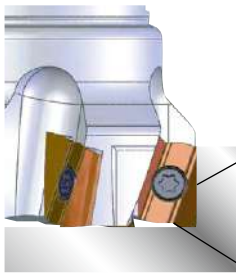
Details J17



- Sharp and powerful cutting. Exhibits incredible cutting capacity even with #40 machining centers or millturn machines.
- Compatible with FMH standard arbors.



Perpendicularity and beautiful surface finish unmatched in indexable insert cutters



Machined with holder **BBT40-FMH22-47-45** and Fullcut Mill **FMH22-FCM63116-40**

● Perpendicularity

Cutting speed Vc (m/min)	150
Feed rate fz (mm/t)	0.1
Axial DOC ap (mm)	5
Radial DOC ae (mm)	0.1

BIG BIG DAISHOWA	10 μm
General Cutter	40 μm

● Surface roughness

Cutting speed Vc (m/min)	250		
Feed rate fz (mm/t)	0.2	0.51	2.89
Axial DOC ap (mm)	0.1		
Radial DOC ae (mm)	50		
		1.56	7.77

※ The perpendicularity and surface roughness will vary depending on the cutting conditions, material, machine tool and workpiece rigidity.

Advice



In 90° corner milling, the insert with a positive shape and large rake angle reliably curls the cutting chips, increasing the evacuation performance. The high rake insert used in the Fullcut Mill will be helpful.

Face Mill Cutter **SURFACE MILL**

Cutter diameter: $\phi 80$

Details J21

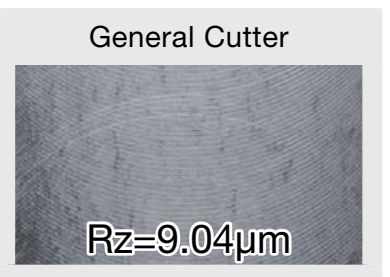


- Exhibits difference in the top surface finish of the workpiece!



Surface finish comparison with a general cutter

Workpiece material	S50C
Cutting speed Vc (m/min)	200
Feed rate fz (mm/t)	0.2
Axial DOC ap (mm)	3
Radial DOC ae (mm)	75
Cutting method	Dry



Advice



Glossiness of the machined surface with a face cutter is affected by the sharpness of the insert. By using different cutters between roughing and finishing operations, not only can a beautiful surface finish be achieved, but the life of the insert can also be easily managed to obtain stable quality.

C-CUTTER mini

Details J22



Full scale

- Ultra-high feed! The 4 insert design and compact tool diameter improve the feed drastically.
- Hexagonal insert with the ultra-small inscribed circle of $\phi 3.31$.
- Suppresses stainless steel and mild steel burrs with “sharp cutting edge insert”.

Front & back chamfering

Starting hole and bolt hole chamfering

Face milling

(ST20-C2232
ST32-C3242
CKB Type)



4 inserts, ultra small diameter and new coating achieve triple effect

Effect 1

Superb design
Ultra high feed by 4 inserts

Compared to 1 or 2 insert cutter, feed rate is multiplied with 4 inserts.

Effect 2

Increased spindle speed by
ultra-compact diameter

At the same cutting speed, smaller tool diameter means faster spindle speeds.

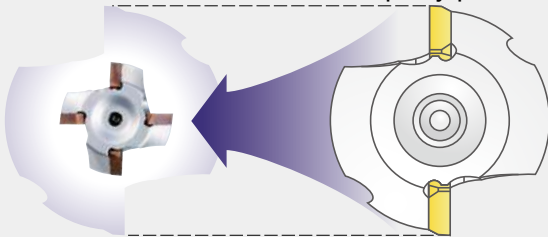
Effect 3

Cutting speed is increased by
the latest “ACP200” coating

Ultra multi layer PVD coating increases the cutting speed drastically.

C-CUTTER MINI

Third-party product



Small tool diameter and 4 inserts

Large tool diameter with only 1 or 2 inserts

$$\text{Significantly Improved!! Feed} = \text{UP Spindle speed} \times \text{Feed per tooth} \times \text{UP Number of teeth}$$

$$\text{UP Spindle speed} = \frac{\text{UP Cutting speed}}{\pi \times \text{Small diameter}}$$

Realizes “back chamfering” with minimum starting hole diameter of $\phi 5$

Back chamfering with minimum starting hole diameter of $\phi 5$ realizes high-efficiency machining, enabled by ultra-small inserts.

Also economical with 3-corner inserts.



Ultra-small Insert

Inscribed circle $\phi 3.31$

Machining efficiency is significantly improved



8 times greater machining efficiency

Workpiece: S55C
Chamfering amount: C1
Feed per tooth fz: 0.1mm/t

	General product	C-CUTTER MINI (ST12-C1116-45B-25)
Chamfering diameter	$\phi 29$	$\phi 13.5$ <small>Small diameter</small>
Number of inserts	2	4 <small>UP</small>
Cutting speed Vc (m/min)	150	300 <small>UP</small>
Spindle speed n (min ⁻¹)	1,646	7,040 <small>UP</small>
Feed Vf (mm/min)	329	2,820 <small>Much higher!</small>



As machining centers now use high-speed rotation and high feed, quick machining with a small cutter is something of a current trend. This is especially effective in machining with a small stock allowance, such as chamfering.

CHAMFERING TOOL C-CUTTER

Hole diameter: $\phi 5 - \phi 100$

Details J30



CK SHANK



ST SHANK

● Wide chamfering range reduces number of tools and ATC.



Universal type



Center through specification (30°, 45°, 60° types)

Coolant nozzles can be adjusted towards the machining point to achieve reliable coolant supply. Sharp cutting edge and reliable coolant supply achieve beautiful surface finish like never before. Securely chamfers difficult-to-cut or easy-to-weld materials.



Stable machining with double screw

Parallelogram long insert ideal for chamfering. Two screws are used for secure fixing, allowing stable machining.

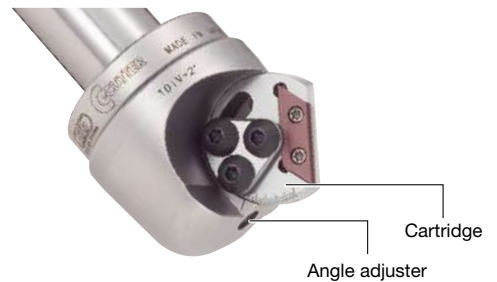


Reduces the number of tools and machining time

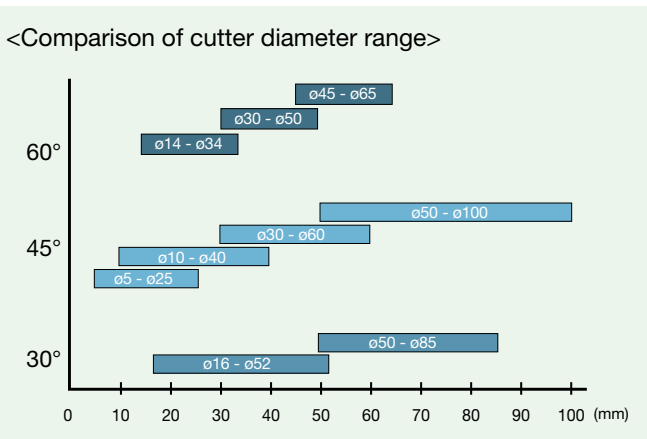
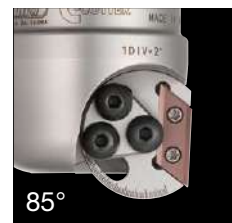
The extensive chamfering range reduces the number of tools and tool changes. Effective use of the magazine pots and shorter machining time are achieved.



Chamfering angle can be easily adjusted by 5° to 85° (universal type)



The cartridge swings when the angle adjuster is turned using a wrench; the chamfer angle can be adjusted by 5° to 85° by aligning the scale line of the cartridge with the mark on the body.



Advice



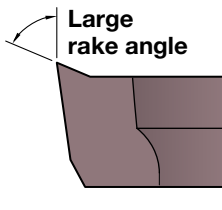
In hole chamfering, there are two machining methods: contouring using a small cutter, or simply thrusting with a large cutter such as the C-Cutter. In single item production, the thrusting method allows easier programming and reduces the set-up time.

● Automates rounded chamfering for both the front and back.



Excellent sharpness with new insert shape!

R-CUTTER is the first in the industry to use an insert with a large rake angle that's capable of producing clean surfaces with no vertical streaking.



Four corners can be used for better economic efficiency

A throw-away insert that allows all four corners to be used, making cost reduction possible.

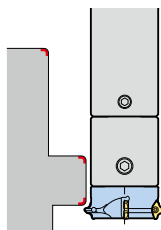


CK BORING SYSTEM CKB Type

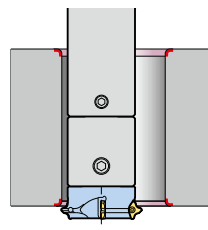
Modular type round chamfering tool. CK extensions allow front/back chamfering of deep holes, as well as grooves or steps at the distance.



BIG + KAISER
BIG DAISHOWA



Front and back chamfering of grooves and steps located at a distance



Front and back chamfering of deep holes



It is well known that changing the chamfer of the workpiece from the C-plane to the R-plane will considerably change the texture of the workpiece. This can be considered an added value.

Spot Drilling/Chamfering Tool

C-CENTERING CUTTER

Registered Design

Details J38

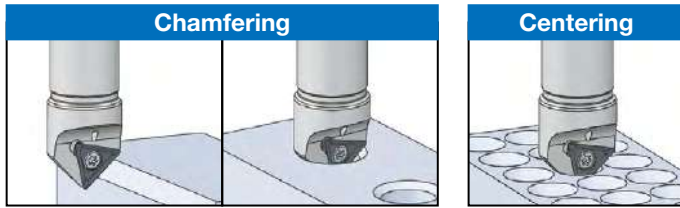


90° & 120°

- A multifunction cutter capable of both spot drilling and chamfering
(Spot drilling is not available with the 3-insert type.)
- Negative insert tip shape dramatically improves the life



Capable of both spot drilling and chamfering



Spot drilling is not available with the 3-insert type.

Effective for traverse chamfering (3-insert type)

3-insert type with maximum chamfering width of C9. Effectively reduces machining time.

Max. chamfering width **C9**



Centering, spot drilling, and chamfering can all be done with a single tool, minimizing required machine magazine pots. The 3-insert type is excellent for high-efficiency large chamfering.

Centering + chamfering tool
CENTER BOY

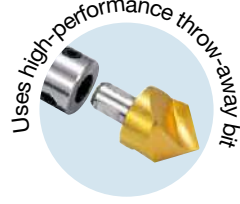
Details J40



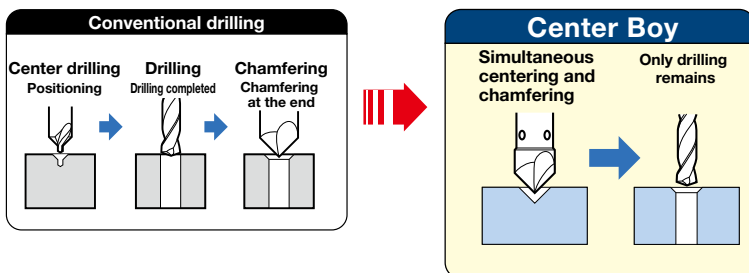
Long type

90° & 120°

- Accurate positioning in drilling and chamfering can be performed simultaneously

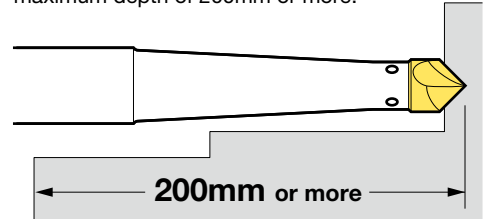


Reduced processes shorten machining time remarkably



Long shank with less interference

The long type covers workpieces with maximum depth of 200mm or more.



Centering before drilling can be considered the most important process in determining the center of the compass. Proper centering will help to improve position accuracy.

CHAMFERING TOOL **C-CUTTER BOY**

Hole diameter: $\varnothing 5 - \varnothing 25$

Details J37

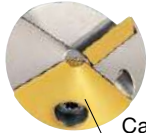


- The carbide guide prevents chatter on bench drilling machines.
- Economical three-corner insert.



Carbide guide allows stable cutting

Carbide guide allows stable cutting and prevents triangular chamfering. It does not damage the body, extending the life.



Carbide guide

Advice



Although the C-Cutter Boy has been developed for chamfering using a bench drill, it is also capable of stable chamfering without chattering even in low-rigidity conditions such as horizontal machining with long projection, thanks to the carbide guide.

Insert that does not need to be reground

Inserts do not require regrinding. Moreover, the carbide coating insert with 3 usable corners offers lower cost and extended tool life.

Back spot facing tool for cap bolt **BF-CUTTER**

Cap bolt size: M6 - M30

Details J41



- Economical insert type.
- Optimal design that matches the cap bolt size.

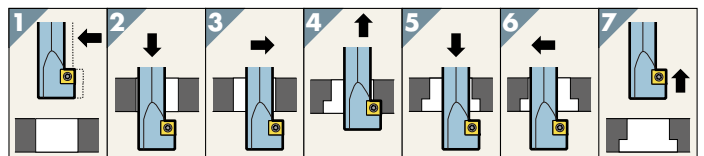


Reliable cooling through oil hole

Coolant can be supplied to cutting edges (all models). It securely supplies coolant even in places that are hard to reach such as when machining a rear surface, contributing to the extension of tool life.

Easy NC programming

Simple programming: Offset the machine spindle and starting hole centers before inserting the BF-Cutter into the hole.



Advice



There is no official standard spot facing diameter for the cap bolt. Unifying the cap bolt spot facing diameter is one of the ways to reduce costs. In doing so, consider the spot facing diameter of the BF-Cutter.

DUAL CONTACT
BIG-PLUS

BBT/BT SHANK



BBT/BT Shank



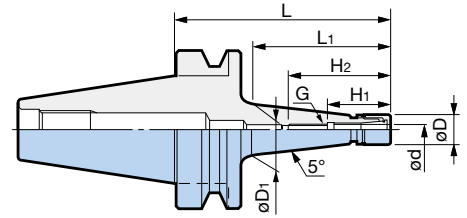
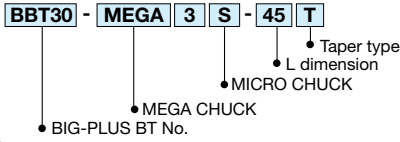
Ultra-slim design with $\varnothing 10\text{mm}$ nut outer diameter.
High speed collet chuck with minimized interference.



● Models for ultra-small endmilling are newly added!



● Model Description



Through hole type.

[High Rigidity Taper Type]

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L_1	H_1	H_2	G	Collet Model	Weight (kg)
BBT30-MEGA3S- 45T	0.45 - 3.25	10	11.5	45	20	22	38	M4 P0.7	NBC3S-□	0.42
- 75T			16	75	48					0.45
- 90T			18.5	90	63					0.48
-105T			21	105	78					0.52
-MEGA4S- 60T	0.45 - 4.05	12	15	60	33	26.5	47	M5 P0.8	NBC4S-□	0.45
- 75T			17.5	75	48					0.47
- 90T			20	90	63					0.50
-105T			23	105	78					0.54
-120T			25.5	120	93				0.60	
-MEGA6S- 60T	0.45 - 6.05	14	16.5	60	33	28.5	49	M7 P0.75	NBC6S-□	0.45
- 75T			19	75	48					0.47
- 90T			22	90	63					0.51
-105T			24.5	105	78					0.56
-120T			27	120	93				0.62	
-MEGA8S- 75T	2.95 - 8.05	18	23	75	48	31	50.5	M9 P0.75	NBC8S-□	0.51
-105T			28	105	78					0.62
BBT40-MEGA3S- 60T	0.45 - 3.25	10	12.5	60	28	22	38	M4 P0.7	NBC3S-□	1.0
- 90T			17.5	90	58					1.1
-120T			23	120	88					1.2
-MEGA4S- 60T	0.45 - 4.05	12	14	60	28	26.5	47	M5 P0.8	NBC4S-□	1.0
- 75T			16.5	75	43					1.1
- 90T			19.5	90	58					1.1
-105T			22	105	73					1.1
-120T			24.5	120	88					1.2
-135T			27	135	103				1.2	
-MEGA6S- 60T	0.45 - 6.05	14	15.5	60	28	28.5	49	M7 P0.75	NBC6S-□	1.1
- 75T			18	75	43					1.1
- 90T			21	90	58					1.1
-105T			23.5	105	73					1.1
-120T			26	120	88					1.2
-135T			29	135	103					1.3
-MEGA8S- 90T	2.95 - 8.05	18	24.5	90	58	31	50.5	M9 P0.75	NBC8S-□	1.2
-120T			30	120	88					1.2

- Nut is included. Collet and wrench must be ordered separately.
- Weight includes the nut but not the collet.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

Clamping diameter: $\varnothing 0.45 - \varnothing 8.05$

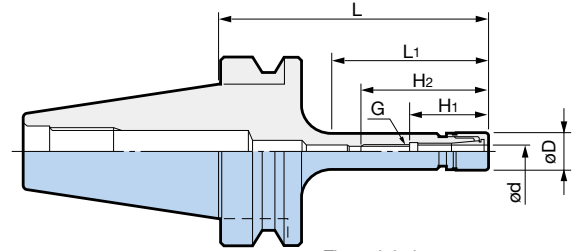
MEGA MICRO CHUCK PAT.



● Model Description

BBT30 - **MEGA** **4** **S** - **90**

- L dimension
- MICRO CHUCK
- MEGA CHUCK
- BIG-PLUS BT No.



Through hole type.

A
MEGA CHUCK Series

[Straight Type]

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter $\varnothing D$	$\varnothing D$	L	L ₁	H ₁	H ₂	G	Collet Model	Weight (kg)
BBT30-MEGA4S- 90	0.45 - 4.05	12	90	62	26.5	47	M5 P0.8	NBC4S-□	0.46
-MEGA6S- 60	0.45 - 6.05	14	60	32	28.5	49	M7 P0.75	NBC6S-□	0.45
- 90			90	62					0.47
-105			105	73					0.49
-MEGA8S- 90	2.95 - 8.05	18	90	60	31	50.5	M9 P0.75	NBC8S-□	0.51
BBT40-MEGA4S- 90	0.45 - 4.05	12	90	53	26.5	47	M5 P0.8	NBC4S-□	1.0
-MEGA6S- 90	0.45 - 6.05	14	90	53	28.5	49	M7 P0.75	NBC6S-□	1.0
-MEGA8S- 90	2.95 - 8.05	18	90	55	31	50.5	M9 P0.75	NBC8S-□	1.1

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

Standard Accessory	Optional Accessories			
<p>MEGA NUT</p> <p>For Spares G3</p>	<p>Mega Wrench</p> <p>G26</p>	<p>Micro Collet</p> <p>G2</p>	<p>MEGA MICRO SEAL NUT (for 6S and 8S) MEGA MICRO COOLANT NUT (for 6S)</p> <p>G3</p>	<p>Collet Case</p> <p>G4</p>

High speed version of NEW BABY CHUCK boasting a history of results.
Makes high speed machining possible in addition to its high accuracy and versatility.

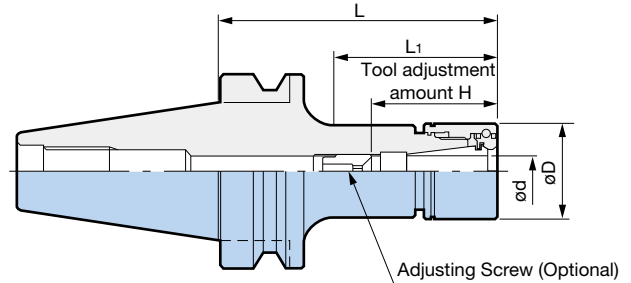
MEGA CHUCK Series



● Model Description

BBT30 - **MEGA** **6** **N** - **60**

- L dimension
- NEW BABY CHUCK
- Maximum clamping diameter
- MEGA CHUCK
- BIG-PLUS BT No.



BBT30

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	Clamping diameter $\varnothing D$	$\varnothing D$	L	L ₁	H	Collet Model	Nut Model	Weight (kg)
BBT30-MEGA 6N- 60	0.25 - 6	20	60	32	23 - 43	NBC 6-□	MGN 6	0.47
			- 75	47				0.50
			- 90	62				0.53
			-105	77				0.56
			-120	90				0.59
-MEGA 8N- 60	0.5 - 8	25	60	34	26 - 45	NBC 8-□	MGN 8	0.51
			- 75	49				0.56
			- 90	64				0.61
			-105	79				0.67
			-120	92				0.72
-MEGA10N- 60	1.5 - 10	30	60	34	38 - 48	NBC10-□	MGN10	0.54
			- 75	49				0.61
			- 90	64				0.68
			-105	79				0.75
			-120	94				0.82
-MEGA13N- 60	2.5 - 13	35	60	34	44 - 63	NBC13-□	MGN13	0.57
			- 75	49				0.67
			- 90	64				0.77
			-105	79				0.87
			-120	94				0.97
-MEGA16N- 60	2.5 - 16	42	60	37	48 - 63	NBC16-□	MGN16	0.61
			- 75	52				0.75
			- 90	67				0.89
			-105	82				1.04
			-120	94				1.08
-MEGA20N- 60 ※	2.5 - 20	46	60	—	70	NBC20-□	MGN20	0.64
			- 75	—	51 - 68			0.78
			- 90	—				0.93
			-105	—				1.08
			-120	—				1.13
-MEGA25N- 85 ※	15.5 - 25.4	60	85	—	80	NBC25-□	MGN25	1.13

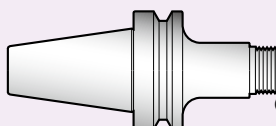
1. Nut is included. Collet, wrench, and adjusting screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.

4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

※ marked models cannot be used with Adjusting Screws.
H dimension is the max. tool shank length that can be inserted into the holder.

When ordering a **MEGA PERFECT SEAL**, the "Nut-Less Body" without the standard nut attached is also available.

● **Example** Attach **/NL** (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
BBT30-MEGA6N-60/NL
(NL at the end of the model number means nut not attached)



NBC Collet
NBC6-3AA



MEGA PERFECT SEAL Model
MPS6-03035



MEGA NUT Flat Type Model
MGN6F

BBT40BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	Clamping diameter $\varnothing D$	$\varnothing D$	L	L ₁	H	Collet Model	Nut Model	Weight (kg)
BBT40-MEGA 6N- 60	0.25 - 6	20	60	27	23 - 43	NBC 6-□	MGN 6	1.0
- 75			75	38				1.1
- 90			90	53				1.1
-105			105	68				1.2
-120			120	83				1.2
-135			135	98				1.2
-165			165	128				1.2
-200			200	163				1.3
-MEGA 8N- 60			0.5 - 8	25				60
- 75	75	38			1.1			
- 90	90	53			1.1			
-105	105	68			1.2			
-120	120	83			1.2			
-135	135	98			1.3			
-165	165	128			1.3			
-200	200	163			1.4			
-MEGA10N- 60	1.5 - 10	30			60	27	38 - 48	NBC10-□
- 75			75	38	1.2			
- 90			90	53	1.2			
-105			105	68	1.3			
-120			120	83	1.4			
-135			135	98	1.4			
-165			165	128	1.5			
-200			200	163	1.7			
-MEGA13N- 60			2.5 - 13	35	60	31		
- 75	75	40			1.2			
- 90	90	55			1.3			
-105	105	70			1.4			
-120	120	85			1.5			
-135	135	100			1.6			
-165	165	130			1.8			
-200	200	165			2.0			
-MEGA16N- 60	2.5 - 16	42			60	31	48 - 68	NBC16-□
- 75			75	40	1.3			
- 90			90	55	1.4			
-105			105	70	1.6			
-120			120	85	1.7			
-135			135	100	1.8			
-165			165	130	2.0			
-200			200	165	2.3			
-MEGA20N- 60			2.5 - 20	46	60	31		
- 75	75	42			1.3			
- 90	90	57			1.4			
-105	105	72			1.6			
-120	120	87			1.8			
-135	135	102			1.9			
-165	165	132			2.1			
-200	200	167			2.5			
-MEGA25N- 75	15.5 - 25.4	60			75	47	64 - 74	NBC25-□
- 90			90	62	1.9			
-105			105	77	2.2			
-120			120	92	2.5			

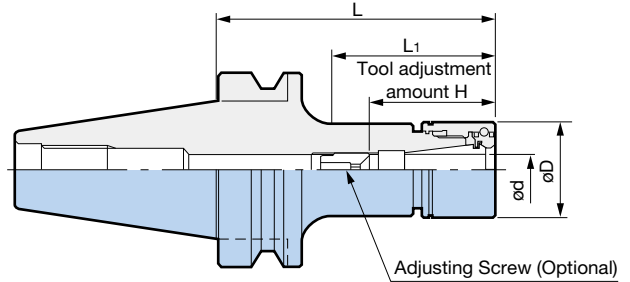
Standard Accessory		Optional Accessories				
MEGA NUT  For Spares 	O-ring  For Spares 	MEGA NUT Flat Type  	Mega Wrench  	Collet  	MEGA PERFECT SEAL  	Adjusting Screw  

The DUAL CONTACT BIG-PLUS system has been standardized.
The abundant variety is also ideal as reliable general-purpose holders.

MEGA CHUCK Series



- Model Description
- BBT50** - **MEGA** **6** **N** - **90**
- L dimension
- NEW BABY CHUCK
- Maximum clamping diameter
- MEGA CHUCK
- BIG-PLUS BT No.



BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Clamping diameter $\varnothing D$	$\varnothing D$	L	L ₁	H	Collet Model	Nut Model	Weight (kg)
BBT50-MEGA 6N- 90	0.25 - 6	20	90	37	23 - 43	NBC 6-□	MGN 6	3.7
-120			120	67				3.8
-165			165	112				3.9
-200			200	147				4.0
-MEGA 8N- 90	0.5 - 8	25	90	42	26 - 45	NBC 8-□	MGN 8	3.8
-120			120	67				3.9
-165			165	112				4.1
-200			200	147				4.2
-MEGA10N- 90	1.5 - 10	30	90	42	38 - 48	NBC10-□	MGN10	3.9
-120			120	67				4.0
-165			165	112				4.3
-200			200	147				4.7
-250			250	197				4.7
-MEGA13N- 90	2.5 - 13	35	90	42	44 - 63	NBC13-□	MGN13	4.0
-120			120	67				4.2
-165			165	112				4.5
-200			200	147				4.7
-250			250	197				5.0
-300	300	247	5.3					

1. Nut is included. Collet, wrench, and adjusting screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

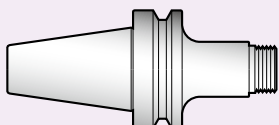
BIG-PLUS BBT SHANK Model	Clamping diameter $\varnothing D$	$\varnothing D$	L	L ₁	H	Collet Model	Nut Model	Weight (kg)
BBT50-MEGA16N- 75	2.5 - 16	42	75	31	48 - 68	NBC16-□	MGN16	4.0
- 90			90	42				4.2
-120			120	72				4.4
-165			165	117				4.8
-200			200	152				5.1
-250			250	202				5.5
-MEGA20N- 75	2.5 - 20	46	75	31	51 - 68	NBC20-□	MGN20	4.1
- 90			90	42				4.2
-120			120	72				4.5
-165			165	117				4.9
-200			200	152				5.3
-250			250	202				5.7
-MEGA25N- 90	15.5 - 25.4	60	90	46	64 - 74	NBC25-□	MGN25	4.3
-120			120	72				4.9
-165			165	117				5.8
-200			200	152				6.4

1. Nut is included. Collet, wrench, and adjusting screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.


Standard Accessory		Optional Accessories				
MEGA NUT  For Spares 	O-ring  For Spares 	MEGA NUT Flat Type  	Mega Wrench  	Collet  	MEGA PERFECT SEAL  	Adjusting Screw  

When ordering a **MEGA PERFECT SEAL**, the "Nut-Less Body" without the standard nut attached is also available.


● **Example** Attach **/NL** (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
BBT30-MEGA6N-60/NL
(NL at the end of the model number means nut not attached)

+


NBC Collet
NBC6-3AA

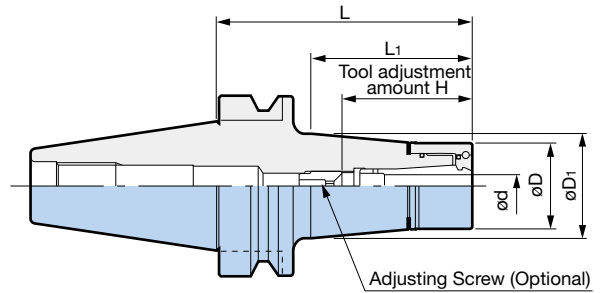
+


MEGA PERFECT SEAL Model
MPS6-03035


MEGA NUT Flat Type Model
MGN6F

A high-precision collet chuck designed especially for high speed and powerful end milling.

- Tapered body enhances damping effect by varying vibration frequency.
- Uses the MEGA E Collet designed for endmilling, delivering optimal clamping performance.



● Model Description

BBT30 - MEGA 6 E - 50

- L dimension
- E CHUCK
- Maximum clamping diameter
- MEGA CHUCK
- BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

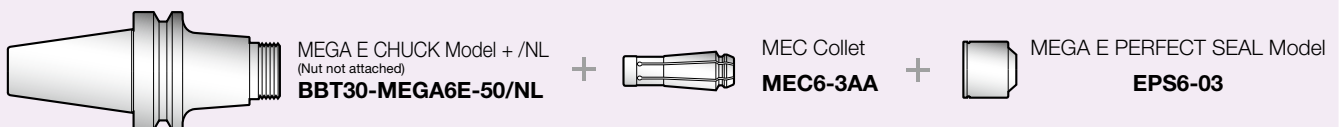
BIG-PLUS BBT SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H	Collet Model	Nut Model	Weight (kg)
BBT30-MEGA 6E- 50	3 - 6	25	26	50	25	37 - 45	MEC 6-□	MEN 6	0.51
- 75			30	75	50				0.62
- 90			32.5	90	65				0.71
-105			35.5	105	80				0.81
-MEGA 8E- 50	3 - 8	30	30.5	50	25	42 - 51	MEC 8-□	MEN 8	0.53
- 75			35	75	50				0.68
- 90			37.5	90	66				0.80
-105			40.5	105	81				0.93
-MEGA 10E- 50	3 - 10	35	35.5	50	25	48 - 58	MEC10-□	MEN10	0.57
- 75			40	75	51				0.77
- 90			41	90	66				0.90
-105			41.5	105	82				1.03
-MEGA 13E- 50	3 - 12	42	42.5	50	27	50 - 58	MEC13-□	MEN13	0.61
- 75			42	75	52				0.86
- 90			42	90	67	50 - 60			1.01
-105			42	105	82				1.17

- The nut is included but the collet, wrench and adjusting screw must be ordered separately.
- Weight includes the nut but not the collet.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
- Center through coolant supply is available.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

Standard Accessory		Optional Accessories			
<p>MEGA E Nut</p> <p>For Spares G13</p>	<p>O-ring</p> <p>For Spares G13</p>	<p>Mega Wrench</p> <p>G26</p>	<p>MEGA E Collet</p> <p>G13</p>	<p>MEGA E PERFECT SEAL</p> <p>G15</p>	<p>Adjusting Screw</p> <p>G14</p>

When ordering a MEGA E PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

- **Example** Attach /NL (Nut less) to the end of the holder model number and order the MEC Collet/MEGA E PERFECT SEAL separately.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

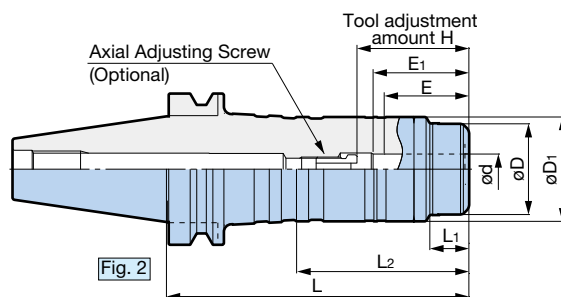
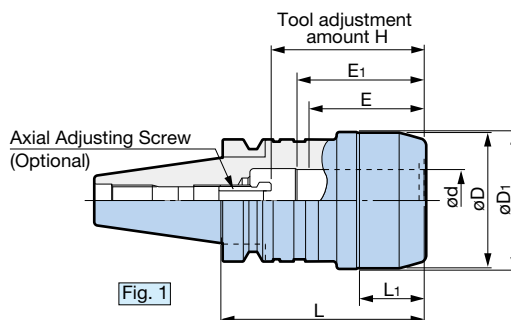
BIG-PLUS BBT SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L_1	H	Collet Model	Nut Model	Weight (kg)					
BBT40-MEGA 6E- 60	3 - 6	25	26.5	60	28	37 - 45	MEC 6-□	MEN 6	1.1					
- 75			29	75	43				1.2					
- 90			31.5	90	58				1.3					
-105			34	105	73				1.3					
-120			36.5	120	88				1.5					
-135			39	135	103				1.6					
-165			44.5	165	133				1.9					
-200			51	200	169				2.4					
-MEGA 8E- 60			3 - 8	30	31				60	28	42 - 48	MEC 8-□	MEN 8	1.2
- 75					33.5				75	43	42 - 51			1.3
- 90	36	90			58	1.3								
-105	39	105			73	1.5								
-120	41.5	120			88	1.7								
-135	44	135			103	1.8								
-165	49.5	165			133	2.1								
-200	56	200			171	2.6								
-MEGA 10E- 60	3 - 10	35			36	60	29	48 - 58	MEC10-□	MEN10				1.3
- 75					38.5	75	43							1.4
- 90			41	90	58	1.5								
-105			44	105	73	1.7								
-120			46.5	120	88	1.8								
-135			49	135	103	2.0								
-165			54.5	165	135	2.4								
-200			55.5	200	171	3.1								
-MEGA 13E- 60			3 - 12	42	43	60	29				50 - 60	MEC13-□	MEN13	1.3
- 75					45	75	43							1.5
- 90	48	90			59	1.7								
-105	51	105			75	1.9								
-120	53.5	120			91	2.1								
-135	56	135			106	2.4								
-165	57.5	165			137	2.8								
-200	62.5	200			173	3.7								
BBT50-MEGA 6E- 90	3 - 6	25			30.5	90	47	37 - 45	MEC 6-□	MEN 6				3.8
-120					36	120	77							4.0
-165			43.5	165	122	4.4								
-200			50	200	157	4.9								
-MEGA 8E- 90			3 - 8	30	35.5	90	47				42 - 51	MEC 8-□	MEN 8	3.9
-120	40.5	120			77	4.1								
-165	48.5	165			122	4.6								
-200	54.5	200			157	5.2								
-MEGA10E- 90	3 - 10	35	40	90	47	48 - 58	MEC10-□	MEN10	4.0					
-120			45.5	120	77				4.2					
-165			53	165	121				4.9					
-200			59.5	200	156				5.5					
-MEGA13E- 90	3 - 12	42	46.5	90	47	50 - 60	MEC13-□	MEN13	4.0					
-120			52	120	77				4.4					
-165			59	165	121				5.2					
-200			65	200	156				6.0					

- The nut is included but the collet, wrench and adjusting screw must be ordered separately.
- Weight includes the nut but not the collet.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
- Center through coolant supply is available.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

Complete contact with the nut and body in conjunction with the BIG-PLUS specifications for double effect.

High rigidity equal to integration with the machine spindle.

[Standard Type]



● Model Description

BBT30 - MEGA 16 D - 60

- BIG-PLUS BT No.
- MEGA CHUCK
- Clamping diameter
- DOUBLE CHUCK Standard type
- L dimension

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	L	L ₁	L ₂	H	Min. clamping length		Mega Wrench	Weight (kg)
									E	E ₁		
BBT30-MEGA16D- 60	1	16	46	47	60	25	—	62	48	50	MGR46L	0.75
-MEGA20D- 65 ※		20	50	51	65	30		60	50	MGR50L	0.82	
BBT40-MEGA16D- 75A	2	16	42	53	75	25	38	71	48	55	MGR42L	1.5
-105A					105							2.1
-135A					135							2.7
-165A					165							3.3
-200A					200							4.1
-MEGA20D- 75A	2	20	50	55	75	34	44	69 - 79	50	56	MGR50L	1.6
-105A					105							2.0
-120A					120							2.3
-135A					135							2.6
-165A					165							3.2
-200A					200							4.1
-MEGA25D- 75A	1	25	62	63	75	39	—	73 - 83	56	57	MGR62L	2.0
-105A					105			2.3				
-135A					135			3.0				
-165A					165			3.7				
-200A					200			4.7				
-MEGA32D- 90A	1	32	70	71	90	33	—	71 - 81	60	64	MGR70L	2.1
-105A					105			2.4				
-135A					135			3.1				
-165A					165			3.7				
-200A					200			4.5				

- Wrench is not included. Please order separately.
- Please note that BBT40-MEGA32D-90A, ATC arm may interfere with the nut in some machines. (36mm from gauge line to nut.)
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
- When using center through coolant, insert a tool shank into E₁ or more.

- MEGA16D requires the hex socket head screw (M8) for axial adjustment.
However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.
- For ※ marked models, "H" dimension is the max. insertion depth.
Some Straight Collets cannot be used. Compatibility Table

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.





BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	L ₂	H	Min. clamping length		Mega Wrench	Weight (kg)
									E	E ₁		
BBT50-MEGA16D-105	2	16	46	55	105	23	33	71	48	50	MGR46L	4.6
-135					135							5.2
-165					165							5.7
-200					200							6.6
-MEGA20D-105	2	20	60	69	105	25	36	69 - 79	50	56	MGR60L	5.1
-135					135							6.0
-165					165		6.8					
-200					200		7.7					
-MEGA25D-105	2	25	70	77	105	32	45	76 - 86	56	65	MGR70L	5.4
-135					135							6.5
-165					165		7.6					
-200					200		8.9					
-MEGA32D- 90	2	32	80	86	90	39	54	78 - 95	60	71	MGR80L	4.8
-105					105							5.4
-135					135		7.0					
-165					165		8.5					
-200					200		9.9					
-250					250		12.1					
-MEGA42D-105	1	42	99	100	105	40	—	88 - 105	70	71	MGR99L	6.0
-135					135							7.8
-165					165							9.6
-MEGA50D-120	1	50	105	117	120	47	—	94 - 110	—	75	MGR105L	7.3

- Wrench is not included. Please order separately.
 - Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
 - Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
 - When using center through coolant, insert a tool shank into E₁ or more.
- MEGA16D requires the hex socket head screw (M8) for axial adjustment.
However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.

Optional Accessories

Straight Collet



- PJC Collet  G19
- PSC Collet  G20
- OCA Collet  G21
- C Collet  G22

Mega Wrench



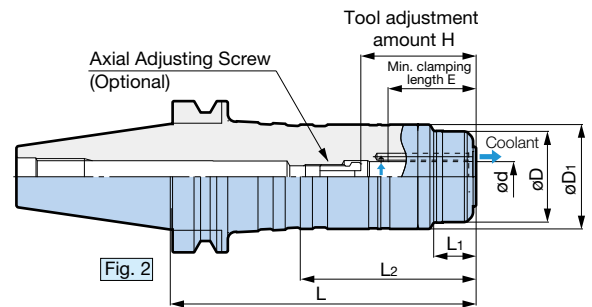
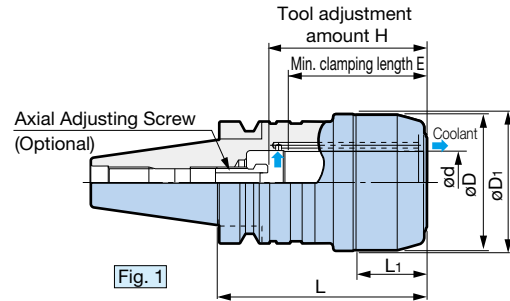
G26

Axial Adjusting Screw



G25

[Jet Through Type]



● Model Description

BBT30 - **MEGA** **16** **DS** - **60**

- DOUBLE CHUCK Jet Through Type
- MEGA CHUCK
- Clamping diameter
- BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	L	L ₁	L ₂	H	E	Mega Wrench	Weight (kg)
BBT30-MEGA16DS- 60	1	16	46	47	62.5	28	—	64	48	MGR46L	0.76
-MEGA20DS- 65*		20	50	51	67.5	33		62	50	MGR50L	0.82
BBT40-MEGA16DS- 75A	2	16	42	53	77	27	40	73	48	MGR42L	1.5
-105A					107						2.1
-135A					137						2.7
-165A					167						3.3
-200A					202						4.1
-MEGA20DS- 75A					77						1.6
-105A	107	2.0									
-120A	122	2.3									
-135A	137	2.6									
-165A	167	3.2									
-200A	202	4.1									
-MEGA25DS- 75A	1	25	62	63	77	41	—	75 - 85	56	MGR62L	2.0
-105A					107			2.3			
-135A					137			3.0			
-165A					167			3.7			
-200A					202			4.7			
-MEGA32DS- 90A	1	32	70	71	92	35	—	73 - 83	60	MGR70L	2.1
-105A					107			2.4			
-135A					137			3.1			
-165A					167			3.7			
-200A					202			4.5			

1. Wrench is not included. Please order separately.
2. Please note that BBT40-MEGA32DS-90A, ATC arm may interfere with the nut in some machines. (36mm from gauge line to nut.)
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

- For * marked models, "H" dimension is the max. insertion depth. Some Straight Collets cannot be used. Compatibility Table G23
- MEGA16DS requires the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.
- DS types have jet-through coolant supply, thus tools with oil holes cannot be used.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	L ₂	H	E	Mega Wrench	Weight (kg)
BBT50-MEGA16DS-105	2	16	46	55	107.5	26	36	73	48	MGR46L	4.6
-135					137.5						5.2
-165					167.5						5.7
-200					202.5						6.6
-250					252.5						7.0
-MEGA20DS-105	2	20	60	69	107.5	28	38	71 - 81	50	MGR60L	5.1
-135					137.5						6.0
-165					167.5						6.8
-200					202.5		7.7				
-250					252.5		9.1				
						116					7.7
						138					9.1
-MEGA25DS-105	2	25	70	77	107.5	34	47	78 - 88	56	MGR70L	5.4
-135					137.5						6.5
-165					167.5						7.6
-200					202.5		8.9				
-250					252.5		10.8				
						121					8.9
						138					10.8
-MEGA32DS- 90	2	32	80	86	94.5	42	57	80 - 97	60	MGR80L	4.8
-105					107.5						5.4
-135					137.5						7.0
-165					167.5		8.5				
-200					202.5		9.9				
-250					252.5		12.1				
-300					302.5		14.3				
-MEGA42DS-105	1	42	99	100	107	42	—	90 - 107	70	MGR99L	6.0
-135					137						7.8
-165					167						9.6
-MEGA50DS-120	1	50	105	117	122	49	—	96 - 112	—	MGR105L	7.3

- Wrench is not included. Please order separately.
 - Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
 - Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
- MEGA16DS requires the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.
 - DS types have jet-through coolant supply, thus tools with holes cannot be used.

Optional Accessories

Straight Collet

PJC Collet **G19**PSC Collet **G20**C Collet **G22**

Mega Wrench

 **G26**

Axial Adjusting Screw

 **G25**

HYDRAULIC CHUCK

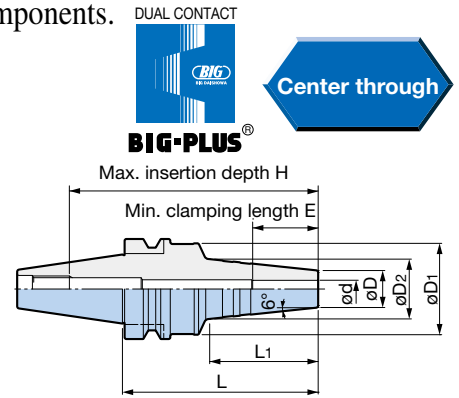
For versatile high-precision machining including molds and automotive components.

- Slim design minimizes workpiece interference, ideal for mold making.

[SUPER SLIM Type PAT.] Clamping diameter: $\phi 3 - \phi 12$



● Model Description
BBT30 - HDC 3 S - 60
 ● L dimension
 ● SUPER SLIM Type
 ● Clamping diameter
 ● HYDRAULIC CHUCK
 ● BIG-PLUS BT No.



BBT30

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	øD ₁	øD ₂	L	L ₁	H	E	Weight (kg)
BBT30-HDC 3S- 60 <small>NEW</small>	3	14	42	18	60	19	(84)	16	0.57
- 90 <small>NEW</small>				25			90		(113)
-HDC3.175S- 60 <small>NEW</small>	3.175		41.4	18	60	19	(84)	0.57	
-HDC 4S- 60	4		46	20	60	28	(84)	19	0.51
- 90			25	90	(113)	0.65			
-HDC 5S- 90	5		42	19	60	19	(84)	25	0.57
-HDC 6S- 60 <small>NEW</small>	6			25	90	(113)	0.65		
-HDC 8S- 90	8		17	28	90	50	(113)	31	0.67
-HDC10S- 90	10	19	44	30	90	50	113	33	0.70
-HDC12S- 90	12	21	46	32				36	0.72

1. Adjusting Screw cannot be used.
 2. H dimensions in () are reference length up to the PULLSTUD BOLT.
 3. When using coolant with models marked with ✱, some coolant may leak from the inner diameter slits.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

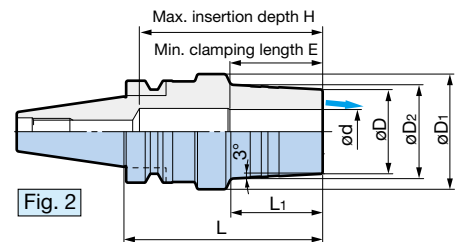
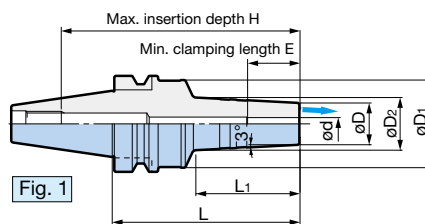
Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Jet Through Type PAT.] Clamping diameter: $\phi 4 - \phi 20$



● Model Description
BBT30 - HDC 4 J - 60
 ● L dimension
 ● Jet Through Type
 ● Clamping diameter
 ● HYDRAULIC CHUCK
 ● BIG-PLUS BT No.



BBT30

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD ₁	øD ₂	L	L ₁	H	E	Weight (kg)
BBT30-HDC 4J- 60	1	4	20	46	23	60	28	(84)	19	0.54
- 90 <small>NEW</small>				42	26			(113)		0.69
-HDC 6J- 90		6		28	31			0.71		
-HDC 8J- 90		8		33	0.74					
-HDC10J- 90		10		36	0.76					
-HDC12J- 90		12		40	0.86					
-HDC16J- 90		16		43	0.96					
-HDC20J- 90	2	20	38	52	43	40	83	43	0.96	

1. Adjusting Screw cannot be used.
 2. H dimensions in () are reference length up to the PULLSTUD BOLT.
 3. HDC4J to 12J models allow jet through to be switched to center through by assembling the accessory plug.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

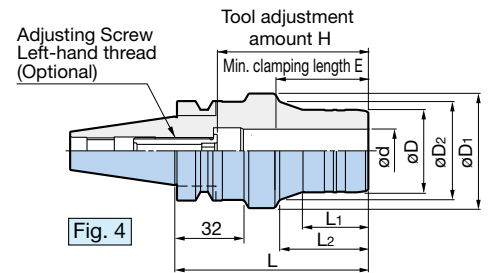
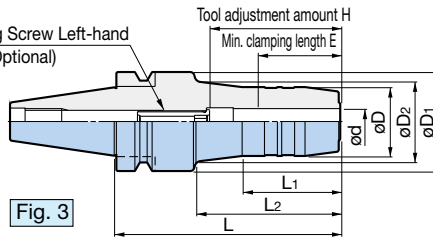
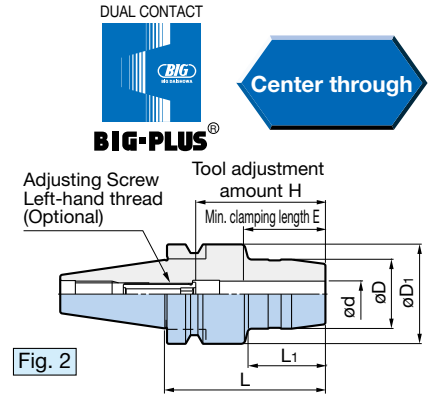
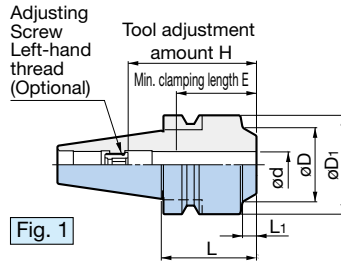
Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Standard Type]



- Model Description
- BBT30** - **HDC** **6** - **45**
- L dimension
- Clamping diameter
- HYDRAULIC CHUCK
- BIG-PLUS BT No.



BBT30

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	L ₂	H	E	Adjusting Screw (Optional)	Weight (kg)	
BBT30-HDC 6- 45	1	6	30	46	-	45	7	-	35 - 50	28	HDA 6-05020	0.61	
- 75	2		26			31	75		40		28 - 50	HDA 6-05032	0.67
- 90	3						90		43		28 - 50	HDA 6-05032	0.74
-105	3		105			43	72		28 - 50		HDA 6-05032	0.82	
-HDC 7- 75	2	7	27	46	-	75	41	-	28 - 50	28	HDA 6-05032	0.68	
-HDC 8- 45	1	8	32	46	-	45	7	-	35 - 50	28	HDA 8-06020	0.61	
- 75	2		28			33	75		41		28 - 50	HDA 8-06032	0.69
- 90	3						90		44		57	28 - 50	HDA 8-06032
-105	3		105			44	72		28 - 50		HDA 8-06032	0.84	
-HDC 9- 75	2	9	29	46	-	75	41	-	28 - 50	28	HDA 8-06032	0.69	
-HDC10- 45	1	10	34	46	-	45	7	-	45 - 55	33	HDA10-08015	0.60	
- 75	2		30			33	75		36		33 - 55	HDA10-08032	0.74
- 90	3						90		45		51	33 - 55	HDA10-08032
-105	3		105			45	66		33 - 55		HDA10-08032	0.91	
-HDC11- 90	3	11	31	46	34	90	51	45	33 - 55	33	HDA10-08032	0.83	
-HDC12- 45	1	12	36	46	-	45	7	-	55 - 60	38	HDA12-10010 ○	0.58	
- 75	2		32			35	75		36		38 - 60	HDA12-10032	0.75
- 90	3						90		45		51	38 - 60	HDA12-10032
-105	3		105			45	67		38 - 60		HDA12-10032	0.94	
-HDC13- 90	3	13	33	46	36	90	45	51	38 - 60	38	HDA12-10032	0.84	
-HDC14- 90	3	14	34	46	37	90	46	52	38 - 60	38	HDA12-10032	0.85	
-HDC15- 90	2	15	37	46	-	90	47	-	43 - 70	43	HDA16-12037	0.89	
-HDC16- 45▲	1	16	42	46	-	45	7	-	70	43	-	0.55	
- 75	2		38			35	75		35		43 - 70	HDA16-12030	0.77
- 90	3						90		47		-	43 - 70	HDA16-12037
-105	3		105			47	-		43 - 70		HDA16-12037	1.06	
-HDC18- 90	4	18	36	51	44	90	31	41	43 - 70	43	HDA16-12037	0.94	
-HDC20- 60※	4	20	38	53	46	60	-	14	43 - 54	43	HDA16-12030	0.77	
- 75						75	16	26	46 - 70		HDA16-12030	0.85	
- 90						90	31	41	43 - 70		HDA16-12037	0.96	
-105						3	105	40	-		43 - 70	HDA16-12037	1.02
-HDC25-105	4	25	55	63	-	105	44	-	52 - 80	52	HDA25-16039	1.60	
-HDC32-105	4	32	60	75	-	105	39	-	56 - 80	56	HDA25-16039	1.77	

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
 2. ▲ marked model cannot be used with an Adjusting Screw.
 3. Adjusting screw with hexagon sockets on both sides is also available, allowing adjustment from the shank side as well.
Add the letter "W" at the end of the model number when ordering. (e.g. HDA6-05020W)
The above type is not available for the HDA12-10010 marked with ○.
- ※ marked models cannot be used with a Straight Collet.
 - It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

Straight Collets **G19**

For versatile high-precision machining including molds and automotive components.

- Slim design minimizes workpiece interference, ideal for mold making.



[SUPER SLIM Type PAT.]

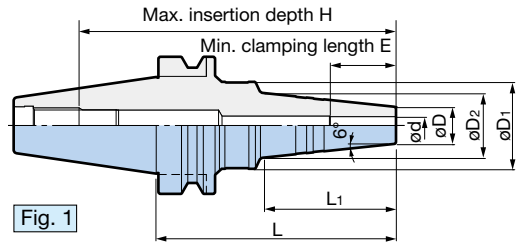


Fig. 1

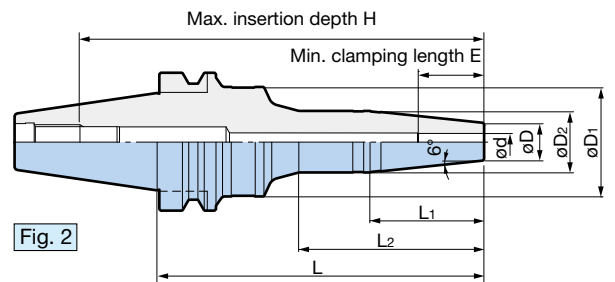


Fig. 2

● Model Description

- BBT40 - HDC 3 S - 90**
- BBT40: BIG-PLUS BT No.
 - HDC: HYDRAULIC CHUCK
 - 3: Clamping diameter
 - S: SUPER SLIM Type
 - 90: L dimension

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD ₁	øD ₂	L	L ₁	L ₂	H	E	Weight (kg)
BBT40-HDC 3S- 90 ※	1	3	14	38	24	90	44	—	(125)	16	1.3
-135 ※ NEW	2			44	26	135	57	84	(170)		1.4
-HDC 4S- 60	1	4	14	38	19	60	22	—	(95)	19	1.2
- 90	1			44	24	90	45	(125)	1.3		
-135	2	44	26	135	57	84	(170)	1.4			
-HDC 5S- 90	1	5	14	38	24	90	46	—	(125)	21	1.3
-HDC 6S-110	1	6	14	38	27	110	60	—	(145)	25	1.3
-150	2			48	26	150	57	85	(185)		1.6
-HDC 8S-110	1	8	17	40	30	110	60	—	(145)	31	1.4
-150	2			50	28	150	52	85	(185)		1.7
-HDC10S-110	1	10	19	42	32	110	60	—	(145)	33	1.4
-150	2			50	30	150	52	85	(185)		1.7
-HDC12S-110	1	12	21	44	34	110	60	—	(145)	36	1.4
-150	2			50	32	150	52	85	(185)		1.8

1. Adjusting Screw cannot be used.
 2. H dimensions in () are reference length up to the PULLSTUD BOLT.
 3. When using coolant with models marked with ※, some coolant may leak from the inner diameter slits.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Jet Through Type PAT.]

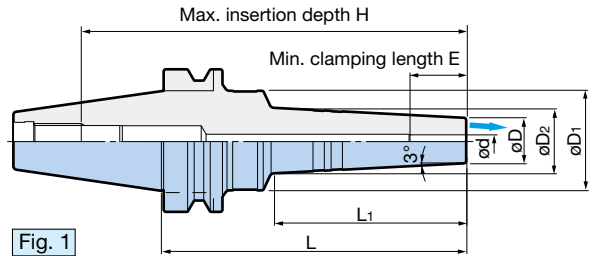


Fig. 1

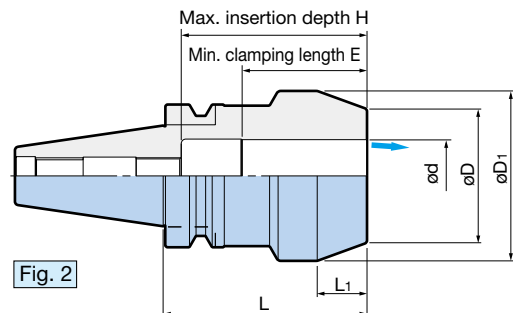


Fig. 2

● Model Description

- BBT40** - **HDC** **4** **J** - **90**
- L dimension
 - Jet Through Type
 - Clamping diameter
 - HYDRAULIC CHUCK
 - BIG-PLUS BT No.

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	H	E	Weight (kg)
BBT40-HDC 4J- 90	1	4	20	38	25	90	45	(125)	19	1.3
-135				44	30	135	85	(170)		1.5
-HDC 6J- 90		6	20	38	25	90	45	(125)	25	1.3
-135				44	29	135	85	(170)		1.5
-HDC 8J- 90		8	22	40	27	90	45	(125)	31	1.3
-135				46	31	135	85	(170)		1.6
-HDC10J- 90		10	24	42	29	90	45	(125)	33	1.3
-135				48	33	135	85	(170)		1.6
-HDC12J- 90		12	26	44	31	90	45	(125)	36	1.3
-135				50	35	135	85	(170)		1.7
-HDC16J- 90		16	34	46	40	90	46	125	43	1.4
-135				50	44	135	89	170		1.9
-HDC20J- 90		20	38	48	44	90	47	110	43	1.5
-135				53	48	135	90	155		2.0
-HDC25J- 90		25	51	63	56	90	41	105	49	1.9
-HDC32J- 90		2	32	59	75		—	20	82	56

1. Adjusting Screw cannot be used.
 2. H dimensions in () are reference length up to the PULLSTUD BOLT.
 3. HDC4J to 12J models allow jet through to be switched to center through by assembling the accessory plug.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)

- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Standard Type]



● Model Description

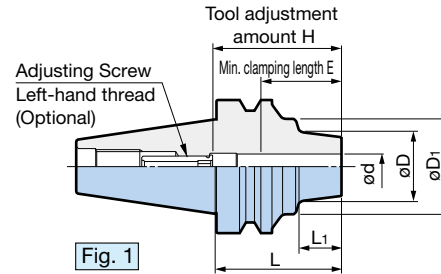
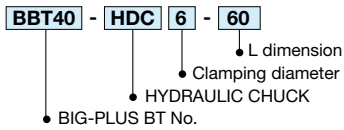


Fig. 1

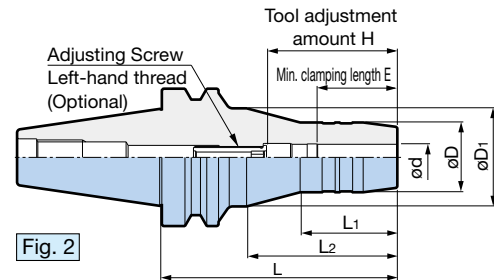


Fig. 2

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	L	L ₁	L ₂	H	E	Adjusting Screw (Optional)	Weight (kg)
BBT40-HDC 6- 60	1	6	27	45	60	19	—	28 - 50	28	HDA 6-05032	1.2
- 90	90		50		1.4						
-110	110		70		1.5						
-135	135		95		1.7						
-165	165		119		1.9						
-HDC 7- 90	2	7	27	45	90	44	50	28 - 50	28	HDA 6-05032	1.3
-HDC 8- 60	1	8	29	45	60	19	—	28 - 50	28	HDA 8-06032	1.2
- 90	90		50		1.4						
-110	110		70		1.5						
-135	135		95		1.7						
-165	165		119		2.0						
-HDC 9- 90	2	9	29	45	90	45	50	28 - 50	28	HDA 8-06032	1.4
-HDC10- 60	1	10	31	45	60	20	—	33 - 55	33	HDA10-08032	1.2
- 90	90		50		1.4						
-110	110		70		1.5						
-135	135		95		1.7						
-165	165		119		2.0						
-HDC11- 90	2	11	31	45	90	45	50	33 - 55	33	HDA10-08032	1.4

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
 2. Adjusting Screw with hexagon sockets on both sides is also available, allowing adjustment from the shank side as well. Add the letter "W" at the end of the model number when ordering. (Example: HDA6-05032W)
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

$\phi d = 19, 22, 24, 28, 31$ A72


Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	L	L ₁	L ₂	H	E	Adjusting Screw (Optional)	Weight (kg)
BBT40-HDC12- 60	1	12	33	45	60	20	—	38 - 60	38	HDA12-10032	1.2
- 90	2		32		90	45	49				1.4
-110					110		69				1.6
-135					135		94				1.8
-165					165		119				2.0
-HDC13- 90	2	13	33	45	90	45	49	38 - 60	38	HDA12-10032	1.4
-HDC14- 90	2	14	34	45	90	46	49	38 - 60	38	HDA12-10032	1.4
-110					110		69				1.6
-135					135		94				1.8
-HDC15- 90	2	15	37	45	90	47	49	43 - 70	43	HDA16-12037	1.4
-HDC16- 75	2	16	38	45	75	35	36	43 - 70	43	HDA16-12037	1.3
- 90					90	49	1.4				
-110					110	69	1.6				
-135					135	94	1.9				
-165					165	119	2.3				
-HDC18- 90	2	18	40	45	90	48	49	43 - 70	43	HDA16-12037	1.5
-110					110		69				1.6
-135					135		94				1.9
-HDC20- 90	2	20	42	45	48	50	43 - 70	43	HDA16-12037	1.4	
-110				110		70				1.7	
-135				135		95				2.0	
-165				165		119				2.4	

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
 2. Adjusting Screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well. Add the letter "W" at the end of the model number when ordering. (Example: HDA6-05032W)
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.  **G25**

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)

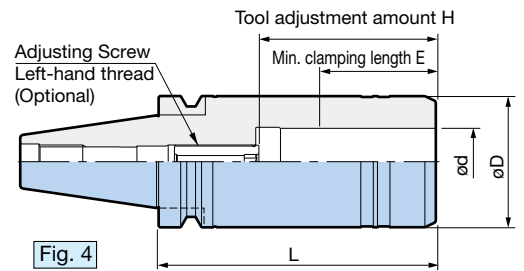
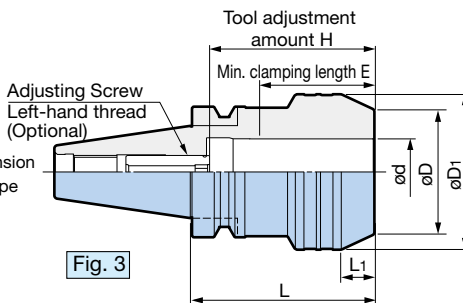
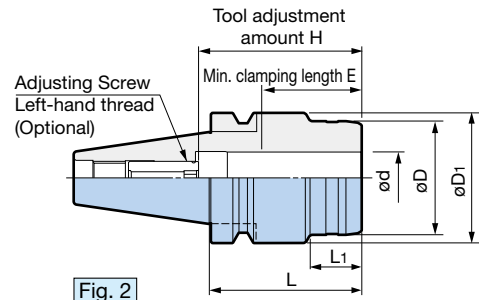
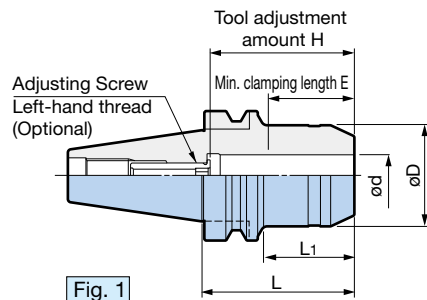
 $\phi d = 19, 22, 24, 28, 31$ **A72**

 Straight Collets **G19**

- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[High Rigidity Type]

- Substantial body design to allow high-feed endmilling, achieving highly reliable machining.



● Model Description

- BBT40** - **HDC** **20** **E** - **75**
- BBT40: BIG-PLUS BT No.
 - HDC: HYDRAULIC CHUCK
 - 20: Clamping diameter
 - E: High Rigidity Type
 - 75: L dimension

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L_1	H	E	Adjusting Screw (Optional)	Weight (kg)
BBT40-HDC20E- 75	1	20	49.2	—	75	45	43 - 70	43	HDA16-12037	1.4
-HDC25E- 75	2	25	55	63	75	25	52 - 80	52	HDA25-16033	1.8
-110					110					2.4
-135					135					3.0
-165					165					3.6
-HDC32E- 90	3	32	60	75	90	16	56 - 80.5	56	HDA25-16039	2.2
-110	2		63		110	34				2.6
-135	4		62.9	—	135	—	56 - 85			2.8
-165			165	—	—	3.4				

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
2. Adjusting Screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well. Add the letter "W" at the end of the model number when ordering. (Example: HDA16-12037W)



- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

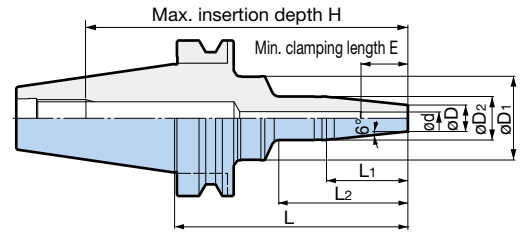
Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[SUPER SLIM Type PAT.] Clamping diameter: $\phi 4 - \phi 12$



- Model Description
- BBT50** - **HDC** **4** **S** - **150**
- BBT50: BIG-PLUS BT No.
 - HDC: HYDRAULIC CHUCK
 - 4: Clamping diameter
 - S: SUPER SLIM Type
 - 150: L dimension



BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	Clamping diameter ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	L ₂	H	E	Weight (kg)
BBT50-HDC 4S-150 <small>NEW</small>	4	14	52	26	150	57	83	(207)	19	4.2
-200 <small>NEW</small>			56		200		100	(257)		4.6
-HDC 6S-150	6	14	52	28	150	52	83	(207)	25	4.2
-200			56		200		100	(257)		4.6
-HDC 8S-150	8	17	54	30	150	52	83	(207)	31	4.3
-200			58		200		100	(257)		4.7
-HDC10S-150	10	19	56	32	150	52	83	(207)	33	4.3
-200			60		200		100	(257)		4.8
-HDC12S-150	12	21	58	32	150	52	83	(207)	36	4.4
-200			62		200		100	(257)		4.8

- Adjusting Screw cannot be used.
 - H dimensions in () are reference length up to the PULLSTUD BOLT.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. **G25**

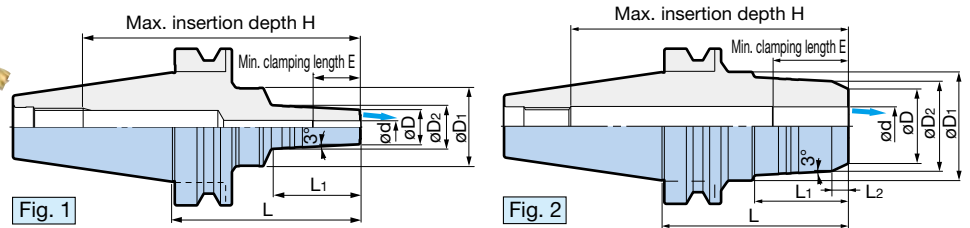
Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Jet Through Type PAT.] Clamping diameter: $\phi 6 - \phi 32$



- Model Description
- BBT50** - **HDC** **6** **J** - **120**
- BBT50: BIG-PLUS BT No.
 - HDC: HYDRAULIC CHUCK
 - 6: Clamping diameter
 - J: Jet Through Type
 - 120: L dimension



BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	L ₂	H	E	Weight (kg)
BBT50-HDC 6J-120	1	6	20	48	26	120	55	-	(177)	25	4.1
-HDC 8J-120		8	22	50	28					31	4.1
-HDC10J-120		10	24	52	30					33	4.2
-HDC12J-120		12	26	54	32					36	4.2
-HDC16J-120		16	34	58	41					43	4.4
-HDC20J-120		20	38	62	45					45	4.5
-HDC25J-120	2	25	48	70	58	59	10	177	49	5.2	
-HDC32J-120		32	58	78	67	60	9		56	5.6	

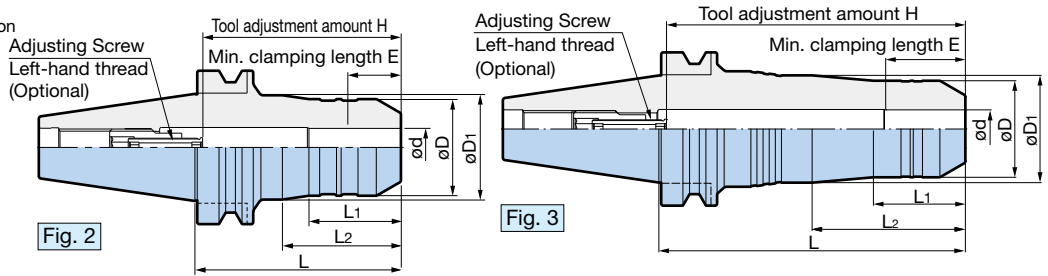
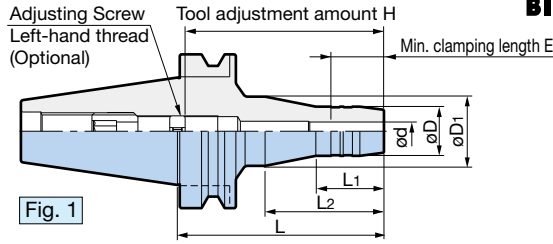
- Adjusting Screw cannot be used.
 - H dimensions in () are reference length up to the PULLSTUD BOLT.
 - HDC6J to 12J models allow jet through to be switched to center through by assembling the accessory plug.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. **G25**

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

HYDRAULIC CHUCK

[Standard Type]



● Model Description

BBT50 - **HDC** | **6** | **L** - **105**

- Clamping diameter
- L dimension
- HYDRAULIC CHUCK
- BIG-PLUS BT No.

BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	L	L_1	L_2	H	E	Maximum insertion depth	Adjusting Screw (Optional)	Weight (kg)
BBT50-HDC 6L-105	1	6	26	45	105	44	48	80 - 120	28	165	HDA6-20010	4.2
-135					78		110 - 150	195		4.3		
-150					93		125 - 165	210		4.4		
-165					108		140 - 180	225		4.5		
-HDC 8L-105	1	8	28	45	105	45	48	80 - 120	28	165	HDA6-20010	4.2
-135					78		110 - 150	195		4.4		
-150					93		125 - 165	210		4.5		
-165					108		140 - 180	225		4.6		
-HDC10L-105	1	10	30	45	105	45	48	80 - 120	33	165	HDA6-20010	4.2
-135					78		110 - 150	195		4.4		
-150					93		125 - 165	210		4.5		
-165					108		140 - 180	225		4.7		
-HDC12L-105	1	12	32	45	105	45	48	80 - 120	38	165	HDA6-20010	4.2
-135					78		110 - 150	195		4.4		
-150					93		125 - 165	210		4.6		
-165					108		140 - 180	225		4.7		
-HDC16L- 90	2	16	38	47	90	40	43	56 - 96	43	150	HDA20-12047	4.1
-105	105				47	48	80 - 120	165		HDA6-20010	4.3	
-135	135				48	78	110 - 150	195			4.6	
-150	150				48	93	125 - 165	210			4.7	

- In the use of the Adjusting Screw in BBT50 series, please contact BIG agent because a guide screw needs to be set separately.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
- Maximum insertion depth is the depth when Adjusting Screw is not used.

● It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. **G25**

Straight Collets **G19**

$\phi d = 19, 22, 24, 28, 31$ **A72**


Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD ₁	L	L ₁	L ₂	H	E	Maximum insertion depth	Adjusting Screw (Optional)	Weight (kg)	
BBT50-HDC20L- 90	2	20	42	50	90	45	—	56 - 96	43	150	HDA20-12047	4.2	
-105					105	47	48	71 - 111		165		4.4	
-135					135	48	78	101 - 141		195		4.7	
-150					150	48	93	116 - 156		210		4.8	
-200					200	48	102	166 - 206		260		5.5	
-250					250	48	102	216 - 256		310		6.0	
-HDC25L- 90	2	25	63	—	90	45	—	56 - 96	52	113	HDA20-12047	4.7	
-105					105	47	48	71 - 111		128		5.0	
-135					68	135	60	78		101 - 141		158	5.7
-150					150	48	92	116 - 156		173		6.1	
-200					70	200	60	100		166 - 200		200	7.5
-250※					250	48	100	—		—		—	9.1
-HDC32L- 90	2	32	72	—	90	47	—	56 - 96	56	112	HDA20-12047	4.7	
-105					105	62	—	71 - 111		127		5.1	
-135					78	135	60	78		101 - 141		157	6.0
-165					165	48	108	131 - 171		187		6.9	
-200					80	200	60	100		166 - 200		200	8.4
-250※					250	48	100	—		—		—	10.8
-HDC42L-110	2	42	96	—	110	72	—	76 - 116	65	132	HDA20-12047	6.1	

- In the use of the Adjusting Screw in BBT50 series, please contact BIG agent because a guide screw needs to be set separately.
※ marked models cannot be used with Adjusting Screws.
 - Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
 - Maximum insertion depth is the depth when Adjusting Screw is not used.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.  **G25**

 Straight Collets **G19**

 ød = 19, 22, 24, 28, 31 **A72**

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (i.e.: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

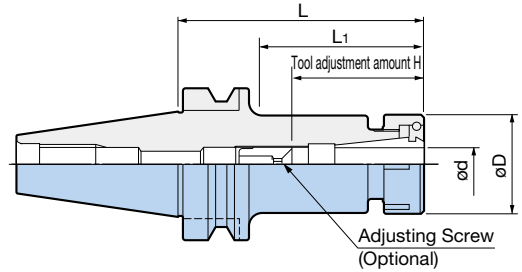
Center through

- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.

Not BIG-PLUS (DUAL CONTACT) specification



- Model Description
- BT30** - **NBS** **6** - **45**
- L dimension
- Maximum clamping diameter
- NEW BABY CHUCK System
- BT SHANK No.



BT30













BT SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
BT30-NBS 6- 45	0.25 - 6	20	45	20	20 - 40	NBC 6-□	0.41
- 60			60	32			0.44
- 75			75	47			0.47
- 90			90	62			0.51
-105			105	77			0.54
-120			120	90			0.57
-135			135	105			0.60
-NBS 8- 45	0.5 - 8	25	45	20	23 - 42	NBC 8-□	0.42
- 60			60	33			0.46
- 75			75	48			0.50
- 90			90	63			0.55
-105			105	78			0.61
-NBS10- 45	1.5 - 10	30	45	20	35 - 45	NBC10-□	0.44
- 60			60	34			0.51
- 75			75	49			0.58
- 90			90	64			0.66
-105			105	79			0.74
-NBS13- 45	2.5 - 13	35	45	21	41 - 53	NBC13-□	0.39
- 60			60	34	41 - 60		0.50
- 75			75	49			0.61
- 90			90	64			0.72
-105			105	79			0.83
-120			120	94			0.93
-135	135	109	1.02				

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).

BT30

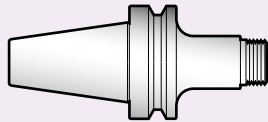
BT SHANK Model	Clamping diameter ød	øD	L	L ₁	H	Collet Model	Weight (kg)
BT30-NBS16- 45	2.5 - 16	42	45	21	45 - 53	NBC16-□	0.39
- 60			60	37	45 - 65		0.53
- 75			75	52			0.67
- 90			90	67			0.81
-105			105	82			0.95
-120			120	97			1.10
-135			135	112			1.25
-NBS20- 60			2.5 - 20	46	60		38
- 75	75	53			48 - 65	0.73	
- 90	90	68				0.90	
-105	105	83				1.08	
-120	120	98				1.26	
-135	135	113				1.45	

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).

Standard Accessory	Optional Accessories				
New Baby Nut  For Spares 	New Baby Wrench  	Collet  	BABY PERFECT SEAL  	Adjusting Screw  	Tap Adjusting Screw  

When ordering a **BABY PERFECT SEAL**, the "Nut-Less Body" without the standard nut attached is also available.

Example Attach **/NL** (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.



NEW BABY CHUCK Model + NL
BT30-NBS6-45/NL
 (NL at the end of the model number means nut not attached)

+



NBC Collet
NBC6-3AA

+



BABY PERFECT SEAL Model
BPS6-03035

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

Center through

- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.

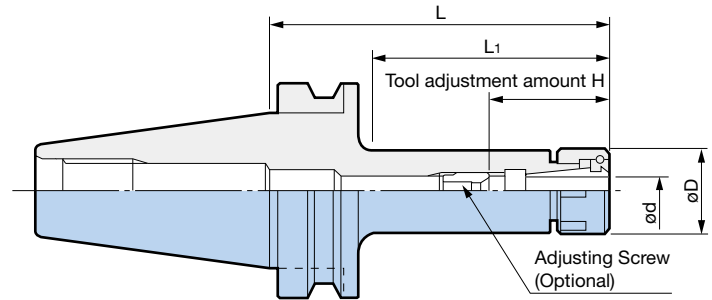


● Model Description

BT40 - **NBS** **6** - **60**

- BT SHANK No.
- NEW BABY CHUCK System
- Maximum clamping diameter
- L dimension

Not BIG-PLUS (DUAL CONTACT) specification



BT40

BT SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)				
BT40-NBS 6- 60	0.25 - 6	20	60	23	20 - 40	NBC 6-□	1.1				
- 75			75	38			1.2				
- 90			90	53			1.2				
-105			105	68			1.3				
-120			120	83			1.3				
-135			135	98			1.3				
-165			165	128			1.4				
-200			200	158			1.5				
-NBS 8- 60			0.5 - 8	25			60	23	23 - 42	NBC 8-□	1.1
- 75							75	38			1.2
- 90	90	53			1.2						
-105	105	68			1.3						
-120	120	83			1.3						
-135	135	98			1.3						
-165	165	128			1.4						
-NBS10- 60	1.5 - 10	30	60	23	35 - 45	NBC10-□	1.1				
- 75			75	38			1.2				
- 90			90	53			1.2				
-105			105	68			1.3				
-120			120	83			1.4				
-135			135	98			1.5				
-165			165	128			1.7				
-200			200	163			1.9				

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).

BT40

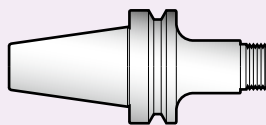
BT SHANK Model	Clamping diameter ød	øD	L	L ₁	H	Collet Model	Weight (kg)
BT40-NBS13- 60	2.5 - 13	35	60	28	41 - 60	NBC13-□	1.2
- 75			75	40			1.3
- 90			90	55			1.4
-105			105	70			1.5
-120			120	85			1.6
-135			135	100			1.7
-165			165	128			1.9
-200			200	163			2.2
-NBS16- 60			2.5 - 16	42			60
- 75	75	40			1.4		
- 90	90	55			1.5		
-105	105	70			1.7		
-120	120	85			1.8		
-135	135	100			1.9		
-165	165	130			2.2		
-200	200	165			2.6		
-NBS20- 60	2.5 - 20	46			60	28	48 - 65
- 75			75	42	1.4		
- 90			90	57	1.5		
-105			105	72	1.7		
-120			120	87	1.9		
-135			135	102	2.1		
-165			165	132	2.5		
-200			200	167	3.0		

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).

Standard Accessory	Optional Accessories				
New Baby Nut  For Spares  G30	New Baby Wrench   G31	Collet   G5	BABY PERFECT SEAL   G28	Adjusting Screw   G10	Tap Adjusting Screw   G30

When ordering a BABY PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● **Example** Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.



NEW BABY CHUCK Model + NL
BT40-NBS6-60/NL
 (NL at the end of the model number means nut not attached)

+



NBC Collet
NBC6-3AA

+



BABY PERFECT SEAL Model
BPS6-03035

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

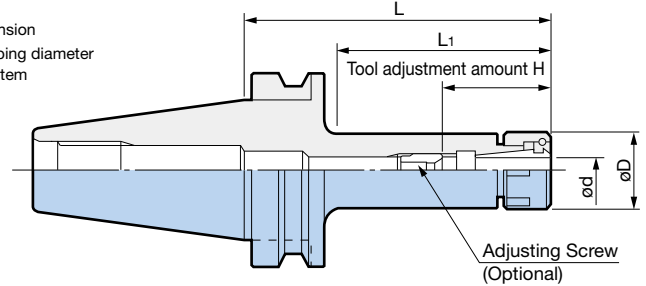
Center through

- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.



● Model Description
BT50 - **NBS** **6** - **90**
 ● BT SHANK No.
 ● NEW BABY CHUCK System
 ● L clamping dimension
 ● Maximum clamping diameter

Not BIG-PLUS (DUAL CONTACT) specification



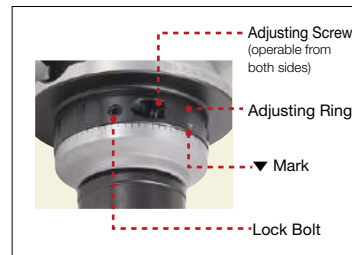
BT50

BT SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
BT50-NBS 6- 90	0.25 - 6	20	90	42	20 - 40	NBC 6-□	3.9
-120			120	67			4.0
-165			165	112			4.1
-200			200	147			4.2
-NBS 8- 90	0.5 - 8	25	90	42	23 - 42	NBC 8-□	4.0
-120			120	67			4.1
-165			165	112			4.2
-200			200	147			4.3
-NBS10- 90	1.5 - 10	30	90	42	35 - 45	NBC10-□	4.0
-120			120	67			4.1
-165			165	112			4.4
-200			200	147			4.6
-250※			250	197			4.9
-300※	300	247	5.2				
-NBS13- 90	2.5 - 13	35	90	42	41 - 60	NBC13-□	4.2
-120			120	67			4.4
-165			165	112			4.7
-200			200	147			5.0
-250※			250	197			5.4
-300※	300	247	5.8				
-NBS16- 75	2.5 - 16	42	75	29	45 - 65	NBC16-□	4.0
- 90			90	44			4.1
-120			120	72			4.4
-165			165	117			4.8
-200			200	152			5.2
-250※	250	202	5.7				
-NBS20- 75	2.5 - 20	46	75	31	48 - 65	NBC20-□	4.0
- 90			90	42			4.2
-120			120	72			4.5
-165			165	117			4.9
-200			200	152			5.3
-250※	250	202	5.9				

- The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
 - Center through coolant supply is available. However, ※ marked products do not have a through hole.
 - Weight includes the nut but not the collet.
 - Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).
- When ordering a BABY PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available. [A26](#)

Standard Accessory	Optional Accessories				
New Baby Nut For Spares G30	New Baby Wrench G31	Collet G5	BABY PERFECT SEAL G28	Adjusting Screw G10	Tap Adjusting Screw G30

Compensates for increased runout of machine tool spindles caused by extended use.



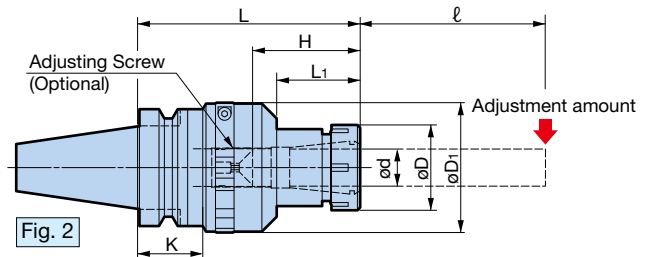
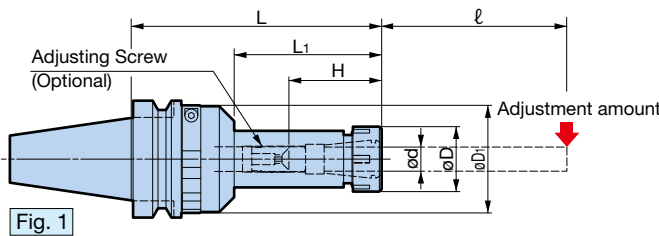
Simple structure allows for easy adjustment of runout accuracy!

1. Turn the adjusting ring and line up the ▼ mark with peak runout position.
2. Adjust the lock bolts in 3 locations to fix the ring.
3. The runout amount is adjusted by tightening the adjusting screw.

● Model Description

BBT30 - NBS 8 - 75 NRA

- BBT30 - BIG-PLUS BT No.
- NBS - NEW BABY CHUCK System
- 8 - Maximum clamping diameter
- 75 - L dimension
- NRA - Runout Adjustable Type



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

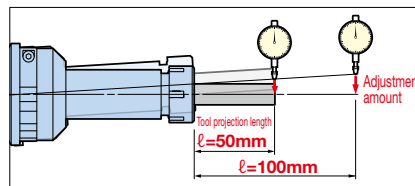
BIG-PLUS BBT SHANK Model	Fig.	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	K	H	Collet Model	Adjustment amount		Weight (kg)
										$l=50\text{mm}$	$l=100\text{mm}$	
BBT30-NBS 8- 75NRA	1	0.5 - 8	25	45	75	28	—	23 - 42	NBC 8-□	20 μm	31 μm	0.7
-NBS13-110NRA	2	2.5 - 13	35	58	110	34	35	41 - 60	NBC13-□	18 μm	27 μm	1.4
BBT40-NBS 8- 90NRA	1	0.5 - 8	25	45	90	37	—	23 - 42	NBC 8-□	22 μm	33 μm	1.3
-NBS13- 90NRA	1	2.5 - 13	35	58	90	34	—	41 - 60	NBC13-□	18 μm	27 μm	1.6
-135NRA					135	79				25 μm	34 μm	1.9
-NBS20-120NRA	2	2.5 - 20	46	70	120	45	35	48 - 65	NBC20-□	17 μm	25 μm	2.5
-150NRA					150	65	45			21 μm	29 μm	2.7
BBT50-NBS13-105NRA	1	2.5 - 13	35	58	105	38	—	41 - 60	NBC13-□	19 μm	28 μm	4.2
-135NRA					135	68				24 μm	33 μm	4.4
-165NRA					165	98				30 μm	39 μm	4.5
-NBS20-120NRA	1	2.5 - 20	46	70	120	48	—	48 - 65	NBC20-□	17 μm	25 μm	4.7
-150NRA					150	78				22 μm	30 μm	5.0

1. Nut is included. Collet, wrench, and adjusting screw must be ordered separately.
2. "H" indicates the adjustment length with an Adjusting Screw (NBA).

l = Tool projection length

■ Runout adjustment amount

The adjustment amount depends on the length of the holder and the tool projection length. The maximum adjustment amount possible for 50mm and 100mm tool projection lengths is listed in the table. The maximum adjustment amount is a reference figure available when the Adjusting Screw is tightened with the listed allowable torque.

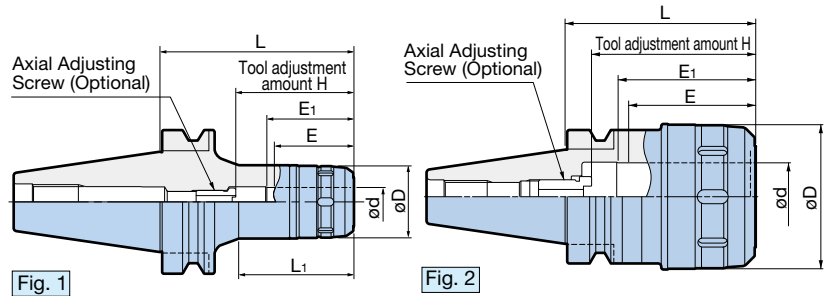


Adjusting Screw allowable torque

NEW BABY CHUCK Type	Wrench (Optional accessory)	Allowable torque (N·m)
NBS 8-NRA	CK-T2.5	3
NBS13-NRA	CK-T3	6
NBS20-NRA		

Standard Accessory	Optional Accessories			
New Baby Nut For Spares G30	New Baby Wrench G31	Collet G5	BABY PERFECT SEAL G28	Adjusting Screw G10

The BIG original slit mechanism supports high power and high-precision endmilling from heavy cuts to fine cuts.



● Model Description

BBT30 - HMC 16 S - 70












- L dimension
- S Type
- Chuck bore
- NEW HI-POWER MILLING CHUCK
- BIG-PLUS BT No.

[S Type] Slim nut to avoid interference

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	ϕd	ϕD	L	L ₁	H	Min. clamping length		FK Wrench Model	MEGA WRENCH Model	Weight (kg)
								E	E ₁			
BBT30-HMC16S- 70※	BT30-HMC16S- 70※	1	16	43	70	47	71	48	55	FK45-50L	MGR43L	0.78
-HMC20S- 75	-HMC20S- 75	2	20	50	75	—	56 - 66	50	56		MGR50L	0.93
-HMC25S- 90	-HMC25S- 90		25	55	90	—	64 - 74	56	57	FK52-55	MGR55L	1.12
-HMC32S-105	-HMC32S-105		32	62	105	—	70 - 80	60	58	FK58-62L	MGR62L	1.41
BBT40-HMC16S- 75※	BT40-HMC16S- 75※	1	16	43	75	45	71	48	55	FK45-50L	MGR43L	1.3
-120※	-120※				120	90					1.8	
-HMC20S- 75	-HMC20S- 75	1	20	50	75	46	69 - 79	50	56	FK45-50L	MGR50L	1.4
-105	-105				105	75					1.9	
-120	-120				120	90					2.1	
-HMC25S- 75	-HMC25S- 75	1	25	59	75	47	73 - 83	56	57	FK58-62L	MGR59L	1.5
-105	-105				105	77						2.1
-135	-135				135	107						2.8
-HMC32S- 90	-HMC32S- 90	2	32	68	90	—	71 - 81	60	64	FK68-75L	MGR68L	2.0
-105	-105				105	—						2.3
-135	-135				135	—	79 - 89					3.0

- Wrench and Axial Adjusting Screw are not included. Please order separately.
- When using center through coolant;
 - Set screw with sealing compound applied (standard accessory) should be used to plug an air bleeding hole.
 - Oil hole type should be chosen when Straight Collet is required.
- Please note that BBT(BT)40-HMC32S-90, ATC arm may interfere with the nut in some machines. (36mm from gauge line to nut.)
- Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw.
- When using center through coolant, insert a tool shank into E₁ or more.
 - ※HMC16S requires the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.
 - MEGA WRENCH can also be used to tighten/remove tools.

Optional Accessories			
Straight Collet  <ul style="list-style-type: none"> PJC Collet  G19 PSC Collet  G20 OCA Collet  G21 C Collet  G22 	Wrench   G25	Mega Wrench   G26	Axial Adjusting Screw   G25

[S Type] Slim nut to avoid interferenceBIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	$\varnothing d$	$\varnothing D$	L	L ₁	H	Min. clamping length		FK Wrench Model	MEGA WRENCH Model	Weight (kg)
								E	E ₁			
BBT50-HMC16S-105 ※	—	1	16	43	105	57	71	48	55	FK45-50L	MGR43L	4.2
-135					135	80						4.6
-165					165	100						5.0
-200					200	120						5.8
-HMC20S-105					105	57						4.3
-135	135	80	4.8									
-165	165	100	5.4									
-200	200	125	6.0									
-250 NEW	250	160	7.1									
-300	300	200	8.3									
-HMC25S-105	—	1	25	59	105	57	76 - 86	56	57	FK58-62L	MGR59L	4.5
-135					135	87						5.2
-165					165	105						5.9
-200					200	125						7.5
-HMC32S-105	—	1	32	68	105	64	88 - 98	60	72	FK68-75L	MGR68L	4.6
-135					135	89						5.4
-165					165	105						6.4
-200					200	130						7.4
-250 NEW					250	165						9.1
-300					300	200						11.5
-HMC42S-105	—	1	42	85	105	65	93 - 105	70	73	FK80-90L	MGR85L	5.2
-135					135	94						6.2
-165					165	123						7.4
-200					200	130						9.6
-300					300	200						14.1
-400 NEW	400	300	18.2									

BT shank models are not available. Please choose BBT shank models.

- Wrench and Axial Adjusting Screw are not included. Please order separately.
- When using center through coolant;
 - Set screw with sealing compound applied (standard accessory) should be used to plug an air bleeding hole.
 - Oil hole type should be chosen when Straight Collet is required.

3. Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw.

4. When using center through coolant, insert a tool shank into E₁ or more.

- ※HMC16S requires the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications.

H dimension is the max. tool shank length that can be inserted into the holder.

- MEGA WRENCH can also be used to tighten/remove tools.

[HMC12J Type] Clamping diameter: $\varnothing 12$

- A slim yet highly rigid milling chuck with $\varnothing 32$ outer diameter nut for reduced interference.



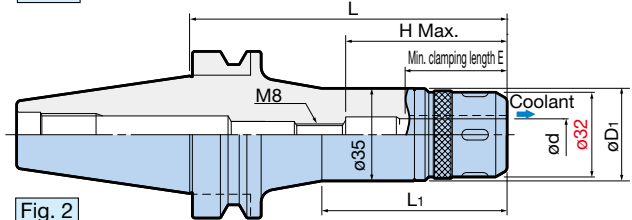
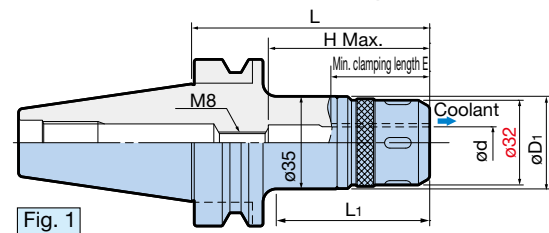
- Jet through coolant securely supplied from chuck nose to cutting edge.



DUAL CONTACT



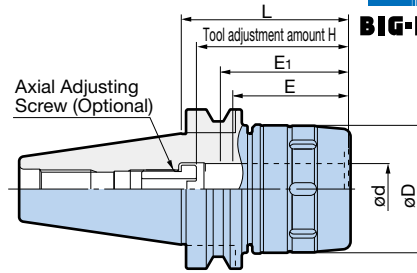
Center through

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D_1$	L	L ₁	H Max.	E	FK Wrench Model	Weight (kg)
BBT30-HMC12J- 60	1	12	35	60	38	65	43	FK31-33	0.58
BBT40-HMC12J- 90				90	63				1.4
-120	2			120	70				1.6
BBT50-HMC12J-105	1			105	67				4.0
-135	2			135	70				4.3
-165		165	90						4.7

- Wrench is not included. Please order separately.
- MEGA WRENCH cannot be used.

PJC Straight Collet **G19****BIG** A30



[Standard Type]

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	$\varnothing d$	$\varnothing D$	L	H	Min. clamping length		FK Wrench Model	MEGA WRENCH Model	Weight (kg)
						E	E ₁			
BBT50-HMC20 -105	BT50-HMC20 -105	20	60	105	69 - 79	50	55	FK58-62	MGR60L	4.7
-135	-135			135						5.4
-	-165			165						6.1
-HMC25 -105	-HMC25 -105	25	62	105	74 - 84	56	56	FK58-62	MGR62L	4.6
-135	-135			135						5.3
-	-165			165						5.9
-HMC32 -105	-HMC32 -105	32	80	105	78 - 95	60	71	FK80-90	MGR80L	5.2
-135	-135			135						6.3
-	-165			165						7.5
-HMC42 -105	-HMC42 -105	42	99	105	93 - 105	70	73	FK92-100	MGR99L	6.0
-135	-135			135						7.5
-	-165			165						8.8

- Wrench and Axial Adjusting Screw are not included. Please order separately.
 - When using center through coolant;
 - Set screw with sealing compound applied (standard accessory) should be used to plug an air bleeding hole.
 - Oil hole type should be chosen when Straight Collet is required.
 - Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw.
 - When using center through coolant, insert a tool shank into E₁ or more.
- MEGA WRENCH can also be used to tighten/remove tools.

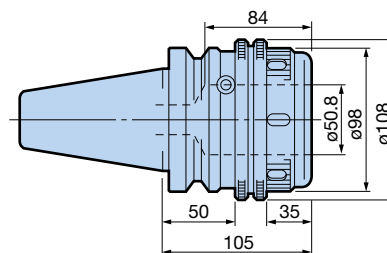
Optional Accessories

<p>Straight Collet</p> <ul style="list-style-type: none"> PJC Collet G19 PSC Collet G20 OCA Collet G21 C Collet G22 	<p>Wrench</p> <p>G25</p>	<p>Mega Wrench</p> <p>G26</p>	<p>Axial Adjusting Screw</p> <p>G25</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------	--------------------------------------	------------------------------------------------

For large diameter ($\varnothing 50.8$) endmills

Pin locking type which prevents tool slip by adding a special pin.

- The double nut mechanism clamps the chuck flange solidly, increasing bending rigidity. Ideal for long and large diameter endmilling. A runout accuracy unrealizable with side lock holders is achieved.

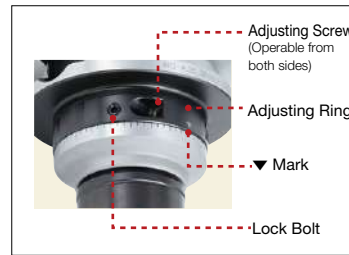


BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	FK Wrench Model	Weight (kg)
BBT50-HMC50.8-105	BT50-HMC50.8-105	FK92-100	5.9

- Wrench is not included. Please order separately.

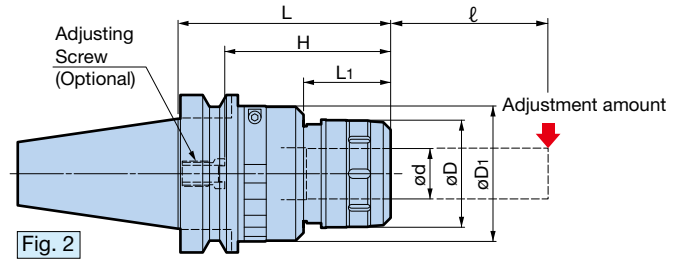
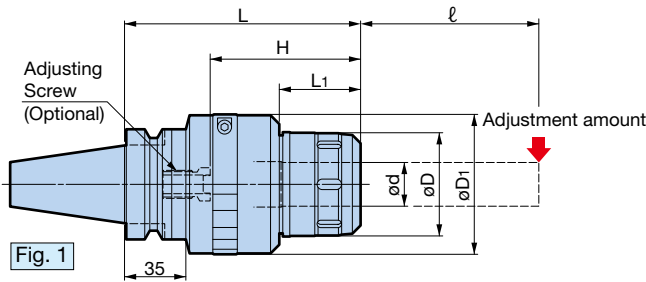
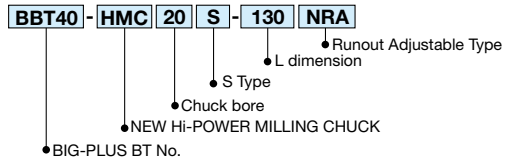
Compensates for increased runout of machine tool spindles caused by extended use.



Simple structure allows for easy adjustment of runout accuracy!

1. Turn the adjusting ring and line up the ▼ mark with peak runout position.
2. Adjust the lock bolts in 3 locations to fix the ring.
3. The runout amount is adjusted by tightening the adjusting screw.

● Model Description



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

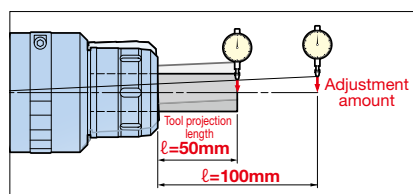
BIG-PLUS BBT SHANK Model	Fig.	ød	øD	øD1	L	L1	H	H Max.	Min. clamping length	Adjustment amount		FK Wrench Model	MEGA WRENCH Model	Weight (kg)
										ℓ=50mm	ℓ=100mm			
BBT40-HMC20S-130NRA	1	20	50	72	130	46	69 - 79	85	45	23 µm	33 µm	FK45-50L	MGR50L	2.9
-HMC25S-135NRA		25	59	80	135	46	75 - 85	90	45	21 µm	30 µm	FK58-62L	MGR59L	3.5
-HMC32S-145NRA		32	68	86	145	55	85 - 95	105	55	20 µm	28 µm	FK68-75L	MGR68L	3.8
BBT50-HMC20S-125NRA	2	20	50	72	125	46	69 - 79	85	45	23 µm	33 µm	FK45-50L	MGR50L	5.2
-HMC25S-125NRA		25	59	80	125	46	75 - 85	90	45	21 µm	30 µm	FK58-62L	MGR59L	5.6
-HMC32S-135NRA		32	68	86	135	55	85 - 95	105	55	20 µm	28 µm	FK68-75L	MGR68L	6.0

1. Wrench and Axial Adjusting Screw are not included. Please order separately.
 2. Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw (HMA).
 3. H max. is the maximum tool insertion length when the Adjusting Screw is removed.
- MEGA WRENCH can also be used to tighten/remove tools.

ℓ = Tool projection length

Runout adjustment amount

The adjustment amount depends on the length of the holder and the tool projection length. The maximum adjustment amount possible for 50mm and 100mm tool projection lengths is listed in the table. The maximum adjustment amount is a reference figure available when the Adjusting Screw is tightened with the listed allowable torque.



Adjusting Screw allowable torque

NEW HI-POWER MILLING CHUCK Type	Wrench (Optional accessory)	Allowable torque (N·m)
HMC20S-NRA	CK-T4	8
HMC25S-NRA		
HMC32S-NRA		

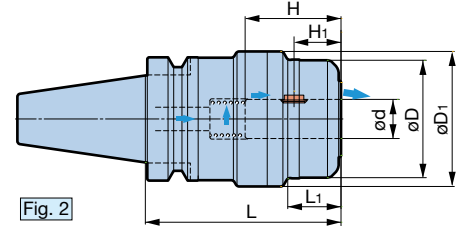
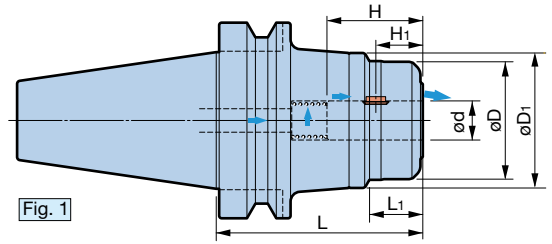
Optional Accessories			
Straight Collet <ul style="list-style-type: none"> PJC Collet G19 PSC Collet G20 OCA Collet G21 C Collet G22 	Wrench G25	Mega Wrench G26	Axial Adjusting Screw G25

MILLING CHUCK

A holder equipped with tool Non-Pullout mechanism. The unique Key Grip locking mechanism prevents the tool from slipping or pulling out during heavy machining.



Flood Jet-Through Coolant



● Model Description

BBT40 - **MEGA** **16** **DPG** - **75**

- L dimension
- PERFECT GRIP
- Chuck bore
- MEGA CHUCK
- BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	ϕd	ϕD	ϕD_1	L	L ₁	H	H ₁	Mega Wrench	Weight (kg)
BBT40-MEGA16DPG- 75	1	16	46	55	75	24	47	23	MGR46L	1.7
-MEGA20DPG-100	2	20	60	69	100	27	49	24	MGR60L	2.6
BBT50-MEGA16DPG-105	1	16	46	55	105	24	47	23	MGR46L	4.6
-165					165					5.8
-MEGA20DPG-105		20	60	69	105	27	49	24	MGR60L	5.1
-165					165					6.9
-MEGA25DPG-105		25	70	77	105	33	55	23	MGR70L	5.4
-165					165					7.7
-MEGA32DPG-105	32	80	86	105	41	59	23	MGR80L	5.6	
-165				165					8.4	

- Key Grip and Spring are included.
- Wrench is not included. Please order separately.
- H₁ is the dimension from the center of the Key Grip to the front end of the chuck.
 - Key Grips are consumable products. Do not use a damaged Key Grip.
 - For coolant through tools, a seal bushing (optional) is required instead of a spring. Please contact us for details.

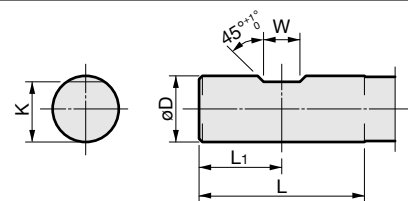
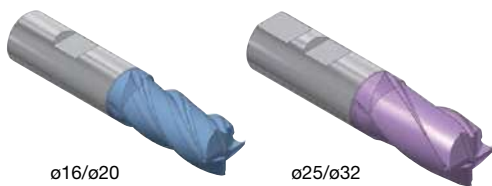
Standard Accessories

Chuck size	Key Grip 2 pcs	Spring
$\phi 16$	PKG16-2P	PSP1519
$\phi 20$	PKG20-2P	PSP1823
$\phi 25$	PKG25-2P	PSP2420
$\phi 32$	PKG32-2P	PSP3128

1. Key Grips are sold as 2-piece sets.

Cylindrical Shank with Flat Section JIS B 4005 (ISO3338-2)

The following standard shank is required for MEGA Perfect GRIP.



ϕD	Nominal	Tolerance	L	L ₁	W		K	
					Nominal	Tolerance	Nominal	Tolerance
16	0	-0.011	48	24	10	+0.2 0	14.2	0 -0.4
20	0	-0.013	50	25	11		18.2	
25	0		56	32	12		23	
32	0	-0.016	60	36	14	30		

CAUTION
In case you are adding your own flat, the tool projection length in the MEGA Perfect GRIP will be decided by the flat position. Refer to H₁ in the MEGA Perfect GRIP chart, decide the flat position to add, and then cut the cutter at L₁ on cutter shank.

- JIS Standards require sizes $\phi 25$ or higher to be double-flat types. The MEGA Perfect GRIP does not use a rear flat surface, but is capable of clamping double flat shanks.
- JIS B4005 has the same dimensions as International Standard ISO3338-2 and German Standard DIN1835-1.

Clamping diameter: $\phi 3 - \phi 20$

MOLD CHUCK

Slim design eliminates interference problems!



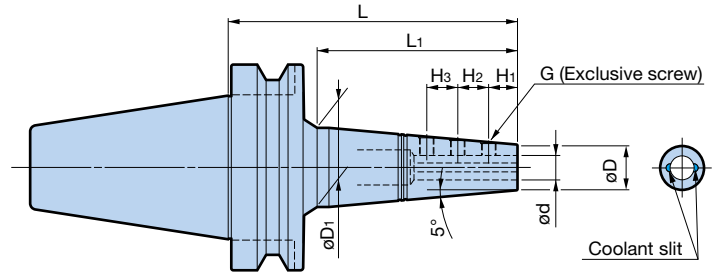
A
MOLD CHUCK



● Model Description

BBT40 - **SSL** **3** - **135**

- L dimension
- Clamping diameter
- MOLD CHUCK
- BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	øD ₁	L	L ₁	H ₁	H ₂	H ₃	G	Weight (kg)		
BBT40-SSL 3-135	3	10	27.5	135	100	6	6	—	M3	1.2		
-SSL 4-135	4	11	28.5			7	M4		1.2			
-SSL 6-135	6	13	30			12	13		M6	1.3		
-SSL 8-135	8	15	32			13.5	18		M6	1.3		
-SSL10-150	10	17	36.5	150	115	15	20	—	M8	1.5		
-SSL12-150	12	22	41.5				16		16	M8	1.7	
BBT50-SSL 6-150	6	13	31	150	104	12	13	—	M6	3.9		
-200			39.5	200	154					4.4		
-SSL 8-150	8	15	32.5	150	104	13.5	18	—		M6	3.9	
-200			41.5	200	154					4.4		
-SSL10-150	10	17	34.5	150	104	15	20	—		M6	4.0	
-200			43.5	200	154					4.4		
-SSL12-150	12	22	39.5	150	104		16		16	M8	4.2	
-200			48	200	154						4.9	
-SSL16-150	16	26	43	150	104		20		22		M8	4.5
-200			52	200	154							5.0
-SSL20-150	20	30	47	150	104	25		—	M8			4.6
-200			56	200	154				5.2			

- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
 - Ensure the tip of the ball endmill is in 90° phase to the clamping bolt when clamping.
- BIG original side lock screws must be used as they are made to an exclusive design and different from other screws on the market.

MOLD CHUCK

Exclusive Side Lock Screw (Standard Accessory)

Model	Thread size	Screw length / quantity	Body Model
H0304FS-2P	M3 P0.5	4mm x 2pcs	SSL3
H0404FS-2P	M4 P0.5	4mm x 2pcs	SSL4
H06FSA	M6 P0.75	4.5, 5mm x 1pc each	SSL6
H06FSB		4.5, 6mm x 1pc each	SSL8, 10
H08FSA	M8 P0.75	6mm x 2pcs, 8mm x 1pc	SSL12
H08FSB		6, 8, 10mm x 1pc each	SSL16, 20

- Each model consists of one set of screws required for each holder.

Optimal operation with eliminated workpiece/jig interference is achieved in deep endmilling, wall machining and precision mold machining.



Clamping diameter $\phi 6-$

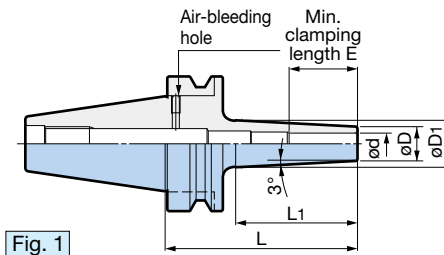


Fig. 1

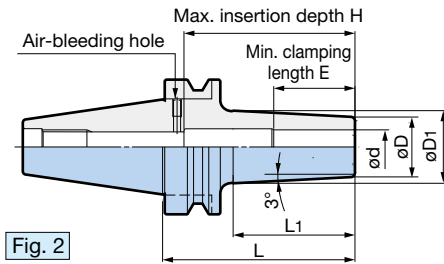
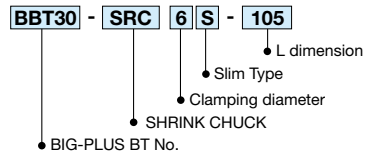


Fig. 2

● Model Description



[Slim Type]

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ϕd	ϕD	ϕD^1	L	L ₁	H	E	Weight (kg)
BBT30 - SRC 6S - 105	1	6	10	18	105	77	(129)	26	0.48
-SRC 8S - 105		8	13	21			0.51		
-SRC10S - 105	2	10	16	24			62	32	0.55
-SRC12S - 105		12	19	27			72	36	0.60
BBT40 - SRC 6S - 120	1	6	10	19	120	86	(155)	26	1.1
-165				23.5	165	127	(200)		1.3
-SRC 8S - 120		8	13	22	120	86	(155)		1.2
-165				26.5	165	129	(200)		1.3
-SRC10S - 120		10	16	25	120	86	(155)	32	1.2
-165				29.5	165	129	(200)		1.4
-SRC12S - 120		12	19	28	120	87	(155)	36	1.3
-165				33	165	131	(200)		1.5

1. Use a carbide shank cutter within a tolerance of h6.
2. Center through coolant supply is available with tools with oil holes.
3. H dimensions in () are reference length up to the PULLSTUD BOLT.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

DUAL CONTACT



Center through

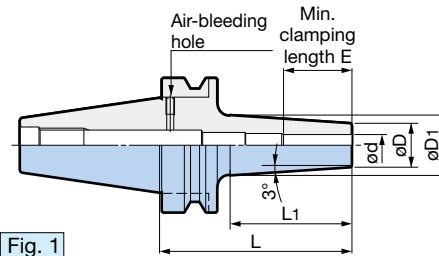
Holder material
Tool steelClamping diameter
 $\varnothing 4-$ 

Fig. 1

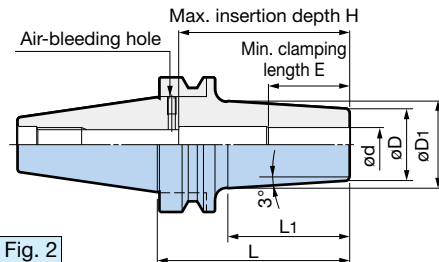


Fig. 2

● Model Description

BBT30 - SRC 4 - 75

- L dimension
- Clamping diameter
- SHRINK CHUCK
- BIG-PLUS BT No.

[Standard type]BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L_1	H	E	Weight (kg)
BBT30 -SRC 4 - 75 *	1	4	10	15	75	44	—	16	0.45
-SRC 6 - 75		6	14	19		26		0.47	
-SRC 8 - 75		8	18	23		26		0.51	
-SRC10 - 75	2	10	22	27	75	47	62	32	0.56
-SRC12 - 75		12	24	29		72	36	0.58	
-SRC16 - 75		16	28	33		80	38	0.62	
BBT40 -SRC 4 - 90 *	1	4	10	15.5	90	52	—	16	1.1
-SRC 6 - 90		6	14	20	150	57		26	1.1
-150				26	150	114			1.3
-SRC 8 - 90		8	18	24	90	57			1.2
-150				30	150	114			1.4
-SRC10 - 90		10	22	28	90	57			1.2
-150			34	150	116		1.5		
-SRC12 - 90	2	12	24	30	90	57	80	36	1.2
-150				36	150	116			1.6
-SRC16 - 90		16	28	34	90	57		100	38
-165			42	165	132			1.9	
-SRC20 - 90	2	20	34	40	90	57	100	42	1.4
-165				48	165	132			2.1
BBT50 -SRC 6 -105	1	6	14	20.5	105	61	—	26	3.7
-165				26	165	116			3.9
-SRC 8 -105		8	18	24.5	105	61		3.8	
-165				30	165	116		4.0	
-SRC10 -105		10	22	28.5	105	61		3.8	
-165				34	165	116		4.2	
-SRC12 -105				12	24	30.5		105	61
-165		36	165			116		4.2	
-SRC16 -105		16	28	34.5	105	61		3.9	
-165				40	165	116		4.3	
-SRC20 -105		20	34	40.5	105	61		4.0	
-165				46	165	116		4.6	

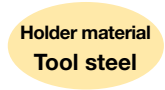
1. Use a carbide shank cutter within a tolerance of h6.

For * models, use a carbide shank with a tolerance within h5.

2. Center through coolant supply is available with tools with oil holes.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

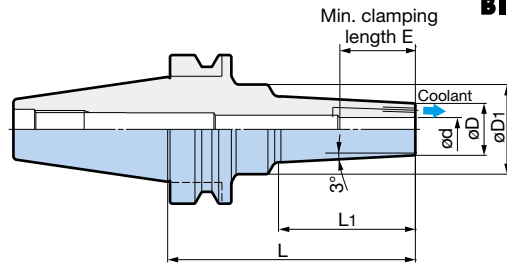
- Coolant is securely supplied to cutting edge periphery from chuck nose.



● Model Description

BBT40 - SRC 6 J - 105

- L dimension
- Jet Through Type
- Clamping diameter
- SHRINK CHUCK
- BIG-PLUS BT No.



[Jet Through Type]

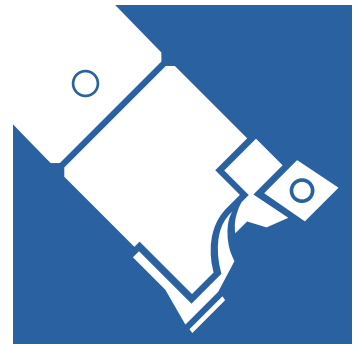
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ϕd	ϕD	ϕD_1	L	L ₁	E	Weight (kg)
BBT40-SRC 6J-105	6	16	32	105	55	26	1.3
-SRC 8J-105	8	19	35		58		1.3
-SRC10J-105	10	22	38		63	1.4	
-SRC12J-105	12	24	40		36	1.4	
BBT50-SRC 6J-165	6	16	42	165	93	26	4.1
-SRC 8J-165	8	19	45		99		4.2
-SRC10J-165	10	22	48		103	4.3	
-SRC12J-165	12	24	50		108	4.3	

1. Use a carbide shank cutter within a tolerance of h6.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

BORING SYSTEM



A

CK BORING SYSTEM

BIG + KAISER CK BORING SYSTEM

<p>SW BORING HEAD SMART DAMPER SW BORING HEAD A39</p>  <p style="text-align: right; color: red; font-weight: bold;">For roughing</p>	<p>RW BORING HEAD A45</p>  <p style="text-align: right; color: red; font-weight: bold;">For roughing</p>	<p>MW BORING HEAD A44</p>  <p style="text-align: right; color: red; font-weight: bold;">For roughing</p>	<p>EWN BORING HEAD SMART DAMPER EWN BORING HEAD A49</p>  <p style="text-align: right; color: blue; font-weight: bold;">For finishing</p>
<p>EWB BORING HEAD A55</p>  <p style="text-align: right; color: blue; font-weight: bold;">For finishing</p>	<p>TW/EWN Boring Head for High-Speed Large-Diameter Boring</p>  <p style="text-align: right; color: red; font-weight: bold;">For roughing</p> <p style="text-align: right; color: blue; font-weight: bold;">A47</p> <p style="text-align: right; color: blue; font-weight: bold;">For finishing</p> <p style="text-align: right; color: blue; font-weight: bold;">A57</p>	<p>EWE DIGITAL BORING HEAD A50-A62</p>  <p style="text-align: right; color: blue; font-weight: bold;">For finishing</p>	<p>EWN BORING HEAD (Cylindrical Tool Type) A59-A61</p>  <p style="text-align: right; color: blue; font-weight: bold;">For finishing</p>
<p>EWB BORING HEAD (Cylindrical Tool Type) A63</p>  <p style="text-align: right; color: blue; font-weight: bold;">For finishing</p>	<p>EW MICRO HEAD A69</p>  <p style="text-align: right; color: blue; font-weight: bold;">For finishing</p>	<p>CK Carbide Cylindrical Shank A71</p>  <p style="text-align: right; color: blue; font-weight: bold;">For finishing</p>	<p>PIN TURNING A73</p> 
<p>BBT SHANK A75 DV/IV SHANK B13 HSK SHANK C25-C62 ST SHANK A76 BIG CAPTO SHANK E49</p> 	<p>SMART DAMPER A78</p> 	<p>Extension Reduction A79</p> 	<p>Other accessories A80</p> 
<p>CK Presetter A87</p> 	<p>INSERT A89</p> 	<p>Cutting Condition Chart A103</p> 	



SW BORING HEAD (High Rigidity type for Roughing) PAT.



Set up example

Select the same CK No.

CK SHANK
(BBT BT IV DV ST HSK BIG CAPTO)
BBT40-CKB3-44

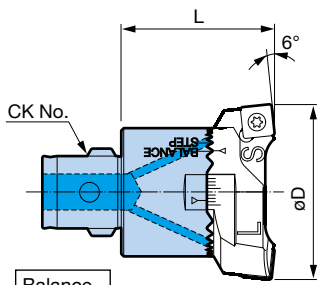
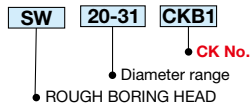
SW HEAD
SW32-51 CKB3

SW CARTRIDGE
SW3242A

CK BORING SYSTEM

A

● Head Model Description



A Type for Through-Holes

● A Type for Through-Holes (4 corners of the insert can be used)

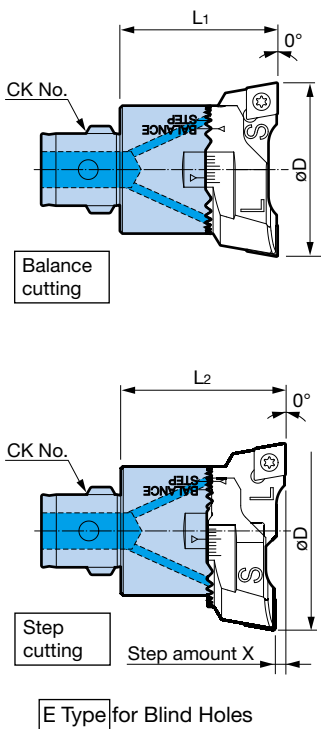
Diameter $\varnothing D$	Head Model	CK No.	Cartridge	L	Clamp Bolt Set (spare)	Belleville Spring Set (spare)	Weight (kg)		
20 - 26	SW 20- 31CKB1	CK1	SW2026A	32.5	SW20SS	SW20BS	0.1		
25 - 31			SW2531A				0.1		
25 - 33	SW 25- 40CKB2	CK2	SW2533A	35.5	SW25SS	SW25BS	0.2		
32 - 40			SW3240A				0.2		
32 - 42	SW 32- 51CKB3	CK3	SW3242A	40	SW32SS	SW32BS	0.3		
41 - 51			SW4151A				0.3		
41 - 54	SW 41- 66CKB4	CK4	SW4154A	47	SW41SS	SW41BS	0.5		
53 - 66			SW5366A				0.5		
53 - 70	SW 53- 86CKB5	CK5	SW5370A	57	SW53SS	SW53BS	0.8		
69 - 86			SW6986A				0.9		
68 - 90	SW 68-110CKB6	CK6	SW6890A	71	SW68SS		1.6		
88 - 110			SW88110A				1.8		
98 - 126	SW 98-153CKB6	CK6	SW98126A	71	SW98SS	SW98BS	2.8		
125 - 153			SW125153A				3.0		
98 - 126	SW 98-153CKB7	CK7	SW98126A	87			SW98SS	SW98BS	3.8
125 - 153			SW125153A						4.1
148 - 176	SW148-203CKB6	CK6	SW148176A	71			SW98SS	SW98BS	3.6
175 - 203			SW175203A						3.8
148 - 176	SW148-203CKB7	CK7	SW148176A	117	SW98SS	SW98BS			6.4
175 - 203			SW175203A						6.6

Diameter: $\phi 20 - \phi 203$

CK BORING SYSTEM



A
CK BORING SYSTEM



● E Type for Blind Holes (To shape flat surfaces)

Diameter ϕD	Head Model	CK No.	Cartridge	L ₁	L ₂	X	Clamp Bolt Set (spare)	Belleville Spring Set (spare)	Weight (kg)		
20 - 26	SW 20- 31CKB1	CK1	SW2026E	32.5	32.6	0.2	SW20SS	SW20BS	0.1		
25 - 31			SW2531E						0.1		
25 - 33	SW 25- 40CKB2	CK2	SW2533E	35.5	35.6		SW25SS	SW25BS	0.2		
32 - 40			SW3240E						0.2		
32 - 42	SW 32- 51CKB3	CK3	SW3242E	40	40.1		SW32SS	SW32BS	0.3		
41 - 51			SW4151E						0.3		
41 - 54	SW 41- 66CKB4	CK4	SW4154E	47	47.2		0.4	SW41SS	SW41BS	0.5	
53 - 66			SW5366E							0.5	
53 - 70	SW 53- 86CKB5	CK5	SW5370E	57	57.2			SW53SS	SW53BS	0.8	
69 - 86			SW6986E							0.9	
68 - 90	SW 68-110CKB6	CK6	SW6890E※	71	71.2	SW68SS		SW98BS		1.6	
88 - 110			SW88110E※							1.8	
98 - 126	SW 98-153CKB6	CK6	SW98126E※	71	71.2	SW98SS		SW98BS	2.8		
125 - 153			SW125153E※						3.0		
98 - 126	SW 98-153CKB7	CK7	SW98126E※	87	87.2				SW98SS	SW98BS	3.8
125 - 153			SW125153E※								4.1
148 - 176	SW148-203CKB6	CK6	SW148176E※	71	71.2		SW98SS		SW98BS	3.6	
175 - 203			SW175203E※							3.8	
148 - 176	SW148-203CKB7	CK7	SW148176E※	117	117.2		SW98SS		SW98BS	6.4	
175 - 203			SW175203E※							6.6	

1. Clamping screws and belleville springs are included.
2. Compatible set items in the table are not included but must be ordered separately if required.
3. Cartridges and inserts must be ordered separately.
4. Coolant through is standard for all the SW heads.
5. The diameter range is the value when nose radius 0.4 is used for insert SC/CC06, and nose radius 0.8 for insert SC/CC09 and SC/CC12.

Cartridge models with ※ are also available for longer cutting edge inserts.

Change the end of the model number from E to EL when ordering. For details, **A43**

SW Cartridges **A42**

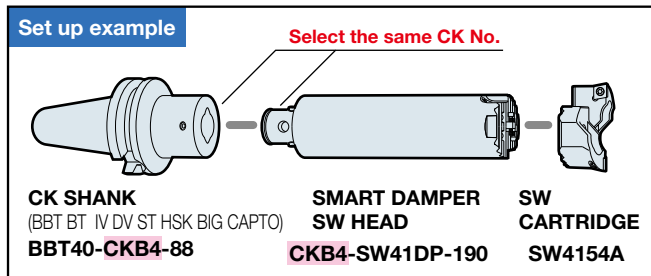
Holders **A75**

Spare parts **A99**

Built-In Damper
SMART DAMPER SW BORING HEAD (For Roughing) PAT.

Center through

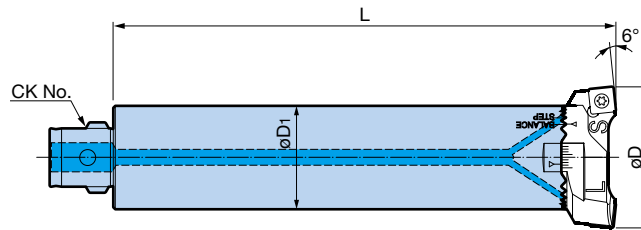
SW rough boring head integrated with the Smart Damper.



● Head Model Description

CKB4 - **SW** **41** **DP** - **190**

- L dimension
- Built-in damper type
- Min. diameter
- ROUGH BORING HEAD
- CK No.



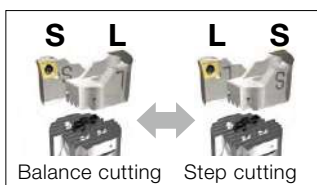
A Type for Through-Holes

Balance cutting
Balance cutting only.

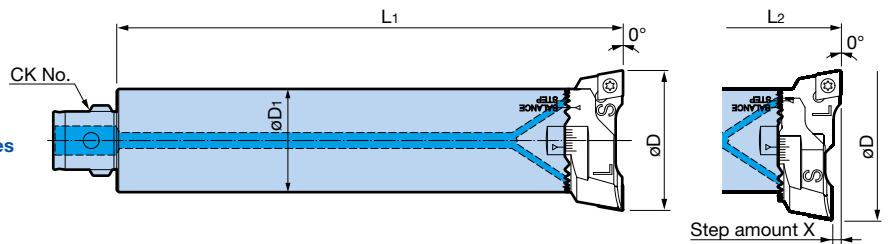
● A Type for Through-Holes (4 corners of the insert can be used)

Diameter ϕD	Head Model	CK No.	Cartridge Model	Insert Model	ϕD_1	L	Clamp Screw Set (spare)	Belleville Spring Set (spare)	Weight (kg)
41 - 54	CKB4-SW41DP-190	CK4	SW4154A	SC09	39	190	SW41SS	SW41BS	2.4
53 - 66			SW5366A						
53 - 70	CKB5-SW53DP-220	CK5	SW5370A	SC12	50	220	SW53SS	SW53BS	4.5
69 - 86			SW6986A						
68 - 90	CKB6-SW68DP-245	CK6	SW6890A	SC12	64	245	SW68SS	SW53BS	8.3
88 - 110			SW88110A						

Refer to the remarks in the table below.



Adapted for both balance and step cutting by simple replacement of standard cartridges (for blind holes).



E Type for Blind Holes

Balance cutting

Step cutting

● E Type for Blind Holes (To shape flat surfaces)

Diameter ϕD	Head Model	CK No.	Cartridge Model	Insert Model	ϕD_1	L ₁	L ₂	Step Amount X	Clamp Screw Set (spare)	Belleville Spring Set (spare)	Weight (kg)
41 - 54	CKB4-SW41DP-190	CK4	SW4154E	CC09	39	190	190.2	0.4	SW41SS	SW41BS	2.4
53 - 66			SW5366E								
53 - 70	CKB5-SW53DP-220	CK5	SW5370E	CC12	50	220	220.2	0.4	SW53SS	SW53BS	4.5
69 - 86			SW6986E								
68 - 90	CKB6-SW68DP-245	CK6	SW6890E	CC12	64	245	245.2	0.4	SW68SS	SW53BS	8.3
88 - 110			SW88110E								

1. Clamp screws and belleville springs are included.
2. Compatible set items in the table are not included but must be ordered separately if required.
3. Cartridges and inserts must be ordered separately.
4. Coolant through is standard for all the SW heads.
5. The diameter range is the value when inserts with nose radius 0.8 are used.

SW cartridges **A42**

Holders **A75**

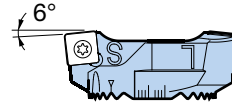
Spare parts **A99**

Diameter: $\varnothing 20$ - $\varnothing 203$ **CK BORING SYSTEM****SW CARTRIDGE** PAT.

● Cartridge Model Description

SW	2026	A
----	------	---

- For Through Hole
- Diameter range $\varnothing 20$ - $\varnothing 26$
- ROUGH BORING HEAD



● A Type for Through-Holes (4 corners of the insert can be used)

Diameter $\varnothing D$	Cartridge Model	Head Model	Insert	Insert Clamping Screw Set
20 - 26	SW2026A	SW 20- 31CKB1	SC06	S2.5S-7IP
25 - 31	SW2531A			
25 - 33	SW2533A	SW 25- 40CKB2		
32 - 40	SW3240A			
32 - 42	SW3242A	SW 32- 51CKB3	SC09	S4S-15IP
41 - 51	SW4151A			
41 - 54	SW4154A	SW 41- 66CKB4		
53 - 66	SW5366A			
53 - 70	SW5370A	SW 53- 86CKB5	SC12	S5S-20IP
69 - 86	SW6986A			
68 - 90	SW6890A	SW 68-110CKB6		
88 - 110	SW88110A			
98 - 126	SW98126A	SW 98-153CKB6 SW 98-153CKB7		
125 - 153	SW125153A			
148 - 176	SW148176A	SW148-203CKB6 SW148-203CKB7		
175 - 203	SW175203A			

Each Cartridge model consists of a pair of cartridges and an insert clamping wrench.

1. Inserts must be ordered separately.
2. Step cutting is not available.
3. The diameter range is the value when nose radius 0.4 is used for insert SC06, and nose radius 0.8 for insert SC09 and SC12.
4. The insert clamping screw set (optional) contains 10 screws and 1 wrench.



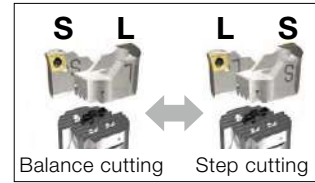
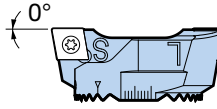
SW CARTRIDGE PAT.

CK BORING SYSTEM



● Cartridge Model Description

- SW** 2026 **E**
- For Blind Holes
- Diameter range $\phi 20 - \phi 26$
- ROUGH BORING HEAD



Adapted for both balance and step cutting by simple replacement of standard Cartridges. (for blind holes)

● E Type for Blind Holes (To shape flat surfaces)

Diameter ϕD	Cartridge Model	Head Model	Insert	Insert Clamping Screw Set
20 - 26	SW2026E	SW 20- 31CKB1	CC06	S2.5S-7IP
25 - 31	SW2531E			
25 - 33	SW2533E			
32 - 40	SW3240E	SW 25- 40CKB2	CC09	S4S-15IP
32 - 42	SW3242E			
41 - 51	SW4151E			
41 - 54	SW4154E	SW 41- 66CKB4	CC12	S5S-20IP
53 - 66	SW5366E			
53 - 70	SW5370E			
69 - 86	SW6986E	SW 53- 86CKB5	CC16	S5S-20IP
68 - 90	SW6890E			
	SW6890EL			
88 - 110	SW88110E	SW 68-110CKB6	CC12	
	SW88110EL		CC16	
98 - 126	SW98126E	SW 98-153CKB6	CC12	
	SW98126EL		CC16	
125 - 153	SW125153E	SW 98-153CKB7	CC12	
	SW125153EL		CC16	
148 - 176	SW148176E	SW148-203CKB6	CC12	
	SW148176EL		CC16	
175 - 203	SW175203E	SW148-203CKB7	CC12	
	SW175203EL		CC16	

Each Cartridge model consists of a pair of cartridges and an insert clamping wrench.

1. Inserts must be ordered separately.
2. The diameter range is the value when nose radius 0.4 is used for insert CC06, and nose radius 0.8 for insert CC09 and CC12.
3. The insert clamping screw set (optional) contains 10 screws and 1 wrench.
4. EL type Cartridge with long cutting edge cannot be used with the #30 shank holder.



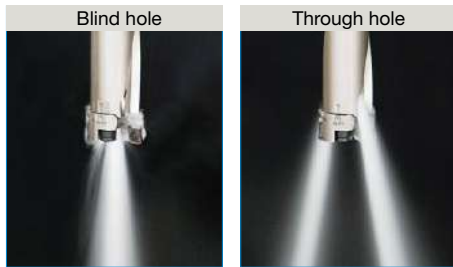
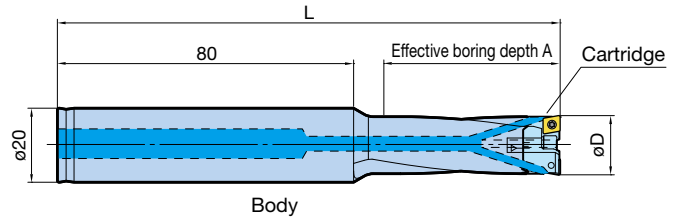
Diameter: $\phi 16 - \phi 21$

CK BORING SYSTEM

MW BORING HEAD PAT. (for roughing)

Achieves high efficiency small diameter rough boring with 2 inserts.

Center through



Threads for plug screws are prepared in the coolant holes to change the coolant directions.

Diameter ϕD	Model	Cartridge Model	L	A	Clamp Bolt Set	Belleville Spring Set	Weight (kg)
16 - 19	ST20-MW1619-45	MW1619E	136	45	MW16SS	MW16BS	0.24
	-60		151	60			0.26
18 - 21	-MW1821-50	MW1821E	141	50			0.26
	-65		156	65			0.28

Cartridge models are a 2-piece set.

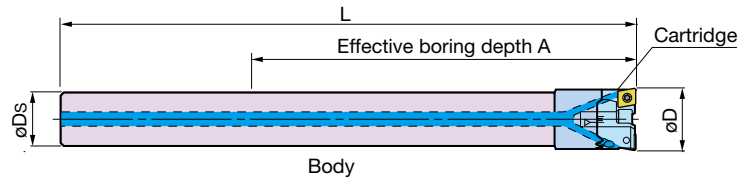
1. Clamp Bolts and Belleville Springs are included with the body. However, cartridges are not included and must be ordered separately.
2. Cartridge includes insert clamping screws and wrench.
3. The weight is that of the body and cartridge combined.
4. Inserts must be ordered separately.

[Carbide shank type]

NEW

- Carbide shank for enhanced deep hole boring performance (for through-hole)

Carbide



is made of carbide.

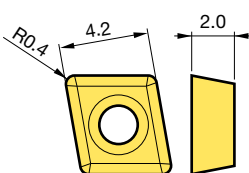


Diameter ϕD	Model	Cartridge Model	ϕDs	L	A	Clamp Bolt Set	Belleville Spring Set	Weight (kg)
16 - 19	ST14W-MW16-110	MW1619E	14	151	110	MW16SS	MW16BS	0.36
18 - 21	ST16W-MW18-115	MW1821E	16	172	115			0.54

Cartridge models are a 2-piece set.

1. Clamp Bolts and Belleville Springs are included with the body. However, cartridges are not included and must be ordered separately.
2. Cartridge includes insert clamping screws and wrench.
3. The weight is that of the body and cartridge combined.
4. Inserts must be ordered separately.
5. The carbide shank and boring head are integrated and cannot be sold separately.
6. **Exclusive for use with through holes. Do not use it with blind holes.**

● Insert (optional)



Workpiece material	Insert Model	Materials
Steel/Stainless steel	MW0404F Z30P	P30 equivalent carbide substrate TiAlN + AlCrN coating
Cast iron/Ductile	MW0404S Z30K	K20 equivalent carbide substrate TiAlN + AlCrN coating
Non-ferrous metal/Aluminum	MW0404E D15N	K15 equivalent carbide substrate DLC coating

1. Inserts sold in packets of 10 pcs.
Example: MW0404F Z30P... 10 pcs

● Insert Clamping Screw Set (optional)



Set Model	Thread size	Wrench
S1.6S-T6	M1.6 x 4.2	FA-T6

1. The set contains ten screws and a wrench.
※ Wrenches are also sold individually.



RW BORING HEAD (for roughing)

Balance cutting allows powerful boring.

- Axial adjustment mechanism achieves “perfect balance cutting”.
- The “step cutting method” can reduce the number of passes in the applications with large stock allowance.



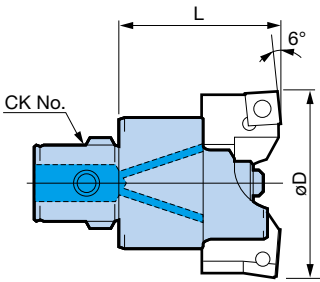
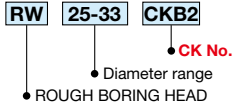
Set up example

Select the same CK No.

CK SHANK
(BBT BT IV DV ST HSK BIGCAPTO)
BBT30-CKB2-38

RW HEAD **RW CARTRIDGE**
RW25-33CKB2 **RW2533A**

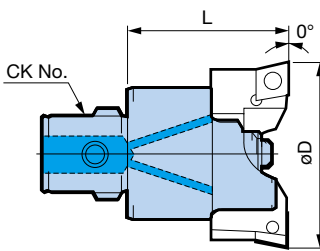
● Head Model Description



A Type for Through-Holes

● A Type for Through-Holes (4 corners of the insert can be used)

Diameter ϕD	Head Model	CK No.	Cartridge	L	Differential Screw (spare)	Weight (kg)
25 - 33	RW 25- 33CKB2	CK2	RW2533A	35.5	DS25	0.1
32 - 42	RW 32- 42CKB3	CK3	RW3242A	40	DS32	0.2
41 - 54	RW 41- 54CKB4	CK4	RW4154A	47	DS41	0.4
53 - 70	RW 53- 70CKB5	CK5	RW5370A	57	DS53	0.8
68 - 88	RW 68-100CKB6	CK6	RW6888A	71	DS68	1.6
86 - 106			RW86106A			
100 - 125	RW100-150CKB6		RW100125A			2.3
125 - 150	RW125150A					



E Type for Blind Holes

● E Type for Blind Holes (To shape flat surfaces)

Diameter ϕD	Head Model	CK No.	Cartridge	L	Differential Screw (spare)	Weight (kg)
25 - 33	RW 25- 33CKB2	CK2	RW2533E	35.5	DS25	0.1
30 - 37			RW3037E			
32 - 42	RW 32- 42CKB3	CK3	RW3242E	40	DS32	0.2
40 - 48			RW4048E			
41 - 54	RW 41- 54CKB4	CK4	RW4154E	47	DS41	0.4
51 - 62			RW5162E			
53 - 70	RW 53- 70CKB5	CK5	RW5370E	57	DS53	0.8
66 - 81			RW6681E			
68 - 88	RW 68-100CKB6	CK6	RW6888E	71	DS68	1.6
86 - 106			RW86106E			
100 - 125	RW100-150CKB6		RW100125E			2.3
125 - 150	RW125150E					

1. Differential screws are included.
2. Cartridges and inserts must be ordered separately.
3. Coolant through is standard for all the RW heads.
4. The diameter range is the value when nose radius 0.4 is used for SC/CC07, and nose radius 0.8 for SC/CC09, SC/CC12 inserts.

👉 Holders **A75**

👉 Spare parts **A99**

⚠ Caution

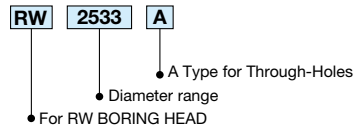
Ensure the Axial Adjusting Screws do not protrude from the Cartridges when assembled.

RW CARTRIDGE



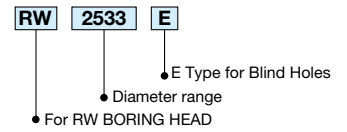
A Type for Through-Holes

● Cartridge Model Description



E Type for Blind Holes

● Cartridge Model Description



● A Type for Through-Holes (4 corners of the square insert can be used)

Diameter ϕD	Cartridge Model	Figure	CK Boring Head Model	Insert	Insert Clamping Screw Set
25 - 33	RW2533A		RW 25- 33CKB2	SC07	S3S
32 - 42	RW3242A		RW 32- 42CKB3		
41 - 54	RW4154A		RW 41- 54CKB4	SC12	S5S
53 - 70	RW5370A		RW 53- 70CKB5		
68 - 88	RW6888A		RW 68-100CKB6		
86 - 106	RW86106A		RW100-150CKB6	SC09	S4S
100 - 125	RW100125A				
125 - 150	RW125150A				

● E Type for Blind Holes (2 corners of the 80° CC insert can be used)

Diameter ϕD	Cartridge Model	Figure	CK Boring Head Model	Insert	Insert Clamping Screw Set
25 - 33	RW2533E		RW 25- 33CKB2	CC07	S3S
30 - 37	RW3037E		RW 32- 42CKB3		
32 - 42	RW3242E		RW 41- 54CKB4	CC12	S5S
40 - 48	RW4048E		RW 53- 70CKB5		
41 - 54	RW4154E		RW 68-100CKB6		
51 - 62	RW5162E		RW100-150CKB6	CC09	S4S
53 - 70	RW5370E				
66 - 81	RW6681E				
68 - 88	RW6888E		RW100-150CKB6	CC09	S4S
86 - 106	RW86106E				
100 - 125	RW100125E				
125 - 150	RW125150E				

Each Cartridge model consists of a pair of cartridges and an insert clamping wrench.



1. Inserts must be ordered separately.
2. The insert clamping screw set (optional) contains 10 screws and 1 wrench.
3. The diameter range is the value when nose radius 0.4 is used for SC/CC07, and nose radius 0.8 for SC/CC09, SC/CC12 inserts.

TW BORING HEAD (for roughing/large diameter)

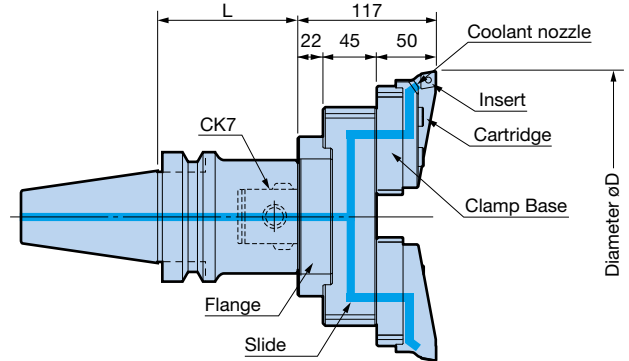
CK7 large-diameter boring series compatible with high-speed.

- Each component is securely fastened for safety.
- Coolant nozzles for secure coolant supply to the cutting edge.

[Standard type]



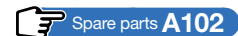
DUAL CONTACT



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

CK SHANK (BBT BT DV HSK BIGCAPTO)		Diameter øD	Flange		Slide		Clamp Base (2-piece set)		Cartridge (2-piece set)		Insert							
Model	Weight (kg)		Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)								
BBT50-CKB7- 93 (BT50) -183 -243	5.6 9.9 12.7	A Type for Through-Holes	FLN135 (FLN135/90)	2.76	SLN200-270	3.8	CB-TW200	1.80	TW200A	0.72	SC12							
					SLN270-340	5.5												
					SLN340-410	7.2												
					SLN410-480	8.9												
					SLN480-550	10.6												
					SLN550-620※	12.3												
			FLN220 (FLN220/90)	4.00	SLN620-690※	14.0												
					SLN690-760※	15.7												
					SLN760-830※	17.4												
					FLN135 (FLN135/90)	2.76						SLN200-270	3.8	CB-TW200	1.80	TW200E	0.72	CC12
												SLN270-340	5.5					
												SLN340-410	7.2					
	SLN410-480	8.9																
	SLN480-550	10.6																
	SLN550-620※	12.3																
	FLN220 (FLN220/90)	4.00	SLN620-690※	14.0														
			SLN690-760※	15.7														
			SLN760-830※	17.4														
			FLN135 (FLN135/90)	2.76	SLN200-270	3.8	CB-TW200	1.80	TW200EL	0.72	CC16							
					SLN270-340	5.5												
					SLN340-410	7.2												
	SLN410-480	8.9																
	SLN480-550	10.6																
	SLN550-620※	12.3																
FLN220 (FLN220/90)	4.00	SLN620-690※	14.0															
		SLN690-760※	15.7															
		SLN760-830※	17.4															

1. Clamp Bases and Cartridges are sold as a two-piece set. The weight in the table is that of 2 pieces.
2. Inserts must be ordered separately.
3. Center through coolant supply is available, except for ※ marked models.
4. Cutting edge and drive keys are aligned in the same direction.
(It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.)



SQUARE TOOLHOLDER

□25 square tool for lathe is clamped.



Model	Diameter ø	Slide model	Square size	Weight (kg)
BFN95	250 - 830	SLN200-270(AL) or longer	□25	2.5

1. Square tools are not included.
2. The diameter varies according to the tool and slide used.
3. Use an SLN type slide. Cannot be mounted on the conventional SL type.
4. Slide models with AL at the end are made of aluminum for lighter weight.

[High speed type]

Lightweight

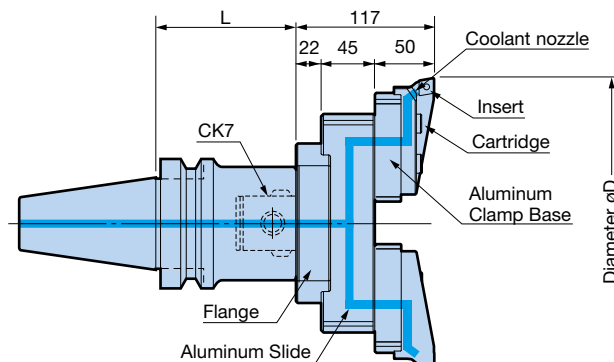
● Tool weight is reduced by combining an Aluminum Slide and Clamp Base.

DUAL CONTACT



Center through

Vc Max.
2,000 m/min



Models with AL at the end are made of aluminum.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

CK SHANK (BBT BT DV HSK BIGCAPTO)		Diameter øD	Flange		Aluminum Slide		Aluminum Clamp Base (2-piece set)		Cartridge (2-piece set)		Insert						
Model	Weight (kg)		Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)							
BBT50-CKB7- 93 (BT50) -183 -243 <table border="1"> <tr><td>CKB7- 93</td><td>93</td></tr> <tr><td>-183</td><td>183</td></tr> <tr><td>-243</td><td>243</td></tr> </table>	CKB7- 93	93	-183	183	-243	243	5.6 9.9 12.7	A Type for Through-Holes	FLN135 (FLN135/90)	2.76	SLN200-270AL	1.44	CB-TW200-AL	0.80	TW200A 6°	0.72	SC12
	CKB7- 93	93															
	-183	183															
	-243	243															
	SLN270-340AL	2.04															
	SLN340-410AL	2.64															
	SLN410-480AL	3.24															
	SLN480-550AL	3.84															
	SLN550-620AL ※	4.44															
	FLN220 (FLN220/90)	4.00	SLN620-690AL ※	5.04													
	SLN690-760AL ※		5.64														
	SLN760-830AL ※		6.24														
	FLN135 (FLN135/90)		2.76	SLN200-270AL	1.44												
	SLN270-340AL			2.04													
	SLN340-410AL			2.64													
	SLN410-480AL	3.24															
	SLN480-550AL	3.84															
	SLN550-620AL ※	4.44															
	FLN220 (FLN220/90)	4.00	SLN620-690AL ※	5.04													
	SLN690-760AL ※		5.64														
	SLN760-830AL ※		6.24														
	FLN135 (FLN135/90)		2.76	SLN200-270AL	1.44												
	SLN270-340AL			2.04													
	SLN340-410AL			2.64													
SLN410-480AL	3.24																
SLN480-550AL	3.84																
SLN550-620AL ※	4.44																
FLN220 (FLN220/90)	4.00	SLN620-690AL ※	5.04														
SLN690-760AL ※		5.64															
SLN760-830AL ※		6.24															
FLN135 (FLN135/90)		2.76	SLN200-270AL	1.44													
SLN270-340AL			2.04														
SLN340-410AL			2.64														
SLN410-480AL	3.24																
SLN480-550AL	3.84																
SLN550-620AL ※	4.44																
FLN220 (FLN220/90)	4.00	SLN620-690AL ※	5.04														
SLN690-760AL ※		5.64															
SLN760-830AL ※		6.24															

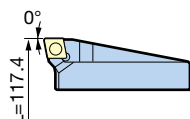
- Clamp Bases and Cartridges are sold as a two-piece set. The weight in the table is that of 2 pieces.
- Inserts must be ordered separately.
- Center through coolant supply is available, except for ※ marked models.
- Cutting edge and drive keys are aligned in the same direction.
 (It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.)



Holders **A75**

Spare parts **A102**

E Type Cartridge for Step Cutting



0.4mm higher cartridge enables larger depth of cut.

Model
TW200E -SC
TW200EL-SC

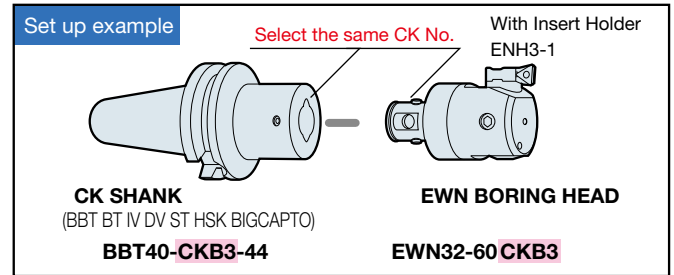
Offered by 1 pce.

EWN BORING HEAD (for finishing)

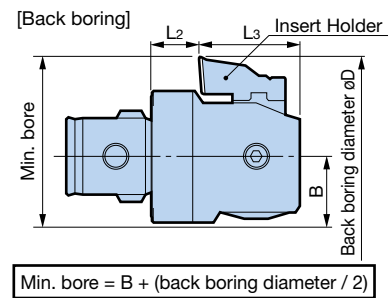
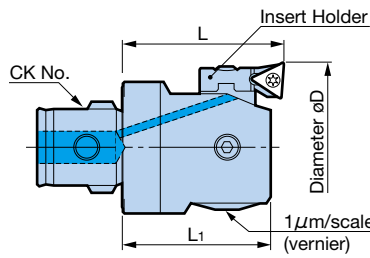


1 μm vernier is added to the easy-to-read scale of 0.01mm/ø increments.

- The pre-balance design achieves stable machining accuracy.
- Back boring available as standard, expanding versatility.



- Model Description
- | | | |
|-----|-------|-------------|
| EWN | 20-36 | CKB1 |
| | | CK No. |
| | | Diameter |
| | | Finish Head |

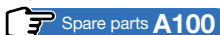
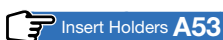


Model	CK No.	Insert Holder	Boring			Back Boring				Weight (kg)	Insert
			Diameter øD	L	L ₁	Diameter øD	L ₂	L ₃	B		
EWN 20- 36CKB1	CK1	ENH1-1	20 - 26	32.5	29.5	-	10.5	19	10	0.07	TP08
		ENH1-2	25 - 31			30 - 31					
		ENH1-3	30 - 36			30 - 36					
EWN 25- 47CKB2	CK2	ENH2-1	25 - 33	35.5	32.5	-	11.5	21	12.5	0.12	
		ENH2-2	32 - 40			36 - 40					
		ENH2-3	39 - 47			39 - 47					
EWN 32- 60CKB3	CK3	ENH3-1	32 - 42	40	35	-	10	25	16	0.21	
		ENH3-2	41 - 51			46 - 51					
		ENH3-3	50 - 60			50 - 60					
EWN 41- 74CKB4	CK4	ENH4-1	41 - 54	47	43	-	14	29	20	0.40	
		ENH4-2	50 - 63			53 - 63					
		ENH4-3	61 - 74			61 - 74					
EWN 53- 95CKB5	CK5	ENH5-1	53 - 70	57	53	62 - 70	19	34	25.5	1.10	
		ENH5-2	65 - 82			65 - 82					
		ENH5-3	78 - 95			78 - 95					
EWN 68-150CKB6	CK6	ENH6-1	68 - 100	71	67.2	80 - 100	22	45.2	32.5	1.74	TC11
		ENH6-2	94 - 126			94 - 126					
		ENH6-3	118 - 150			118 - 150					
EWN100-203CKB6	CK6	ENH6-1	100 - 153	71	67.2	112 - 153	22	45.2	45.5	2.46	
		ENH6-2	126 - 179			126 - 179					
		ENH6-3	150 - 203			150 - 203					
EWN100-203CKB7	CK7	ENH6-1	100 - 153	87	83.2	112 - 153	38	45.2	45.5	3.98	
		ENH6-2	126 - 179			126 - 179					
		ENH6-3	150 - 203			150 - 203					

1. Max. and min. diameters are the values when nose radius 0.2 is used for insert TP08, and nose radius 0.4 for insert TC11.
2. ENH0-1 Insert Holder is included. ENH0-2 and 3 must be ordered separately if required.
3. During back boring, the rotation direction will be reversed.
4. Inserts must be ordered separately.

Caution

Although the maximum allowable cutting speed Vc of the EWN BORING HEAD is 1,200 m/min, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.



EWE DIGITAL BORING HEAD (for finishing) Diameter: $\phi 41 - \phi 203$

The advanced digital boring head born from ultra-precision technology.

- Digital display allows the adjustment amount to be read instantaneously.
- Fully waterproof and dustproof structure (IP69K equivalent).

Center through

Vc Max.
1,200 m/min

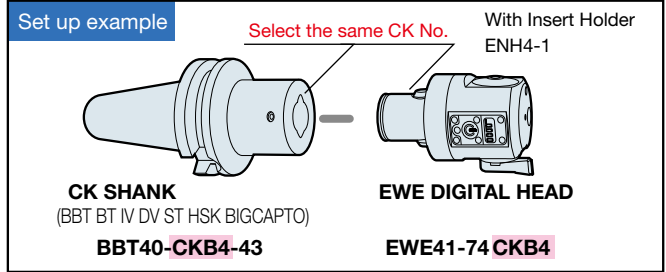


Employs a system that directly measures the stroke of the adjustment quill. Accurately displays the actual movement amount.

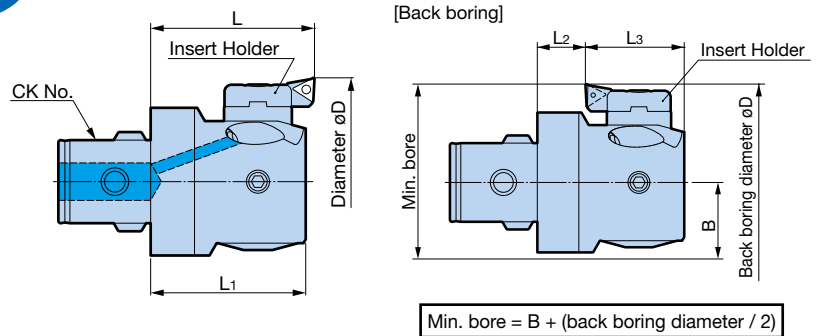
Simple operation that allows ON and zero reset with a single button.



Display Resolution
0.001 mm/φ



- Model Description
- | | | |
|------------|--------------|-------------|
| EWE | 41-74 | CKB4 |
|------------|--------------|-------------|
- Diameter
 - DIGITAL FINISH BORING HEAD



Model	CK No.	Insert Holder	Boring			Back Boring				Weight (kg)	Insert
			Diameter ϕD	L	L ₁	Diameter ϕD	L ₂	L ₃	B		
EWE 41- 74CKB4	CK4	ENH4-1	41 - 54	47	43	-	14	29	20	0.4	TC11
		ENH4-2	50 - 63			53 - 63					
		ENH4-3	61 - 74			61 - 74					
EWE 53- 95CKB5	CK5	ENH5-1	53 - 70	57	53	62 - 70	19	34	25.5	0.7	TC11
		ENH5-2	65 - 82			65 - 82					
		ENH5-3	78 - 95			78 - 95					
EWE 68-150CKB6	CK6	ENH6-1	68 - 100	71	67.2	80 - 100	22	45.2	32.5	1.7	TC11
		ENH6-2	94 - 126			94 - 126					
		ENH6-3	118 - 150			118 - 150					
EWE100-203CKB6	CK6	ENH6-1	100 - 153	71	67.2	112 - 153	22	45.2	45.5	2.5	TC11
		ENH6-2	126 - 179			126 - 179					
		ENH6-3	150 - 203			150 - 203					
EWE100-203CKB7	CK7	ENH6-1	100 - 153	87	83.2	112 - 153	38	45.2	45.5	4.0	TC11
		ENH6-2	126 - 179			126 - 179					
		ENH6-3	150 - 203			150 - 203					

Battery: CR1025 1 pc (Standard accessory)

1. Max. and min. diameters are the values when an insert with nose radius 0.4 is used.
2. ENH○-1 Insert Holder is included. ENH○-2 and 3 must be ordered separately if required.
3. Inserts must be ordered separately.
4. Center through coolant pressure should not exceed 4MPa.

Caution

Although the maximum allowable cutting speed Vc of the EWE BORING HEAD is 1,200 m/min, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.

● Wide variety of Insert Holders offers versatility.

Example: For EWE41-74CKB4

Standard Accessory	Optional Accessory	
ENH4-1 $\phi 41 - \phi 54$	ENH4-2 $\phi 50 - \phi 63$	ENH4-3 $\phi 61 - \phi 74$

In addition to the above, various insert holders for EWN BORING HEAD such as the "Insert Holder to Undercut Corners" can be used. **A53-**



Pointers **Holders A75**

Pointers **Spare parts A100**

Built-In Damper

SMART DAMPER EWN BORING HEAD (for finishing)

Center through

Combination of the popular EWN boring head with the Smart Damper.

- New EWN20DP/25DP (CK1/CK2) products with min. diameters starting from ø20 are now available.
- Capable of even deeper hole boring when combined with a low-deflection CK Carbide Cylindrical Shank.

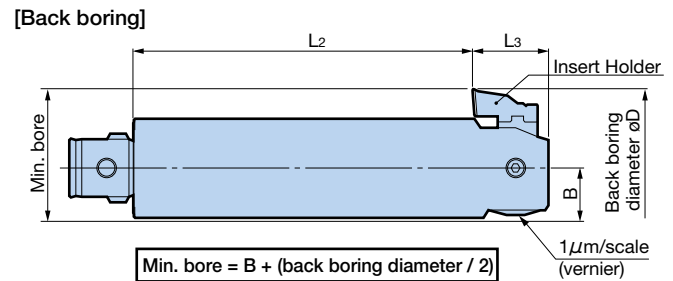
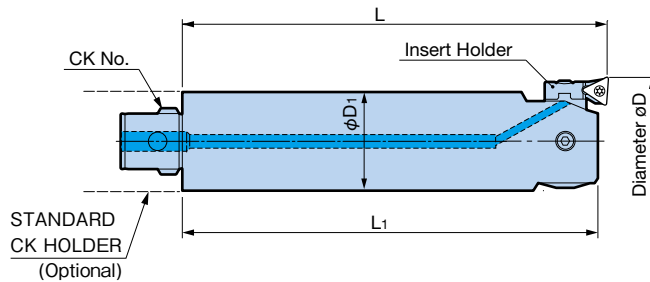
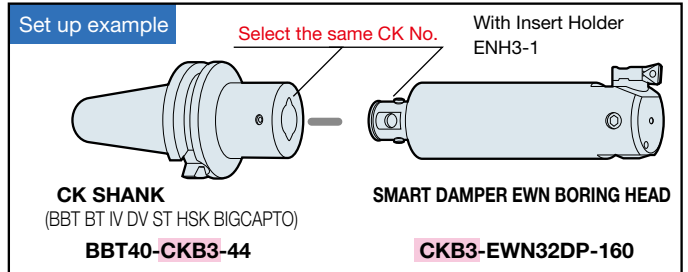
CK BORING SYSTEM



● Model Description

CK1 - **EWN** **20** **DP** - **100**

- CK No.
- Finish Head
- Min. diameter
- Built-in damper type
- L dimension



Model	CK No.	Insert Holder	Boring			Back Boring				øD ₁	Weight (kg)	Insert
			Diameter øD	L	L ₁	Diameter øD	L ₂	L ₃	B			
CK1 -EWN 20DP-100 NEW	CK1	ENH1-1	20 - 26	100	97	-	78	19	10	19	0.3	TP08
		ENH1-2	25 - 31			-						
		ENH1-3	30 - 36			36						
CK2 -EWN 25DP-125 NEW	CK2	ENH2-1	25 - 33	125	122	-	101	21	12.5	24	0.6	TP08
		ENH2-2	32 - 40			-						
		ENH2-3	39 - 47			42 - 47						
CKB3-EWN 32DP-160	CK3	ENH3-1	32 - 42	160	155	-	130	25	16	31	1.2	TP08
		ENH3-2	41 - 51			-						
		ENH3-3	50 - 60			57 - 60						
CKB4-EWN 41DP-185	CK4	ENH4-1	41 - 54	185	181	-	152	29	20	39	2.3	TC11
		ENH4-2	50 - 63			61 - 63						
		ENH4-3	61 - 74			67 - 74						
CKB5-EWN 53DP-210	CK5	ENH5-1	53 - 70	210	206	-	172	34	25.5	50	4.4	TC11
		ENH5-2	65 - 82			74 - 82						
		ENH5-3	78 - 95			78 - 95						

1. Max. and min. diameters are the values when nose radius 0.2 is used for insert TP08, and radius 0.4 for insert TC11.
2. ENH○-1 Insert Holder is included. ENH○-2 and 3 must be ordered separately if required.
3. During back boring, the rotation direction will be reversed.
4. Inserts are not included.
5. * marked models do not require a CKB pin.

A90-A91
 A97
 Holders A75
 Insert Holders A53
 Spare parts A100

Model	CK No.	Insert Holder	Boring			Back Boring				øD ₁	Weight (kg)	Insert		
			Diameter øD	L	L ₁	Diameter øD	L ₂	L ₃	B					
CKB6-EWN 68DP-240	CK6	ENH6-1	68 - 100	240	236.2	90 - 100	191	45.2	32.5	64	8.3	TC11		
		ENH6-2	94 - 126			94 - 126								
		ENH6-3	118 - 150			118 - 150								
CKB6-EWN100DP-240	CK6	ENH6-1	100 - 153	240	236.2	107 - 153	191	45.2	45.5	64	8.8		TC11	
		ENH6-2	126 - 179			126 - 179								
		ENH6-3	150 - 203			150 - 203								
CKB7-EWN100DP-240	CK7	ENH6-1	100 - 153	240	236.2	116 - 153	191	45.2	45.5	90	16.4			TC11
		ENH6-2	126 - 179			126 - 179								
		ENH6-3	150 - 203			150 - 203								

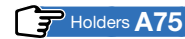
1. Max. and min. diameters are the values when nose radius 0.2 is used for insert TP08, and radius 0.4 for insert TC11.
2. ENH○-1 Insert Holder is included. ENH○-2 and 3 must be ordered separately if required.
3. During back boring, the rotation direction will be reversed.
4. Inserts are not included.



A91



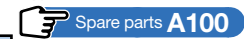
A97



Holders **A75**




Insert Holders **A53**






Spare parts **A100**

● Wide variety of Insert Holders offers versatility.

Example: CKB3-EWN32DP-160

In addition to the products shown to the right, various insert holders for EWN BORING HEAD such as the "Insert Holder to undercut corners" can be used.  **A53~**

Standard Accessory	Optional Accessory	
ENH3-1  ø32 - ø42	ENH3-2  ø41 - ø51	ENH3-3  ø50 - ø60

Insert Holder (optional accessory)



Model	Figure	Head
ENH1-1	<p>3°</p> <p>Insert TP08</p>	EWN20-36CKB1
ENH1-2		
ENH1-3		
ENH2-1		EWN25-47CKB2
ENH2-2		
ENH2-3		
ENH3-1		EWN32-60CKB3
ENH3-2		
ENH3-3		

1. Inserts must be ordered separately.

Model	Figure	Head
ENH4-1	<p>3°</p> <p>Insert TC11</p>	EWN41-74CKB4 EWE41-74CKB4
ENH4-2		
ENH4-3		EWN53-95CKB5 EWE53-95CKB5
ENH5-1		
ENH5-2		
ENH5-3		EWN 68-150CKB6 EWN100-203CKB6(7) EWE 68-150CKB6 EWE100-203CKB6(7)
ENH6-1		
ENH6-2		
ENH6-3		

Model	Figure	Head
ENH4-1E	<p>0°</p> <p>Insert TC11</p>	EWN41-74CKB4 EWE41-74CKB4
ENH4-2E		
ENH4-3E		EWN53-95CKB5 EWE53-95CKB5
ENH5-1E		
ENH5-2E		
ENH5-3E		EWN 68-150CKB6 EWN100-203CKB6(7) EWE 68-150CKB6 EWE100-203CKB6(7)
ENH6-1E		
ENH6-2E		
ENH6-3E		

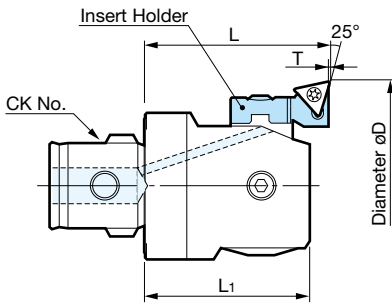
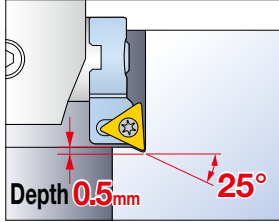


CK BORING SYSTEM

Insert Holder to undercut corners (optional accessory)



● Insert Holder capable of boring and grooving (recessing)



Diameter øD	Model	Figure	Head	CK No.	L	L ₁	Max. depth T Max.	Insert
32 - 42	ENH3-1J		EWN 32- 60CKB3	3	40	35	0.6	TP08
41 - 51	ENH3-2J							
50 - 60	ENH3-3J							
41 - 54	ENH4-1J		EWN(E)41- 74CKB4	4	47	43		
53 - 70	ENH5-1J		EWN(E)53- 95CKB5	5	57	53		
65 - 82	ENH5-2J							
78 - 95	ENH5-3J							
68 - 100	ENH6-1J		EWN(E) 68-150CKB6	6	71	67.2		TC11
100 - 153			EWN(E)100-203CKB6					
94 - 126			EWN(E)100-203CKB7					
126 - 179	ENH6-2J	EWN(E) 68-150CKB6	6	71	67.2			
118 - 150	EWN(E)100-203CKB6							
150 - 203	EWN(E)100-203CKB7							
	ENH6-3J	EWN(E) 68-150CKB6	6	71	67.2			
		EWN(E)100-203CKB6						
		EWN(E)100-203CKB7						

- T Max. and L are the values when nose radius 0.2 is used for insert TP08, and nose radius 0.4 for insert TC11.
- Inserts must be ordered separately.



Insert Holder for CC Insert

Model	Figure	Head	Insert
ENH4-1F		EWN 41- 74CKB4 EWE 41- 74CKB4	CC06
ENH4-2F			
ENH4-3F			
ENH5-1F		EWN 53- 95CKB5 EWE 53- 95CKB5	
ENH5-2F			
ENH5-3F			
ENH6-1F	EWN 68-150CKB6 EWN100-203CKB6 (7) EWE 68-150CKB6 EWE100-203CKB6 (7)	CC07	
ENH6-2F			
ENH6-3F			

- Inserts must be ordered separately.



Insert Holder for Square Insert

Model	Figure	Head	Insert
ENH4-1S		EWN 41- 74CKB4 EWE 41- 74CKB4	SC06
ENH4-2S			
ENH4-3S			
ENH5-1S		EWN 53- 95CKB5 EWE 53- 95CKB5	
ENH5-2S			
ENH5-3S			
ENH6-1S	EWN 68-150CKB6 EWN100-203CKB6 (7) EWE 68-150CKB6 EWE100-203CKB6 (7)	SC07	
ENH6-2S			
ENH6-3S			

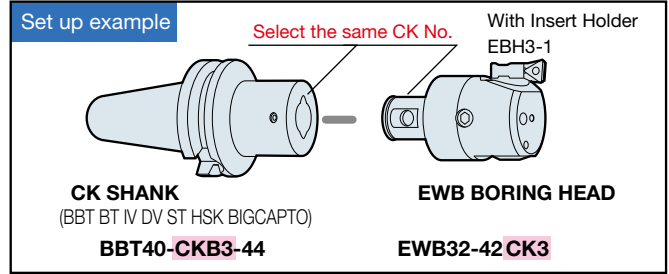
- Inserts must be ordered separately.



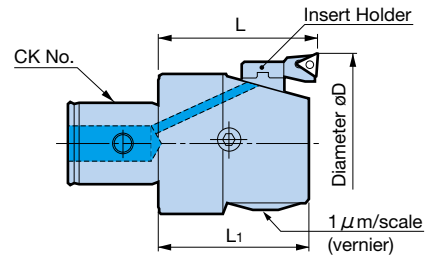
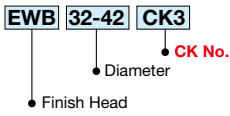
EWB BORING HEAD (For high-speed finishing/
Built-in automatic precision balancing) Diameter: $\phi 32 - \phi 105$

Automatic precision balancing. High speed machining supported.

- Excellent dynamic balance performance, achieves high-speed machining and stable accuracy.
- Ultra-precision boring head with $\phi 0.01$ mm increment scale.

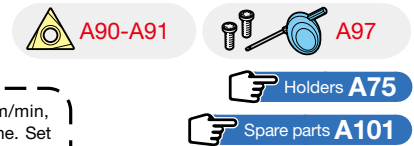


● Model Description



Diameter ϕD	Model	CK No.	L	L ₁	Weight (kg)	Insert Holder (Optional accessory)	Insert
32 - 42	EWB32- 42CK3	CK3	40	37	0.20	EBH3-1	TP08
41 - 54	EWB41- 54CK4	CK4	47	43	0.38	EBH4-1	TC11
53 - 70	EWB53- 70CK5	CK5	57	53	0.78	EBH5-1	
68 - 88	EWB68- 88CK6	CK6	71	67	1.65	EBH6-1	
85 - 105	EWB85-105CK6				1.69		

1. Max. and min. diameters are the values when nose radius 0.2 is used for insert TP08, and nose radius 0.4 for insert TC11.
2. Insert Holder is included, insert is not included.



Caution Although the maximum allowable cutting speed Vc of the EWB BORING HEAD is 2,000 m/min, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.



Insert Holder (Optional accessory)

Model	Head	Insert	Insert Clamping Screw Set
EBH3-1	EWB 32- 42CK3	TP08	S2S-T6
EBH4-1	EWB 41- 54CK4		
EBH5-1	EWB 53- 70CK5		
EBH6-1	EWB 68- 88CK6	TC11	S2.5S-T7
	EWB 85-105CK6		
	EWB100-153CK□AL		
	EWB150-203CK□AL		

- EWB Boring Heads are provided with an Insert Holder.
For replacement, order using the above model numbers.

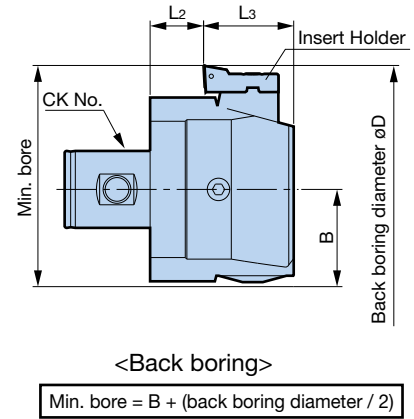
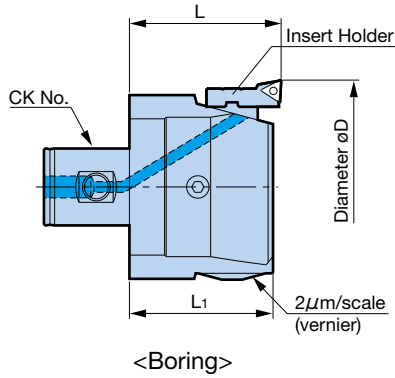
EWB ALUMINUM BORING HEAD (for finishing) Diameter: $\phi 100 - \phi 203$

Automatic precision balancing. High-speed capability is ideal for aluminum machining.

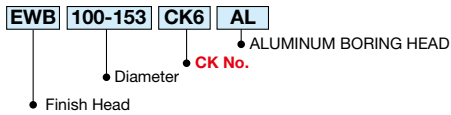
- Lightweight aluminum head made of high-tension aluminum with hard coating.
- Ideal for small machining centers with ATC weight limit.



Weight
600g -



● Model Description



Model	CK No.	L	L ₁	Boring			Back Boring		Weight (kg)	Insert Holder (spare)	Insert
				Diameter øD	L ₂	L ₃	Diameter øD	B			
EWB100-153CK6AL	CK6	71	67	100 - 153	25	43	112 - 153	45.5	0.6	EBH6-1	TC11
EWB150-203CK6AL				150 - 203			63.5	0.8			
EWB100-153CK7AL	CK7	87	83	100 - 153	41	42	112 - 153	45.5	0.9		
EWB150-203CK7AL				150 - 203			63.5	1.2			

1. Max. and min. diameters are the values when an insert with nose radius 0.4 is used.
2. Insert Holder is included, insert is not included.
3. During back boring, the rotation direction will be reversed.



Holders **A75**

Spare parts **A101**

Caution Although the maximum allowable cutting speed Vc of the EWB BORING HEAD is 2,000 m/min, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.

(Diameters up to $\varnothing 880$ can be used when using Insert Holder **ENH7-3**.)

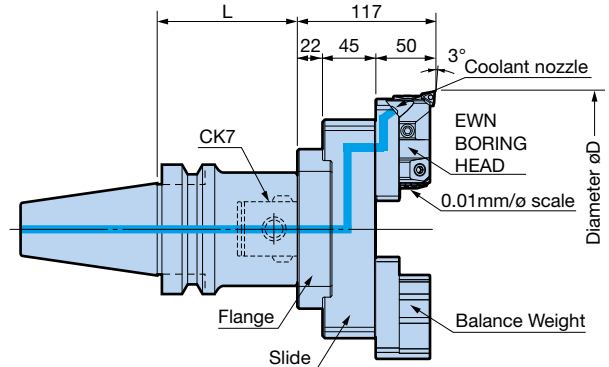
CK BORING SYSTEM

EWN200 BORING HEAD (for finishing and large diameters)

- Each component is securely fastened for safety.
- Coolant nozzles for secure coolant supply to the cutting edge.



[Standard type]



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

CK SHANK (BBT BT DV HSK BIG CAPTO)			Diameter øD	Flange		Slide		EWN BORING HEAD		Balance Weight		Insert
Model	L	Weight (kg)		Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	
BBT50-CKB7- 93 (BT50) -183 -243	93	5.6	FLN135 (FLN135/90)	2.76	SLN200-270	3.8	EWN200 With ENH7-1 Insert Holder	1.44	BWN200FB	1.44	TC11	
	183	9.9				SLN270-340						5.5
	243	12.7				SLN340-410						7.2
						SLN410-480						8.9
						SLN480-550						10.6
			SLN550-620 ※	12.3								
			SLN620-690 ※	14.0								
			SLN690-760 ※	15.7								
			SLN760-830 ※	17.4								
			FLN220 (FLN220/90)	4.00								

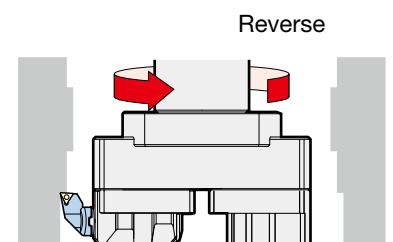
1. ENH7-1 Insert Holder is included.
2. Inserts must be ordered separately.
3. Center through coolant supply is available, except for ※ marked models.
4. Cutting edge and drive keys are aligned in the same direction.
(It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.)

A91
 A97
Holders A75
Spare parts A102

Insert Holder

Standard Accessory		Optional Accessories			
ENH7-1	ENH7-2	ENH7-3	ENH7-1J (for recessing)	ENH7-1F (for diamond inserts)	ENH7-1S (for square inserts)
	+25/ø	+50/ø	Max. depth Max.0.6	0°	45°
		Insert TC11		Insert CC07	Insert SC07

Back boring available



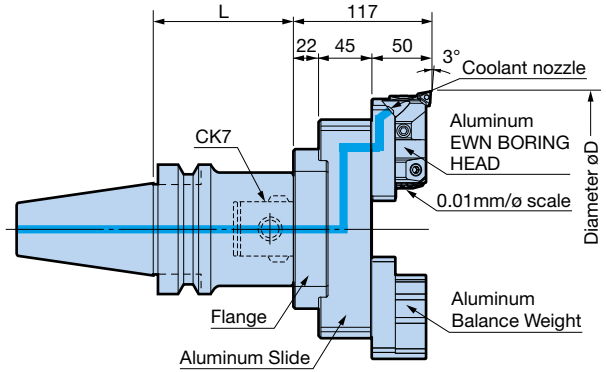
※ ENH7-2, 7-3 only can be used.



[High speed type]

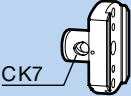



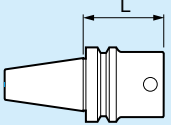
Lightweight

● Tool weight is reduced by combining an aluminum slide, EWN BORING HEAD, and balance weight.

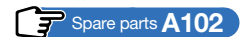


Models with AL at the end are made of aluminum.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

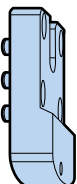
CK SHANK (BBT BT DV HSK BIGCAPTO)			Diameter øD	Flange 		Aluminum Slide 		Aluminum EWN BORING HEAD 		Aluminum Balance Weight  Weights can be adjusted according to the diameter.		Insert
Model	L	Weight (kg)		Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	
BBT50-CKB7- 93 (BT50) -183 -243 	93	5.6	FLN135 (FLN135/90)	2.76	SLN200-270AL	1.44	EWN200AL With ENH7-1 Insert Holder	0.8	BWN200FB-AL	0.8	TC11	
	183	9.9			270 - 340	SLN270-340AL						2.04
	243	12.7			340 - 410	SLN340-410AL						2.64
					410 - 480	SLN410-480AL						3.24
					480 - 550	SLN480-550AL						3.84
			550 - 620	SLN550-620AL ※	4.44							
			620 - 690	FLN220 (FLN220/90)	4.00	SLN620-690AL ※						5.04
			690 - 760	SLN690-760AL ※		5.64						
			760 - 830	SLN760-830AL ※		6.24						

- ENH7-1 Insert Holder is included
- Inserts must be ordered separately.
- Center through coolant supply is available, except for ※ marked models.
- Cutting edge and drive keys are aligned in the same direction.
(It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.)



Simple Balance Weight

Low-cost balance weights are also available.
 Use under V=800m/min.



Model	Weight (kg)	Head
BWN200PB	1.44	EWN200 (Standard type)
BWN200PB-AL	0.80	EWN200AL (High speed type)

Weights cannot be adjusted.

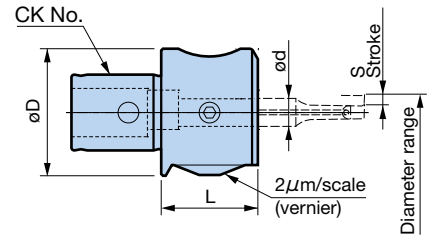
EWN04-7/EWN04-15 BORING HEAD

- Micro-boring head with outer diameter of $\phi 18.5$ mm (EWN04-7).
- 0.01mm/scale/ $\phi 2 \mu\text{m}$ ultra-precision vernier.

Center through Max. 30,000min⁻¹



● Model Description
EWN 04 - 7 CK1
 Diameter CK No.
 FINISH BORING HEAD

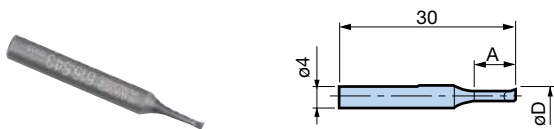


Model	Diameter	CK No.	ϕD	ϕd	L	S	Max. speed	Weight (kg)
EWN04- 7CK1	1.0 - 7	CK1	18.5	4	14	-0.1 - +1.05	30,000	0.03
EWN04-15CK3	1.0 - 15	CK3	30	7	22	-0.2 - +2.0	20,000	0.12

1. Cylindrical tool must be ordered separately.

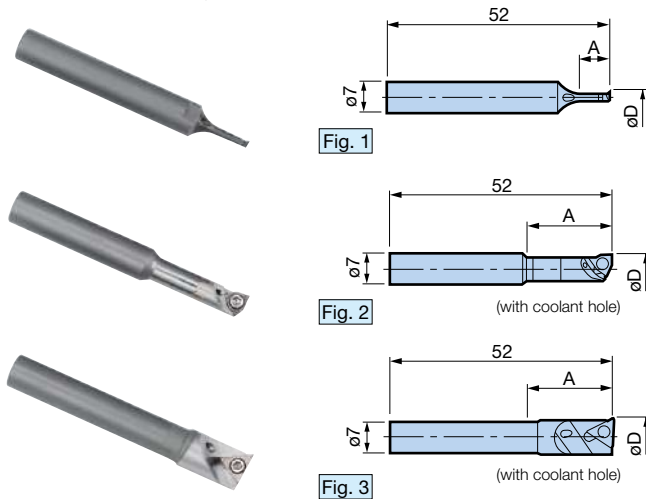
Holders **A75**

EWN04-7 Cylindrical Tool



Diameter ϕD	Model	Engraved number	A	Insert
1.0 - 1.5	ST4W-EB 1 - 3	615.542	3	Integrated Carbide Shank
1.4 - 2.0	-EB 1.5- 5	615.543	5	
1.9 - 3.0	-EB 2 - 6	615.544	6	
2.9 - 4.0	-EB 3 -10	615.545	10	
3.9 - 5.0	-EB 4 -13	615.546	13	
4.9 - 7.0	-EB 5 -16	615.547	16	

EWN04-15 Cylindrical Tool



Diameter ϕD	Fig.	Model	Engraved number	A	Insert
1.0 - 1.5	1	ST7W-EB 1 - 3	615.524	3	Integrated Carbide Shank
1.4 - 2.0		-EB 1.5- 5	615.525	5	
1.9 - 3.0		-EB 2 - 7	615.501	6	
2.9 - 4.0		-EB 3 - 10	615.502	10	
3.9 - 5.0		-EB 4 - 13	615.503	13	
4.9 - 6.0		-EB 5 - 16	615.504	16	
5.8 - 7.0	2	-EB 6 - 20	615.505	20	WC02
6.8 - 8.0		-EB 7 - 20	615.506		
7.8 - 9.0	3	-EB 8 - 20	615.507	30	TP07
8.8 - 10.0		-EB 9 - 20	615.508		
9.8 - 12.0		-EB10 - 20	615.509		
11.8 - 15.0		-EB12 - 30	615.511		

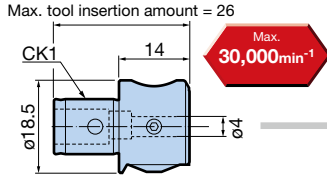
1. Inserts must be ordered separately.

A89 **A97**

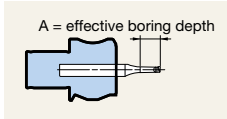
Diameter: $\phi 1 - \phi 15$

CK BORING SYSTEM

EWN04-7 (cylindrical tool series for finishing)



Head EWN04-7
Stroke -0.1 - +1.05mm



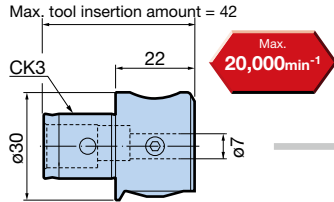
- $\phi 4$ 30 A=3 ST4W-EB 1 - 3 $\phi 1.0 - \phi 1.5$
- A=5 ST4W-EB1.5 - 5 $\phi 1.4 - \phi 2.0$
- A=6 ST4W-EB 2 - 6 $\phi 1.9 - \phi 3.0$
- A=10 ST4W-EB 3 - 10 $\phi 2.9 - \phi 4.0$
- A=13 ST4W-EB 4 - 13 $\phi 3.9 - \phi 5.0$
- A=16 ST4W-EB 5 - 16 $\phi 4.9 - \phi 7.0$

Center through

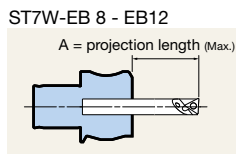
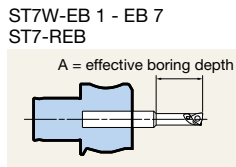
Ideal for small machines

※ Cylindrical Tools are made of carbide.
Holders **A75**

EWN04-15 (cylindrical tool series for finishing)



Head EWN04-15
Stroke -0.2 - +2.0mm



- $\phi 7$ 52 A=3 ST7W-EB 1 - 3 $\phi 1.0 - \phi 1.5$
- A=5 ST7W-EB1.5 - 5 $\phi 1.4 - \phi 2.0$
- A=7 ST7W-EB 2 - 7 $\phi 1.9 - \phi 3.0$
- A=10 ST7W-EB 3 - 10 $\phi 2.9 - \phi 4.0$
- A=13 ST7W-EB 4 - 13 $\phi 3.9 - \phi 5.0$
- A=16 ST7W-EB 5 - 16 $\phi 4.9 - \phi 6.0$
- WC 02 insert type
- $\phi 7$ 52 A=20 ST7W-EB 6 - 20 $\phi 5.8 - \phi 7.0$
- A=20 ST7W-EB 7 - 20 $\phi 6.8 - \phi 8.0$
- TP 07 insert type
- $\phi 7$ 52 A=30 ST7W-EB 8 - 20 $\phi 7.8 - \phi 9.0$
- A=30 ST7W-EB 9 - 20 $\phi 8.8 - \phi 10.0$
- A=30 ST7W-EB10 - 20 $\phi 9.8 - \phi 12.0$
- A=30 ST7W-EB12 - 30 $\phi 11.8 - \phi 15.0$

● Jig Boring Bit

- $\phi 7$ 61 A=5 ST7-RBE 1 - 5 $\phi 1.0 - \phi 1.5$
- 62 A=7.5 ST7-RBE 1.5-7.5 $\phi 1.5 - \phi 2.0$
- 62 A=9 ST7-RBE 2 - 9 $\phi 2.0 - \phi 3.0$
- 62 A=14 ST7-RBE 3-14 $\phi 3.0 - \phi 4.0$
- 62 A=17 ST7-RBE 4-17 $\phi 4.0 - \phi 5.0$
- 64 A=22 ST7-RBE 5-22 $\phi 5.0 - \phi 6.0$

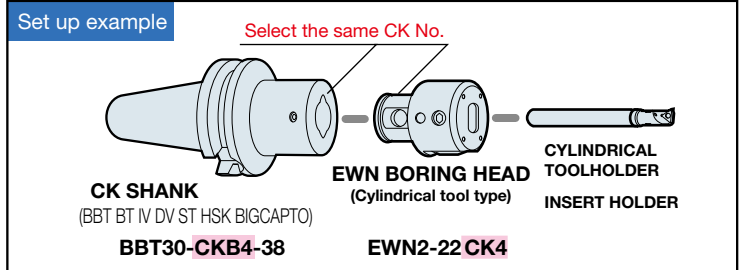
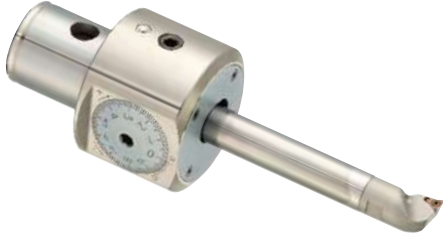
A89
A97

EWN BORING HEAD (cylindrical tool type for finishing)

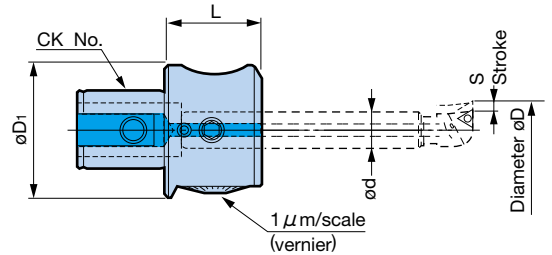
Center through

3 models available for the optimal selection to meet applications.

- Ultra precision head with micron adjustment enables small diameter boring tough to achieve.
- The enhanced carbide tool series immediately supports small-diameter deep-hole drilling.



- Model Description
- | | | | | |
|-----|---|---|----|-----|
| EWN | 2 | - | 22 | CK4 |
|-----|---|---|----|-----|
- CK No.
 - FINISH BORING HEAD



Refer to the following page for the tool system of each head.

- EWN2-22CK4...A65**
- EWN2-32CK5...A66**
- EWN2-50CK6...A67**

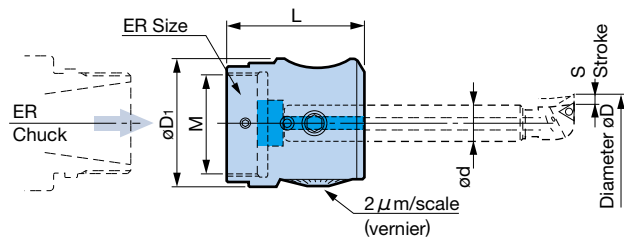
Diameter ϕD	Model	CK No.	ϕd	ϕD_1	L	S	Weight (kg)
1 - 22	EWN2-22CK4	CK4	10	39	28.5	2.0	0.25
1 - 32	EWN2-32CK5	CK5	12	50	36	3.5	0.5
1 - 54	EWN2-50CK6	CK6	16	63.5	45	4.5	1.1

1. EWN BORING HEAD does not come with cylindrical tool.
2. Center through coolant supply is available.
3. Inserts must be ordered separately.

- ☞ Tool systems **A65**
- ☞ Holders **A75**
- ☞ Spare parts **A100**

For turning center
[ER Chuck Type] Diameter: $\phi 1 - \phi 32$

To be mounted on the ER collet chuck live tooling for lathe in place of the clamping nut.



Center through

- Model Description
- | | | | | |
|-----|---|---|----|------|
| EWN | 2 | - | 22 | ER25 |
|-----|---|---|----|------|
- ER No.
 - Max. diameter
 - FINISH BORING HEAD

Diameter ϕD	Model	ER size	ϕd	ϕD_1	L	S	M	Weight (kg)
1 - 22	EWN2-22ER25	ER25	10	39	40.5	2.0	M32 x 1.5	0.25
1 - 32	EWN2-32ER32	ER32	12	50	51	3.5	M40 x 1.5	0.5

1. EWN BORING HEAD does not come with cylindrical tool.
2. Center through coolant supply is available.
3. Inserts must be ordered separately.

- ☞ Tool systems **A65**

Diameter: $\phi 1 - \phi 54$

CK BORING SYSTEM

EWE DIGITAL BORING HEAD (cylindrical tool type for finishing)

Advanced digital boring head created by ultra-precision technology.

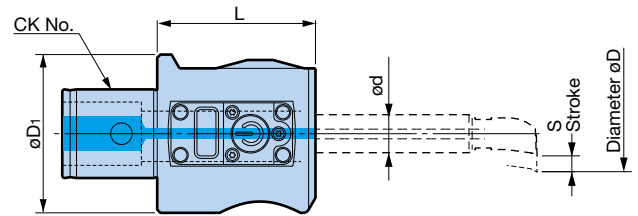
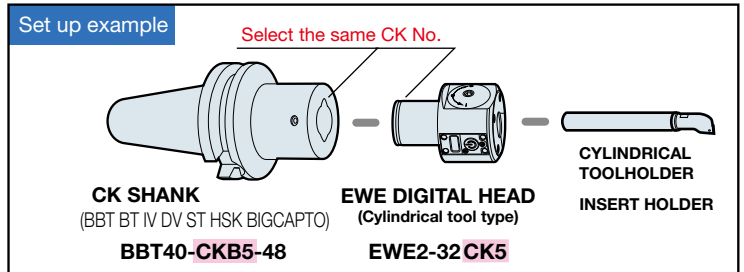
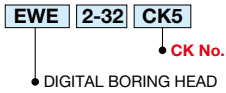
- Digital display allows the adjustment amount to be read at a glance.
- Fully waterproof and dustproof structure (IP69K equivalent).



※ Center through coolant pressure should not exceed 4MPa.



● Model Description



Refer to the following page for the tool system of each head.

EWE2-32CK5...A66
EWE2-54CK6...A67

Diameter ϕD	Model	CK No.	ϕd	ϕD_1	L	S	Weight (kg)
1 - 32	EWE2-32CK5	CK5	12	50	50	-0.5 - 2.0	0.65
1 - 54	EWE2-54CK6	CK6	16	63.5	45	-0.5 - 2.5	1.35

Battery: CR1025 1 pc (Standard accessory)

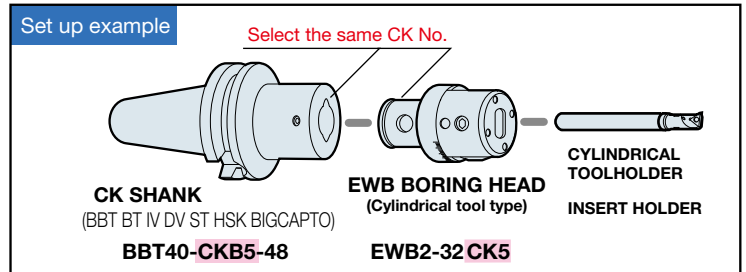
1. Cylindrical toolholder must be ordered separately.
2. Center through coolant supply is available.
3. Inserts must be ordered separately.

- ☞ Tool systems **A66**
- ☞ Holders **A75**
- ☞ Spare parts **A100**

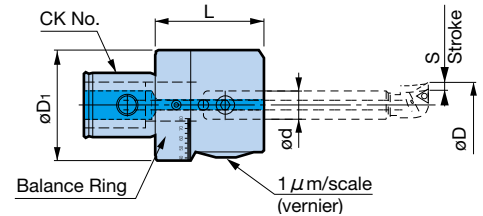
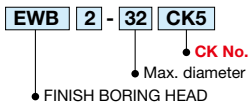
EWB BORING Head Cylindrical Toolholder Type (For high speed finishing/
Built-in manual balance adjustment function)

Manual balance adjustment mechanism.

- Turning the balance ring allows manual adjustment of internal weights.
- $5 \mu\text{m}/\phi$ scale + $1 \mu\text{m}$ vernier precision diameter adjustment mechanism. (EWB2-50 only)



● Model Description



Diameter ϕD	Model	CK No.	ϕd	ϕD_1	L	S	Weight (kg)
1 - 32	EWB2-32CK5	CK5	12	50	49	3.5	0.65
1 - 50	EWB2-50CK6	CK6	16	63.5	62	4.5	1.32

1. Cylindrical toolholder must be ordered separately.

※ The setting value for the balance ring is listed in the operation manual.

As incorrect settings may lead to serious imbalances, be sure to read the operation manual thoroughly before use.

2. Center through coolant supply is available.

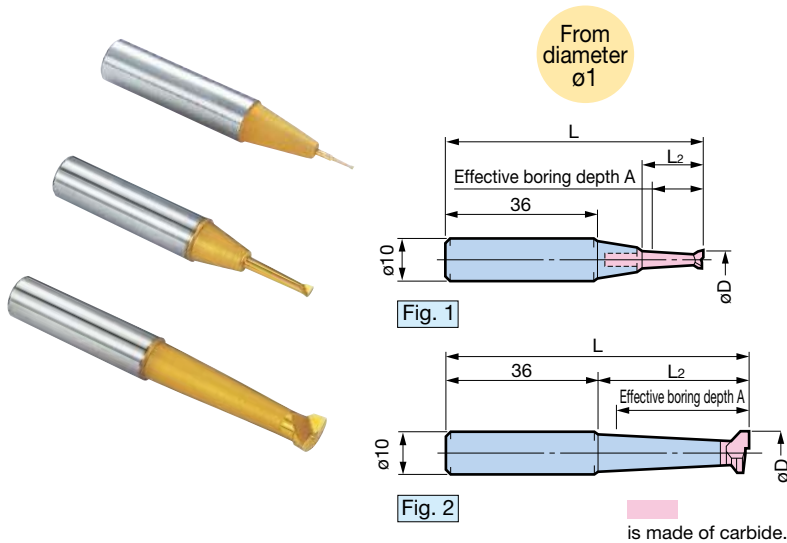
- ☞ Tool systems **A66**
- ☞ Holders **A75**
- ☞ Spare parts **A101**

Caution

- The max. spindle speed of the EWB BORING HEAD depends on the projection length of the tool and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached, upon reference to the operation manual.
- Use a head stroke within 1mm in order to achieve the best possible balance performance.
- This boring head should be used only with **BIG**+KAISER original cylindrical tool series.

Jig Boring Bit Diameter: $\phi 1 - \phi 9$

- The sharp cutting edge is ideal for ultra-small diameter boring.
- New $\phi 1$ and $\phi 1.5$ diameter models available for even smaller diameter boring.

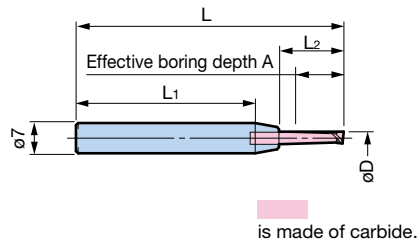


● $\phi 10$ cylindrical shank type

Model	Fig.	ϕD	A	L	L_2
RBE 1	1	1	4	62	5
1.5		1.5	6		7.5
2		2	8		9
3		3	12		14
4		4	16		17
5	2	5	20	64	22
7		7	24	65	28
9		9	30	75	37

1. No oil holes. 2. Cutting edge is TiN coated carbide.

● $\phi 7$ cylindrical shank type



Model	ϕD	A	L	L_1	L_2
ST7-RBE 1 - 5	1	4	61	42	5
-RBE 1.5- 7.5	1.5	6	62		7.5
-RBE 2 - 9	2	8			9
-RBE 3 -14	3	12		41	14
-RBE 4 -17	4	16	17		
-RBE 5 -22	5	20	64		22

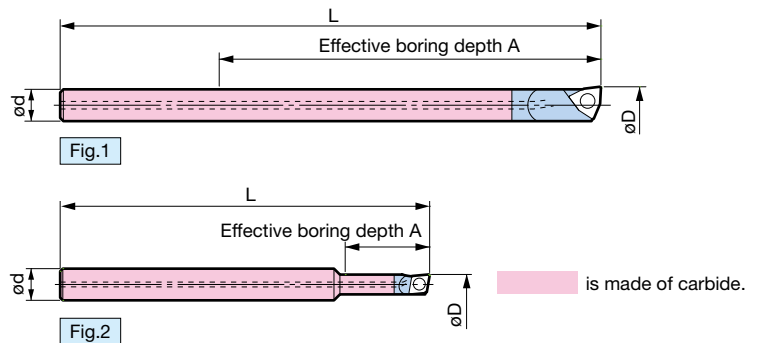
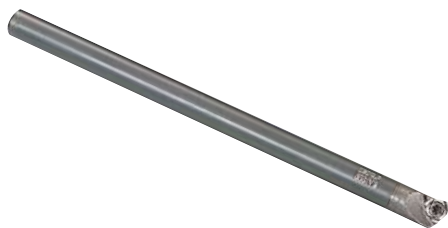
1. No oil holes. 2. Cutting edge is TiN coated carbide.

Carbide Cylindrical Insert Holder Diameter: $\phi 4 - \phi 9$

Stable $\phi 4$ ultra small boring is achieved with an insert type of solid carbide bar.



- Exclusive insert with a large rake angle to prevent chatter.



<Carbide Cylindrical Insert Holder>

Model	Fig.	ϕd	ϕD	A	L	Insert	Insert Clamping Screw Set
ST05W-EB6 -60	1	5	6.0 - 7.5	60	85	WC02	S2S-A
ST06W-EB4 -16	2	6	4.0 - 5.0	16	70	EC03	S1.6S-T3-S
-EB5 -20			5.0 - 6.0	20	75		S1.6S-T3
-EB7.5-65	1		7.5 - 9.0	65	95	WC02	S2S-A

1. Inserts are not included.
 2. An exclusive straight collet is required when used with a boring head. A65



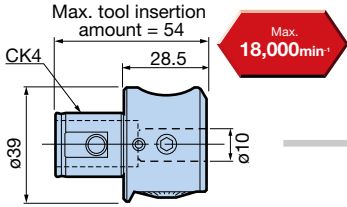
CK BORING SYSTEM

EWN2-22 (cylindrical tool series for finishing)

Compact head reduces interference.

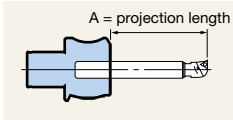
Ideal for
small machines

Center through

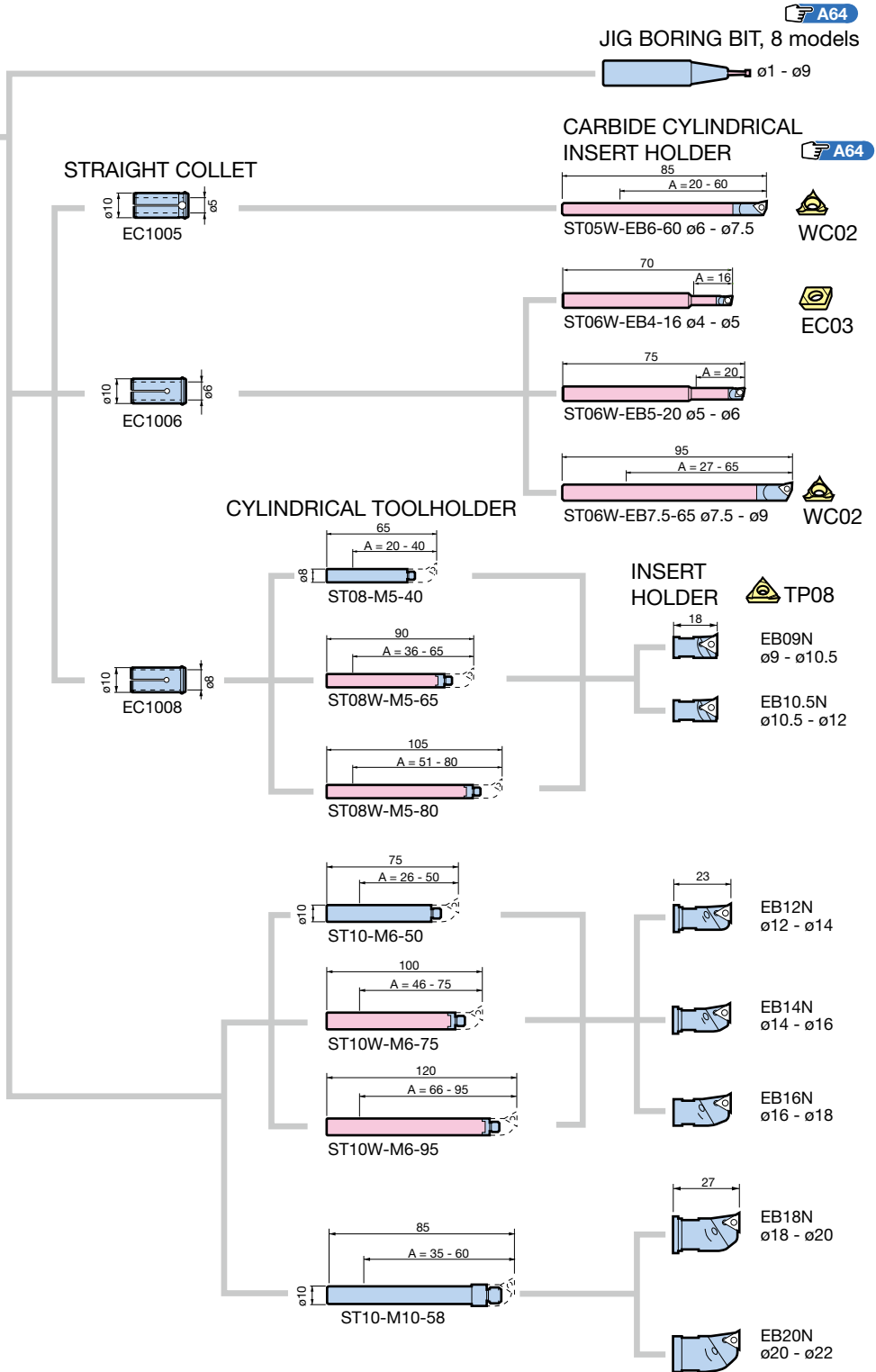


Head **EWN2-22CK4**
Stroke 0 - 2mm

※ EWN BORING HEAD for turning centers (ER type) is also available. See **A61** for details.



Always observe the projection length range and tool insertion limit. Use out of these ranges may result in damage to the boring head or slip of the bar shank.



※ Carbide Cylindrical Insert Holders and Cylindrical Toolholders with "W" in the model numbers are made of carbide.
A is the projection length.



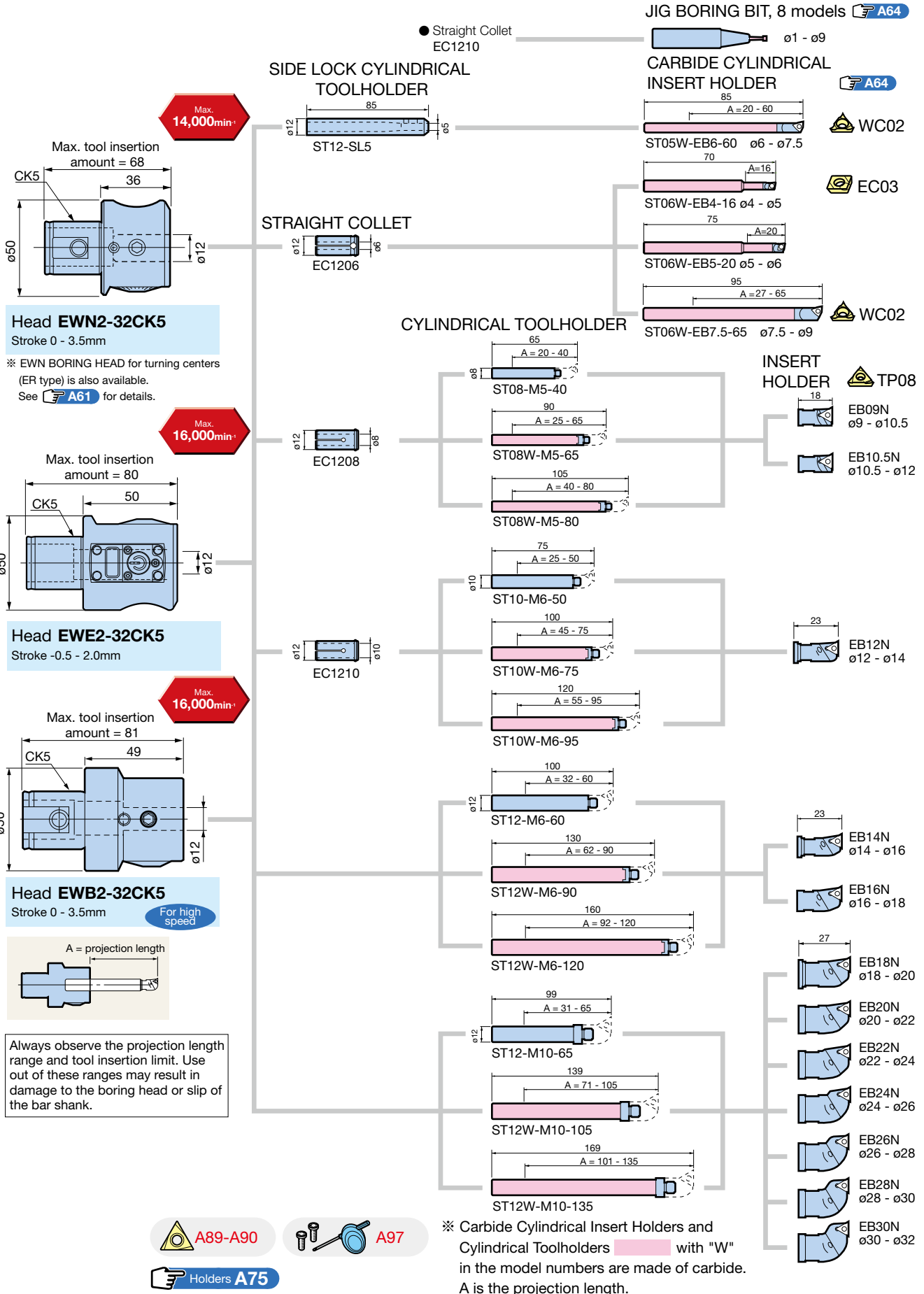
Diameter: $\phi 1 - \phi 32$

CK BORING SYSTEM

Center through

EWN2-32/EWE2-32/EWB2-32 (cylindrical tool series for finishing)

Flexible tool layout with versatile CK5 type.



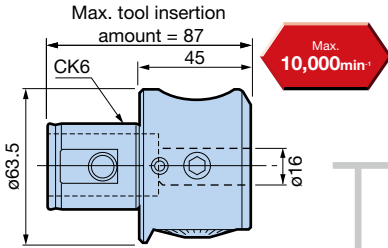
A89-A90
A97
Holders A75

EWN2-50/EWE2-54/EWB2-50 (cylindrical tool series for finishing)

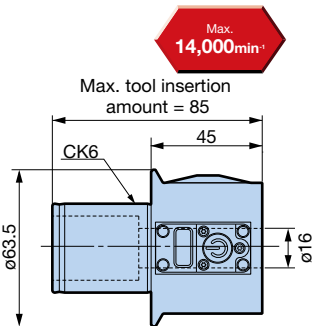
Features abundant range of tools capable of small-diameter deep boring.



CK BORING SYSTEM

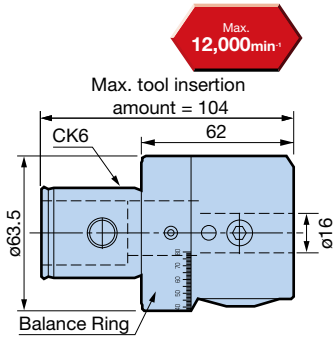


Head EWN2-50CK6
Stroke 0 - 4.5mm



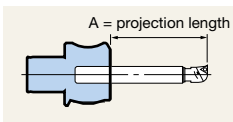
Head EWE2-54CK6
Stroke -0.5 - 2.5mm

※ Center through coolant pressure should not exceed 4MPa.

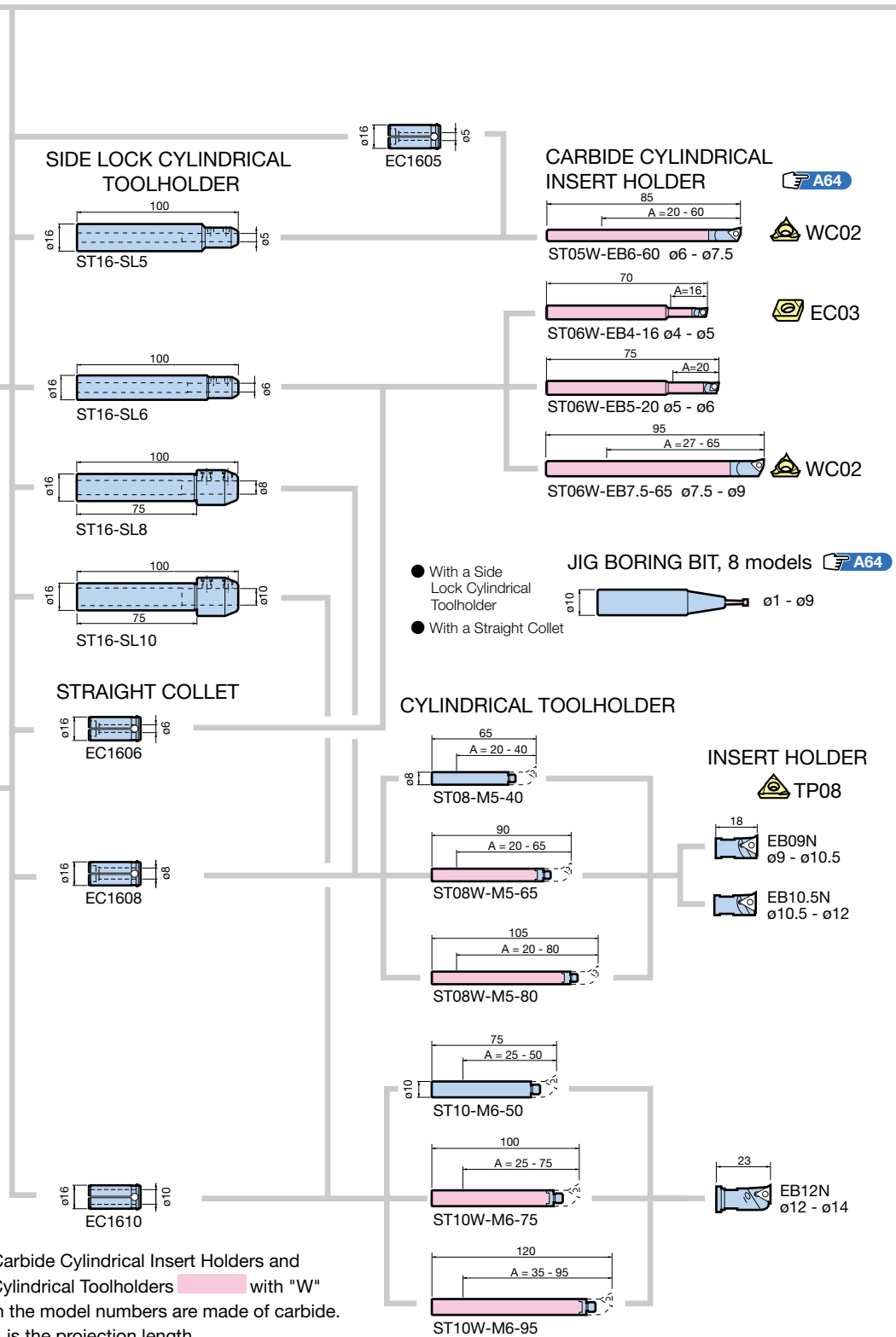


Head EWB2-50CK6
Stroke 0 - 4.5mm

For high speed



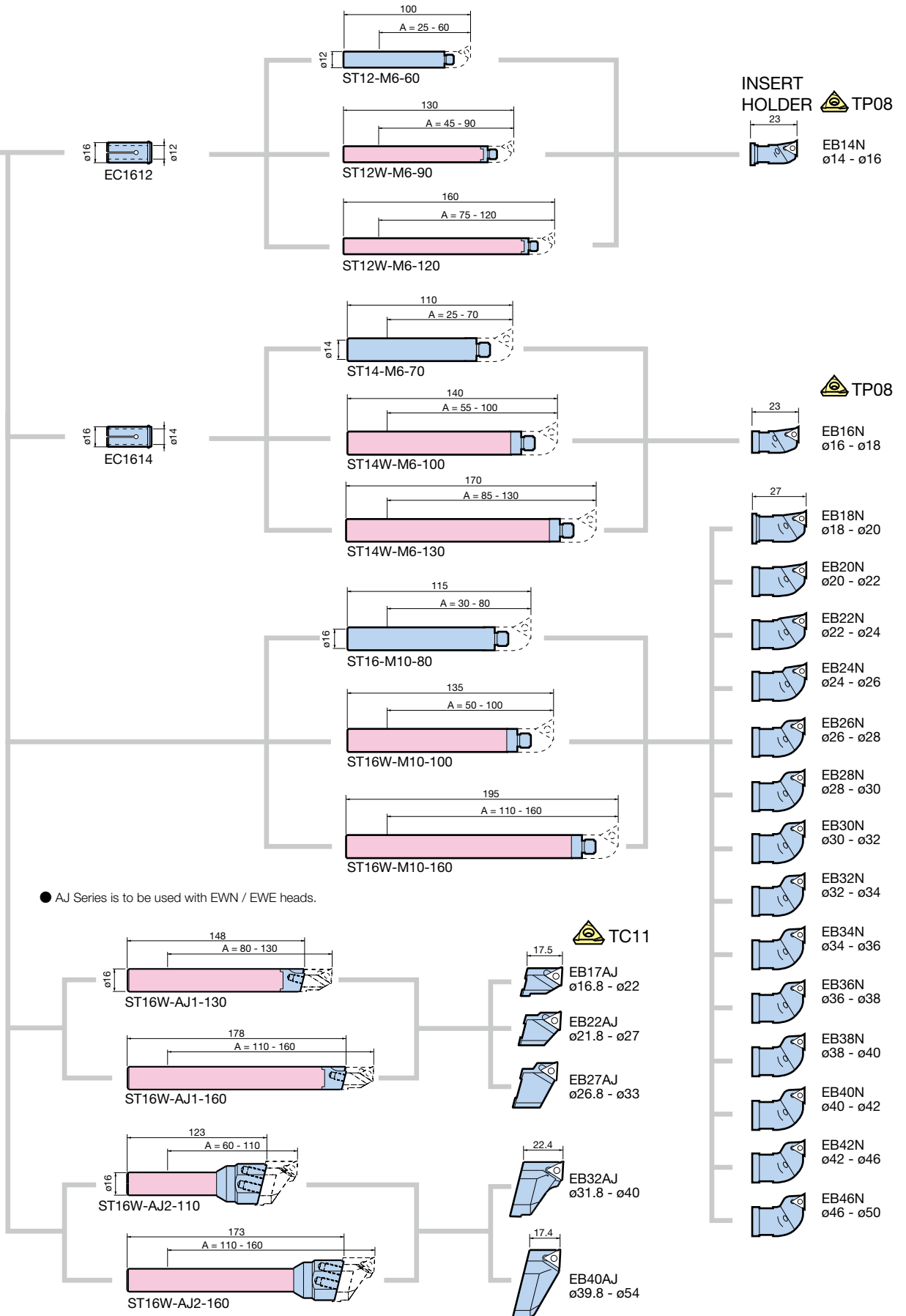
Always observe the projection length range and tool insertion limit. Use out of these ranges may result in damage to the boring head or slip of the bar shank.



※ Carbide Cylindrical Insert Holders and Cylindrical Toolholders with "W" in the model numbers are made of carbide. A is the projection length.



CK BORING SYSTEM

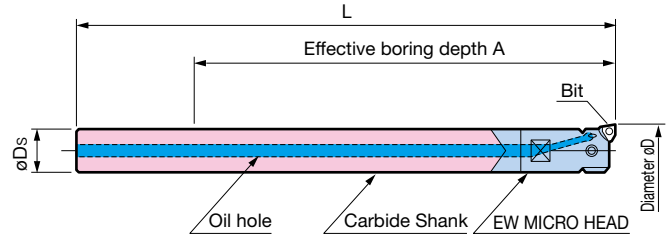


EW MICRO HEAD

With Carbide Shank

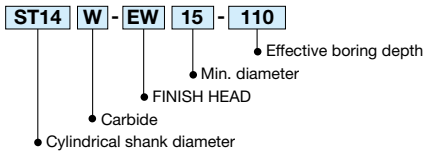
Smaller head while maintaining popular $\phi 0.01\text{mm/div.}$ adjusting mechanism.

- Adjustment with only micro-quill eccentricity preserves high speed capability.
- The solid carbide cylindrical shank allows high-rigidity boring.



is made of carbide.

● Model Description



Model	ϕD_s	Diameter ϕD	L	A	Bit Model	Insert	Insert Clamping Screw Set	Weight (kg)
ST14W-EW15-110	14	15 - 18	151	110	EN15	WC02	S2S-B	0.10
-140			181	140				0.29
ST16W-EW18-100	16	18 - 22	144	100				0.28
-160			204	160				0.43

1. The carbide shank and micro head are integrated and cannot be sold separately.
2. Inserts must be ordered separately.

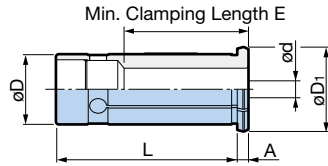


Caution -

The maximum boring depth differs depending on the workpiece material.

CK BORING SYSTEM

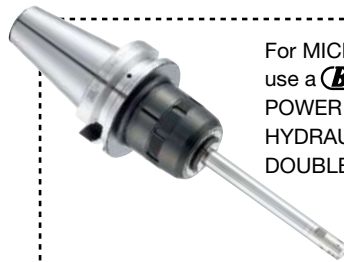
For NEW HI-POWER MILLING CHUCKS Straight Collet



Model	ϕd	ϕD	ϕD_1	A	L	E	Body Model
C20-14	14	20	25	4	60	40	HMC20
-16	16					46	
C25-14	14	25	30	4	68.5	45	HMC25
-16	16					46	
C32-14	14	32	37	5.5	74	40	HMC32
-16	16					46	
-19	19					50	
-22	22					52	
-24	24					55	
C42-16	16	42	48	7	89	46	HMC42
-31	31					62	

1. Use Straight Collet with BIG NEW HI-POWER MILLING CHUCK.

The Oil Hole Straight Collet (OCA) below is required for use with center through coolant.

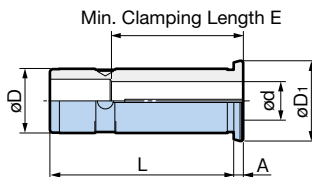


For MICRO HEAD chucking, use a **BIG** NEW HI-POWER MILLING CHUCK, HYDRAULIC CHUCK or MEGA DOUBLE POWER CHUCK.

Oil Hole Straight Collet



● For center through coolant.



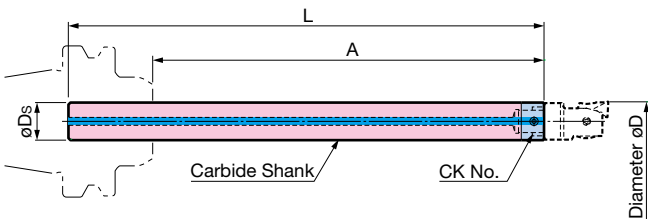
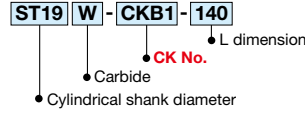
Model	ϕd	ϕD	ϕD_1	A	L	E	Body Model
OCA20-14	14	20	25	3	58	42	HMC20
-16	16					52	
OCA25-14	14	25	30	3.5	68	44	HMC25
-16	16					52	
OCA32-14	14	32	37	4.5	75	48	HMC32
-16	16					52	
-19	19			52			
-22	22			52			
-24	24			52			
-28	28	52					
OCA42-16	16	42	48	4.5	75	52	HMC42
-19	19					52	
-24	24			55			
-31	31			58			

CK Carbide Cylindrical Shank

- The solid carbide bar realizes efficient deep hole boring which was conventionally impossible.



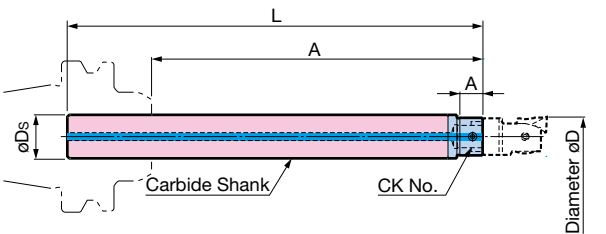
Model Description



Model	CK No.	ϕD_s	Diameter ϕD	L	A	Weight (kg)
ST19W-CKB1-140	CK1	19	20 - 36	140	97	0.5
				190	147	0.7
				240	197	0.9
ST24W-CKB2-160	CK2	24	25 - 47	160	114	0.9
				220	174	1.3
				290	244	1.7
ST31W-CKB3-200	CK3	31	32 - 60	200	144	1.8
				280	224	2.6
				350	294	3.3

- The A dimension in the table is the reference value when used with Hydraulic Chuck.
- Head and inserts are not included.

Stepped type



is made of carbide.

Model	CK No.	ϕD_s	Diameter ϕD	L	A	Weight (kg)
ST22W-CKB1-210	CK1	22	20 - 22	210	12	1.1
			22 - 36		167	
ST28W-CKB2-245	CK2	28	25 - 28	245	19	1.9
			28 - 47		199	

- The A dimension in the table is the reference value when used with Hydraulic Chuck.
- Head and inserts are not included.

For boring heads, refer to the Roughing and Finishing pages.

Caution - The maximum boring depth differs depending on the workpiece material.

For Carbide Cylindrical Shanks
HYDRAULIC CHUCK

- Designed for short projection length and large insertion depth. Hydraulics increase the damping effect.



[BBT Type]



● Model Description

- BBT40** - **HDC** **19** - **75**
- L dimension
 - Clamping diameter
 - HYDRAULIC CHUCK
 - BIG-PLUS BT No.

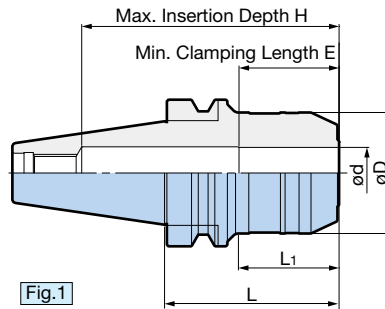


Fig.1

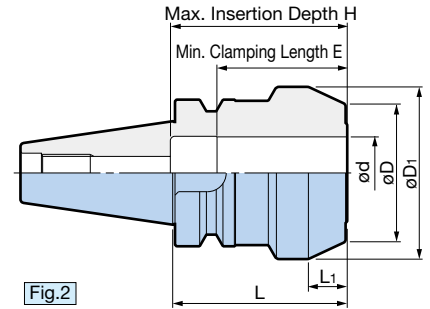


Fig.2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Model	Fig.	ød	øD	øD ₁	L	L ₁	H	E	Weight (kg)
BBT40-HDC19-75	1	19	49.5	-	75	43	111	43	1.4
-HDC22-75		22	52			44.5	110		1.5
-HDC24-75		24	63			47	104		1.6
-HDC28-75	2	28	56	71	75	16	93	45	1.8
-HDC31-75		31	59	74		16	76	56	1.8
BBT50-HDC19L-90	1	19	49.5	-	90	45	149	43	4.2
-HDC22L-90		22	52			45	149		4.2
-HDC24L-90		24	63			41	149		4.5
-HDC28L-90		28	69			44	148	4.5	
-HDC31L-90		31	72			45	147	56	4.5

1. Adjusting Screw cannot be used.

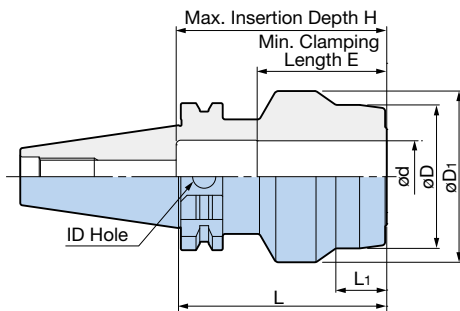
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. **G25**



Caution

- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[BDV Type]



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

Model	ød	øD	øD ₁	L	L ₁	H	E	Weight (kg)
BDV40-HDC31-90	31	62	74	90	22	91	56	1.9

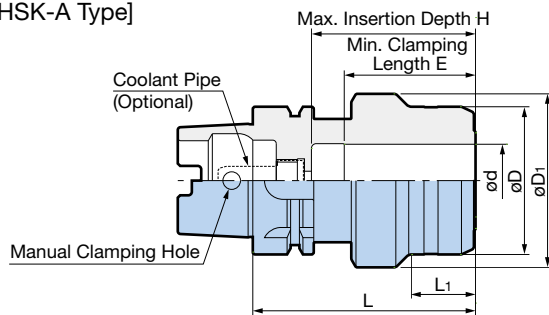
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. **G25**



Caution

- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[HSK-A Type]



Model	ød	øD	øD ₁	L	L ₁	H	E	Weight (kg)
HSK-A63-HDC31-95	31	63	74	95	27	70	56	1.7

- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. **G25**



Caution

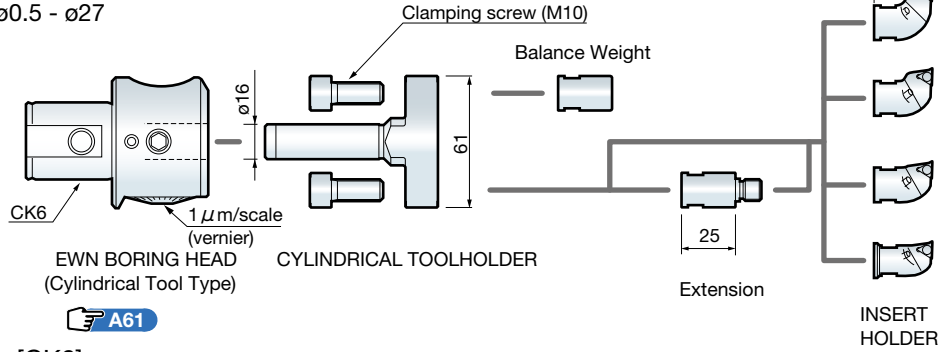
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

PIN TURNING SERIES

Solves all the issues in contouring operations, such as roundness, surface roughness and dimensional accuracy.

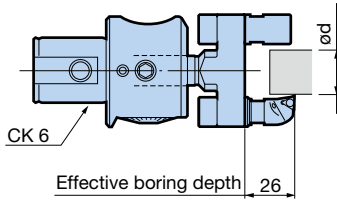


S Type Diameter: $\phi 0.5 - \phi 27$



A61

[CK6]



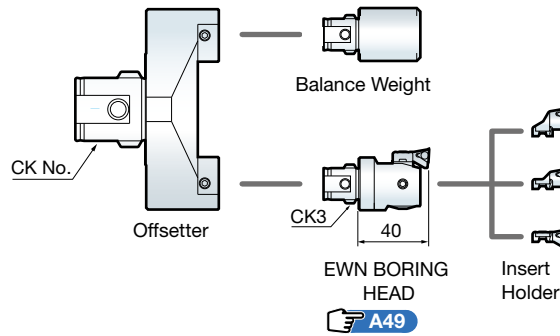
Diameter ød	EWN BORING HEAD	CYLINDRICAL TOOLHOLDER	Balance Weight	Extension	INSERT HOLDER	Insert
0.5 - 9	EWN2-50CK6 (1.1kg)	ST16-SL27-55 (0.2kg)	BW-M10 (0.02kg)	M1010-25 (0.02kg)	EB36N	TP08
9 - 17					EB28N	
17 - 23					EB22N	
23 - 27					EB18N	

1. Max. and min. diameters are the values when an insert with nose radius 0.2 is used.
2. Inserts must be ordered separately.
3. **Rotation should be reverse.**
4. The min. access bore may differ depending on the offset amount.
5. Contact us regarding chamfering.



Holdings A75

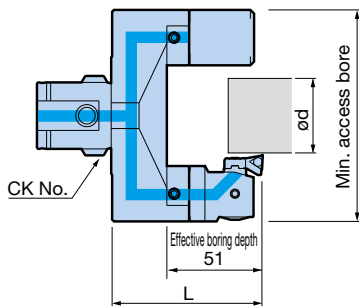
M Type Diameter: $\phi 25 - \phi 152$



A49



[CK6/CK7]



Diameter ød	Offsetting	CK No.	EWN BORING HEAD	Balance Weight	Insert Holder	Insert	L	
25 - 34	CKB63-SL 2552-42 (1.4kg)	CK6	EWN32-60CKB3 (0.21kg)	BW-CKB3-EWN (0.2kg)	ENH3-3	TP08	82	
34 - 43								Min. access bore $\phi 117$
43 - 52								Min. access bore $\phi 142$
50 - 59	CKB63-SL 5077-42 (1.6kg)	CK6						
59 - 68								Min. access bore $\phi 142$
68 - 77								Min. access bore $\phi 167$
75 - 84	CKB63-SL 75102-42 (1.9kg)	CK7						
84 - 93			Min. access bore $\phi 167$					
93 - 102			Min. access bore $\phi 192$					
100 - 109	CKB73-SL100127-47 (3.8kg)	CK7						
109 - 118			Min. access bore $\phi 192$					
118 - 127			Min. access bore $\phi 217$					
125 - 134	CKB73-SL125152-47 (4.2kg)	CK7						
134 - 143			Min. access bore $\phi 217$					
143 - 152			Min. access bore $\phi 217$					

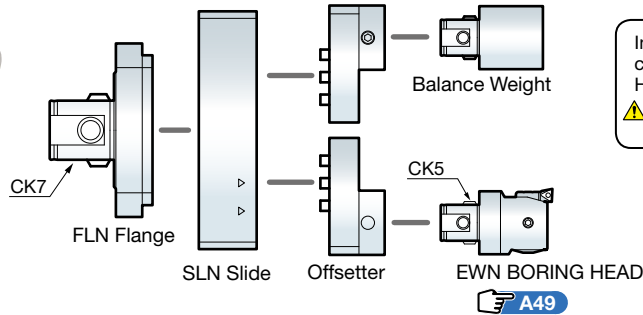
Internal boring is enabled by changing the EWN BORING HEAD mounting direction.
(Diameter: $\phi 117 - \phi 244$)
* Use **in forward** for internal boring.
Pay attention to the rotation direction.

1. Max. and min. diameters are the values when an insert with nose radius 0.2 is used.
2. Inserts must be ordered separately.
3. Insert Holder (**ENH3-1**) is included with the EWN Boring Head.
4. **Rotation should be reverse.**
5. Contact us regarding chamfering.



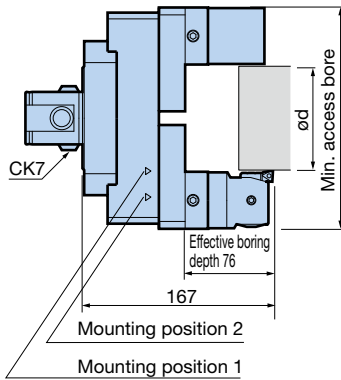
Holdings A75

L Type Diameter: $\phi 49 - \phi 686$



Internal boring is enabled by changing the EWN BORING HEAD mounting direction.
 ⚠️ 1. Use in **forward** for internal boring. Pay attention to the rotation direction.

A49



[CK7]

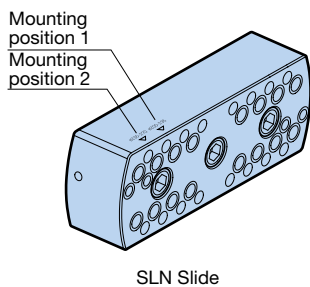
Diameter ϕ	FLN Flange ※	SLN Slide		Min. access bore		Offsetter (2 pcs./set)	EWN BORING HEAD	Balance Weight
		Model	Weight (kg)	Mounting position 1	Mounting position 2			
49 - 126	FLN135/ FLN135/90 (2.76kg)	SLN200-270	3.8	196	231	CBN91- CKB5-20 (1.2kg/1 pc)	EWN53- 95CKB5 (1.1kg) Insert TC11	BW-CKB5- EWN (0.9kg)
119 - 196		SLN270-340	5.5	266	301			
189 - 266		SLN340-410	7.2	336	371			
259 - 336		SLN410-480	8.9	406	441			
329 - 406	FLN220/ FLN220/90 (4.0kg)	SLN480-550	10.6	476	511			
399 - 476		SLN550-620	12.3	546	581			
469 - 546		SLN620-690	14.0	616	651			
539 - 616		SLN690-760	15.7	686	721			
609 - 686		SLN760-830	17.4	756	791			

1. Inserts must be ordered separately.
2. Insert Holder (ENH5-1) is included with EWN Boring Head. ENH5-2 or ENH5-3 may be required depending on the diameter. Order separately if required.
3. ※ Cutting edge and drive keys are aligned in the same direction. It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.
4. **Rotation should be reverse.**
5. Lightweight aluminum slides are also available as standard.
6. Center through coolant supply. (SLN550-620 and larger models are not supported.)



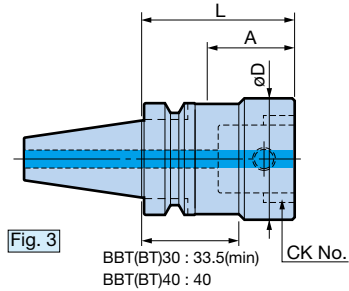
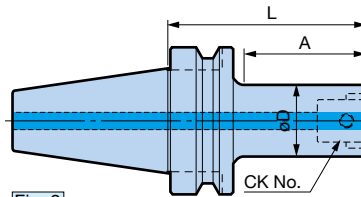
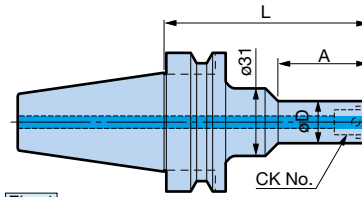
A75 Holders

Boring range



Diameter ϕ	Slide Model	Mounting position	Insert Holder		
			ENH5-3	ENH5-2	ENH5-1
49 - 126	SLN200-270	1	49 - 66	62 - 79	74 - 91
		2	84 - 101	97 - 114	109 - 126
119 - 196	SLN270-340	1	119 - 136	132 - 149	144 - 161
		2	154 - 171	167 - 184	179 - 196
189 - 266	SLN340-410	1	189 - 206	202 - 219	214 - 231
		2	224 - 241	237 - 254	249 - 266
259 - 336	SLN410-480	1	259 - 276	272 - 289	284 - 301
		2	294 - 311	307 - 324	319 - 336
329 - 406	SLN480-550	1	329 - 346	342 - 359	354 - 371
		2	364 - 381	377 - 394	389 - 406
399 - 476	SLN550-620	1	399 - 416	412 - 429	424 - 441
		2	434 - 451	447 - 464	459 - 476
469 - 546	SLN620-690	1	469 - 486	482 - 499	494 - 511
		2	504 - 521	517 - 534	529 - 546
539 - 616	SLN690-760	1	539 - 556	552 - 569	564 - 581
		2	574 - 591	587 - 604	599 - 616
609 - 686	SLN760-830	1	609 - 626	622 - 639	634 - 651
		2	644 - 661	657 - 674	669 - 686

CK SHANK



- Model Description
- BBT30** - **CKB1** - **72**
- CK No.
- L dimension
- BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	CK No.	øD	L	A	Weight (kg)
BBT30-CKB1- 72	BT30-CKB1-72	1	CK1	19	72	40	0.51
-CKB2- 38	-CKB2-38		2	CK2	24	37.5	11
- 83	-83	CK3		31	82.5	55	0.57
-CKB3- 39	-CKB3-39	CK4		39	39	13	0.45
- 79	-79	CK5		50	79	52	0.67
-CKB4- 38	-CKB4-38	3	CK6	38	73	48	0.78
- 73	-73		CK1	64	64	(41)	0.80
-CKB5- 63	-CKB5-63	3	CK2	64	64	(42)	0.93
-CKB6- 64	-CKB6-64		2	CK1	19	72	40
-CKB2- 43	-CKB2-43	CK2		24	42.5	10.5	1.0
- 83	-83	31		CK3	82.5	50.5	1.2
-CKB3- 44	-CKB3-44				44	12	1.1
- 94	-94				94	62	1.3
-124	-				124	92	1.5
-CKB4- 43	-CKB4-43	39		CK4	43	11	1.2
- 88	-88				88	56	1.5
-118	-				118	86	1.8
-148	-				148	116	2.1
-CKB5- 48	-CKB5-48	50		CK5	48	16	1.2
- 78	-78				78	46	1.6
-108	-		108		76	2.1	
-138	-		138		106	2.5	
-CKB6- 64	-CKB6-64	3	CK6	64	(37)	1.6	
- 64/90 ※	-			94	(67)	2.3	
- 94	-			124	(97)	3.1	
-124	-						

The “-” in the shank model indicates it is unavailable as standard and a BBT shank should be used.

- Cutting edges and drive keys are aligned with boring heads mounted.
- Head and inserts must be ordered separately.
- ※ marked models have cutting edge and drive key offset by 90°.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	CK No.	øD	L	A	Weight (kg)
BBT50-CKB1-102	BT50-CKB1-102	1	CK1	19	102	39	4.0
-CKB2- 53	-CKB2- 53		CK2	24	52.5	9	3.8
-113	-113				112.5	69	4.0
-CKB3- 54	-CKB3- 54		CK3	31	54	11	3.9
-124	-124				124	81	4.2
-154	-				154	111	4.3
-CKB4- 58	-CKB4- 58		CK4	39	58	15	4.3
-118	-118				118	75	4.5
-178	-178				178	135	4.9
-208	-				208	165	5.1
-CKB5- 63	-CKB5- 63				CK5	50	63
-108	-108		108	65			4.7
-183	-183		183	140			5.9
-228	-228		228	185			6.5
-263	-		263	220			7.0
-CKB6- 94	-CKB6- 94		CK6	64	94	51	4.8
-169	-169				169	126	6.7
-229	-229				229	186	8.2
-289	-				289	246	9.7
-CKB7- 93	-CKB7- 93				CK7	90	93
-183	-183		183	142			9.9
-243	-243	243	202	12.7			

The “-” in the shank model indicates it is unavailable as standard and a BBT shank should be used.

- Cutting edges and drive keys are aligned with boring heads mounted.
- Head and inserts must be ordered separately.

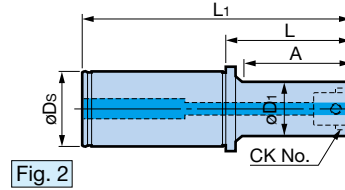
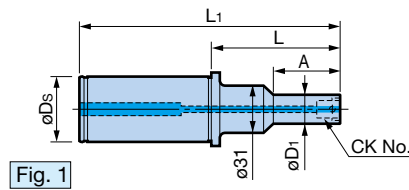
Heads **A39**

CK Cylindrical Shank

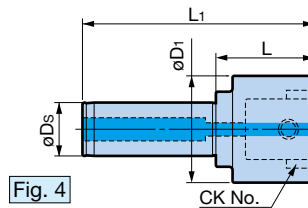
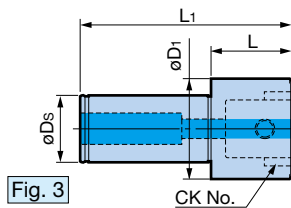


● Model Description

ST32 - **CKB1** - **77**
 ● L dimension
 ● CK No.
 ● Cylindrical shank No.



Center through



Model	Fig.	CK No.	øD ₁	øD _s	L	L ₁	A	Weight (kg)
ST32-CKB1-77	1	CK1	19	32	77	157	41	0.7
-CKB2-73	2	CK2	24		72.5	152.5	64	0.7
-CKB3-69		CK3	31		69	149	63	0.8
-CKB4-58	3	CK4	39		58	138	(53)	0.9
-CKB5-48	4	CK5	50		48	128	(43)	0.9
-CKB6-59		CK6	64		59	139	(54)	1.5
ST42-CKB1-77	1	CK1	19	42	77	157	40	1.0
-CKB2-73	2	CK2	24		72.5	152.5	62	1.0
-CKB3-69		CK3	31		69	149	59	1.1
-CKB4-63	3	CK4	39		63	143	57	1.2
-CKB5-48	3	CK5	50		48	128	(43)	1.3
-CKB6-59	4	CK6	64		59	139	(54)	1.8

- Head and insert must be ordered separately.

Heads **A39**



For chucking

When using a cylindrical shank tool, we recommend

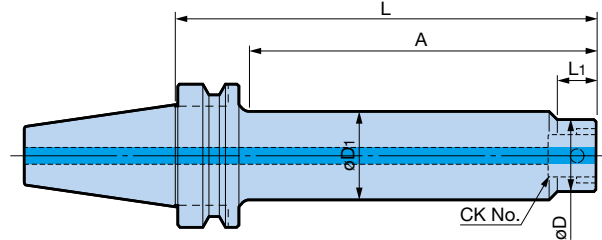


NEW Hi-POWER MILLING CHUCK
 for its high accuracy and rigidity.

For details, **A29**

CK Long Shank (rigid type)

- Long shank type for deeper boring.
A highly rigid type with larger shank diameter to avoid deflection.



● Model Description

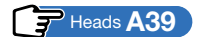
BBT50 - **CKB4** - **48** - **193**

- BIG-PLUS BT No.
- CK No.
- øD1 dimension
- L dimension

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	CK No.	Diameter	øD	øD ₁	L	L ₁	A	Weight (kg)
BBT50-CKB4-48-193	CK4	50 - 74	39	48	193	19	150	5.5
-238					238		195	6.1
-CKB5-62-243	CK5	65 - 95	50	62	243	24	200	8.1
-303					303		260	9.5
-CKB6-72-259	CK6	75 - 203	64	72	259	29	216	10.3
-314					314		271	12.0
-CKB6-80-289		85 - 203	80	289	246		12.9	
-349				349	306		15.2	

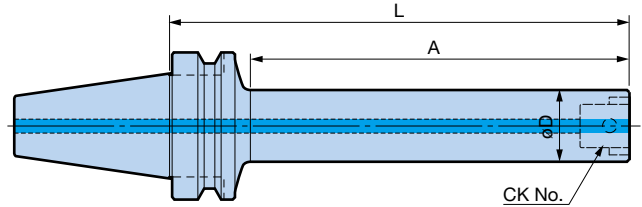
1. The diameter range is a reference value when using an EWN Boring Head. Note that due to interference with øD₁, this differs from the EWN range.
2. Cutting edges and drive keys are aligned with boring heads mounted.
3. Head and inserts must be ordered separately.



Built-in Damper **SMART DAMPER PAT.**

- Built-in damper eliminates chatter in deep hole boring.

[BBT Shank Type]



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	CK No.	øD	L	A	Weight (kg)
BBT50-CKB4DP-252	CK4	39	252	199	5.7
-CKB5DP-314	CK5	50	314	261	7.8
-CKB6DP-380	CK6	64	380	337	12.3

1. Cutting edges and drive keys are aligned with boring heads mounted.
2. Head and inserts must be ordered separately.
3. Extension should not be used due to possible chatter.

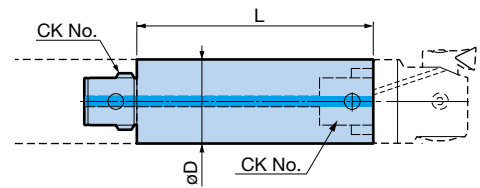
Heads **A49**



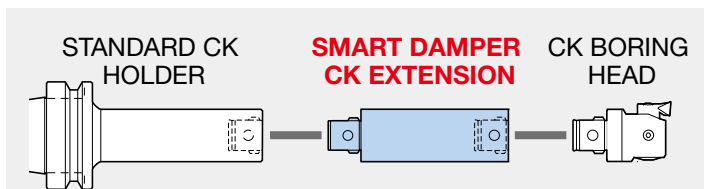
[Extension Type]



● Model Description
CKB44 DP - 120
 ● Extension length L
 ● Built-in damper type
 ● Connection of **CK4** and **CK4**



Standard CK holders can be used.



Model	CK No.	øD	L	Weight (kg)
CKB44DP-120	CK4	39	120	1.3
CKB55DP-150	CK5	50	150	2.6
CKB66DP-180	CK6	64	180	5.3

1. Center through coolant supply is available.
2. Should not be used with a conventional extension due to possible chatter.

Heads **A49**



SMART DAMPER
 integrated with boring head is also available.

EWN BORING HEAD **A51**

SW BORING HEAD PAT. **A41**

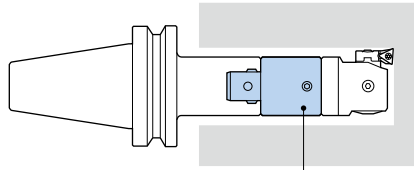
Extension

- Extends projection length by insertion between the head and shank.

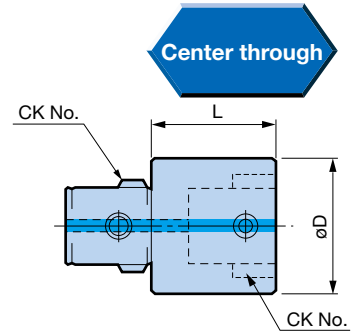
● Model Description

CKB11 - **20**

- Extension length
- Connection of **CK1** and **CK1**



Extension



Model	CK No.	øD	L	Weight (kg)
CKB11- 20	CK1	19	20	0.05
- 30			30	0.07
CKB22- 30	CK2	24	30	0.10
- 45			45	0.15
CKB33- 30	CK3	31	30	0.17
- 45			45	0.25
CKB44- 45	CK4	39	45	0.40
- 60			60	0.53
CKB55- 60	CK5	50	60	0.87
- 90			90	1.29
CKB66- 60	CK6	64	60	1.38
-100			100	2.31
CKB77-105	CK7	90	105	5.26

1. Center through coolant supply is available.

2. Note that using an extension to increase the length may cause chatter, depending on the L/D ratio.

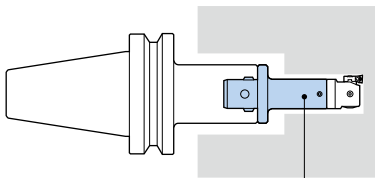
Reduction

- Reduces CK connection sizes to use smaller boring heads.

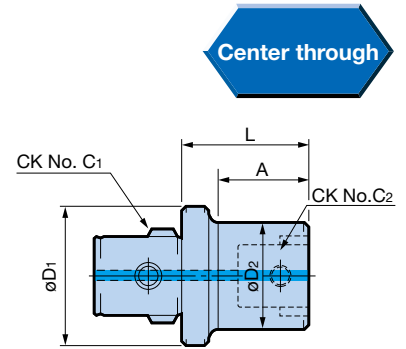
● Model Description

CKB21 - **36**

- L dimension
- Reduced from **CK2** to **CK1**



Reduction

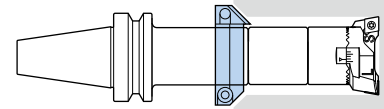


Model	CK No. C ₁	CK No. C ₂	øD ₁	øD ₂	L	A	Weight (kg)
CKB21- 36	CK2	CK1	24	19	36	27	0.10
CKB31- 41	CK3				CK2	31	24
CKB32- 35		CK4	CK3	39			
CKB41- 58	CK5				CK1	50	19
CKB42- 52		CK2	CK2	39			
CKB43- 47	CK3				CK3	50	19
CKB51- 58		CK4	CK1	64			
CKB52- 52	CK5				CK2	50	24
- 82		CK3	CK3	64			
CKB53- 47	CK4				CK4	90	31
- 77		CK5	CK5	106			
CKB54- 40	CK6				CK4	90	39
- 70		CK7	CK5	106			
CKB61- 67	CK1				CK1	64	19
CKB62- 61		CK2	CK2	90			
- 96	CK3				CK3	106	31
CKB63- 56		CK4	CK3	90			
- 91	CK5				CK4	106	39
CKB64- 49		CK6	CK4	106			
- 84	CK7				CK5	106	50
CKB65- 39		CK1	CK5	90			
- 74	CK2				CK6	106	64
CKB76-106		CK7	CK6	90			

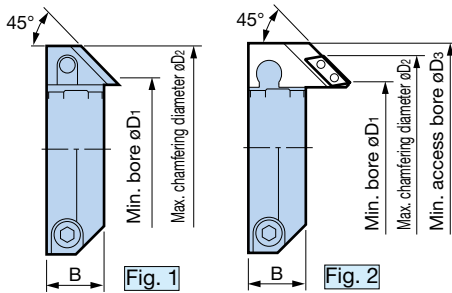
1. Center through coolant supply is available.

CK Chamfering Tool

- Mount to the CK Shank body for easy composite chamfering and boring.



- Model Description
- CR** **1** - **35**
- Max. chamfering diameter
- **CK No.**
- Chamfering ring

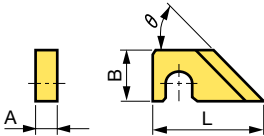


Model	CK No.	Blade Model	Fig.	ϕD_1	ϕD_2	ϕD_3	B	Weight (kg)
CR1- 35	CK1	CB1-45	1	20	35	-	13	0.06
CR2- 42	CK2			25	42			0.08
CR3- 49	CK3			32	49			0.10
CR4- 57	CK4			41	57			0.12
CR5- 90	CK5	CB2-45	1	53	90	-	15	0.55
		CB2-45CW12A	2	55	75	88		
		CB2-45CW12B		70	90	97		
CR6-104	CK6	CB2-45	1	68	104	-	25	0.67
		CB2-45CW12A	2	69	89	100		
		CB2-45CW12B		84	104	111		
-138	CK6	CB2-45	1	98	138	-	25	1.80
		CB2-45CW12A	2	103	123	135		
		CB2-45CW12B		118	138	145		
-160	CK6	CB2-45	1	120	160	-	25	2.50
		CB2-45CW12A	2	125	145	157		
		CB2-45CW12B		140	160	167		

1. A 45° blade (carbide integrated type) is included with the CK Chamfering Tool.
2. Specify the blade model number when spare blades are required.

Blade

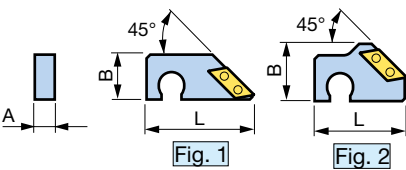
[Carbide Integrated Type]



Model	L	A	B	θ	Tool
CB1-45	23.5	4	9	45°	CR1 - 4
CB2-45	43	8	20		CR5 - 6
CB1-30	27.5	4	9	30°	CR1 - 4
CB2-30	52	8	20		CR5 - 6

Tip material is M-class carbide.

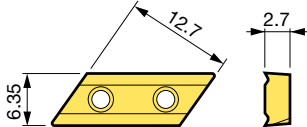
[Insert Type] (optional accessory)



Model	Fig.	L	A	B	Insert Model	Tool
CB2-45CW12A	1	43	8	18	CW1206A	CR5 - 6
CB2-45CW12B	2	36		22.5		

1. A wrench and screws are included. Inserts must be ordered separately.

· Insert (optional accessory)



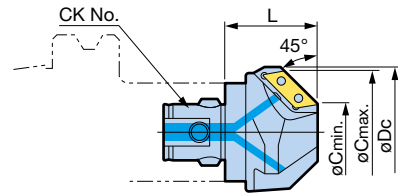
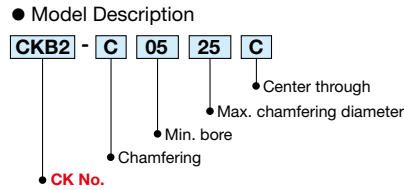
Model		
Non-coating	ZX Coating	DLC Coating
CW1206A	CW1206A(ZX)	CW1206A(DLC)

1. Insert is available from 1 pc.
- ※ For details about 10-piece insert sets and coating, see **A81**.



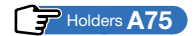
C-Cutter

- Covers a wide range of chamfering diameters and reduces the number of tools and ATC required.

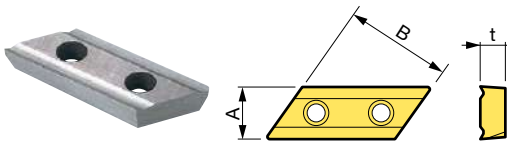


Model	CK No.	Min. bore øCmin.	Max. chamfer diameter øCmax.	Outer Diameter øDc	L	Number of inserts	Insert	Clamping Screw Set	Weight (kg)
CKB2-C0525C	CK2	5	25	28.5	25	1	CW1206A	S2S-B	0.08
CKB4-C1040C	CK4	10	40	45	35	2	CW1909A	S3S	0.27
CKB5-C3060C	CK5	30	60	65	40	3			0.70
CKB6-C50100C	CK6	50	100	106	65	3	CW3115A	S5S	2.80

1. Inserts must be ordered separately.
2. Insert wrench and screws are included.
3. The screw set (optional) contains 10 insert clamp screws and 1 wrench.



For C-Cutter
■ Insert (optional accessory)



1 pcs

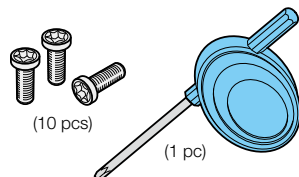
Model			A	B	t
Non-coating	ZX Coating	DLC Coating			
CW1206A	CW1206A(ZX)	CW1206A(DLC)	6.35	12.7	2.7
CW1909A	CW1909A(ZX)	CW1909A(DLC)	9.525	19.05	4.5
CW3115A	CW3115A(ZX)	CW3115A(DLC)	15.875	31.75	7.0

10 pcs

Model		A	B	t
Non-coating	ZX Coating			
CW1206A-10P	CW1206A(ZX)-10P	6.35	12.7	2.7
CW1909A-10P	CW1909A(ZX)-10P	9.525	19.05	4.5
CW3115A-10P	CW3115A(ZX)-10P	15.875	31.75	7.0

Non-coating	Adopts P30-equivalent carbide material with emphasis on toughness for versatile use with materials from steel to aluminum.
ZX Coating	TiN and AlN multilayer coating increases speeds and extends insert life in chamfering of steel or cast iron.
DLC Coating	The exclusive substrate is treated with a thin DLC coating to prevent welding during aluminum machining. It retains sharpness and achieves a clean surface finish.

<Insert Clamping Screw Set>



Insert	Set Model	Wrench
CW1206A	S2S-B	FLR-13S
CW1909A	S3S	FLR-20S
CW3115A	S5S	FLR-28S

1. The set contains 10 screws and 1 wrench.
- ※ Wrenches are also available separately.

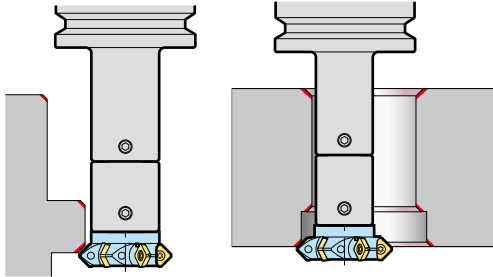
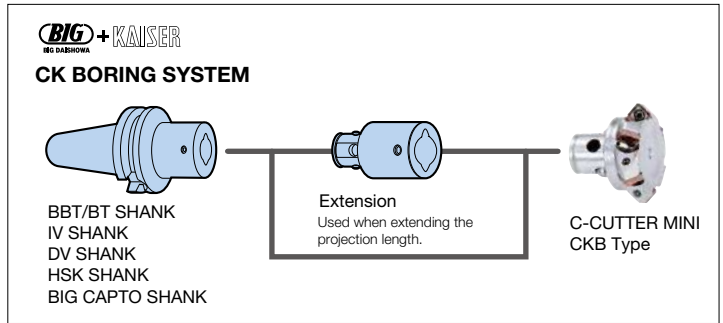
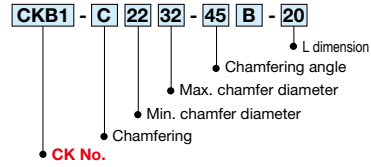
Chamfering Tool

C-CUTTER MINI (Front and back chamfering)

- Modular system allows front and back chamfering of deep holes.

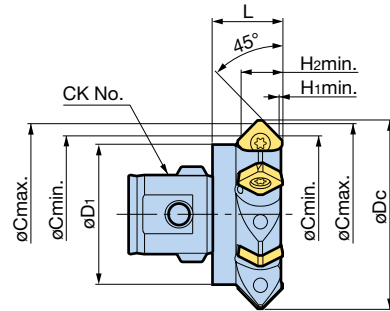


● Model Description



Front and back chamfering of grooves and steps located at a distance.

Front and back chamfering of deep holes



Front and back chamfering

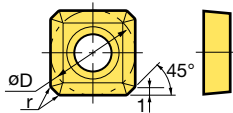
Model	CK No.	Face Mill Cutter	øDc	øD1	L	Chamfering diameter		H1min.	H2min.	Insert Model	Number of inserts	Weight (kg)
						øCmin.	øCmax.					
CKB1-C2232-45B-20	CK1	○	32.7	19	20	22	32	0.3	12.4	CM10...	4	0.05
CKB3-C3242-45B-20	CK3		42.7	31		32	42					0.14
-C5262-45B-20			62.7	31		52	62					0.24
CKB4-C4252-45B-20	CK4		52.7	39		42	52					0.24
CKB5-C5262-45B-20	CK5		62.7	51		52	62					0.40

1. A wrench and screws are included. Inserts must be ordered separately.
2. In case of chatter in plunge cutting, it is recommended to reduce the number of insert to 1 or 2 pcs.

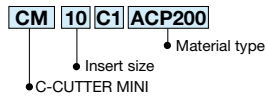


For C-CUTTER MINI

■ Insert (optional accessory)



● Model Description



Suffix **SE** model designates a sharp cutting edge insert.

Model	Inscribed circle øD	r	Insert grade				Insert Clamping Screw Set Model
			ACP200	ACM250F	NF15KA NEW	DS20	
CM10C1	10	0.2	○	○	○	○	S4S-T15
CM10C1SE			○	-	-	-	

1. Inserts are in packets of 10 pcs. Please specify the insert model number and grade when ordering.
Example: **CM10C1 ACP200.....10 Pcs**
2. The insert clamping screw set contains 10 screws and 1 wrench.
3. Insert Clamp Screws and tightening wrench are consumables. Order periodically for replacement or spares.

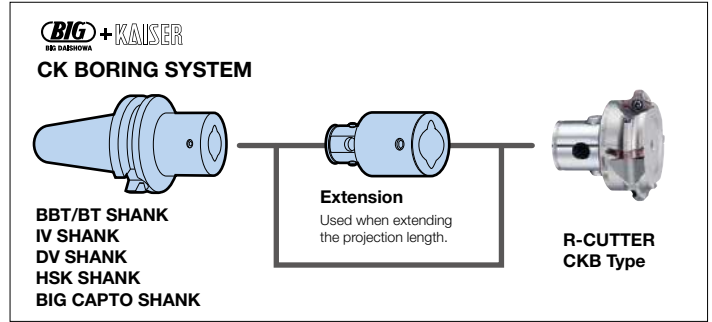
Insert Grade Description

ACP200	ACM250F	NF15KA NEW	DS20
for Steel/Cast Iron	for Stainless Steel	For cast iron	for Aluminum/Non-Ferrous Metal
PVD-coated carbide with superior wear resistance due to its nanometer-level thickness ultra-multilayered TiAlN and AlCrN film.	PVD-coated carbide with excellent smoothness and resistance to welding and chipping, due to the ultra-multilayered thin film structure made of AlTiN and TiAlCrN.	New carbide substrate with drastically improved toughness while maintaining high hardness. This non-coated carbide provides both high wear and chipping resistance.	DLC-coated carbide exclusive for aluminum and non-ferrous metals, ultra-smooth with a low wear coefficient and superior welding resistance.

R-CUTTER

R-CUTTER PAT. (Front & Back Chamfering)

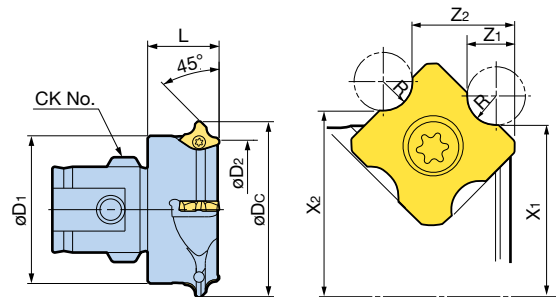
- Automated rounded chamfering.



● Model Description

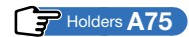
CKB3 - RC 06 4 B - 15

- CK No.
- R-CUTTER
- Compatible insert size
- Number of flutes
- Double chamfering
- Projection length (L)



Model	CK No.	øDc	øD1	øD2	L	Number of flutes	R	X ₁	Z ₁	X ₂	Z ₂	Insert Model	Weight (kg)
CKB3-RC064B-15	CK3	37	31	29.2	15	4	0.5	15.86	1.93	16.56	5.78	RC06...	0.12
							1	15.61	2.18	16.31	5.53		
							1.5	15.36	2.43	16.06	5.28		
							2	15.11	2.68	15.81	5.03		
CKB5-RC124B-25	CK5	62	50	46.3	25	4	1	25.81	3.79	27.22	11.63	RC12...	0.50
							2	25.31	4.29	26.72	11.13		
							3	24.80	4.79	26.21	10.63		
							4	24.30	5.29	25.71	10.13		

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.
3. Values in the table are reference only. Measure accurate values with a presetter.



For R-CUTTER

Insert (Optional Accessory)



Uses 4 corners

● Model Description

RC 06 050 (ACP300)

- R-CUTTER
- Insert size
- R Size
- Grade

Type	Insert Model	R Size	Insert Clamping Screw Set Model
RC06	RC06050 (ACP300)	R0.5	S2TS-T6
	RC06100 (ACP300)	R1.0	
	RC06150 (ACP300)	R1.5	
	RC06200 (ACP300)	R2.0	
RC12	RC12100 (ACP300)	R1.0	S4S-T15
	RC12200 (ACP300)	R2.0	
	RC12300 (ACP300)	R3.0	
	RC12400 (ACP300)	R4.0	

1. Inserts are available in packets of 10 pcs.
2. Insert is coated carbide.
3. The insert clamping screw set contains 10 screws and 1 wrench.
4. Insert clamp screws and tightening wrench are consumables. Order periodically for replacement or spares.

Insert set in a packet of 2 pcs. is also available. Please add **-2P** before each model number when ordering.
Example: **RC06050-2P(ACP300)**

CK NEW Hi-POWER MILLING CHUCK



Model	CK No.	Clamping diameter	L	Nut outer diameter	FK Wrench Model	MEGA WRENCH Model	Weight (kg)
CKB5-HMC20S ※	CK5	ø20	57	50	FK45-50L	MGR50L	0.8
CKB6-HMC20 ※	CK6	ø20	56	60	FK58-62	MGR60L	1.3
CKB7-HMC32	CK7	ø32	102	80	FK80-90	MGR80L	4.1

1. FK Wrench is included.

MEGA WRENCH can also be used. (order separately)

● ※ marked models are not compatible with some Straight Collets. Compatibility Table **G23**

CK Boring Adapter



· BSA Type



· BSB Type

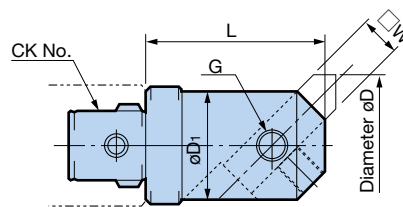


Fig. 1 BSA Type

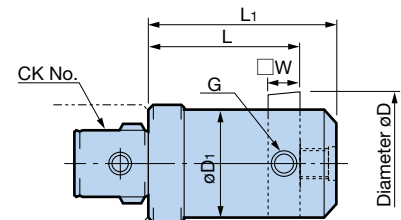
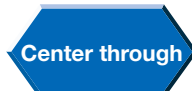


Fig. 2 BSB Type

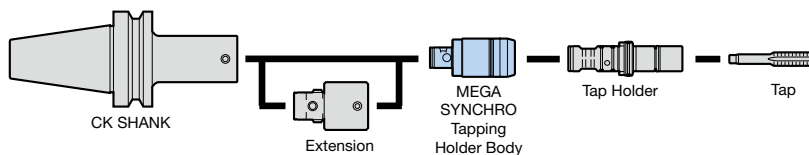
øD	Fig.	Model	CK No.	L	L ₁	øD ₁	G	□ W
25 - 38	1	CKB1-BSA 25- 33	CK1	32	-	19	M 6	8
30 - 42		CKB2-BSA 30- 37.5	CK2	35.9		24		
38 - 52		CKB3-BSA 38- 56	CK3	53.4		30	M 8	10
50 - 65		CKB4-BSA 50- 62	CK4	59		39		
62 - 90		CKB5-BSA 62- 72	CK5	70		50	M 10	16
90 - 125		CKB6-BSA 90-101	CK6	97		75		
105 - 160		CKB7-BSA105-132	CK7	129		90	M 12	25
20 - 40	2	CKB1-BSB 20- 33	CK1	33	43	17	M 6	6
25 - 52		CKB2-BSB 25- 37.5	CK2	37.5	52.5	20		
38 - 70		CKB3-BSB 38- 41	CK3	41	56	30	M 10	10
50 - 90		CKB4-BSB 50- 47	CK4	47	62	39		
62 - 115		CKB5-BSB 62- 57	CK5	57	72	50	M 10	16
90 - 150		CKB6-BSB 90- 71	CK6	71	86	75		
105 - 190		CKB7-BSB105-117	CK7	117	132	90	M 12	25

1. Boring bit is not included. Please use commercial products.

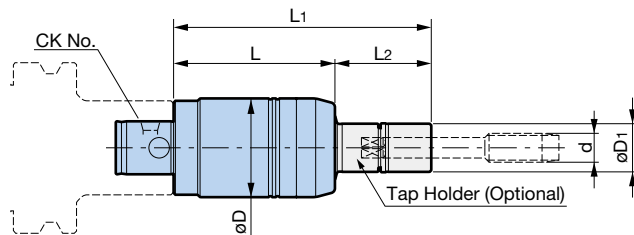
MEGA SYNCHRO TAPPING HOLDER PAT. Tapping range: M2 - M20



- Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.



- Model Description (Body)
CKB4 - **MGT6** - **62**
 ● CK No. ● MEGA SYNCHRO No. ● L dimension



Model	CK No.	Tap Holder Model	Tapping range d	øD	øD ₁	L	L ₁	L ₂	Body weight (kg)
CKB4-MGT 6-62	CK4	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	62	92	30	0.5
		- 70					132	70	
		-100					162	100	
		-150					212	150	
		-200					262	200	
CKB4-MGT12-67	CK4	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	67	97	30	0.6
		- 70					137	70	
		-100					167	100	
		-150					217	150	
		-200					267	200	
CKB5-MGT20-87	CK5	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	87	122	35	1.2
		- 85					172	85	
		-115					202	115	
		-150					237	150	

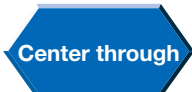
- MGT Set Screw is included.
- Tap holder must be ordered separately.

Cannot be used with machining center without synchronized tapping function.

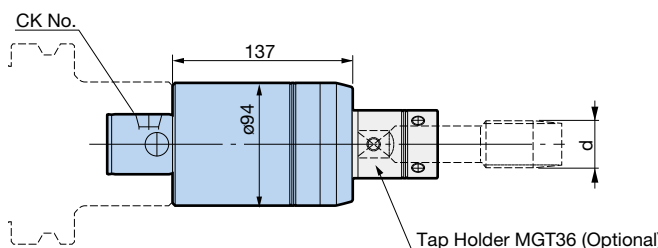
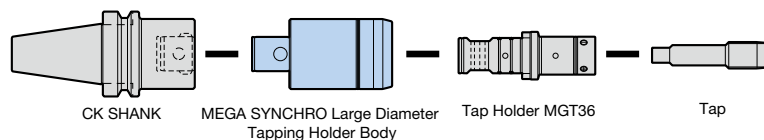
Tap holders **A128** Mega Wrench **A132**

Holders **A75**

[Large Diameter Tap MGT36] Tapping range: M20 - M36



- Functions smoothly under high cutting torque of large diameter tapping.



Model	CK No.	Tapping range d	Body weight (kg)
CKB7-MGT36-137	CK7	M20 - M36 P1/2 - P1	6.8

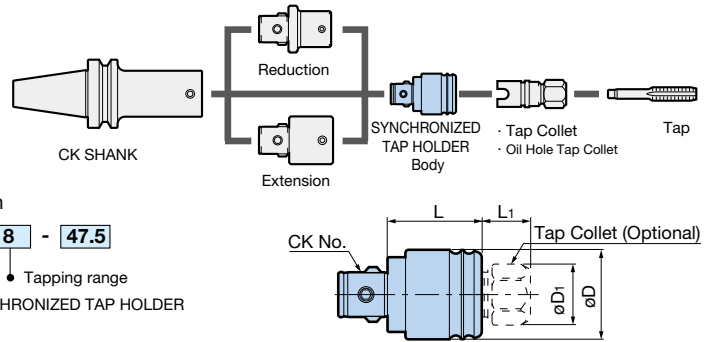
- MGT Set Screw is included.
- Tap holder is not included. Please order separately.

Cannot be used with machining center without synchronized tapping function.

Large-diameter tap holders **A133** Holders **A75**

SYNCHRONIZED TAP HOLDER (STC Type) M2 - M30

- Tap Collet type enables quick tap change.
Flexible tool layout in combination with the CK Shanks.



● Model Description

CKB2 - **STC** **8** - **47.5**

- **CK No.**
- Tapping range
- SYNCHRONIZED TAP HOLDER

Model	Tapping range	CK No.	øD	øD ₁	L	L ₁	Body weight (kg)	Tap Collet
CKB2-STC 8-47.5	M 2 - M 4	CK2	25.5	15.8	30.5	17	0.10	TC 8-d
	M 5 - M 8			19				
CKB3-STC12-66	M 3 - M12	CK3	32	22	36	30	0.18	TC12-d
CKB4-STC20-72	M 7 - M12	CK4	44	22	47	25	0.42	TC20-d
	M14 - M20			31				
CKB5-STC30-92	M20 - M30	CK5	55	41	54	38	0.72	TC30-d

1. Tap collet must be ordered separately.
2. Cannot be used with machining center without synchronized tapping function.
3. The L₁ dimension is 5mm longer with oil hole tap collets.

Holders **A75**

Tap Collet TC Type (optional product)

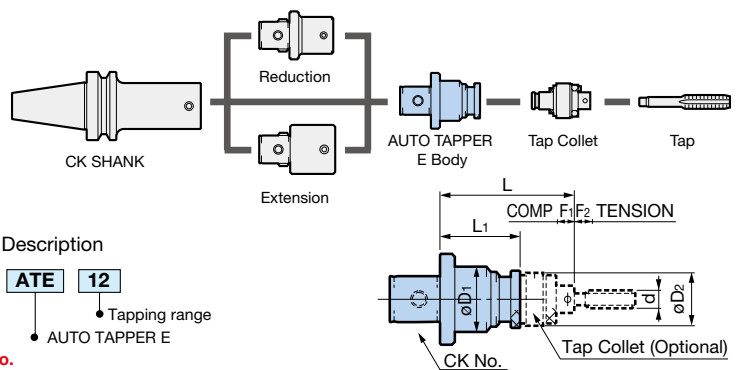


Tap Collets **A141**

Oil Hole Tap Collets **A142**

CK AUTO TAPPER E TYPE M3 - M24

- Combination with a long type CK Shank is convenient when long taper is required.



● Model Description

CK6 - **ATE** **12**

- **CK No.**
- Tapping range
- AUTO TAPPER E

Model	Tapping range	CK No.	øD ₁	øD ₂	L	L ₁	F ₁	F ₂	Weight (kg)	Tap Collet
CK6-ATE12	M3 - M12	CK6	47	38.5	90	50	5	10	0.9	TCE12-d
CK6-ATE24	M9 - M24		64	58.5	135	80	7	15	1.8	TCE24-d

1. Torque limiter is built into the tap collet.
2. The extension can be used to allow tapping inside deep holes.
3. Tap collet must be ordered separately.

Holders **A75**

Tap Collet TCE Type (optional accessory)



Tap Collets **A144**

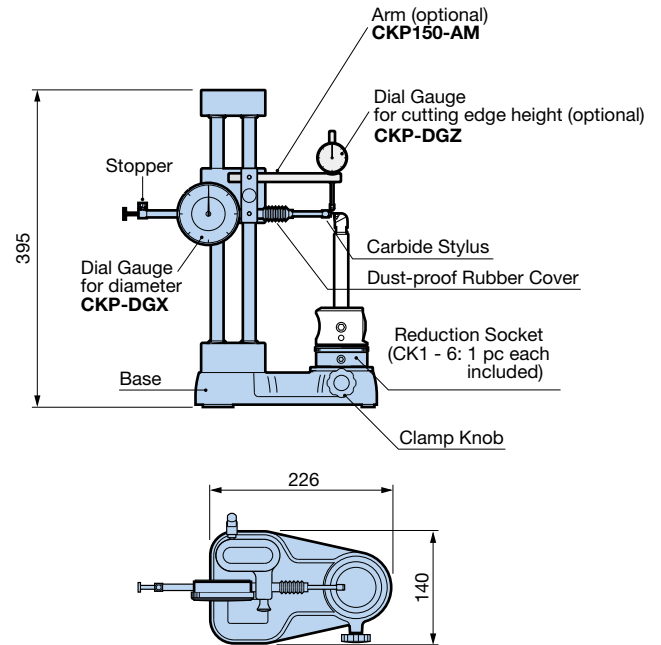
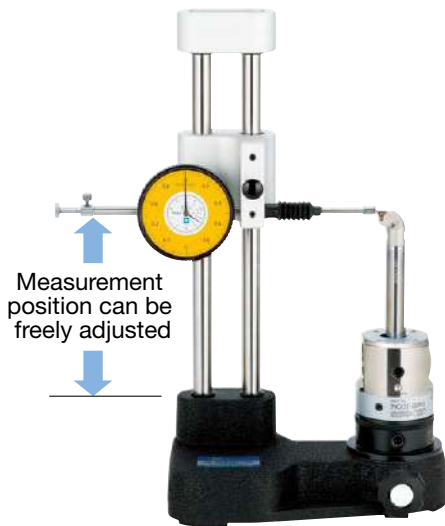
CK Presetter

Fully utilizes the merits of a modular system.

- Low-cost, exclusive presetter allows easy presetting of the boring head alone.
- Compact design enables operations in the limited space beside the machine.

[CKP150ZA] (for CK1-6)

One unit allows easy presetting of various lengths of insert holders as well as roughing and finishing heads.

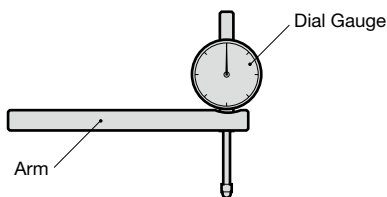


The optional "Dial Gauge for Edge Height" enables balance and step cutting setup for RW Boring Head.

Model	CKP150ZA
Measuring capacity	Radial direction: 0 - ϕ 150mm (CK1 - CK6)
Min. scale	Radial direction: 0.02mm/ ϕ
CK No.	CK1 - CK6 (Reduction socket compatible)
Max. tool height	Max. 227mm (When using CK6 reduction socket)
MASTER GAUGE	ϕ 50 \pm 0.005
Reading method	Diameter direct reading method
Weight	6.5kg

1. Use within 0.02mm/ ϕ measuring accuracy range.
2. Note that the maximum measuring diameter is 150mm.
3. Tool lengths cannot be measured.
4. For finishing with EWN Boring Head, first set to a smaller diameter than the target. After trial cutting, adjust the diameter by reading the scale on the head against the measured value on the machine.

■ Edge Height Measuring Dial Gauge Set (optional accessory)

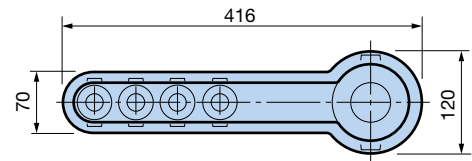
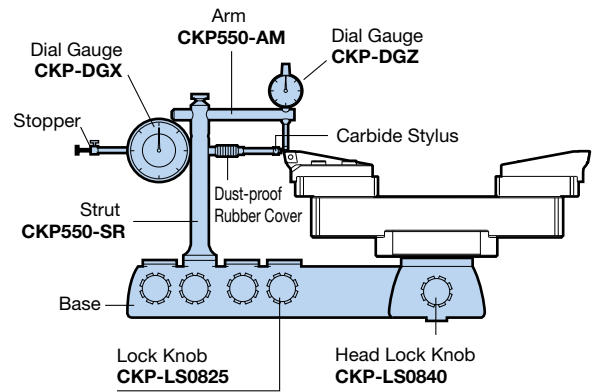
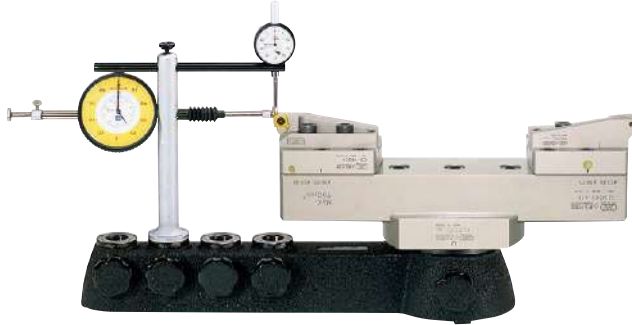


Min. scale: 0.01mm

Set Model	Set contents	
	Dial Gauge	Arm
CKP-DGZS	CKP-DGZ	CKP150-AM

Dial gauge and arm are also available individually.

[CKP550] (For CK7)



Model	CKP550
Measuring capacity	ø100 - 550 (CK7)
CK No.	For CK7 only
Min. scale	Radial direction: 0.02mm/ø Axial direction: 0.01mm
MASTER GAUGE	ø120±0.005
Reading method	Diameter addition reading method
Weight	9.0kg

1. EWN100-203CKB7, SW98-153CKB7, EWB100-153CK7AL and EWB150-203CK7AL cannot be used due to position of the stylus.

Tool Presetters to measure the assembled boring head with a shank are also available. See **19** for details.

TOOL PRESETTER TPS

High accuracy 2D edge sensor enables measurement in two directions.

#40, #50, HSK-A40, A50, A63, A100 and BIG CAPTO C5, C6, C8 are supported.

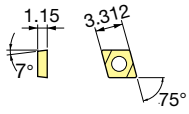
Simple, compact and economical TPS-30E/40E models for BT(BBT)30 and 40 taper tools are also available.



● **BIG** designs optimal inserts exclusive for boring. Select the suitable insert to the application.

INSERT

<EC03>

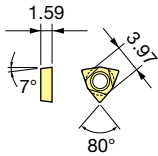


Cylindrical Tool

● **Carbide Cylindrical Insert Holder/EB04, EB05**

No.	Insert Model	Nose Radius	Corner	Workpiece	Grade	Material
1	ECGM03X102ELA	0.2	2	General Steels	T1500A	Cermet
2				Aluminum/Cast Iron	H1	Carbide (K10 Equivalent)

<WC02>

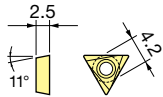


Head
Cylindrical Tool

● **EW MICRO HEAD/EW15, 18** ● **Carbide Cylindrical Insert Holder/EB06, EB7.5**
● **Cylindrical Tool for EWN04-15/ST7W-EB6 - EB7**

No.	Insert Model	Nose Radius	Corner	Workpiece	Grade	Material
1	WCGT020102ELA	0.2	3	General Steels	T1200A	Cermet
2	WCGT020102ELA			Aluminum/Cast Iron	H1	Carbide (K10 Equivalent)
3	WCGT020102FN		1	Aluminum	DA2200	Diamond
4	WCGT020102FN			Hardened Steel	BNX20	CBN
5	WCGT020102FN			Ductile	BN7000	

<TP07>



Head
Cylindrical Tool

● **Cylindrical Tool for EWN04-15/ST7W-EB8 - EB12**

No.	Insert Model	Nose Radius	Corner	Workpiece	Grade	Material
1	TPGP070202EL	0.2	3	General Steels	T1500A	Cermet
2	TPGD070202FN			Cast Iron	H1	Carbide (K10 Equivalent)
3	TPGD070202FN		1	Hardened Steel	BN2000	CBN
4	TPGP070202FLA		3	Aluminum	H1	Carbide (K10 Equivalent)
5	TPGD070202FN		1	Aluminum	DA2200	Diamond

[Remarks (All Inserts)]

1. Inserts are available in a packet of 10 pcs except diamond and CBN inserts.

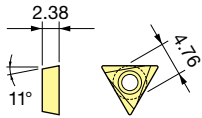
2. Diamond and CBN inserts are available from 1 pc.

3. Please specify the insert model number and grade when ordering.

Example: **ECGM03X102ELA (T1500A)**... 10 pcs

Insert Model Grade

● **BIG** designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<TP08>

Head
Insert Holder

● For EWB/EBH3-1 ● For EWN/EWE/ENH1 - 3, ENH3-1J - ENH5-3J

● Insert Holder/EB09N - EB46N

No.	Insert Model	Nose Radius	Corner	Workpiece	Grade	Material		
1	TPMT080202EFM	0.2	3	General Steels 3D Breaker	T1500A	Cermet (M-class)		
2	TPMT080204EFM	0.4	3		T2000Z	Coated Cermet		
3	TPMT080202EFM	0.2	3		T2500A	Cermet (G-class)		
4	TPMT080204EFM	0.4	3		T2500F	Coated Cermet		
5	TPGP080202ELM	0.2	3		General Steels	T1500A	Cermet (G-class)	
6	TPGP080204ELM NEW	0.4	3			T2000Z	Coated Cermet	
7	TPGP080202ELM	0.2	3			T130A	Cermet (G-class)	
8	TPGP080204ELM NEW	0.4	3			T130ZX	Coated Cermet	
9	TPGP080202EL	0.2	3	General Steels Interrupted Cutting		BN2000	CBN	
10	TPGP080204EL	0.4	3			BNC200	Coated CBN	
11	TPGP080202EL	0.2	3			Inconel Titanium	AC520U	Coated Carbide
12	TPGP080204EL	0.4	3				Cast Iron	H1
13	TPGP080202EL	0.2	3		Cast Iron/Ductile			H1ZX
14	TPGP080204EL	0.4	3				Cast Iron	BN7000
15	TPGP080202EL	0.2	3		Ductile			BN500
16	TPGP080204EL	0.4	3				Aluminum	BNC500
17	TPGD080202FN	0.2	1	Aluminum	H1			Carbide (K10 Equivalent)
18	TPGD080204FN	0.4	1		Aluminum 3D Breaker		DA2200	Diamond
19	TPGD080202FN	0.2	1	Aluminum 3D Breaker		DA1000		
20	TPGD080204FN	0.4	1		Chatter Resistant	A1	Micro-Grained Carbide	
21	TPGD080202FN	0.2	1					
22	TPGD080204FN	0.4	1					
23	TPGP080202L	0.2	3					
24	TPGP080204L	0.4	3					
25	TPGD080202FN	0.2	3					
26	TPGD080204FN	0.4	3					
27	TPGD080202FN	0.2	1					
28	TPGD080204FN	0.4	1					
29	TPGD080202FN	0.2	1					
30	TPGD080204FN	0.4	1					
31	TPGD080202FN	0.2	1					
32	TPGD080204FN	0.4	1					
33	TPGD080204FN3	0.4	3					
34	TPGP080202FLA	0.2	3					
35	TPGP080204FLA	0.4	3					
36	TPGD080202FN	0.2	1					
37	TPGD080204FN	0.4	1					
38	TPGD080202FLM	0.2	1					
39	TPGD080204FLM	0.4	1					
40	TPGP080201FLA	0.1	3					

[Remarks (All Inserts)]

1. Inserts are available in a packet of 10 pcs except diamond and CBN inserts.

2. Diamond and CBN inserts are available from 1 pc.

3. Please specify the insert model number and grade when ordering.

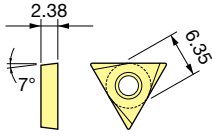
Example: **TPMT080202EFM (T1500A)**... 10 pcs

Insert Model Grade

● **BIG** designs optimal inserts exclusive for boring. Select the suitable insert to the application.

INSERT

<TC11>



Head
Insert Holder

- **Insert Holder**/EB17AJ - 40AJ
- **For EWN/EWE/ENH4** - 7, ENH6-1J - ENH6-3J, ENH7-1J
- **For EWB**/EBH4 - 6

No.	Insert Model	Nose Radius	Corner	Workpiece	Grade	Material				
1	TCMT110204EFM	0.4	3	General Steels 3D Breaker	T1500A	Cermet (M-class)				
2	TCMT110208EFM	0.8	3		T2000Z	Coated Cermet				
3	TCMT110204EFM	0.4	3		T2500A	Cermet (G-class)				
4	TCMT110208EFM	0.8	3		T2500F	Coated Cermet				
5	TCGT110202ELM	0.2	3		General Steels	T1500A	Cermet (G-class)			
6	TCGT110204ELM NEW	0.4	3			T2000Z	Coated Cermet			
7	TCGT110202ELM	0.2	3			Hardened Steel	BN2000	CBN		
8	TCGT110204ELM NEW	0.4	3				BNC200	Coated CBN		
9	TCGT110202EL	0.2	3	Inconel Titanium			AC520U	Coated Carbide		
10	TCGT110204EL	0.4	3				Cast Iron	H1	Carbide (K10 Equivalent)	
11	TCGT110208EL	0.8	3	Cast Iron/Ductile				H1ZX	Coated Carbide	
12	TCGT110202EL	0.2	3					Cast Iron	BN7000	CBN
13	TCGT110204EL	0.4	3	Ductile					BN500	Coated CBN
14	TCGT110208EL	0.8	3						Aluminum	
15	TCGT110202FN	0.2	1	Aluminum 3D Breaker	DA2200	Diamond				
16	TCGT110204FN	0.4	1		Aluminum 3D Breaker		DA1000			
17	TCGT110202FN	0.2	1	Aluminum 3D Breaker			DA1000			
18	TCGT110204FN	0.4	1		Aluminum 3D Breaker		DA1000			
19	TCGT110202L	0.2	3	Aluminum 3D Breaker			DA1000			
20	TCGT110204L	0.4	3		Aluminum 3D Breaker	DA1000				
21	TCGT110202FN	0.2	3	Aluminum 3D Breaker		DA1000				
22	TCGT110204FN	0.4	3		Aluminum 3D Breaker	DA1000				
23	TCGT110208FN	0.8	3	Aluminum 3D Breaker		DA1000				
24	TCGT110202FN	0.2	3		Aluminum 3D Breaker	DA1000				
25	TCGT110204FN	0.4	3	Aluminum 3D Breaker		DA1000				
26	TCGT110208FN NEW	0.8	3		Aluminum 3D Breaker	DA1000				
27	TCGT110202FN	0.2	1	Aluminum 3D Breaker		DA1000				
28	TCGT110204FN	0.4	1		Aluminum 3D Breaker	DA1000				
29	TCGT110208FN	0.8	1	Aluminum 3D Breaker		DA1000				
30	TCGT110202FN	0.2	1		Aluminum 3D Breaker	DA1000				
31	TCGT110204FN	0.4	1	Aluminum 3D Breaker		DA1000				
32	TCGT110202FN	0.2	1		Aluminum 3D Breaker	DA1000				
33	TCGT110204FN	0.4	1	Aluminum 3D Breaker		DA1000				
34	TCGT110208FN	0.8	1		Aluminum 3D Breaker	DA1000				
35	TCGT110204FN3	0.4	3	Aluminum 3D Breaker		DA1000				
36	TCGT110208FN3	0.8	3		Aluminum 3D Breaker	DA1000				
37	TCGT110202FLA	0.2	3	Aluminum 3D Breaker		DA1000				
38	TCGT110204FLA	0.4	3		Aluminum 3D Breaker	DA1000				
39	TCGT110208FLA	0.8	3	Aluminum 3D Breaker		DA1000				
40	TCGT110202FN	0.2	1		Aluminum 3D Breaker	DA1000				
41	TCGT110204FN	0.4	1	Aluminum 3D Breaker		DA1000				
42	TCGT110208FN	0.8	1		Aluminum 3D Breaker	DA1000				
43	TCGT110202FLM	0.2	1	Aluminum 3D Breaker		DA1000				
44	TCGT110204FLM	0.4	1		Aluminum 3D Breaker	DA1000				
45	TCGT110208FLM	0.8	1	Aluminum 3D Breaker		DA1000				

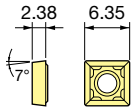
[Remarks (All Inserts)]

- Inserts are available in a packet of 10 pcs except diamond and CBN inserts.
- Diamond and CBN inserts are available from 1 pc.
- Please specify the insert model number and grade when ordering.
Example: **TCMT110204EFM (T1500A)**... 10 pcs

Insert Model Grade

● **BIG** designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<SC06>

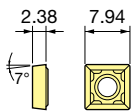


Insert Holder
Cartridge

- For EWN/EWE/ENH4-1S - ENH5-3S
- For SW/SW2026A, SW2531A, SW2533A, SW3240A

No.	Insert Model	Nose Radius	Workpiece	Grade	Material
1	SCMP060204EFM	0.4	General Steels	T1500A	Cermet (P10)
2	SCMP060204EFM			AC820P	Coated Carbide (P20)
3	SCMP060204EFM			AC830P	Coated Carbide (P30)
4	SCMP060204ESM		SS/SUS	AC630M	Coated Carbide (M30)
5	SCMP060204EFM		Cast Iron	AC410K	Coated Carbide (K10)
6	SCMP060204EFM			AC700G	Coated Carbide (K20)
7	SCGA060204FN			H1	Carbide (K10 Equivalent)
8	SCGP060204FLA		Aluminum	H1	Carbide + Breakers for Aluminum

<SC07>

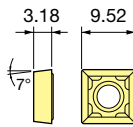


Insert Holder
Cartridge

- For EWN/EWE/ENH6-1S - ENH6-3S, ENH7-1S
- For RW/RW2533A

No.	Insert Model	Nose Radius	Workpiece	Grade	Material
1	SCGP070204EFM	0.4	General Steels	T1500A	Cermet (P10)
2	SCMP070204EFM			AC820P	Coated Carbide (P20)
3	SCMP070204EFM			AC830P	Coated Carbide (P30)
4	SCMP070204ESM		SS/SUS	AC630M	Coated Carbide (M30)
5	SCMP070204EFM		Cast Iron	AC410K	Coated Carbide (K10)
6	SCMP070204EFM			AC700G	Coated Carbide (K20)
7	SCGA070204FN			H1	Carbide (K10 Equivalent)
8	SCGP070204FLA		Aluminum	H1	Carbide + Breakers for Aluminum

<SC09>

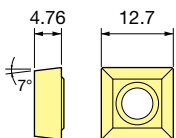


Cartridge

- For SW/SW3242A, SW4151A, SW4154A, SW5366A
- For RW/RW3242A, RW4154A

No.	Insert Model	Nose Radius	Workpiece	Grade	Material
1	SCGM090304EFM	0.4	General Steels	T1500A	Cermet (P10)
2	SCGM090308EFM	0.8			
3	SCMM090304EFM	0.4		AC820P	Coated Carbide (P20)
4	SCMM090308EFM	0.8			
5	SCMM090308EFM	0.8			
6	SCMM090308ESM	0.8	SS/SUS	AC630M	Coated Carbide (M30)
7	SCMM090308EFM	0.8	Cast Iron	AC410K	Coated Carbide (K10)
8	SCMM090308EFM	0.8		AC700G	Coated Carbide (K20)
9	SCGA090304FN	0.4		H1	Carbide (K10 Equivalent)
10	SCGM090308FLA	0.8	Aluminum	H1	Carbide + Breakers for Aluminum

<SC12>



Cartridge

- For SW/SW5370A, SW6986A, SW6890A, SW88110A, SW98126A, SW125153A, SW148176A, SW175203A
- For TW/TW200A
- For RW/RW5370A, RW6888A, RW86106A, RW100125A, RW125150A

No.	Insert Model	Nose Radius	Workpiece	Grade	Material
1	SCGM120404EFM	0.4	General Steels	T1500A	Cermet (P10)
2	SCGM120408EFM	0.8			
3	SCMM120404EFM	0.4		AC820P	Coated Carbide (P20)
4	SCMM120408EFM	0.8			
5	SCMM120408EFM	0.8			
6	SCMM120408ESM	0.8	SS/SUS	AC630M	Coated Carbide (M30)
7	SCMM120408EFM	0.8	Cast Iron	AC410K	Coated Carbide (K10)
8	SCMM120408EFM	0.8		AC700G	Coated Carbide (K20)
9	SCGA120404FN	0.4		H1	Carbide (K10 Equivalent)
10	SCGM120408FLA	0.8	Aluminum	H1	Carbide + Breakers for Aluminum

[Remarks]

1. Inserts are available in packets of 10 pcs.

2. Please specify the insert model number and grade when ordering.

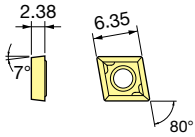
Example: SCMP060204EFM (T1500A)... 10 pcs

Insert Model Grade

● **BIG** designs optimal inserts exclusive for boring. Select the suitable insert to the application.

INSERT

<CC06>

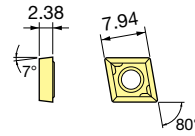


Insert Holder
Cartridge

- For EWN/EWE/ENH4-1F - ENH5-3F
- For SW/SW2026E, SW2531E, SW2533E, SW3240E

No.	Insert Model	Nose Radius	Workpiece	Grade	Material
1	CCMP060204EFM	0.4	General Steels	T1500A	Cermet (P10)
2	CCMP060204EFM			AC820P	Coated Carbide (P20)
3	CCMP060204EFM			AC830P	Coated Carbide (P30)
4	CCMP060204ESM		SS/SUS	AC630M	Coated Carbide (M30)
5	CCMP060204EFM		Cast Iron	AC410K	Coated Carbide (K10)
6	CCMP060204EFM			AC700G	Coated Carbide (K20)
7	CCGA060204FN			H1	Carbide (K10 Equivalent)
8	CCGP060204FLA		Aluminum	H1	Carbide + Breakers for Aluminum

<CC07>

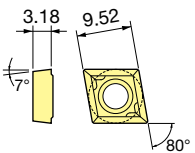


Insert Holder
Cartridge

- For EWN/EWE/ENH6-1F - ENH6-3F, ENH7-1F
- For RW/RW2533E, RW3037E

No.	Insert Model	Nose Radius	Workpiece	Grade	Material
1	CCGP070204EFM	0.4	General Steels	T1500A	Cermet (P10)
2	CCMP070204EFM			AC820P	Coated Carbide (P20)
3	CCMP070204EFM			AC830P	Coated Carbide (P30)
4	CCMP070204ESM		SS/SUS	AC630M	Coated Carbide (M30)
5	CCMM070204ESS		SS	AC830P	(Breakers for SS)
6	CCMP070204EFM		Cast Iron	AC410K	Coated Carbide (K10)
7	CCMP070204EFM			AC700G	Coated Carbide (K20)
8	CCGA070204FN			H1	Carbide (K10 Equivalent)
9	CCGP070204FLA		Aluminum	H1	Carbide + Breakers for Aluminum

<CC09>



Cartridge

- For SW/SW3242E, SW4151E, SW4154E, SW5366E
- For RW/RW3242E, RW4048E, RW4154E, RW5162E

No.	Insert Model	Nose Radius	Workpiece	Grade	Material
1	CCGM090304EFM	0.4	General Steels	T1500A	Cermet (P10)
2	CCGM090308EFM	0.8			
3	CCMM090304EFM	0.4		AC820P	Coated Carbide (P20)
4	CCMM090308EFM	0.8		AC830P	Coated Carbide (P30)
5	CCMM090308EFM	0.8	SS/SUS	AC630M	Coated Carbide (M30)
6	CCMM090308ESM	0.8	SS	AC830P	(Breakers for SS)
7	CCMM090308ESS	0.8	Cast Iron	AC410K	Coated Carbide (K10)
8	CCMM090308EFM	0.8		AC700G	Coated Carbide (K20)
9	CCMM090308EFM	0.8		H1	Carbide (K10 Equivalent)
10	CCGA090304FN	0.4			
11	CCGM090308FLA	0.8	Aluminum	H1	Carbide + Breakers for Aluminum

[Remarks]

1. Inserts are available in packets of 10 pcs.

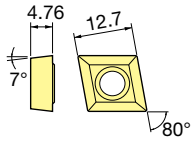
2. Please specify the insert model number and grade when ordering.

Example: **CCMP060204EFM (T1500A)**... 10 pcs

Insert Model Grade

● **BIG** designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<CC12>



Cartridge

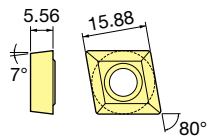
● For SW/SW5370E, SW6986E, SW6890E, SW88110E, SW98126E,
SW125153E, SW148176E, SW175203E

● For TW/TW200E

● For RW/RW5370E, RW6681E, RW6888E, RW86106E,
RW100125E, RW125150E

No.	Insert Model	Nose radius	Workpiece	Grade	Material
1	CCGM120404EFM	0.4	General Steels	T1500A	Cermet (P10)
2	CCGM120408EFM	0.8		AC820P	Coated Carbide (P20)
3	CCMM120404EFM	0.4		AC830P	Coated Carbide (P30)
4	CCMM120408EFM	0.8		AC630M	Coated Carbide (M30)
5	CCMM120408EFM	0.8		AC830P	(Breakers for SS)
6	CCMM120408ESM	0.8	SS/SUS	AC630M	Coated Carbide (M30)
7	CCMM120408ESS	0.8	SS	AC830P	(Breakers for SS)
8	CCMM120408EFM	0.8	Cast Iron	AC410K	Coated Carbide (K10)
9	CCMM120408EFM	0.8		AC700G	Coated Carbide (K20)
10	CCGA120404FN	0.4		H1	Carbide (K10 Equivalent)
11	CCGM120408FLA	0.8	Aluminum	H1	Carbide + Breakers for Aluminum

<CC16>



Cartridge

● For SW/SW6890EL, SW88110EL, SW98126EL, SW125153EL,
SW148176EL, SW175203EL

● For TW/TW200EL

No.	Insert Model	Nose radius	Workpiece	Grade	Material
1	CCMM160508EFM	0.8	General Steels	AC820P	Coated Carbide (P20)
2	CCMM160508EFM			AC830P	Coated Carbide (P30)
3	CCMM160508ESS		SS	AC830P	(Breakers for SS)
4	CCMM160508EFM		Cast Iron	AC700G	Coated Carbide (K20)

[Remarks]

1. Inserts are available in packets of 10 pcs.

2. Please specify the insert model number and grade when ordering.

Example: **CCGM120404EFM (T1500A)**... 10 pcs

Insert Model Grade

Insert Grade Introduction

T1500A

General purpose cermet from finishing to roughing. Special technology improves the material's resistance to thermal shock, allowing safe use even for wet machining.

Grade	Cermet P10 Grade
T R S	2.1 (GPa)
Hardness	92.0 (HRA)

T2000Z

Cermet is coated with newly developed PVD film for smooth surface and good adhesion. The material easily doubles tool life compared to non-coated cermet, and enables a high-quality finished surface.

Grade	Cermet P10-20 Grade
Coating film	TiN/A ℓ N
T R S	2.1 (GPa)
Hardness	92.0 (HRA)

T2500A

Cermet with fine and uniform grain structure, achieving improved toughness and high hardness. Excellent thermal shock resistance helps enable stable finishing.

Grade	Cermet P30 Grade
T R S	2.4 (GPa)
Hardness	91.8 (HRA)

T2500F

Cermet insert is coated with smooth PVD film. This material has superior welding and chipping resistance compared to non-coated inserts.

Grade	Cermet P30 Grade
Coating film	A ℓ TiCrN base
T R S	2.4 (GPa)
Hardness	91.8 (HRA)

T130A

The unique production process of this tough cermet achieves a fine and uniform structure that has excellent chipping resistance. Achieves longer tool life than T1500A when used for interrupted cutting finishing.

Grade	Cermet P10 Grade
T R S	2.1 (GPa)
Hardness	91.8 (HRA)

T130ZX

The cermet is treated further with a layer of ceramic kept uniform with the new PVD method. This doubles the tool life while maintaining the toughness of the material.

Grade	Cermet Tough Grade
Coating film	TiN/A ℓ N
T R S	2.0 (GPa)
Hardness	91.9 (HRA)

AC520U

The tough substrate is coated with multiple layers of nanometer-level thickness to create a material suitable for cutting difficult materials such as titanium with excellent wear resistance and notch wear resistance.

Grade	Carbide S20 Grade
Coating film	TiA ℓ N/A ℓ CrN
T R S	2.5 (GPa)
Hardness	91.7 (HRA)

H1

With slightly higher wear resistance than K10 material, this material is a best selling type of carbide that can be used across a wide range from roughing to finishing.

Grade	Fine Carbide K10 Grade
T R S	2.1 (GPa)
Hardness	92.9 (HRA)

H1ZX

For stable machining of ductile cast iron we recommend this material, made by coating carbide H1 with alumina for increased wear resistance.

Grade	Carbide K10 Grade
Coating film	TiN/A ℓ_2 O $_3$ /TiCN
T R S	2.1 (GPa)
Hardness	92.9 (HRA)

A1

Even among ultra-fine particle alloy steels, this material is notably tough; it also boasts excellent welding resistance at low to medium speeds, has a sharp cutting edge, and handles chatter suitably for fine diameter machining.

Grade	Ultra-Fine Particles Z20 Grade
T R S	3.3 (GPa)
Hardness	91.5 (HRA)

AC820P

The main grade for steel. The newly developed CVD method allows for a dense yet smooth coating that achieves outstanding versatility and consistency.

Grade	Carbide P20 Grade
Coating film	TiN/A ℓ_2 O $_3$ /TiCN
T R S	2.2 (GPa)
Hardness	90.1 (HRA)

AC830P

The tough substrate and the peel-resistant, dense and smooth coating deliver high reliability for heavy interrupted cutting of steel.

Grade	Carbide P30 Grade
Coating film	TiN/A ℓ_2 O $_3$ /TiCN
T R S	2.6 (GPa)
Hardness	89.4 (HRA)

AC410K

The hardest material for cast iron. Use if not satisfied with the wear resistance of AC700G. Note that this type is not suitable for heavy duty interrupted cutting.

Grade	Carbide K10 Grade
Coating film	TiA ℓ N/A ℓ CrN
T R S	2.4 (GPa)
Hardness	92.0 (HRA)

AC630M

The extremely smooth thin film coating gives this material great sharpness. Ideal for stainless steel or other materials that are easily work hardened.

Grade	Carbide M30 Grade
Coating film	TiA ℓ N/A ℓ CrN
T R S	2.7 (GPa)
Hardness	89.5 (HRA)

AC700G

Heat resistant carbide alloy is coated with multiple layers of mainly tough alumina, with additional surface smoothing treatment, to produce a highly reliable material for machining cast iron.

Grade	Carbide K20 Grade
Coating film	TiN/A ℓ_2 O $_3$ /TiCN
T R S	2.2 (GPa)
Hardness	91.0 (HRA)

BNX20

Crater resistant CBN grade. Cutting edge is arranged to suit small diameter boring of hardened materials.

BNC200

A combination of exclusive CBN substrate, selected for its strength, and special wear resistant TiAlN coating achieves a long and stable tool life across a wide range from low to high speed cutting, interrupted cutting, and high-efficiency cutting of hardened steel.

BNC500

By combining a ceramic coating with excellent heat resistance and a substrate with excellent wear resistance, stable long life can be achieved even when finishing difficult-to-cut cast iron materials.

BN2000

A CBN material with an excellent balance of wear resistant and chipping resistant properties. Reliable performance is achieved in a wide range of cutting conditions in continuous and medium-heavy interrupted cutting.

BN500/BN7000

A CBN material with Co binder developed for cast iron. BN7000 is a material with excellent wear resistant and chipping resistant properties. BN7000 is recommended for high speed cutting of cast iron. If not satisfied with the wear resistance, use BN500.

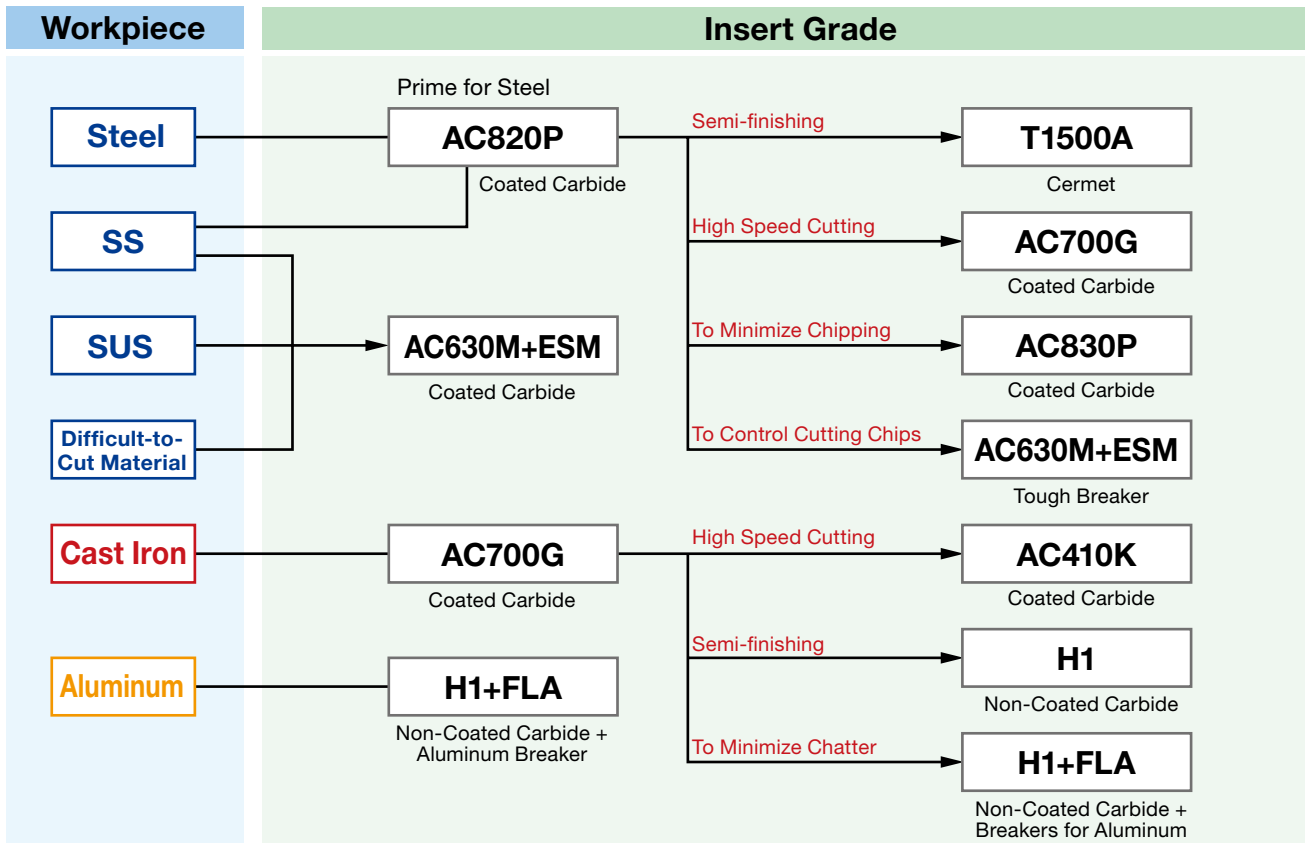
DA2200/DA1000

Ultra-precise sintering of ultra-fine diamond particles drastically improves the material's chipping resistance. With strength comparable to that of carbide (K10 type), it achieves a stable long tool life in interrupted cutting of aluminum alloys. Furthermore, the material boasts great cutting edge efficiency and achieves a good finish surface.

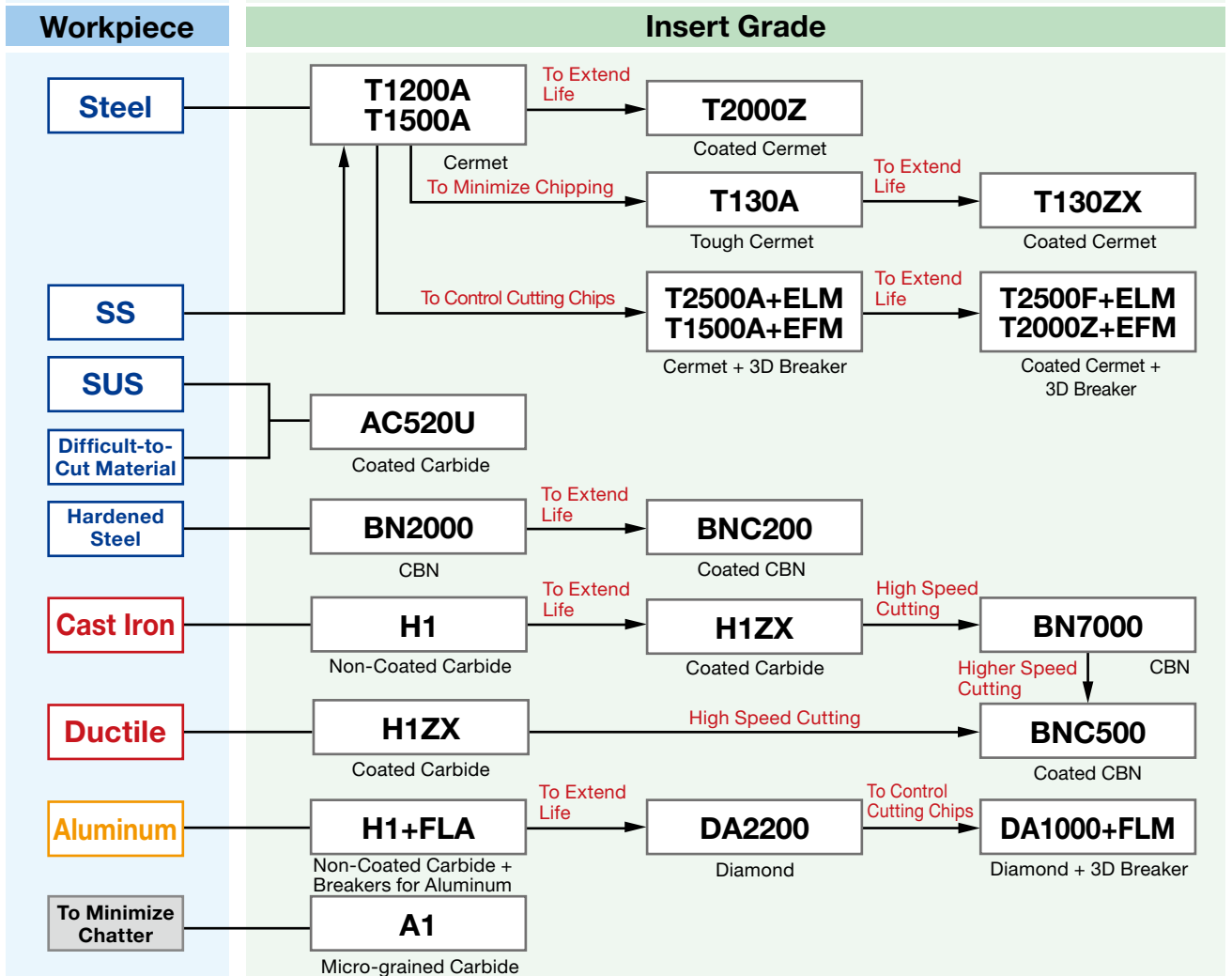
CK BORING SYSTEM Insert Selection Chart

A
 INSERT

For Roughing

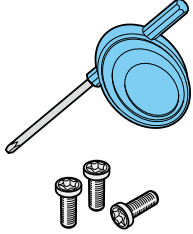


For Finishing



Screw/Wrench Set

- Insert Clamping Screw Set (Contains 10 screws and 1 wrench)



Set Model	Insert size	Shank/Insert Holder/Cartridge	Insert Clamp Screw	
			Thread	Wrench Model
S1.6S-T3-S	EC03	EB04	M1.6F×2	DA-T3
S1.6S-T3		EB05	M1.6F×2.5	
S2S-A	WC02	ST05W-EB6-60 ST06W-EB7.5-65	M2×3	FA-T6
S2S-B		EN15	M2S×4	FLR-13S
694.101-2P ※	WC02	ST7W-EB6/EB7	M2×3.5	FW-6IP
694.102-2P ※	TP07	ST7W-EB8/EB9	M2×4.1	
694.103-2P ※		ST7W-EB10/12	M2×4.8	
S2S-S	TP08	EB09N EB10.5N EB12N	M2×4	FLR-13S
S2S		EB14N - EB46N	M2×5.5	
S2S-T6		ENH1 - ENH3 ENH3J - ENH5J EBH3	M2×5.5	FA-T6
694.122-2P ※		TC11	EB17AJ - EB40AJ	M2.5×6.5
S2.5S-7IP	SC06 CC06	SW2026 SW2531 SW2533 SW3240 STUCR	M2.5×6.5	FS-7IP
S2.5S-T7	TC11 SC06 CC06	ENH4 - ENH7 ENH4E - ENH6E ENH6J - ENH7J ENH4F - ENH5F ENH4S - ENH5S EBH4 - EBH6	M2.5×6.5	FA-T7
S3S	SC07 CC07	ENH6F - ENH7F ENH6S - ENH7S RW2533 RW3037	M3×7	FLR-20S
S4S-15IP	SC09 CC09	SW3242 SW4151 SW4154 SW5366	M4×8	FS-15IP
S4S	SC09 CC09	RW3242 RW4154 RW4048 RW5162	M4×8	FLR-20S
S5S-20IP	SC12 CC12 CC16	SW5370 SW6986 SW6890 SW88110 SW98126 SW125153 SW148176 SW175203	M5×12	FS-20IP
S5S-T20	SC12 CC12 CC16	TW200	M5×12	FA-T20
S5S	SC12 CC12	RW5370 RW6681 RW6888 RW86106 RW100125 RW125150	M5×12	FLR-28S
S1.6S-T6	MW04	MW1619 - MW1821	M1.6×4.2	FA-T6

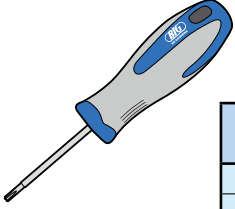
· Wrenches are also sold individually. Please order the wrench model.

· ※ marked models consist of 2 screws. Wrench is not included.

Screw/Wrench Set

● Driver-Type Wrench

A Torx wrench using tough material and a grip that fits the hand well. Use for secure insert tightening.



Wrench Model	Torx size
DA-T3	Torx-T 3
DA-T5	Torx-T 5
DA-T6	Torx-T 6
DA-T7	Torx-T 7
DA-T8	Torx-T 8
DA-T10	Torx-T 10
DA-T15	Torx-T 15
DA-T20	Torx-T 20

※ Insert Clamp Screw Wrench Models with a T indicate Torx size.

● CK Set Screw

(Contains 2 screws and 1 exclusive T-wrench)

Key element of the CK Connection. Periodical replacement is recommended in order to maintain accurate clamping.



Set Model	CK No.	Thread size	T Wrench Model
CK1S	CK1	M4xP0.5	CK-T2
CK2S	CK2	M5xP0.5	CK-T2.5
CK3S	CK3	M6xP0.75	CK-T3
CK4S	CK4	M8xP0.75	CK-T4
CK5S	CK5	M10xP1.0	CK-T5
CK6S	CK6	M12xP1.0	CK-T6
CK7S	CK7	M20xP1.5	-

※ Wrenches are also sold individually. Please order the wrench model.

("T" in the wrench model indicates T-shape of the wrench. This has nothing to do with Torx.)

※ An L wrench is included with CK7S.

● Grease Gun

Essential for maintenance!

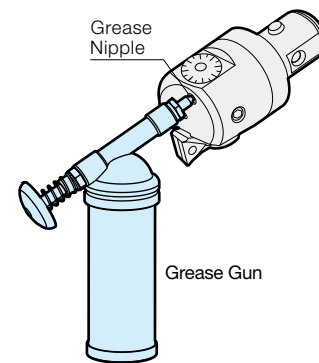
Model **GRG-02**

Can be used with all types of finishing heads. (Grease not included.)

- The grease is effective for removing coolant and particles.
- We recommend injecting grease into the grease nipple as required.

Grease (50g)

Model **HSG50**



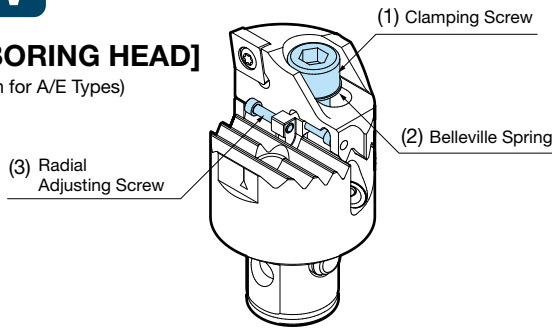
Screws for Boring Head

Specify both the head model and screw model when ordering.

SW

[SW BORING HEAD]

(Common for A/E Types)

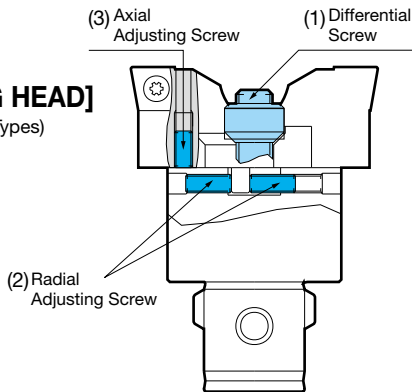


Head Model	(1) Clamping Screw x 2, Belleville Spring x 2	(2) 4 pcs	(3) 2 pcs
SW 20- 31CKB1	SW20SS	SW20BS	SW20RS
SW 25- 40CKB2	SW25SS	SW25BS	SW25RS
SW 32- 51CKB3	SW32SS	SW32BS	SW32RS
SW 41- 66CKB4	SW41SS	SW41BS	SW41RS
CKB4-SW41DP-190			
SW 53- 86CKB5	SW53SS	SW53BS	SW53RS
CKB5-SW53DP-220			
SW 68-110CKB6	SW68SS		SW68RS
CKB6-SW68DP-245			
SW 98-153CKB□	SW98SS	SW98BS	SW98RS
SW148-203CKB□			

RW

[RW BORING HEAD]

(Common for A/E Types)



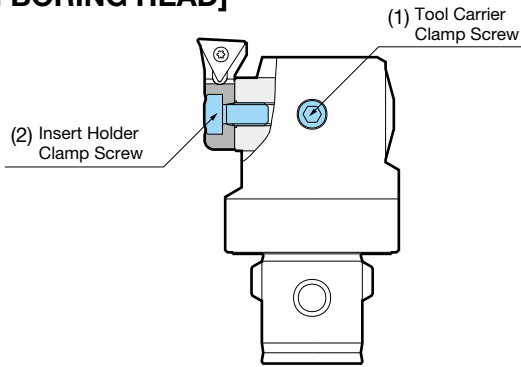
Head Model	(1) 1 pc	(2) 5 pcs	(3) 5 pcs
RW 25- 33CKB2	DS25	H0306/R-5P	H0206-5P
RW 32- 42CKB3	DS32	H0308/R-5P	H0308-5P
RW 41- 54CKB4	DS41	H0410/R-5P	H0410-5P
RW 53- 70CKB5	DS53	H0515/R-5P	H0512-5P
RW 68-100CKB6	DS68	H0515/R-5P	
RW100-150CKB6		H0520/R-5P	

Screws for Boring Head

Specify both the head model and screw model when ordering.

EWN

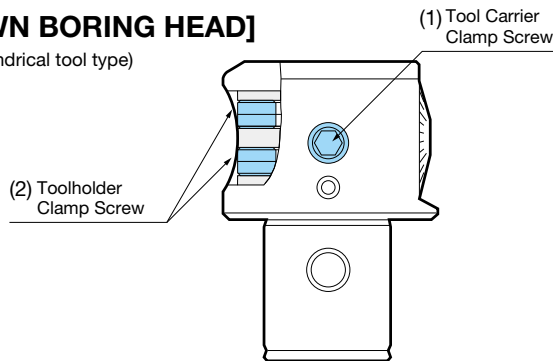
[EWN BORING HEAD]



Head Model	(1) 1 pc	(2) 1 pc
EWN 20- 36CKB1	K0405	B0304-1
CK1-EWN20DP-100		
EWN 25- 47CKB2	K0406	B0306-1
CK2-EWN25DP-125		
EWN 32- 60CKB3	K0509	B0408-2
CKB3-EWN32DP-160		
EWN 41- 74CKB4	K0610	B0510-3
CKB4-EWN41DP-185		
EWN 53- 95CKB5	K0814	B0510-4
CKB5-EWN53DP-210		
EWN 68-150CKB6	K1016	B0816-5
CKB6-EWN68DP-240		
EWN100-203CKB6		
CKB6-EWN100DP-240		
EWN100-203CKB7		
CKB7-EWN100DP-240		
EW15		
EW18	H0304-2P (2 pcs)	

[EWN BORING HEAD]

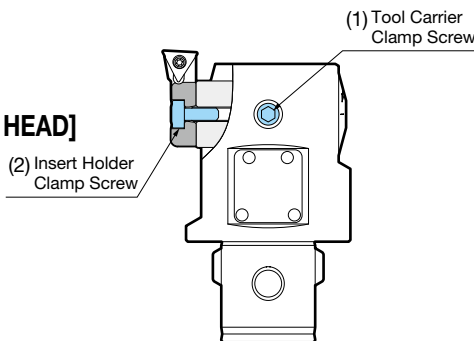
(Cylindrical tool type)



Head Model	(1) 1 pc	(2) 5 pcs
EWN2-22CK4	K0606	H0605-5P
EWN2-32CK5	K0809	H0806-5P
EWN2-50CK6	K1011	H1008-5P

EWE

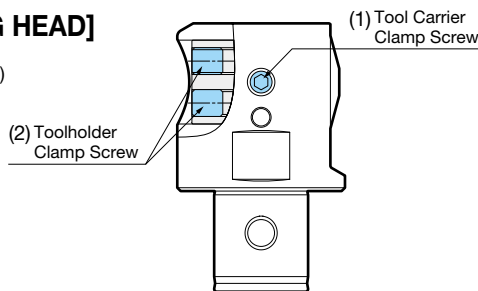
[EWE BORING HEAD]



Head Model	(1) 1 pc	(2) 1 pc
EWE 41- 74CKB4	K0608	B0510-3
EWE 53- 93CKB5	K0809	B0510-4
EWE 68-105CKB6	K1013	B0816-5
EWE100-203CKB□	K1016	

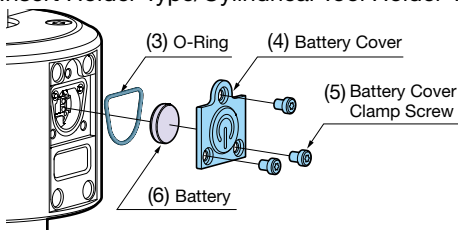
[EWE BORING HEAD]

(Cylindrical tool type)



Head Model	(1) 1 pc	(2) 5 pcs
EWE2-32CK5	K0809	H0806-5P
EWE2-54CK6	K1011	H1008-5P

EWE Insert Holder Type/Cylindrical Tool Holder Type Common Parts

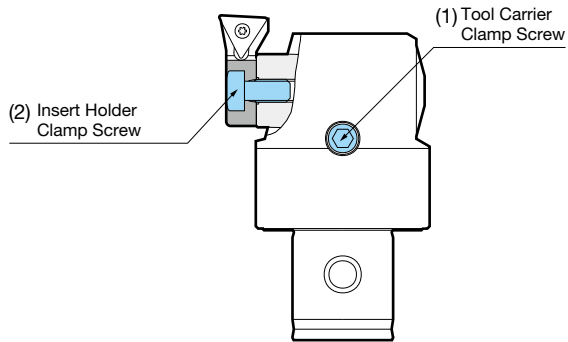


Part Name	Part Model
(3) O-Ring	EWE-OR (1 pc)
(4) Battery Cover	EWE-BC (1 pc)
(5) Battery Cover Clamp Screw	EWE-S2.5FS-8IP (3 pcs, Wrench) (x 1 pc included)
(6) Battery	CR1025 (1 pc)

Specify both the head model and screw model when ordering.

EWB

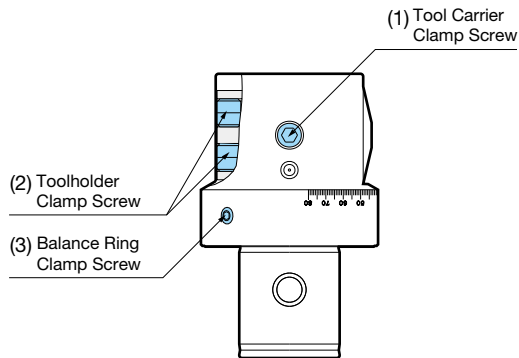
[EWB BORING HEAD]



Head Model	(1) 1 pc	(2) 1 pc
EWB 32- 42CK3	S0705	B0408-2
EWB 41- 54CK4	S0706	B0510-3
EWB 53- 70CK5	S0808	B0510-4
EWB 68- 88CK6	S1012	B0612-5
EWB 85-105CK6		
EWB100-153CK6AL		
EWB100-153CK7AL		
EWB150-203CK6AL		
EWB150-203CK7AL		

[EWB BORING HEAD]

(Cylindrical tool type)



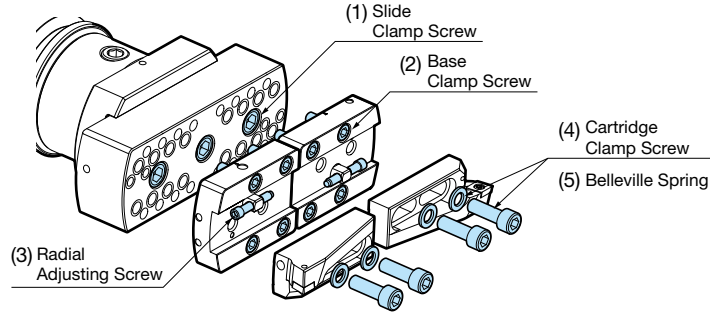
Head Model	(1) 1 pc	(2) 5 pcs	(3) 1 pc
EWB2-32CK5	K0809	H0806-5P	BR232
EWB2-50CK6	K1011	H1008-5P	BR250

Screws for Boring Head

Specify both the head model and screw model when ordering.

TW

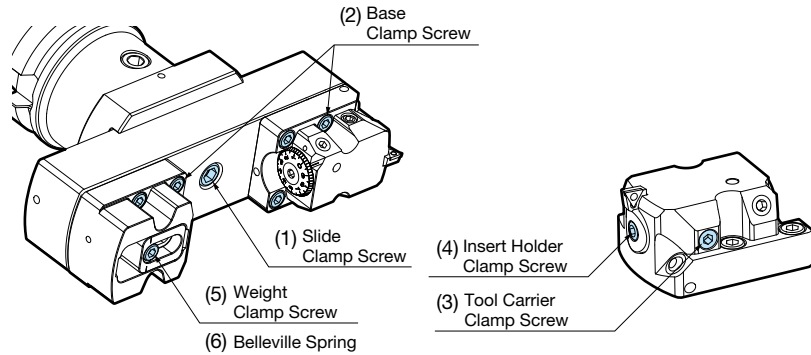
For large diameters
[TW BORING HEAD]



Clamp Base Model	(1) 1 pc	(2) 1 pc	(3) 1 pc	(4) 1 pc	(5) 4 pcs
CB-TW200	C1250	C0825	TW200RS	C1030	TW53BS
CB-TW200AL					

EWN200

For large diameters
[EWN BORING HEAD]



Head/Balance Weight Model	(1) 1 pc	(2) 1 pc	(3) 1 pc	(4) 1 pc	(5) 1 pc	(6) 4 pcs
EWN200(AL)			K1016	B0612-5	-	-
BWN200FB(AL)	C1250	C0825	-	-	C0830	TW41BS
BWN200PB(AL)			-	-	-	-

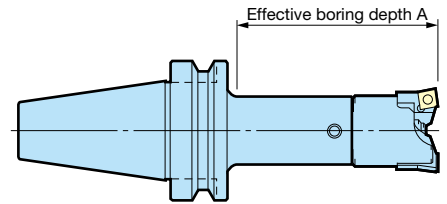
For Roughing (Large diameters)

For Finishing (Large diameters)

A
CK BORING SYSTEM

<SW/TW/RW BORING HEAD>

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. For blind holes, adjust the parameters by observing the chip evacuation.
3. Cermet T1500A is recommended for good surface finish for light roughing of steel.
4. AC830P is recommended for interrupted cutting of steel.
5. AC820P is recommended for interrupted cutting of ductile cast iron.
6. For step cutting, it is recommended to increase the depth of cut by 1.6 times and reduce the feed rate by 60%.



[BBT40]

Head Model	Workpiece Material	A	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ø)		Feed f (mm/rev)	
			Nose Radius	Grade		Recommended	Max.	Recommended	Max.
SW20	Carbon Steel	73	0.4	AC820P	150	2.0	2.5	0.20	0.25
	Alloy Steel			AC820P	130	1.5	2.0	0.20	0.25
	Stainless Steel			AC630M	80	1.5	2.0	0.20	0.25
	Cast Iron			AC700G	130	2.5	3.0	0.25	0.30
	Ductile			AC410K	80	2.0	2.5	0.20	0.25
	Aluminum			H1	200	2.5	3.0	0.25	0.30
SW25 RW25	Carbon Steel	88	0.4	AC820P	160	2.5	3.0	0.25	0.30
	Alloy Steel			AC820P	140	2.0	3.0	0.20	0.25
	Stainless Steel			AC630M	90	2.0	3.0	0.20	0.25
	Cast Iron			AC700G	140	3.0	4.0	0.25	0.30
	Ductile			AC410K	90	2.5	3.0	0.20	0.25
	Aluminum			H1	200	3.0	4.0	0.30	0.35
SW32 RW32	Carbon Steel	103	0.8	AC820P	200	3.5	4.5	0.30	0.40
	Alloy Steel			AC820P	180	3.0	4.0	0.25	0.35
	Stainless Steel			AC630M	100	3.0	4.0	0.25	0.35
	Cast Iron			AC700G	180	4.0	5.5	0.30	0.40
	Ductile			AC410K	100	3.5	4.5	0.25	0.35
	Aluminum			H1	220	4.0	5.0	0.30	0.40
SW41 RW41	Carbon Steel	103	0.8	AC820P	200	4.5	5.5	0.35	0.45
	Alloy Steel			AC820P	180	4.0	5.0	0.30	0.40
	Stainless Steel			AC630M	100	4.0	5.0	0.30	0.40
	Cast Iron			AC700G	180	5.0	7.0	0.35	0.45
	Ductile			AC410K	100	4.0	6.0	0.30	0.40
	Aluminum			H1	220	5.0	7.0	0.35	0.45
SW53 RW53	Carbon Steel	103	0.8	AC820P	220	6.0	8.0	0.40	0.50
	Alloy Steel			AC820P	200	5.0	6.0	0.35	0.45
	Stainless Steel			AC630M	120	5.0	6.0	0.35	0.45
	Cast Iron			AC700G	200	8.0	10.0	0.40	0.50
	Ductile			AC410K	100	6.0	8.0	0.35	0.45
	Aluminum			H1	250	8.0	10.0	0.45	0.55
SW68 SW98 RW68 RW100	Carbon Steel	103	0.8	AC820P	220	8.0	10.0	0.40	0.50
	Alloy Steel			AC820P	200	7.0	9.0	0.35	0.45
	Stainless Steel			AC630M	120	7.0	9.0	0.35	0.45
	Cast Iron			AC700G	200	9.0	12.0	0.40	0.50
	Ductile			AC410K	100	8.0	10.0	0.35	0.45
	Aluminum			H1	250	9.0	12.0	0.45	0.55

Spindle Speed Calculation

$$N = \frac{V_c}{\pi D} \times 1,000$$

N : Spindle speed [min⁻¹]

Vc : Cutting speed [m/min]

D : Diameter [mm]

Cutting Conditions

BBT/BT
SHANK

A

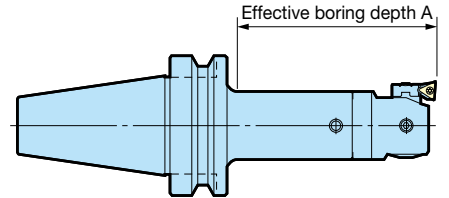
CK BORING SYSTEM

[BBT50]

Head Model	Workpiece Material	A	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/φ)		Feed f (mm/rev)			
			Nose Radius	Grade		Recommended	Max.	Recommended	Max.		
SW20	Carbon Steel	73	0.4	AC820P	150	2.0	2.5	0.20	0.25		
	Alloy Steel			AC820P	130	1.5	2.0	0.20	0.25		
	Stainless Steel			AC630M	80	1.5	2.0	0.20	0.25		
	Cast Iron			AC700G	130	2.5	3.0	0.25	0.30		
	Ductile			AC410K	80	2.0	2.5	0.20	0.25		
	Aluminum			H1	200	2.5	3.0	0.25	0.30		
SW25 RW25	Carbon Steel	107	0.4	AC820P	150	2.5	3.5	0.25	0.30		
	Alloy Steel			AC820P	130	2.0	3.0	0.20	0.25		
	Stainless Steel			AC630M	80	2.0	3.0	0.20	0.25		
	Cast Iron			AC700G	130	3.0	4.0	0.25	0.30		
	Ductile			AC410K	80	2.5	3.0	0.20	0.25		
	Aluminum			H1	200	3.0	4.0	0.30	0.35		
SW32 RW32	Carbon Steel	122	0.8	AC820P	180	3.5	4.5	0.30	0.40		
	Alloy Steel			AC820P	160	3.0	4.0	0.25	0.35		
	Stainless Steel			AC630M	100	3.0	4.0	0.25	0.35		
	Cast Iron			AC700G	160	4.0	5.5	0.30	0.40		
	Ductile			AC410K	100	3.5	4.5	0.25	0.35		
	Aluminum			H1	200	4.0	5.0	0.30	0.40		
SW41 RW41	Carbon Steel	122	0.8	AC820P	200	4.5	5.5	0.35	0.45		
	Alloy Steel			AC820P	180	4.0	5.0	0.30	0.40		
	Stainless Steel			AC630M	100	4.0	5.0	0.30	0.40		
	Cast Iron			AC700G	180	5.0	7.0	0.35	0.45		
	Ductile			AC410K	100	4.0	6.0	0.30	0.40		
	Aluminum			H1	220	5.0	7.0	0.35	0.45		
SW53 RW53	Carbon Steel	122	0.8	AC820P	220	7.0	9.0	0.40	0.55		
	Alloy Steel			AC820P	200	6.0	8.0	0.35	0.50		
	Stainless Steel			AC630M	120	6.0	8.0	0.35	0.50		
	Cast Iron			AC700G	200	9.0	12.0	0.45	0.55		
	Ductile			AC410K	120	7.0	10.0	0.35	0.50		
	Aluminum			H1	250	9.0	12.0	0.45	0.55		
SW68 RW68	Carbon Steel	122	0.8	AC820P	220	10.0	12.0	0.40	0.60		
	Alloy Steel			AC820P	200	8.0	12.0	0.35	0.55		
	Stainless Steel			AC630M	120	8.0	10.0	0.35	0.55		
	Cast Iron			AC700G	200	10.0	14.0	0.45	0.60		
	Ductile			AC410K	120	9.0	12.0	0.35	0.55		
	Aluminum			H1	250	10.0	12.0	0.45	0.60		
SW98 RW100	Carbon Steel	122	0.8	AC820P	220	10.0	12.0	0.40	0.60		
	Alloy Steel			AC820P	200	8.0	12.0	0.35	0.55		
	Stainless Steel			AC630M	120	8.0	10.0	0.35	0.55		
	Cast Iron			AC700G	200	10.0	14.0	0.45	0.60		
	Ductile			AC410K	120	9.0	12.0	0.35	0.55		
	Aluminum			H1	250	10.0	12.0	0.45	0.60		
TW200 (CK7)	≤ φ340	172	0.8	AC820P	220	10.0	12.0	0.40	0.60		
				Alloy Steel	AC820P	200	8.0	12.0	0.35	0.55	
				Stainless Steel	AC630M	120	8.0	10.0	0.35	0.55	
				Cast Iron	AC700G	200	10.0	14.0	0.45	0.60	
				Ductile	AC700G	120	9.0	12.0	0.35	0.55	
				Aluminum	H1	250	10.0	12.0	0.45	0.60	
	> φ340	172	0.8	0.8	AC820P	220	7.0	9.0	0.40	0.60	
					Alloy Steel	AC820P	200	6.0	8.0	0.35	0.55
					Stainless Steel	AC630M	120	6.0	8.0	0.35	0.55
					Cast Iron	AC700G	200	7.0	10.0	0.45	0.60
					Ductile	AC700G	120	6.0	8.0	0.35	0.55
					Aluminum	H1	250	7.0	9.0	0.45	0.60

<EWN/EWE/EWB BORING HEAD>

- This table is a guideline for selecting cutting parameters.
Adjust them as needed according to the machine and workpiece conditions.
- Internal high pressure coolant may cause deflection of the holder.
Lower the pressure when close tolerance is required.
- Coated cermet T2000Z or T2500F is recommended to reduce wear when machining steel.
- Dry cutting is recommended for CBN BN2000, BNC200, BNC500 and BN7000 inserts.



[BBT40]

Head Model	Workpiece Material	A	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ø)	Feed f (mm/rev)	
			Nose Radius	Grade			Recommended	Max.
EWN20	Carbon Steel/Alloy Steel	73	0.2	T1500A	160	0.15	0.06	0.12
	Stainless Steel		0.2	AC520U	120	0.15	0.06	0.10
	Hardened Steel		0.2	BN2000	70	0.10	0.06	0.10
	Cast Iron		0.2	H1	120	0.20	0.06	0.12
	Ductile		0.2	H1ZX	100	0.15	0.06	0.10
	Ductile		0.2	BNC500	120	0.15	0.06	0.10
	Aluminum		0.2	H1	200	0.20	0.06	0.12
	Aluminum		0.2	DA2200	300	0.20	0.06	0.12
EWN25	Carbon Steel/Alloy Steel	88	0.2	T1500A	180	0.15	0.06	0.12
	Stainless Steel		0.2	AC520U	140	0.15	0.06	0.12
	Hardened Steel		0.2	BN2000	80	0.10	0.06	0.10
	Cast Iron		0.2	H1	140	0.20	0.06	0.12
	Ductile		0.2	H1ZX	120	0.15	0.06	0.12
	Ductile		0.2	BNC500	180	0.15	0.06	0.10
	Aluminum		0.2	H1	200	0.20	0.06	0.12
	Aluminum		0.2	DA2200	400	0.20	0.06	0.12
EWN32 EWB32	Carbon Steel/Alloy Steel	103	0.2	T1500A	200	0.20	0.06	0.12
	Stainless Steel		0.2	AC520U	160	0.20	0.06	0.12
	Hardened Steel		0.2	BN2000	100	0.10	0.06	0.10
	Cast Iron		0.2	H1	160	0.20	0.06	0.12
	Ductile		0.2	H1ZX	120	0.15	0.06	0.12
	Ductile		0.2	BNC500	200	0.15	0.06	0.10
	Aluminum		0.4	H1	300	0.20	0.10	0.20
	Aluminum		0.4	DA2200	800	0.20	0.10	0.20
EWN41 EWE41 EWB41	Carbon Steel/Alloy Steel	103	0.2	T1500A	200	0.20	0.06	0.12
	Stainless Steel		0.2	AC520U	160	0.20	0.06	0.12
	Hardened Steel		0.4	BN2000	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	160	0.20	0.10	0.20
	Ductile		0.4	H1ZX	120	0.15	0.10	0.15
	Ductile		0.4	BNC500	200	0.15	0.10	0.15
	Aluminum		0.4	H1	300	0.20	0.12	0.20
	Aluminum		0.4	DA2200	800	0.20	0.12	0.20
EWN53 EWN68 EWN100 EWE53 EWE68 EWE100 EWB53 EWB68 EWB85	Carbon Steel/Alloy Steel	103	0.4	T1500A	250	0.25	0.10	0.20
	Stainless Steel		0.4	AC520U	180	0.25	0.10	0.20
	Hardened Steel		0.4	BN2000	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	180	0.25	0.10	0.20
	Ductile		0.4	H1ZX	120	0.20	0.10	0.20
	Ductile		0.4	BNC500	200	0.20	0.10	0.20
	Aluminum		0.8	H1	300	0.25	0.16	0.30
	Aluminum		0.4	DA2200	800	0.25	0.12	0.20

Cutting Conditions

BBT/BT
SHANK

A

CK BORING SYSTEM

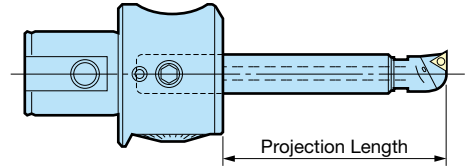
[BBT50]

Head Model	Workpiece Material	A	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ø)	Feed f (mm/rev)	
			Nose Radius	Grade			Recommended	Max.
EWN20	Carbon Steel/Alloy Steel	73	0.2	T1500A	160	0.15	0.06	0.12
	Stainless Steel		0.2	AC520U	120	0.15	0.06	0.10
	Hardened Steel		0.2	BN2000	70	0.10	0.06	0.10
	Cast Iron		0.2	H1	120	0.20	0.06	0.12
	Ductile		0.2	H1ZX	100	0.15	0.06	0.10
	Ductile		0.2	BNC500	120	0.15	0.06	0.10
	Aluminum		0.2	H1	200	0.20	0.06	0.12
	Aluminum		0.2	DA2200	300	0.20	0.06	0.12
EWN25	Carbon Steel/Alloy Steel	107	0.2	T1500A	180	0.15	0.06	0.12
	Stainless Steel		0.2	AC520U	140	0.15	0.06	0.12
	Hardened Steel		0.2	BN2000	80	0.10	0.06	0.10
	Cast Iron		0.2	H1	140	0.20	0.06	0.12
	Ductile		0.2	H1ZX	120	0.15	0.06	0.12
	Ductile		0.2	BNC500	180	0.15	0.06	0.10
	Aluminum		0.2	H1	200	0.20	0.06	0.12
	Aluminum		0.2	DA2200	400	0.20	0.06	0.12
EWN32 EWB32	Carbon Steel/Alloy Steel	122	0.2	T1500A	200	0.20	0.06	0.12
	Stainless Steel		0.2	AC520U	160	0.20	0.06	0.12
	Hardened Steel		0.2	BN2000	100	0.10	0.06	0.10
	Cast Iron		0.2	H1	160	0.20	0.06	0.12
	Ductile		0.2	H1ZX	120	0.15	0.06	0.12
	Ductile		0.2	BNC500	200	0.15	0.06	0.10
	Aluminum		0.4	H1	300	0.20	0.10	0.20
	Aluminum		0.4	DA2200	800	0.20	0.10	0.20
EWN41 EWE41 EWB41	Carbon Steel/Alloy Steel	122	0.2	T1500A	200	0.20	0.06	0.12
	Stainless Steel		0.2	AC520U	160	0.20	0.06	0.12
	Hardened Steel		0.4	BN2000	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	160	0.20	0.10	0.20
	Ductile		0.4	H1ZX	120	0.15	0.10	0.15
	Ductile		0.4	BNC500	200	0.15	0.10	0.15
	Aluminum		0.4	H1	300	0.20	0.12	0.20
	Aluminum		0.4	DA2200	800	0.20	0.12	0.20
EWN53 EWE53 EWB53	Carbon Steel/Alloy Steel	122	0.4	T1500A	250	0.25	0.10	0.20
	Stainless Steel		0.4	AC520U	180	0.25	0.10	0.20
	Hardened Steel		0.4	BN2000	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	180	0.25	0.10	0.20
	Ductile		0.4	H1ZX	120	0.20	0.10	0.20
	Ductile		0.4	BNC500	200	0.20	0.10	0.20
	Aluminum		0.8	H1	300	0.25	0.16	0.30
	Aluminum		0.4	DA2200	800	0.25	0.12	0.20
EWN68 EWN100 EWE68 EWE100 EWB68 EWB85	Carbon Steel/Alloy Steel	122	0.4	T1500A	250	0.25	0.10	0.20
	Stainless Steel		0.4	AC520U	180	0.25	0.10	0.20
	Hardened Steel		0.4	BN2000	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	180	0.25	0.10	0.20
	Ductile		0.4	H1ZX	120	0.20	0.10	0.20
	Ductile		0.4	BNC500	200	0.20	0.10	0.20
	Aluminum		0.8	H1	300	0.25	0.16	0.30
	Aluminum		0.8	DA2200	800	0.25	0.16	0.30
EWN200 (CK7)	Carbon Steel/Alloy Steel	172	0.4	T1500A	250	0.25	0.10	0.20
	Stainless Steel		0.4	AC520U	180	0.25	0.10	0.20
	Hardened Steel		0.4	BN2000	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	180	0.25	0.10	0.20
	Ductile		0.4	H1ZX	120	0.20	0.10	0.20
	Ductile		0.4	BNC500	200	0.20	0.10	0.20
	Aluminum		0.8	H1	300	0.25	0.16	0.30
	Aluminum		0.8	DA2200	800	0.25	0.16	0.30

<Cylindrical Tool Type>

Recommended Cutting Conditions

1. This table is a guideline for selecting cutting parameters.
Adjust them as needed according to the machine and workpiece conditions.
2. If chatter occurs, either lower the cutting speed or use an insert with a smaller nose radius.
3. Internal high pressure coolant may cause deflection of the cylindrical tool holder.
Lower the pressure when close tolerance is required.
4. Coated cermet T2000Z or T2500F is recommended to reduce wear when machining steel.
5. Dry cutting is recommended for CBN BN2000, BNC200, BNC500 and BN7000 inserts.



Max. Spindle Speed for Cylindrical Tool Type

Head Model	Max. Spindle Speed n
EWN04- 7CK1	30,000min ⁻¹
EWN04-15CK3	20,000min ⁻¹
EWN 2-22CK4	18,000min ⁻¹
EWB 2-32CK5	16,000min ⁻¹
EWE 2-32CK5	16,000min ⁻¹
EWN 2-32CK5	14,000min ⁻¹
EWB 2-50CK6	12,000min ⁻¹
EWE 2-54CK6	14,000min ⁻¹
EWN 2-50CK6	10,000min ⁻¹

The max. spindle speeds listed in this table are the speeds allowable for safe use of the boring head only.
Note that these values differ depending on the cylindrical tools used, machine rigidity, etc.

● Jig Boring Bit

Workpiece	Model	Cutting Speed Vc (m/min)	Cutting Depth (mm/ø)	Feed f (mm/rev)
Carbon Steel Alloy Steel	RBE 1	25	0.03	0.02
	RBE 1.5		0.04	
	RBE 2			
	RBE 3	50	0.05	
	RBE 4		0.06	
	RBE 5			
	RBE 7	60	0.10	
	RBE 9		0.12	
	Aluminum	RBE 1	30	
RBE 1.5		0.04		
RBE 2				
RBE 3		60	0.05	
RBE 4			0.06	
RBE 5				
RBE 7		80	0.10	
RBE 9			0.12	
			100	

● Cylindrical Tool Type/ST05, ST06 (Diameter ø6 - 9)

Workpiece	Projection Length	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ø)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	20	0.2	T1200A	100	0.2
	40			70	0.2
	50			50	0.2
	60			30	0.1
Stainless Steel	20	0.2	T1200A	90	0.2
	40			60	0.2
	50			40	0.2
	60			30	0.1
Cast Iron	20	0.2	H1	100	0.2
	40			70	0.2
	50			50	0.2
	60			30	0.1
Aluminum	20	0.2	H1	120	0.2
	40			100	0.2
	50			80	0.2
	60			60	0.2

Red figures are achievable with cylindrical tools made of carbide.

● Cylindrical Tool Type/ST08 (Diameter ø9 - 12)

Workpiece	Projection Length	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ø)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	20	0.2	T1500A	100	0.20
	30			120	0.20
	40			90	0.20
	50			75	0.15
	60			50	0.10
Stainless Steel	20	0.2	AC520U	100	0.20
	30			120	0.20
	40			90	0.20
	50			75	0.15
	60	0.1	A1	50	0.10
Hardened Steel	20	0.2	BN2000	70	0.10
	30			50	0.10
	40			20	0.10
Cast Iron	20	0.2	H1 (FN)	100	0.20
	30			120	0.20
	40			90	0.20
	50			75	0.15
	60			40	0.10
Aluminum	20	0.2	H1 (FLA)	150	0.20
	30			165	0.25
	40			150	0.20
	50			125	0.15
	60			60	0.15
				0.1	A1

Red figures are achievable with cylindrical tools made of carbide.

● **Cylindrical Tool Type/ST10 (Diameter $\phi 12 - 14$)**

Workpiece	Projection Length	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ ϕ)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	30	0.2	T1500A	120	0.20
	45			140	0.20
	60			100	0.20
	70			75	0.15
	80			50	0.10
Stainless Steel	30	0.2	AC520U	120	0.20
	45			130	0.20
	60			90	0.20
	70			55	0.15
	80			40	0.10
Hardened Steel	30	0.2	BN2000	80	0.10
	45			60	0.10
	60			30	0.10
Cast Iron	30	0.2	H1 (FN)	120	0.20
	45			130	0.20
	60			90	0.15
	75			60	0.15
	90			30	0.10
Aluminum	30	0.2	H1 (FLA)	150	0.25
	45			180	0.25
	60			150	0.20
	75			90	0.20
	90			60	0.15

Red figures are achievable with cylindrical tools made of carbide.

● **Cylindrical Tool Type/ST12 (Diameter $\phi 14 - 16$)**

Workpiece	Projection Length	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ ϕ)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	40	0.2	T1500A	120	0.20
	60			180	0.20
	80			150	0.20
	95			90	0.15
	110			50	0.10
Stainless Steel	40	0.2	AC520U	120	0.20
	60			130	0.20
	80			100	0.20
	95			70	0.15
	110			40	0.10
Hardened Steel	40	0.2	BN2000	80	0.10
	50			60	0.10
	65			30	0.10
Cast Iron	40	0.2	H1 (FN)	120	0.20
	60			130	0.20
	80			100	0.15
	95			70	0.15
	110			40	0.10
Aluminum	40	0.2	H1 (FLA)	150	0.25
	60			200	0.25
	80			180	0.20
	100			130	0.20
	120			60	0.15

Red figures are achievable with cylindrical tools made of carbide.

● **Cylindrical Tool Type/ST14 (Diameter $\phi 16 - 18$)**

Workpiece	Projection Length	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ ϕ)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	45	0.2	T1500A	130	0.20
	65			180	0.20
	80			150	0.20
	100			90	0.15
	120			50	0.10
Stainless Steel	45	0.2	AC520U	120	0.20
	65			130	0.20
	80			120	0.20
	100			80	0.15
	120			40	0.10
Hardened Steel	45	0.2	BN2000	80	0.10
	60			60	0.10
	75			30	0.10
Cast Iron	45	0.2	H1 (FN)	120	0.20
	65			130	0.20
	80			120	0.15
	100			80	0.15
	120			40	0.10
Aluminum	45	0.4	H1 (FLA)	150	0.25
	65			200	0.25
	80			180	0.20
	100			120	0.20
	120			60	0.15

Red figures are achievable with cylindrical tools made of carbide.

● **Cylindrical Tool Type/ST16 (Diameter $\phi 18 - 50$)**

Workpiece	Projection Length	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ ϕ)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	45	0.4	T1500A	130	0.20
	60			180	0.20
	80			150	0.20
	110			90	0.15
	140			50	0.10
Stainless Steel	45	0.4	AC520U	120	0.20
	60			130	0.20
	80			120	0.20
	110			80	0.15
	140			40	0.10
Hardened Steel	45	0.2	BN2000	80	0.10
	60			60	0.10
	80			30	0.10
Cast Iron	45	0.4	H1 (FN)	120	0.20
	60			130	0.20
	80			120	0.15
	110			80	0.15
	140			40	0.10
Aluminum	45	0.4	H1 (FLA)	150	0.25
	60			200	0.25
	80			180	0.20
	110			120	0.20
	140			60	0.15

Red figures are achievable with cylindrical tools made of carbide.

Feed Rate Selection

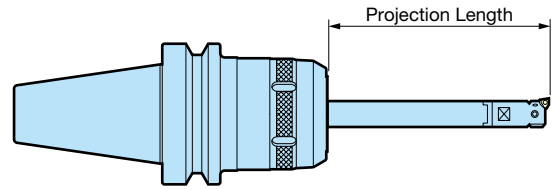
Suitable feed rate varies depending on the desired accuracy.
Refer to the following formula and determine the best parameters.

- In general, nose radius 0.2 should be used with $f = 0.06$
and radius 0.4 with $f = 0.10$
- These values are reference only.

$$\text{Theoretical surface roughness } R_z [\mu\text{m}] = \frac{(\text{Feed rate})^2}{8 \times \text{Nose radius}} \times 1,000$$

<EW MICRO HEAD>

1. This table is a guideline for selecting cutting parameters.
Adjust them as needed according to the machine and workpiece conditions.
2. Internal high pressure coolant may cause deflection of the holder.
Lower the pressure when close tolerance is required.
3. These conditions are determined when the cylindrical tool is mounted on the
BIG NEW Hi-POWER MILLING CHUCK or NEW BABY CHUCK.

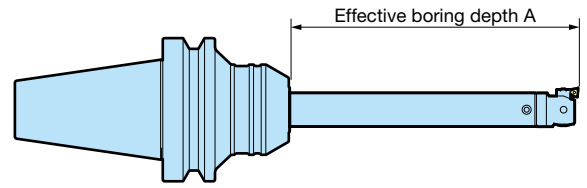


Workpiece	Projection Length	Diameter: $\phi 15 - 18$				Diameter $\phi 18 - 22$			
		ST14W-EW15-110. (140)				ST16W-EW18-100. (160)			
		Insert		Cutting Speed Vc	Cutting Depth	Insert		Cutting Speed Vc	Cutting Depth
Nose Radius	Grade	m/min	mm/ ϕ	Nose Radius	Grade	m/min	mm/ ϕ		
Carbon Steel Alloy Steel	20	0.2	T1200A	200	0.20	0.2	T1200A	200	0.20
	40			200	0.20			200	0.20
	60			180	0.20			200	0.20
	80			160	0.15			180	0.18
	100			120	0.15			150	0.15
	120			70	0.10			100	0.10
	140			30	0.10			60	0.10
	160			-	-			30	0.10
Stainless Steel	20	0.2	T1200A	150	0.20	0.2	T1200A	150	0.20
	40			150	0.20			150	0.20
	60			150	0.20			150	0.20
	80			130	0.15			140	0.18
	100			100	0.15			120	0.15
	120			70	0.10			100	0.10
	140			30	0.10			60	0.10
	160			-	-			30	0.10
Cast Iron	20	0.2	H1	150	0.20	0.2	H1	150	0.20
	40			150	0.20			150	0.20
	60			140	0.20			150	0.20
	80			120	0.15			140	0.18
	100			100	0.15			120	0.15
	120			60	0.10			100	0.10
	140			30	0.10			60	0.10
	160			-	-			30	0.10
Aluminum	20	0.2	H1	280	0.20	0.2	H1	320	0.20
	40			280	0.20			320	0.20
	60			280	0.20			320	0.20
	80			250	0.20			280	0.20
	100			180	0.15			220	0.15
	120			100	0.12			160	0.12
	140			60	0.12			100	0.12
	160			-	-			60	0.10

Cutting Conditions

<CK Carbide Cylindrical Shank>

1. This table is a guideline for selecting cutting parameters.
Adjust them as needed according to the machine and workpiece conditions.
2. Internal high pressure coolant may cause deflection of the holder.
Lower the pressure when close tolerance is required.
3. Coated cermet T2000Z or T2500F is recommended to reduce wear when machining steel.
4. T130A is recommended to prevent edge chipping for interrupted cutting of steel.
5. These conditions are determined when the cylindrical tool is mounted on the BIG HYDRAULIC CHUCK.



A

CK BORING SYSTEM

Head Model	Workpiece Material	A	Insert		Cutting Speed Vc (m/min)	Cutting Depth (mm/ø)	Feed f (mm/rev)	
			Nose Radius	Grade			Recommended	Max.
EWN20	Carbon Steel	90	0.2	T1500A	200	0.20	0.06	0.12
		150	0.2	T1500A	120	0.20	0.06	0.12
		175	0.2	T1500A	60	0.15	0.06	0.10
		200	0.2	T1500A	25	0.15	0.06	0.10
	Cast Iron	90	0.2	H1 (FN)	180	0.20	0.06	0.12
		150	0.2	H1 (FN)	120	0.20	0.06	0.12
		175	0.2	H1 (FN)	60	0.15	0.06	0.10
		200	0.2	H1 (FN)	25	0.15	0.06	0.10
	Aluminum	90	0.2	DA2200	400	0.20	0.06	0.12
		150	0.2	H1 (FLA)	200	0.20	0.06	0.12
		175	0.2	H1 (FLA)	100	0.20	0.06	0.10
		200	0.2	H1 (FLA)	40	0.15	0.06	0.10
230		0.1	A1 (FLA)	25	0.15	0.04	0.08	
EWN25	Carbon Steel	125	0.4	T1500A	200	0.25	0.08	0.15
		175	0.2	T1500A	120	0.20	0.06	0.12
		200	0.2	T1500A	60	0.20	0.06	0.10
		250	0.2	T1500A	25	0.15	0.06	0.10
	Cast Iron	125	0.4	H1 (FN)	180	0.25	0.08	0.15
		175	0.2	H1 (FN)	120	0.20	0.06	0.12
		200	0.2	H1 (FN)	60	0.20	0.06	0.10
		250	0.2	H1 (FN)	25	0.15	0.06	0.10
	Aluminum	125	0.4	DA2200	500	0.25	0.08	0.15
		175	0.4	H1 (FLA)	200	0.25	0.08	0.15
		200	0.2	H1 (FLA)	100	0.20	0.06	0.10
		250	0.2	H1 (FLA)	40	0.20	0.06	0.10
285		0.1	A1 (FLA)	25	0.15	0.04	0.08	
EWN32 EWB32	Carbon Steel	135	0.4	T1500A	200	0.25	0.08	0.15
		160	0.2	T1500A	130	0.20	0.06	0.12
		200	0.2	T1500A	80	0.20	0.06	0.10
		250	0.2	T1500A	25	0.15	0.06	0.10
	Cast Iron	135	0.4	H1 (FN)	180	0.25	0.08	0.15
		160	0.2	H1 (FN)	130	0.20	0.06	0.12
		200	0.2	H1 (FN)	80	0.20	0.06	0.10
		250	0.2	H1 (FN)	25	0.15	0.06	0.10
	Aluminum	135	0.4	DA2200	500	0.25	0.08	0.15
		160	0.4	H1 (FLA)	220	0.25	0.08	0.15
		200	0.2	H1 (FLA)	120	0.20	0.06	0.10
		250	0.2	H1 (FLA)	40	0.20	0.06	0.10
310		0.1	A1 (FLA)	25	0.15	0.04	0.08	

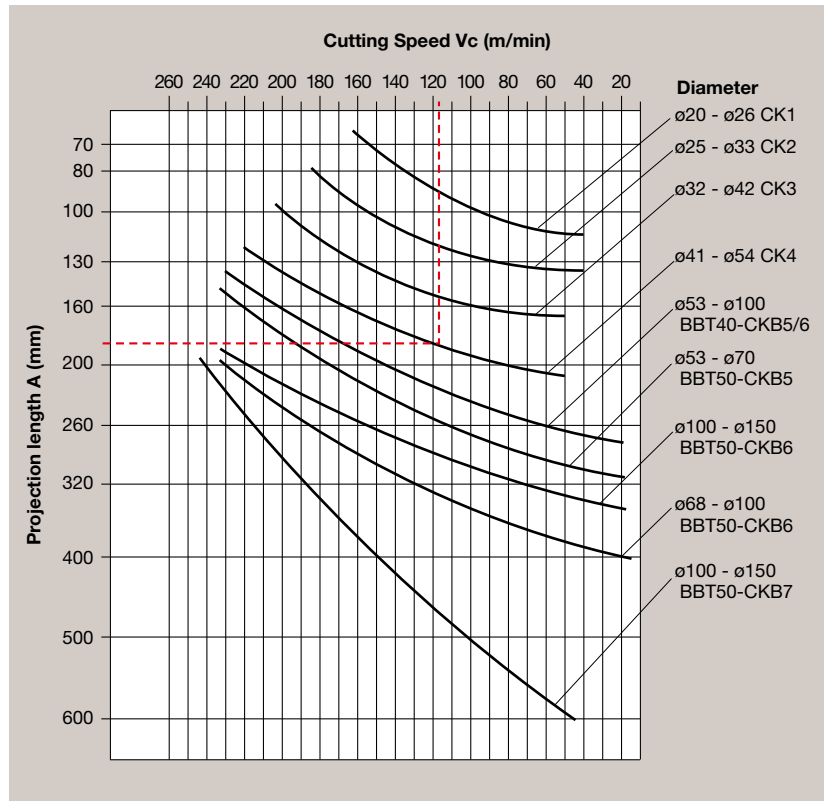
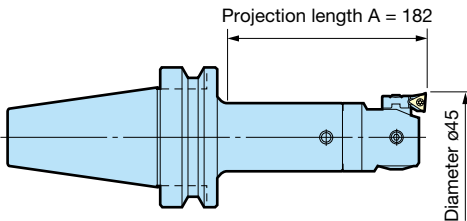
Cutting Speed Selection Graph for Cutting Steel

Chatter is always an issue in boring. The figure at right shows how the cutting speed (rotational speed) inevitably decreases as the bar becomes longer. Refer to the cutting conditions listed in this graph and on the previous pages when selecting the optimum cutting conditions. For cast iron, 10-20% longer projection length is generally permissible.

[Reference Example]

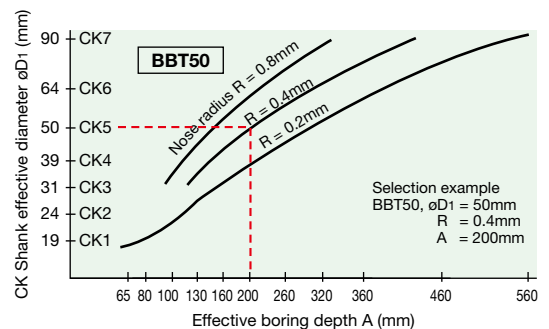
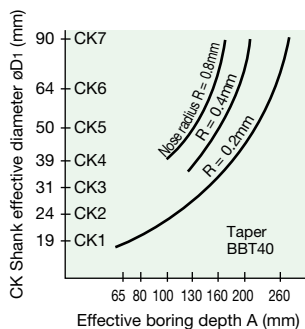
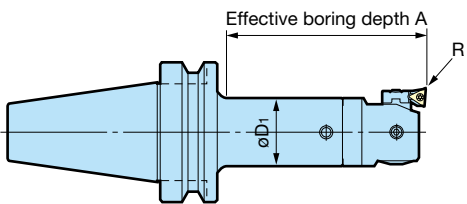
Indicated by - - - - in the graph at right

Example below shows the projection length A of 182mm; and the diameter of $\phi 45$ mm ($\phi 41 - \phi 54$ CK4). The recommended cutting speed is 118m/min. Select an appropriate cutting speed based on this reference example.



Relationship between Nose Radius and Effective Boring Depth

The insert nose radius and boring bar length (machining depth limit) are closely related. Refer to the graph below when selecting a CK Shank. Depths 1.1 - 1.3 times greater than listed in the graph are possible for cast iron (FC). Refer to the Cutting Conditions table on the previous page for information about cutting conditions. The cutting speed, in particular, inevitably decreases when the bar projection length increases. Refer to the above graph for details.



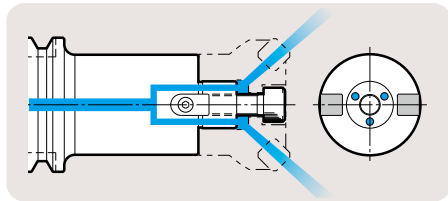


FACE MILL ARBOR TYPE H

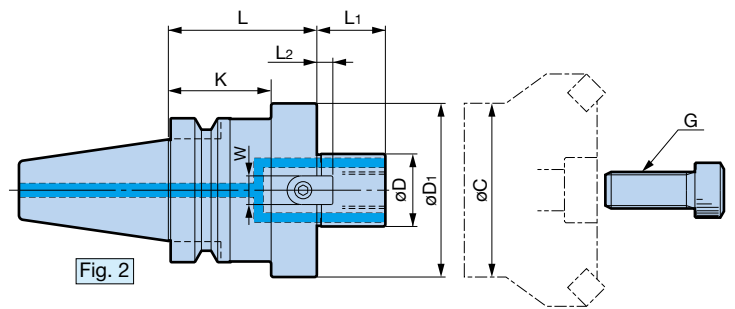
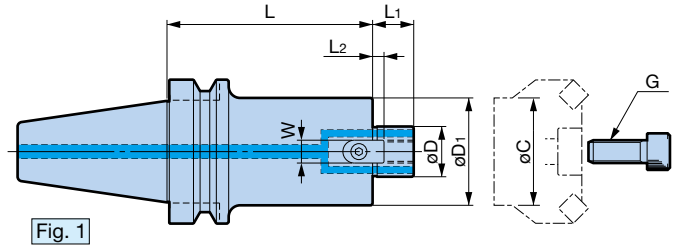
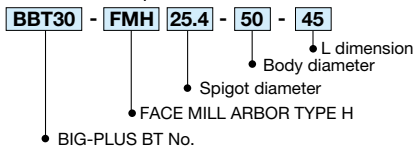
- Face mill arbor capable of securely supplying coolant/air to cutting edges through oil holes of cutters.



Securely supplies coolant/air to the cutting edge



● Model Description



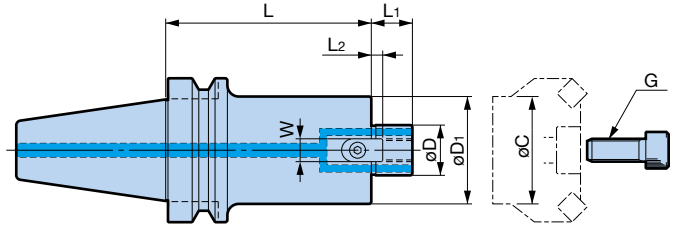
BBT30/40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	øD (h6)	øD ₁	L	L ₁	Drive Key		G	Weight (kg)	Min. flange diameter øC
						L ₂	W			
BBT30-FMH25.4 -50- 45 ○	2	25.4	50	45	22	5	9.5	M12	0.77	36
-FMH31.75 -60- 45 ○	2	31.75	60	45	30	7	12.7	M16	0.91	58
-FMH16 -37- 35	1	16	37	35	16	5	8	M 8	0.55	28
-FMH22 -47- 45 ○	2	22	47	45	18	5	10	M10	0.77	38
-FMH22 -60- 45 ○	2	22	60	45	18	5	10	M10	0.90	38
-FMH27 -60- 45 ○	2	27	60	45	20	6	12	M12	0.94	46
BBT40-FMH22.225-47- 60	1	22.225	47	60	17	3.5	8	M10	1.5	39
- 90				90					1.9	
-FMH25.4 -70- 60 ○	2	25.4	70	60	22	5	9.5	M12	2.0	46
- 90				90					2.7	
-105				105					3.1	
-FMH31.75 -76- 60 ○	2	31.75	76	60	30	7	12.7	M16	2.2	56
- 90				90					2.9	
-FMH31.75 -96- 60 ○	2	31.75	96	60	30	7	12.7	M16	2.5	
-FMH16 -37- 40	1	16	37	40	16	5	8	M 8	1.1	28
-FMH22 -47- 45	1	22	47	45	18	5	10	M10	1.3	38
- 60				60					1.5	
- 90				90					1.9	
-150				150					2.7	
-FMH22 -60- 45	1	22	60	45	18	5	10	M10	1.5	38
- 60				60					1.8	
- 90				90					2.5	
-FMH27 -60- 45	1	27	60	45	20	6	12	M12	1.5	46
- 60				60					1.8	
- 90				90					2.5	
-FMH27 -76- 60 ○	2	27	76	60	20	6	12	M12	2.1	48
- 90				90					2.8	
-FMH32 -96- 60 ○	2	32	96	60	22	7	14	M16	2.4	58

- The weight does not include the cutter.
- Cutter clamping screw is included.
If the standard clamping screw does not fit the cutter, select the suitable one from the clamping screw table and order it separately. A113
- When using a cutter without oil holes, an optional clamp screw with an oil hole allows coolant supply.
- øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.
- The ATC arm interference zone K of model numbers with ○ is 30mm for BBT30 and 45mm for BBT40.

- Face mill arbor capable of securely supplying coolant/air to cutting edges through oil holes of cutters.



● Model Description

BBT50 - **FMH** **22.225** - **47** - **60**

- BIG-PLUS BT No.
- FACE MILL ARBOR TYPE H
- Spigot diameter
- Body diameter
- L dimension

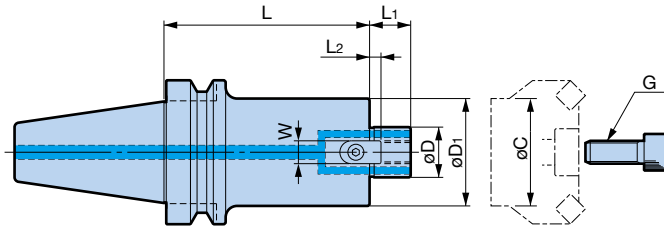
BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	øD (h6)	øD ₁	L	L ₁	Drive Key		G	Weight (kg)	Min. flange diameter øC
					L ₂	W			
BBT50-FMH22.225- 47- 60	22.225	47	60	17	3.5	8	M10	39	4.1
-105			105						4.7
-150			150						5.3
-200			200						6.0
-FMH25.4 - 70- 45	25.4	70	45	22	5	9.5	M12	46	4.0
- 60			60						4.5
- 90			90						5.4
-150			150						7.2
-200	200	8.7							
-FMH31.75 - 76- 45	31.75	76	45	30	7	12.7	M16	56	4.1
- 75			75						5.2
-105			105						6.3
-150			150						7.9
-200	200	9.7							
-FMH31.75 - 96- 45	31.75	96	45	30	7	12.7	M16	56	4.3
- 75			75						6.0
-105			105						7.7
-150			150						10.3
-200	200	13.1							
-FMH38.1 -100- 45	38.1	100	45	34	9	15.9	M20 (MBA-M20H)	70	4.4
- 75			75						6.3
-105			105						8.1
-150			150						10.9
-200	200	14.5							

1. The weight does not include the cutter.
2. Cutter clamping screw is included.
If the standard clamping screw does not fit the cutter, select the suitable one from the clamping screw table and order it separately. **A117**
3. When using a cutter without oil holes, an optional clamp screw with an oil hole allows coolant supply.
4. Detailed dimensions of clamping screw MBA-M20H. **A117**
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

FACE MILL ARBOR TYPE H



General Toolholder

BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	øD (h6)	øD ₁	L	L ₁	Drive Key		G	Weight (kg)	Min. flange diameter øC
					L ₂	W			
BBT50-FMH16 - 37- 60	16	37	60	16	5	8	M8	28	3.8
-105			105						4.1
-150			150						4.5
-200			200						4.9
-FMH22 - 47- 60	22	47	60	18	5	10	M10	36	4.1
-105			105						4.7
-150			150						5.3
-200			200						6.0
-250			250						6.7
-300			300						7.8
-FMH22 - 60- 60	22	60	60	18	5	10	M10	38	4.2
-105			105						5.2
-150			150						5.2
-200			200						7.4
-250			250						8.5
-300			300						9.6
-FMH27 - 60- 45	27	60	45	20	6	12	M12	46	3.9
- 90			90						5.0
-150			150						6.3
-200			200						7.4
-250			250						8.5
-300			300						9.6
-FMH27 - 76- 45	27	76	45	20	6	12	M12	48	4.0
- 90			90						5.6
-150			150						7.8
-200			200						9.7
-250			250						11.4
-300			300						13.2
-FMH32 - 96- 45	32	96	45	22	7	14	M16	58	4.2
- 90			90						6.8
-150			150						10.2
-200			200						13.3
-250			250						16.1
-300			300						19.0
-FMH40 -100- 45	40	100	45	26	8.5	16	M20 (MBA-M20H)	70	4.4
- 75			75						6.2
-105			105						8.1

- The weight does not include the cutter.
- Cutter clamping screw is included.
If the standard clamping screw does not fit the cutter, select the suitable one from the clamping screw table and order it separately. **A117**
- When using a cutter without oil holes, an optional clamp screw with an oil hole allows coolant supply.
- Detailed dimensions of clamping screw MBA-M20H. **A117**
- øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

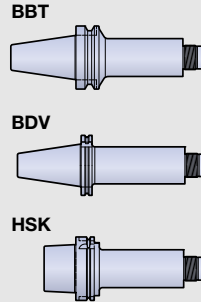
Built-in Damper SMART DAMPER

- Dynamic damper eliminates chatter.



System layout diagram

Basic Holder



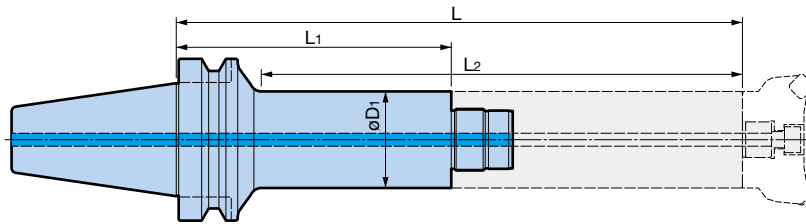
Damper head



Caution

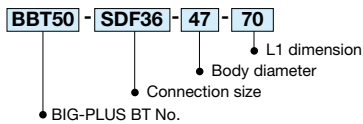
Damper head becomes unremovable from the basic holder once they are used for machining after assembled.

[Basic Holder]



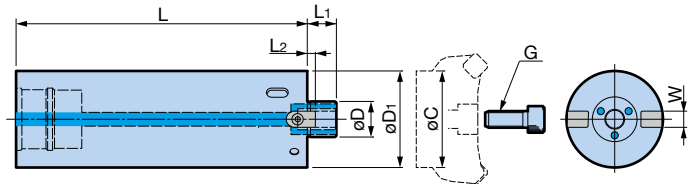
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Model Description

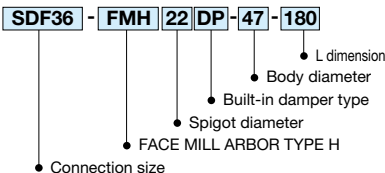


BIG-PLUS BBT SHANK Model	øD ₁	L	L ₁	L ₂	Weight (kg)	Applicable damper head
BBT50-SDF36-47- 70	47	250	70	197	4.3	FMH□□DP-47
-47-120		300	120	247	5.0	
-47-170		350	170	297	5.6	
-47-220		400	220	347	6.3	
-SDF36-60- 70	60	250	70	197	4.6	FMH□□DP-60
-60-120		300	120	247	5.7	
-60-170		350	170	297	6.7	
-60-220		400	220	347	7.8	
-SDF57-76- 70	76	250	70	197	5.3	FMH□□DP-76
-76-120		300	120	247	7.0	
-76-170		350	170	297	8.8	
-76-220		400	220	347	10.5	

[Damper Head]



Model Description



Model	øD	øD ₁	L	L ₁	L ₂	W	G	Weight (kg)	Wrench Model	Min. flange diameter øC
SDF36-FMH22DP-47-180	22	47	180	18	5	10	M10	3.0	FK45-50L	36
-60-180		60						38		
-FMH27DP-60-180	27	60	180	20	6	12	M12	4.5	FK58-62L	46
SDF57-FMH27DP-76-180		76						48		

1. Refer to the operation manual regarding the mounting method to the basic holder.
2. The weight does not include the cutter.
3. Hook wrench and cutter clamping screw are included.
4. If the standard clamping screw does not fit the cutter, select the suitable one from the clamping screw table and order it separately.
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor. Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

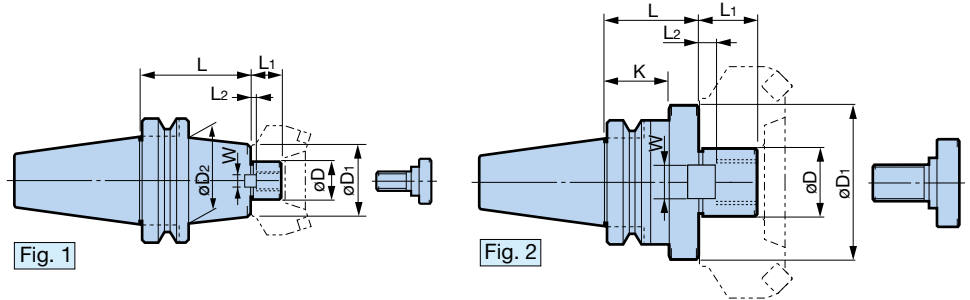
FACE MILL ARBOR TYPE A

General Toolholder



● Model Description

- BBT30** - **FMA** **22.225** - **45**
- BIG-PLUS BT No.
 - FACE MILL ARBOR TYPE A
 - Spigot diameter
 - L dimension



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	øD (h6)	øD ₁	øD ₂	L	L ₁	Drive Key		Clamping Screw	Weight (kg)
								L ₂	W		
BBT30-FMA22.225- 45	—	1	22.225	42	—	45	18	4	8.3	M10-40L	0.72
-FMA25.4 - 45	—	2	25.4	50	—	45	22	5	9.5	MBA-M12	0.86
—	BT30-FMA31.75 - 45	2	31.75	60	—	45	30	7	12.7	MBA-M16	1.07
BBT40-FMA25.4 - 45	BT40-FMA25.4 - 45	1	25.4	50	—	45	22	5	9.5	MBA-M12	1.5
- 90	- 90				60	90					2.3
-150 ※	—				150	3.4					
-FMA31.75 - 45	-FMA31.75 - 45				45	1.7					
- 75	- 75	1	31.75	60	—	45	30	7	12.7	MBA-M16	2.4
-105 ※	—				75	3.0					
-150 ※	—				105	4.0					
-FMA38.1 - 60 ○	-FMA38.1 - 60 ○				2	38.1					80

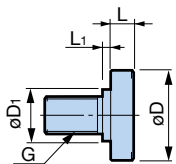
BT shank models with “-” are not standard products.

Models with ※ do not have a through hole.

1. These arbors are compatible with the JIS B4113 (1970) face milling cutters.
2. The weight does not include the cutter.
3. The model, dimensions and accuracy conform to TMT standards.
4. Cutter clamp screw is included.
5. Depending on the cutter, a hex socket head screw may be required for clamping.
6. A clamp screw with oil hole must be ordered separately for use with center through coolant/air.
7. The ATC arm interference zone K of the model with “○” is 45mm.

If there is no compatible model: **A113**
FACE MILL ARBOR TYPE H

Clamping Screw

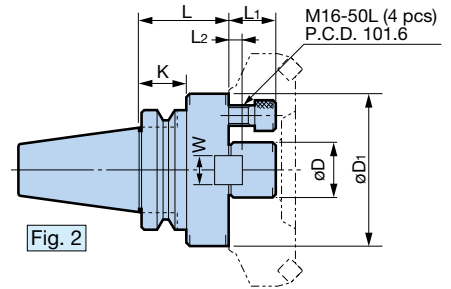
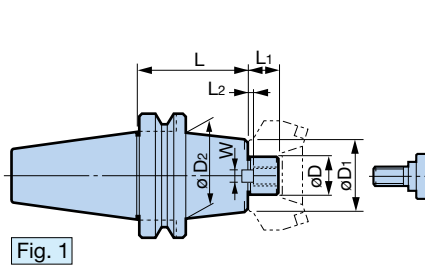
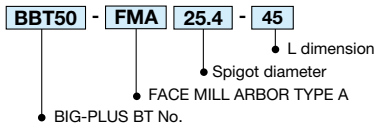


Clamping Screw		Clamping screw with oil hole				
Model	Model	øD	øD ₁	L	L ₁	G
MBA-M12	TMBA-M12	33	23	10	2	12
-M12H	—		—		—	
-M16	-M16	40	23	10	6	16
-M16H	—		—		—	
-M20	-M20	50	27	14	6	20
-M20H	—		—		—	
-M24	-M24	65	37	14	10	24

FACE MILL ARBOR TYPE A



● Model Description



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	øD (h6)	øD ₁	øD ₂	L	L ₁	Drive Key		Clamping Screw	Weight (kg)
								L ₂	W		
BBT50-FMA25.4 - 45	BT50-FMA25.4 - 45	1	25.4	50	70	45	22	5	9.5	MBA-M12	4.1
- 90	- 90					90					5.0
-150 ※	-150 ※					150					6.4
-200 ※	-					200					7.7
-250 ※						250					8.8
-300 ※						300					9.9
-350 ※						350					11.0
-FMA31.75 - 45	-FMA31.75 - 45	1	31.75	60	70	45	30	7	12.7	MBA-M16	4.2
- 75	- 75					75					5.1
-105	-105					105					5.6
-150 ※	-150 ※					150					6.7
-200 ※	-					200					8.3
-250 ※						250					9.6
-300 ※						300					10.9
-350 ※		350	12.2								
-FMA38.1 - 45	-FMA38.1 - 45	1	38.1	80	-	45	34	9	15.9	MBA-M20	4.6
- 75	- 75					75					5.4
-105	-105					105					6.7
-150 ※	-150 ※					150					8.5
-200 ※	-					200					10.4
-250 ※						250					12.4
-300 ※						300					14.3
-350 ※		350	16.3								
-FMA47.625- 75 ○	-	2	47.625	128.57	-	75	38	12.5	25.3	M16-50L (4 pcs)	8.1
-100 ※	-	1	50.8	100	-	100	36	10	19	MBA-M24	9.6
-150 ※	-					150					12.7
-FMA50.8 - 45	-FMA50.8 - 45					45					4.8
- 75	- 75	75	6.6								
-105	-105	105	8.5								
-150 ※	-	150	11.2								
-200 ※		200	14.3								
-250 ※		250	17.4								
-300 ※		300	20.4								
-350 ※		350	23.5								

BT shank models with "-" are not available. Please choose BBT shank models.

Models with ※ do not have a through hole.

- These arbors are compatible with the JIS B4113 (1970) face milling cutters.
- The weight does not include the cutter.
- The model, dimensions and accuracy conform to TMT standards.
- Cutter clamp screw is included.
- Depending on the cutter, a hex socket head screw may be required for clamping.
- A clamp screw with oil hole must be ordered separately for use with center through coolant/air.
- The ATC arm interference zone K of the model with "○" is 48mm.

Clamping screws **A117**

If there is no compatible model:
FACE MILL ARBOR TYPE H **A114**

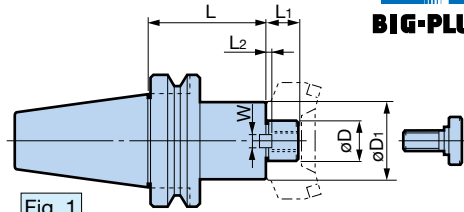


Fig. 1

● Model Description

- BBT40** - **FMB** **38.1** - **60**
- L dimension
 - Spigot diameter
 - FACE MILL ARBOR TYPE B
 - BIG-PLUS BT No.

Figures and shapes may be different depending on the dimension L.

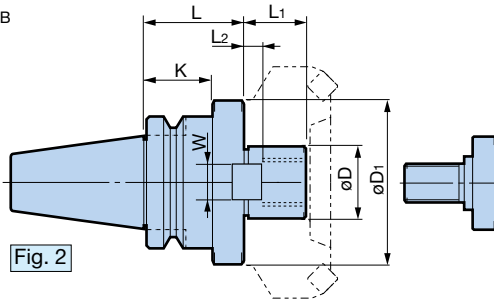


Fig. 2

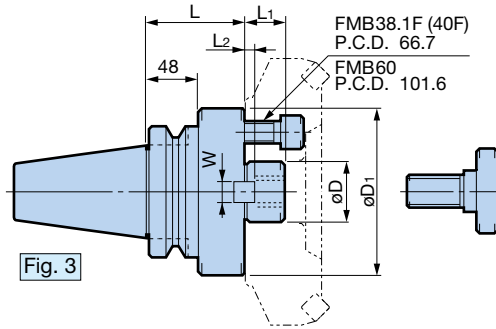


Fig. 3

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	Fig.	øD (h6)	øD ₁	L	L ₁	Drive Key		Clamping Screw	Weight (kg)
						L ₂	W		
BBT40-FMB38.1 - 60 ○	2	38.1	85	60	26	9	15.9	MBA-M20	2.3
- 75				2.9					
-105				3.4					
-FMB40 - 60 ○		40	85	60		8.5	16	MBA-M20	2.3
- 75	2.7								
BBT50-FMB38.1 -105	1	38.1	85	105	26	9	15.9	MBA-M20	6.7
-150				150					8.9
-FMB38.1F- 75	3	38.1	110	75		9	15.9	MBA-M20 or M12-45L (4 pcs)	6.6
-FMB40 - 45	1	40	85	45		8.5	16	MBA-M20	4.2
- 75				5.6					
-105				6.9					
-150				8.9					
-FMB40F - 75	3	40	110	75	8.5	16	MBA-M20 or M12-45L (4 pcs)	6.6	
-FMB60 - 75		60	140	75	25	12.5	25.4	M16-50L (4 pcs)	8.5

No through holes.

- The weight does not include the cutter.
- The model, dimensions and accuracy conform to TMT standards.
- Cutter clamp screw is included.
- Depending on the cutter, a hex socket head screw may be required for clamping.
- The ATC arm interference zone K of the model with "○" is 45mm.

Clamping screws **A117**
 If there is no compatible model:
 FACE MILL ARBOR TYPE H **A113**



Figures and shapes may be different depending on the dimension L.

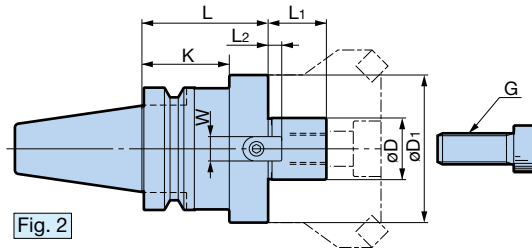


Fig. 2

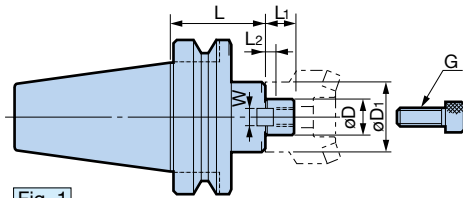


Fig. 1

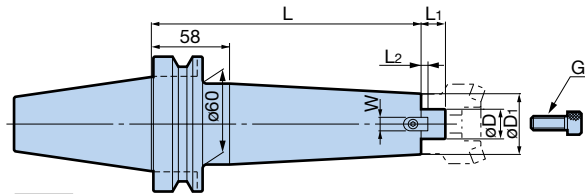


Fig. 3

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	øD (h6)	øD ₁	L	L ₁	Drive Key		G	Weight (kg)
							L ₂	W		
BBT30-FMC25.4 - 45	—	2	25.4	70	45	20	5	9.5	M12	1.00
-FMC16 - 45		1	16	32			5	8	M 8	0.58
-FMC22 - 45		1	22	45			5	10	M10	0.75
-FMC27 - 45		2	27	70			6	12	M12	1.03
BBT40-FMC22 - 45	BT40-FMC22 - 45	1	22	45	45	18	5	10	M10	1.3
- 90	90				1.7					
-150 ※	150				2.5					
-FMC27 - 60 ○	—	2	27	70	60	20	6	12	M12	2.0
- 90					90					2.6
-150 ※					150					4.1
-FMC32 - 60 ○	—	2	32	85	60	22	7	14	M16	2.1
- 75					75					2.5
-105					105					3.3
BBT50-FMC22 - 60	BT50-FMC22 - 60	1	22	45	60	18	5	10	M10	4.1
-105	-105				105					4.6
-150 ※	-150 ※	3	22	45	150	18	5	10	M10	4.9
-200 ※	—				200					6.5
-250 ※	—				250					7.3
-FMC32 - 45	—	1	32	85	45	22	7	14	M16	4.3
- 75					75					5.6
-105					105					7.0
-150 ※					150					8.7
-200 ※					200					10.9
-250 ※					250					13.1

BT shank models with "-" are not available. Please choose BBT shank models.

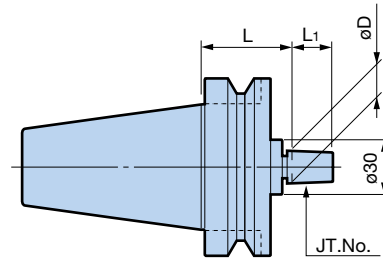
Models with ※ do not have a through hole.

- The weight does not include the cutter.
- The model, dimensions and accuracy conform to TMT standards.
- Cutter clamp screw is included.
- The ATC arm interference zone K of the model with "○" is 45mm.

If there is no compatible model:
 FACE MILL ARBOR TYPE H **A113**

JACOBS TAPER ARBOR

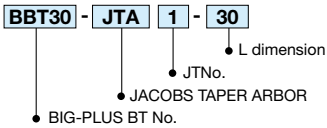
- Holder for mounting keyless chuck or rubber chuck.



General Toolholder

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

● Model Description



BIG-PLUS BBT SHANK Model	BT SHANK Model	JT.No.	øD	L	L ₁	Weight (kg)
BBT30- JTA1 - 30	BT30- JTA1 - 30	1	9.754	30	15	0.45
- JTA6 - 30	- JTA6 - 30	6	17.17		24	0.49
BBT40- JTA1 - 45	BT40- JTA1 - 45	1	9.754	45	15	1.2
-105	-105			105		1.5
- JTA6 - 45	- JTA6 - 45	6	17.17	45	24	1.2
-105	-105			105		1.6
BBT50- JTA6 - 45	BT50- JTA6 - 45	6	17.17	45	24	4.0
-105	-105			105		4.2

1. The model, dimensions and accuracy conform to TMT standards.
2. Drill chuck is not included.

SUPER KEYLESS CHUCK

Clamping diameter: ø0.5 - ø13

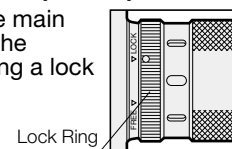
- Securely chucks the drill with simple operation.



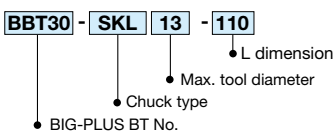
Integral holder type keyless chuck

Reverse lock mechanism (SKL13)

- No loosening even when the main spindle suddenly stops, by the reverse lock mechanism using a lock ring.
- Runout accuracy within 0.05mm



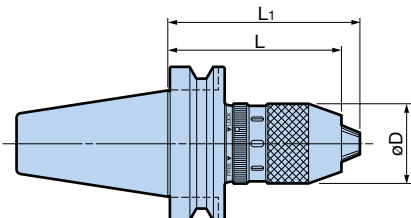
● Model Description



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

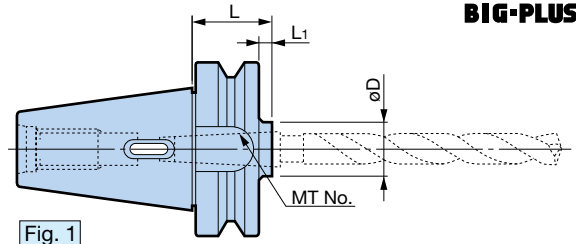
BIG-PLUS BBT SHANK Model	Clamping diameter	øD	L	L ₁	Weight (kg)	Wrench (Standard Accessory)
BBT30-SKL13 -110	ø0.5 - ø13	51	110	122.5	1.43	FS13LC
BBT40-SKL13 -105			106	118.5	1.9	
BBT50-SKL13 -115			115	127.5	4.4	
BBT30-KLC6.5- 70	ø0.5 - ø6.5	34	70	76.5	0.65	FS6.5LC
BBT40-KLC6.5- 75			75	81.5	1.2	

1. Hook wrench is included.
2. KLC type does not have the reverse lock mechanism.



MORSE TAPER HOLDER TYPE A (Tang Type)

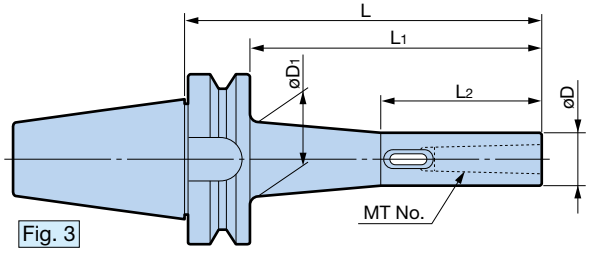
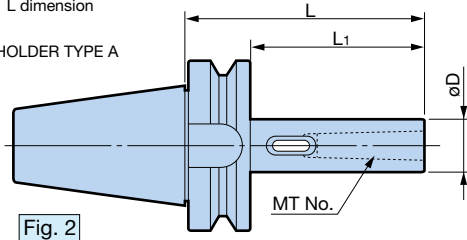
● Precise finish of the Morse taper bore provides stable runout accuracy.



● Model Description

BBT30 - **MTA** **1** - **60**

- L dimension
- MT.No.
- MORSE TAPER HOLDER TYPE A
- BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

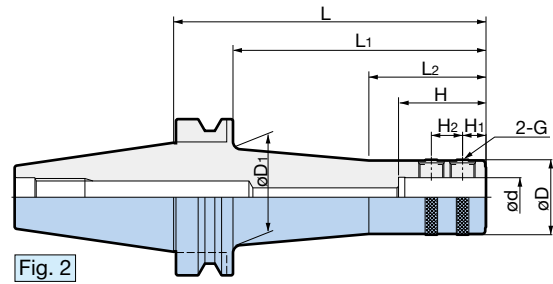
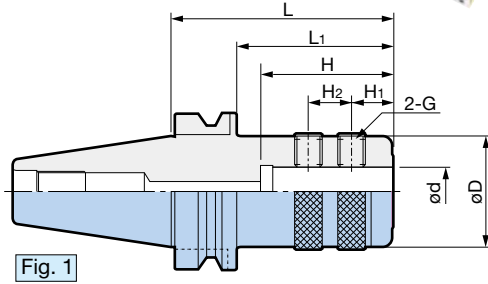
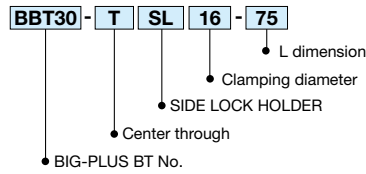
BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	MT. No.	øD	øD ₁	L	L ₁	L ₂	Weight (kg)	Reference drill diameter (* JIS B4302 1)	
BBT30-MTA1- 60	BT30-MTA1- 60	1	1	25	-	60	38	-	0.52	ø 3 - ø14	
-MTA2- 60	-MTA2- 60			32		60	38		0.55		
-MTA3- 80	-MTA3- 80			40		80	58		0.74		
BBT40-MTA1- 45	BT40-MTA1- 45	1	1	25	-	45	18	-	1.0	ø 3 - ø14	
-120	-120	2				120	93		1.3		
-MTA2- 45	-MTA2- 45	1	2	32	-	45	18	-	1.0	ø14.5 - ø23	
-120	-120	2				120	93		1.6		
-MTA3- 75	-MTA3- 75	1	3	40	-	75	48	-	1.0	ø23.5 - ø31.5	
-135	-135	2				135	108		1.7		
-MTA4- 90	-MTA4- 90	2	4	50	-	90	63	-	1.6	ø32 - ø50	
BBT50-MTA1- 45	BT50-MTA1- 45	1	1	25	-	45	7	-	3.9	ø 3 - ø14	
-120	-120	2				120	82		4.2		
-180	-180	3				180	142		4.3		
-210	-					41	210		172		4.4
-250	-					43	250		212		4.8
-MTA2- 45	-MTA2- 45	1	2	32	-	45	7	-	3.9	ø14.5 - ø23	
-135	-135	2				135	97		4.3		
-180	-180	3				180	142		4.6		
-210	-					45.5	210		172		4.8
-250	-					48.5	250		212		5.2
-300	-	49.5	300	262	5.8						
-MTA3- 45	-MTA3- 45	1	3	40	-	45	7	-	3.8	ø23.5 - ø31.5	
- 75	-	2				75	37		3.9		
-150	-150	3				150	112		4.6		
-180	-180					180	142		4.9		
-210	-					210	172		5.1		
-250	-	4	250	212	5.6						
-300	-		300	262	6.3						
-MTA4- 75	-MTA4- 75	1	4	50	-	75	37	-	3.9	ø32 - ø50	
-180	-180	2				180	142		5.4		
-210	-	2				210	172		5.6		
-250	-					250	212		6.2		
-300	-					300	262		7.0		
-MTA5-105	-MTA5-105	1	5	65	-	105	67	-	4.5	ø51 - ø76	
-210	-210	2				210	172		7.2		

BT shank models with "-" are not available. Please choose BBT shank models.

1. The model, dimensions and accuracy conform to TMT standards.



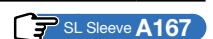
● Model Description



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	ød	øD	ød ₁	L	L ₁	L ₂	H	H ₁	H ₂	G	Weight (kg)
BBT30-TSL16- 75	-	1	16	48	-	75	-	-	48	14	14	M10	1.03
-TSL20- 75			20			50			0.98				
-TSL25- 80			25	80		0.97							
-TSL32- 85			32	63		85	60		15	20	M16	1.38	
BBT40-TSL16- 90	BT40-TSL16- 90	1	16	48	-	90	63	-	48	14	14	M10	1.7
-105	-		105	78		1.9							
-TSL20- 90	-TSL20- 90		20	48		90	63		50	14	14	M10	1.7
-105	-		105	78		1.9							
-TSL25- 90	-TSL25- 90		25	48		90	63		56	15	20	M16	1.6
-105	-105		105	78		1.8							
-TSL32-105	-TSL32-105		32	63		105	78		60	15	20	M16	2.4
-135	-		135	108		3.0							
-TSL40-105	-TSL40-105	40	68	105	-	70	15	25	M16	2.4			
BBT50-TSL16- 90	BT50-TSL16- 90	1	16	48	-	90	52	-	48	14	14	M10	4.2
-135	-					135	97						4.8
-165	-					165	127						5.2
-200	-	2	-	-	62.5	200	162	75	6.1				
-TSL20- 90	-TSL20- 90					1	20	48	-	90	52	50	14
-135	-135	135	97	4.8									
-165	-165	165	127	5.2									
-200	-	2	-	-	62.5	200	162	75	6.0				
-250	-					64	250	212	90	6.8			
-TSL25-105	-TSL25-105	1	25	48	-	105	67	-	56	15	20	M16	4.3
-135	-135					135	97						4.7
-165	-165					165	127						5.1
-200	-	2	-	-	62.5	200	162	75	5.9				
-250	-					64	250	212	90	6.7			
-TSL32-105	-TSL32-105	1	32	63	-	105	67	-	60	15	20	M16	4.8
-135	-135					135	97						5.5
-165	-165					165	127						6.2
-200	-					200	162						6.9
-250	-					250	212						8.0
-TSL40-105	-TSL40-105	1	40	68	-	105	67	-	70	15	25	M16	4.8
-135	-135					135	97						5.6
-165	-165					165	127						6.4
-200	-					200	162						7.3
-250	-					250	212						8.6
-TSL50-105	-TSL50-105	1	50	84	-	105	67	-	70	15	25	M16	5.4
-150	-					150	112						7.2

● BT shank models with "-" are not available. Please choose BBT shank models.
Not compatible with Weldon DIN 1835B.



Clamping diameter: $\varnothing 20 - \varnothing 40$

SIDE LOCK HOLDER TYPE SLE

- Drill diameter adjustment mechanism enables drilling within $\pm 0.1\text{mm}$ tolerance.
(Adjustment amount: $-0.2\text{mm}/\varnothing - +1.0\text{mm}/\varnothing$)

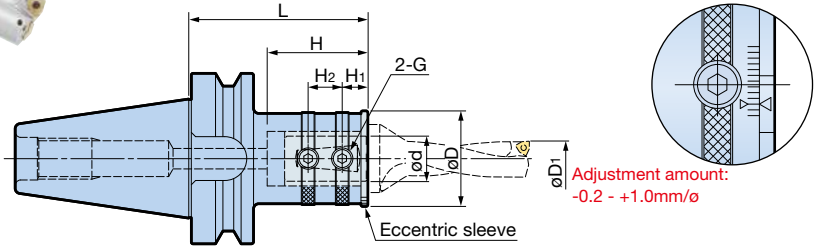


Drill diameter adjustment mechanism

● Model Description

BBT40 - **T** **SLE** **20** - **90**

- L dimension
- Clamping diameter
- SIDE LOCK HOLDER with drill diameter adjustment mechanism
- Center through
- BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	$\varnothing d$	$\varnothing D$	L	H	H ₁	H ₂	G	Weight (kg)	Compatible drill diameter ($\varnothing D_1$)
BBT40-TSLE20- 90	20	50	90	53	14	14	M10	1.7	12 - 19.8
-TSLE25- 90	25	56		59	15	20	M12	1.8	20 - 24.5
-TSLE32-105	32	66	105	63	16	20	M12	2.5	25 - 29.5
BBT50-TSLE20-105	20	50	105	53	14	14	M10	4.5	12 - 19.8
-TSLE25-105	25	56		59	15	20	M12	4.6	20 - 24.5
-TSLE32-105	32	66		63	16	20	M12	4.9	25 - 29.5
-TSLE40-105	40	80		73	18	25	M16	5.4	30 - 36

Caution

- External insert and flat of the drill shank should be aligned with each other.
Drills without this alignment cannot be used.

- Substantial Side Lock Holder allows high cross feed of endmilling.



General Toolholder



● Model Description

BBT30 - ISL 6 - 60

- L dimension
- Clamping diameter
- SIDE LOCK ENDMILL HOLDER
- BT SHANK No.

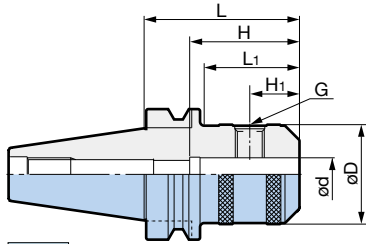


Fig. 1

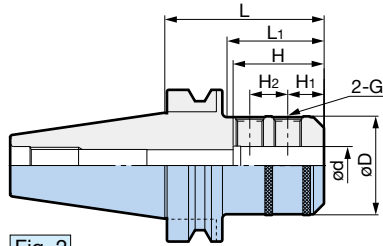


Fig. 2

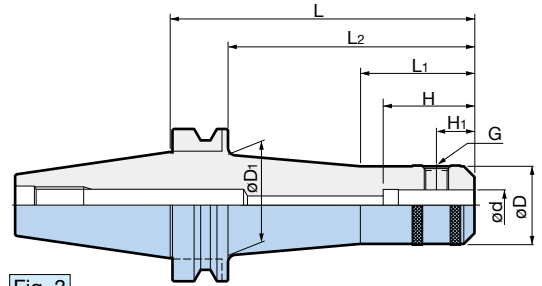


Fig. 3

Endmill holder in accordance with ISO5414

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	$\varnothing d$ (H5)	$\varnothing D$	$\varnothing D_1$	L	L ₁	L ₂	H	H ₁	H ₂	G	Weight (kg)	
BBT30-ISL 6- 60	-	1	6	25	-	60	35	-	(85)	18	-	M 6	0.52	
-ISL 8- 60			8	28					45	20		M 8	0.55	
-ISL10- 60			10	35					48	22.5		M10	0.64	
-ISL12- 60			12	42					53	24		M12	0.74	
-ISL16- 60			16	48					38	24		M14	0.81	
BBT40-ISL 6- 75	-	1	6	25	-	75	38	-	(110)	18	-	M 6	1.2	
-ISL 8- 75			8	28						20		M 8		
-ISL10- 75			10	35						22.5		M10	1.5	
-ISL12- 75			12	42						53		24		M14
-ISL16- 75			16	48						45		25	M16	1.6
-ISL20- 75			20	52						55		25	M16	1.6
-ISL25- 90	-ISL25- 90	2	25	63.5	-	90	63	60	24	25	M18xP2	2.1		
-ISL32-105	-ISL32-105		32	72		105	-	82	24	28	M20xP2	2.9		
BBT50-ISL16- 90	-	1	16	48	-	90	49	-	(145)	24	-	M14	4.4	
-150		3				150	60		107				(205)	5.0
-ISL20- 90	BT50-ISL20- 90	1	20	52	-	90	49	-	(145)	25	-	M16	4.5	
-150	-	3				150	60		107				60	5.3
-ISL25-105	-ISL25-105	2	25	65	-	105	64	-	60	24	25	M18xP2	4.6	
-150	-					150	107		60				5.3	
-ISL32-105	-ISL32-105	2	32	72	-	105	62	-	90	24	28	M20xP2	5.3	
-150	-					150	107		90				6.1	
-ISL40-120	-ISL40-120	2	40	90	-	120	79	-	90	30	32	M20xP2	6.5	
-150	-					150	109		90				8.1	
-ISL42-120	-ISL42-120	2	42	90	-	120	79	-	90	30	32	M20xP2	6.5	
-150	-					150	109		90				8.0	
-ISL50-121	-ISL50-121	2	50	99.5	-	121	83	-	90	35	35	M24xP2	7.2	

BT shank models with "-" are not available. Please choose BBT shank models.

1. Although a through hole is provided, the air-bleeding hole needs to be plugged for use with center through coolant.
2. For use with center through coolant in drilling, use the SIDE LOCK DRILL HOLDER. **A123**
3. H dimensions in () are reference length up to the PULLSTUD BOLT.

Clamping diameter: $\phi 50.8$

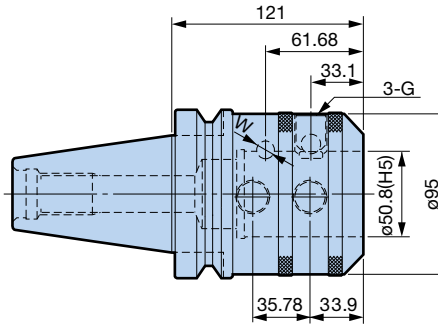
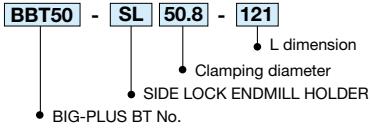
SIDE LOCK ENDMILL HOLDER

● Pin lock type holder for endmill.

[Pin Lock Type] BIG original standard product



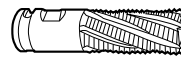
● Model Description



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	BT SHANK Model	G	Clamping screw	W	Weight (kg)
BBT50-SL50.8-121	BT50-SL50.8-121	M20	K2025F	$\phi 11.1$	6.2

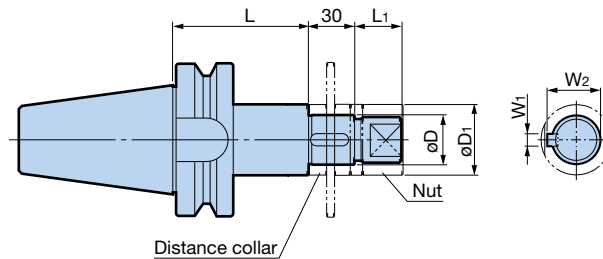
- This holder is compatible with pin lock type endmill.
- Clamping screws are included.



General Toolholder

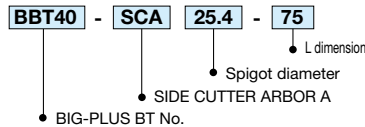
SIDE CUTTER ARBOR

● Arbor for JIS standard side cutters and slitting saws.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

● Model Description



- Nut is included.
- One collar each of thickness 5, 8, 10 and 12 is included.
- The model, dimensions and accuracy conform to TMT standards.

BIG-PLUS BBT SHANK Model	ϕD (h6)	ϕD_1	W_2	W_1	L	L_1	Weight (kg)
BBT40-SCA25.4 - 75	25.4	40	27.78	6.35	75	25	1.9
-120					120		2.3
-SCA31.75- 75	31.75	46	34.92	7.92	75	30	2.4
BBT50-SCA25.4 - 90	25.4	40	27.78	6.35	90	25	4.7
-135					135		5.1
-SCA31.75- 90	31.75	46	34.92	7.92	90	30	5.1
-135					135		5.7
-SCA38.1 - 90	38.1	55	42.06	9.52	90	36	5.8
-135					135		6.8

[Distance Collar] for side cutter arbor

Body Model	SCA25.4	SCA31.75	SCA38.1
Thickness	Distance collar model		
5	SC254C 5	SC3175C 5	SC381C 5
8	SC254C 8	SC3175C 8	SC381C 8
10	SC254C10	SC3175C10	SC381C10
12	SC254C12	SC3175C12	SC381C12

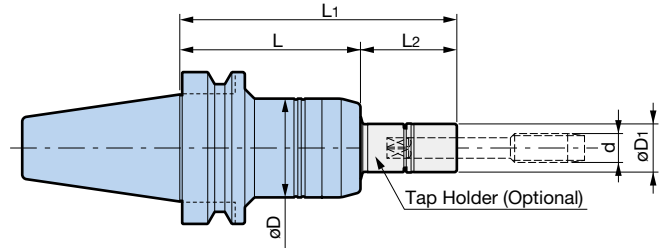
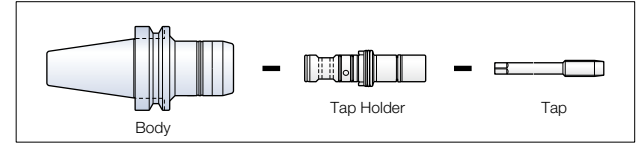
TAPPER

Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.

- Long tap holder now available as standard in addition to various tap sizes.



For tap holders **A128**.



● Model Description (Body)

- BBT30** - **MGT6** - **70**
- L dimension
 - MEGA SYNCHRO No.
 - BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Tap Holder Model	Tapping range d	øD	øD ₁	L	L ₁	L ₂	Body weight (kg)
BBT30-MGT 6- 70	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	70	100	30	0.69
	- 70					140	70	
	-100					170	100	
-MGT12- 70	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	70	100	30	0.74
	- 70					140	70	
	-100					170	100	
-MGT20-110	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	110	145	35	1.45
	- 85					195	85	
	-115					225	115	
BBT40-MGT 6- 75	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	75	105	30	1.3
	- 70					145	70	
	-100					175	100	
-MGT12- 75	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	75	105	30	1.4
	- 70					145	70	
	-100					175	100	
-MGT20- 95	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	95	130	35	1.8
	- 85					180	85	
	-115					210	115	
BBT50-MGT 6- 90	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	90	120	30	3.9
	- 70					160	70	
	-100					190	100	
-MGT12- 90	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	90	120	30	4.0
	- 70					160	70	
	-100					190	100	
-MGT20-105	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	105	140	35	4.4
	- 85					190	85	
	-115					220	115	

- MGT Set Screw is included.
- Tap holder must be ordered separately.

Cannot be used with machining center without synchronized tapping function.

Tap holders **A128**

$L_2 = 150, 200$ mm
long tap holders are also available.
For details, **A128**

MEGA SYNCHRO TAPPING HOLDER PAT.

TAPPER

DUAL CONTACT

BBT/BT
SHANK

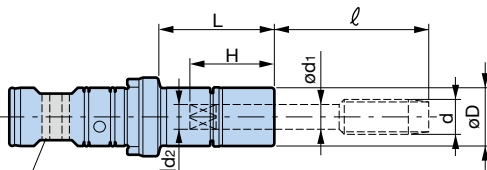
Tap Holder PAT. (MGT6, MGT12) for JIS

- From short to long (150mm, 200mm)...

Abundant Tap Holders avoid workpiece interference flexibly.

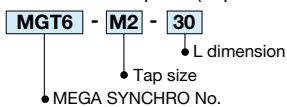


Long type has also been standardized



Synchro Adjuster Soft Type (Standard accessory)

- Model Description (Tap Holder)



MGT6 (Tapping range: M2 - M6)

Tap Holder Model	Tapping range d					ød ₁	□ d ₂	H	L	øD	Weight (kg)	
	Metric	ℓ	Pipe	ℓ	Unify							ℓ
MGT6-M 2 - 30	M2 - M2.6	21			No.3	21	3	2.5	19	16	30	0.12
					No.4						70	0.18
											100	0.23
											150	0.31
-M 3 - 30	M3	25			No.5	25	4	3.2	21	16	30	0.12
					No.6						70	0.18
											100	0.23
											150	0.31
-M 4 - 30	M4	27			No.8	27	5	4	25	16	30	0.12
											70	0.18
											100	0.22
											150	0.37
-M 5 - 30	M5	35			No.10	35	5.5	4.5	25	16	30	0.12
					No.12						70	0.18
											100	0.22
											150	0.3
-M6 U1/4- 30	M6	37			U1/4	37	6	4.5	25	16	30	0.12
											70	0.17
											100	0.22
											150	0.3
											200	0.37

Refer to the remarks in the table below.

MGT12 (Tapping range: M6 - M12)

Tap Holder Model	Tapping range d					ød ₁	□ d ₂	H	L	øD	Weight (kg)	
	Metric	ℓ	Pipe	ℓ	Unify							ℓ
MGT12-M 6 U1/4- 30	M6	35			U1/4	35	6	4.5	27	20	30	0.19
											70	0.29
											100	0.36
											150	0.48
											200	0.6
-U5/16 - 30					U5/16	42	6.1	5	28	20	30	0.19
											70	0.29
											100	0.36
											150	0.48
											200	0.6
-M 8 - 30	M7, M8	42					6.2	5	28	20	30	0.19
											70	0.29
											100	0.36
											150	0.48
											200	0.6
-M10 U3/8- 30	M9, M10	47			U3/8	47	7	5.5	28	20	30	0.19
											70	0.28
											100	0.35
											150	0.47
											200	0.59
-U7/16 P1/8- 30			P1/8	26	U7/16	51	8	6	29	20	30	0.18
											70	0.28
											100	0.35
											150	0.46
											200	0.58
-M12 - 30	M12	53					8.5	6.5	29	20	30	0.18
											70	0.27
											100	0.34
											150	0.46
											200	0.58



Caution

Refer to the precautionary notes on **A129** for tap types.

1. Nut is included. Wrench must be ordered separately.

2. Tap projection length ℓ is a reference figure in accordance with JIS standards.

Mega Wrench **A132**

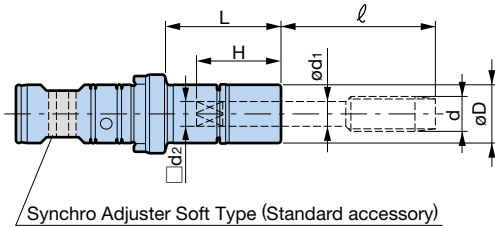
BIG A123

Tap Holder PAT. (MGT20) for JIS

TAPPER

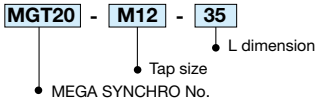


Long type has also been standardized



Synchro Adjuster Soft Type (Standard accessory)

● Model Description (Tap Holder)



MGT20 (Tapping range: M12 - M20)

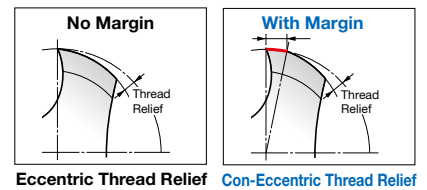
Tap Holder Model	Tapping range d						ød ₁	□ d ₂	H	L	øD	Weight (kg)
	Metric	ℓ	Pipe	ℓ	Unify	ℓ						
MGT20-M12 - 35	M12	53					8.5	6.5	29	35	30	0.55
- 85										85		0.82
-115										115		0.98
-150										150		1.17
-U1/2 - 35					U1/2	55	9	7	30	35	30	0.55
- 85										85		0.82
-115										115		0.98
-150										150		1.17
-M14 U9/16- 35	M14	55			U9/16	57	10.5	8	33	35	30	0.53
- 85										85		0.79
-115										115		0.95
-150										150		1.14
-P1/4 - 35			P1/4	31			11	9	31	35	30	0.53
- 85										85		0.79
-115										115		0.95
-150										150		1.14
-U5/8 - 35					U5/8	61	12	9	34	35	30	0.52
- 85										85		0.78
-115										115		0.94
-150										150		1.13
-M16 - 35	M16	60					12.5	10	35	35	30	0.52
- 85										85		0.77
-115										115		0.93
-150										150		1.11
-M18 U3/4- 35	M18	64			U3/4	69	14	11	36	35	30	0.51
- 85										85		0.76
-115										115		0.92
-150										150		1.1
-P3/8 - 35			P3/8	32			14	11	33	35	30	0.51
- 85										85		0.76
-115										115		0.92
-150										150		1.1
-M20 - 35	M20	68					15	12	37	35	30	0.49
- 85										85		0.74
-115										115		0.89
-150										150		1.06

- Nuts are included, but wrench must be ordered separately.
- Tap projection length ℓ is a reference figure in accordance with JIS standards.



⚠ Cautions: Tap Types

Threads are more likely to expand when using a tap which has no margin on the periphery and low self-guiding properties, as with eccentric thread relief. In this case, change to the separately sold Synchro Adjuster (hard type) or use a collet chuck.



MEGA SYNCHRO TAPPING HOLDER PAT.

TAPPER

DUAL CONTACT

BBT/BT
SHANK

Tap Holder PAT. (MGT6, MGT12) for DIN / ISO



MGT6 (Tapping range: DIN: M3 - M8 ISO: M3 - M5)

Tap Holder Model	Tapping range d (DIN)				Tapping range d (ISO)		ød ₁	□ d ₂	H	L	øD	Weight (kg)
	DIN371	DIN376	DIN353	ISO529	ISO2284							
MGT6-031025- 30						3.15	2.5	20	30	16	0.12	
- 70					70				0.18			
-100				M3	100				0.23			
-150					150				0.31			
-035027- 30					30				0.12			
- 70	M3	M5			70	0.18						
-100					100	0.23						
-150					150	0.31						
-040032- 30							30	0.12				
- 70						M4	70	0.18				
-100					100	0.23						
-150					150	0.31						
-045034- 30					30	0.12						
- 70	M4	M6			70	0.18						
-100					100	0.22						
-150					150	0.30						
-050040- 30							30	0.12				
- 70						M5	70	0.18				
-100					100	0.22						
-150					150	0.30						
-200					200	0.37						
-060049- 30					30	0.12						
- 70	M5, M6	M8			70	0.17						
-100					100	0.22						
-150					150	0.30						
-200					200	0.37						
-060049- 30							30	0.12				
- 70				M5	70	0.17						
-100					100	0.22						
-150					150	0.30						
-200					200	0.37						

1. Nuts are included, but wrench must be ordered separately.

MGT12 (Tapping range: DIN: M5 - M12 ISO: M6 - M12)

Tap Holder Model	Tapping range d (DIN)				Tapping range d (ISO)		ød ₁	□ d ₂	H	L	øD	Weight (kg)
	DIN371	DIN376	DIN353	ISO529	ISO2284							
MGT12-060049- 30						6.0	4.9	28	30	20	0.19	
- 70	M5, M6	M8			70				0.29			
-100					100				0.36			
-150					150				0.48			
-200					200				0.60			
-063050- 30							30	0.19				
- 70				M6	70	0.29						
-100					100	0.36						
-150					150	0.48						
-200					200	0.60						
-070055- 30					30	0.19						
- 70	M10	1/8			70	0.28						
-100					100	0.35						
-150					150	0.47						
-200					200	0.59						
-080063- 30							30	0.18				
- 70	M8			M8	70	0.28						
-100					100	0.35						
-150					150	0.46						
-200					200	0.58						
-090071- 30						30	0.18					
- 70	M12				70	0.27						
-100					100	0.34						
-150					150	0.46						
-200					200	0.58						
-100080- 35							35	0.28				
- 85	M10			M10	85	0.49						
-115					115	0.61						
-150					150	0.76						

1. Nuts are included, but wrench must be ordered separately.

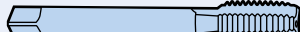
DIN Tap

DIN 371



Machine tap with reinforced shank

DIN 376



Machine tap with slender shank



Caution

Refer to the precautionary notes on

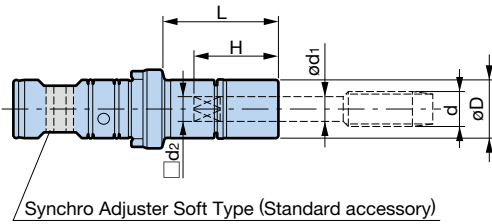


A129

when selecting a tap.

Tap Holder PAT. (MGT20) for DIN / ISO

TAPPER



MGT20 (Tapping range: DIN: M10 - M20 ISO: M10 - M20)

Tap Holder Model	Tapping range d (DIN)			Tapping range d (ISO)		ød ₁	□ d ₂	H	L	øD	Weight (kg)
	DIN371	DIN376	DIN353	ISO529	ISO2284						
MGT20-090071- 35									35	30	0.55
- 85									85		0.82
-115		M12		M12		9.0	7.1	30	115		0.98
-150									150		1.17
-100080- 35									35		0.54
- 85				M10	1/4	10.0	8.0	33	85		0.80
-115									115		0.96
-150									150		1.15
-110090- 35									35		0.53
- 85		M14	1/4			11.0	9.0	34	85		0.79
-115									115		0.95
-150									150		1.14
-112090- 35									35		0.53
- 85				M14		11.2	9.0	34	85		0.79
-115									115		0.95
-150									150		1.14
-120090- 35									35		0.52
- 85		M16	3/8			12.0	9.0	34	85		0.78
-115									115		0.94
-150									150		1.13
-125100- 35									35	0.52	
- 85				M16	3/8	12.5	10.0	35	85	0.77	
-115									115	0.93	
-150									150	1.11	
-140110- 35									35	0.51	
- 85		M18				14.0	11.0	36	85	0.76	
-115									115	0.92	
-150									150	1.10	
-140112- 35									35	0.51	
- 85				M18, M20		14.0	11.2	36	85	0.76	
-115									115	0.92	
-150									150	1.10	
-160120- 35									35	0.51	
-150		M20	1/2			16.0	12.0	37	150	1.10	

1. Nuts are included, but wrench must be ordered separately.



DIN Tap

DIN 371 Machine tap with reinforced shank

DIN 376 Machine tap with slender shank

Caution

Refer to the precautionary notes on **A129** when selecting a tap.

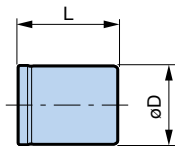
MEGA SYNCHRO TAPPING HOLDER PAT.

TAPPER

DUAL CONTACT

BBT/BT
SHANK

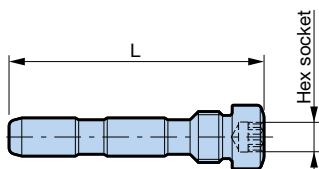
MGT Nut PAT.



Model	øD	L	Tap Holder
MGN 6T	16	19	MGT 6-d- <input type="checkbox"/>
MGN12T	20	21	MGT12-d- <input type="checkbox"/>
MGN20T	30	24	MGT20-d- <input type="checkbox"/>

MGT Set Screw PAT. (high-strength)

- Set screws for attaching the tap holder to the body.

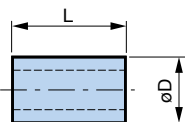


Model	Hex socket size	L	Body Model
MGT 6SS	4	35	MGT 6
MGT12SS	4	40	MGT12
MGT20SS	5	53	MGT20

Synchro Adjuster

[Soft Type] (standard)

- The special material is built into the tap holder and provides excellent thrust load reduction.



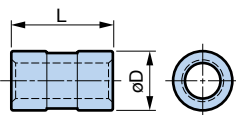
Model	øD	L	Tap Holder
MGT 6SA-5P	9	11	MGT 6-d- <input type="checkbox"/>
MGT12SA-5P	10	15	MGT12-d- <input type="checkbox"/>
MGT20SA-5P	14	24	MGT20-d- <input type="checkbox"/>

1. Sold as five-piece sets.

2. The Synchro Adjuster soft type is provided as an accessory with the standard tap holder.

[Multi type]

- This versatile product has a hardness in between soft and hard types, and can be used with a wider variety of taps.



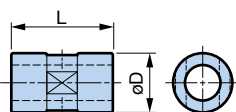
Model	øD	L	Tap Holder
MGT 6SAM	9	11	MGT 6-d- <input type="checkbox"/>
MGT12SAM	10	15	MGT12-d- <input type="checkbox"/>
MGT20SAM	14	24	MGT20-d- <input type="checkbox"/>

1. Sold individually.

[Hard Type]

- For use when using an eccentric thread relief tap.

Refer to A129 "Tap Types" for details.

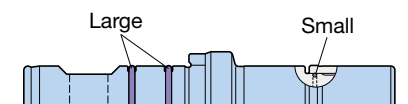


Model	øD	L	Tap Holder
MGT 6SAH	9	11	MGT 6-d- <input type="checkbox"/>
MGT12SAH	10	15	MGT12-d- <input type="checkbox"/>
MGT20SAH	14	24	MGT20-d- <input type="checkbox"/>

1. Sold individually.

O-ring Set

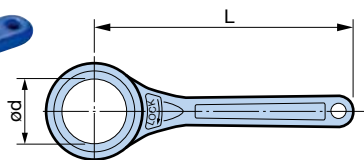
- Set of O-rings mounted on the tap holder.



(Large x 2, Small x 1)

Set Model	Nut outer diameter	Tap Holder
MGT 6OR	ø16	MGT 6-d- <input type="checkbox"/>
MGT12OR	ø20	MGT12-d- <input type="checkbox"/>
MGT20OR	ø30	MGT20-d- <input type="checkbox"/>

Mega Wrench



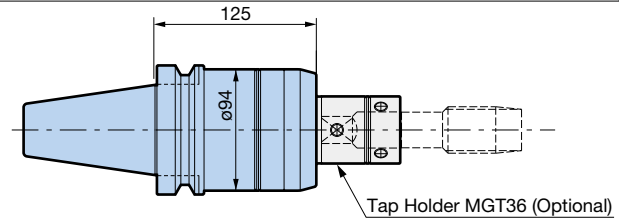
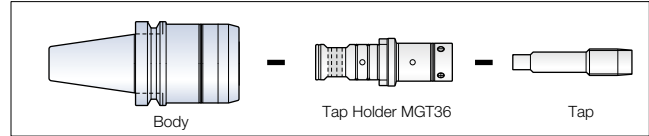
Model	ød	L	Nut Model
MGR16	16	90	MGN 6T
MGR20L	20	160	MGN12T
MGR30L	30	220	MGN20T

[Large Diameter Tap MGT36 PAT.]

With a structure that smoothly tracks under high cutting torque of large diameter tapping, it compensates for axial deviation due to synchronization error, greatly reducing load during tapping.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

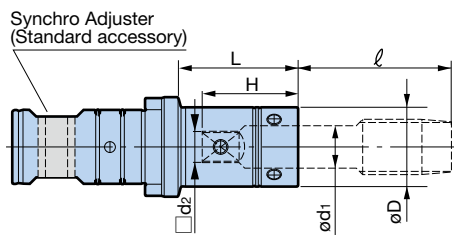


BIG-PLUS BBT SHANK Model	Body weight (kg)
BBT50-MGT36-125	7.2

1. MGT Set Screw is included.
2. Tap holder must be ordered separately.

Cannot be used with machining center without synchronized tapping function.

Large Diameter Tap Holder MGT36 PAT.



●For JIS

Tap holder model	Tap		ød ₁	□d ₂	H	øD	L	Weight (kg)
	Size	ℓ						
MGT36-M20- 65	M20	65 - 68	15	12	40	32	65	1.2
-150							150	1.6
-M22 U7/8- 65	M22,U7/8	71 - 74	17	13	44	34	65	1.3
-150							150	1.7
-M24- 65	M24	74 - 77	19	15	46	39	65	1.4
-150							150	2.0
-M27 U1- 65	M27,U1	80 - 83(M27) 75 - 78(U1)	20	15	50	40	65	1.4
-150							150	2.1
-M30- 65	M30	83 - 86	23	17	52	43	65	1.5
-150							150	2.3
-M33- 65	M33	88 - 91	25	19	57	49	65	1.6
-150							150	2.7
-M36- 65	M36	94 - 97	28	21	61	52	65	1.6
-150							150	2.9
-P1/2- 65	P1/2	38 - 41	18	14	42	35	65	1.3
-150							150	1.8
-P3/4- 65	P3/4	38 - 41	23	17	47	43	65	1.5
-150							150	2.3
-P1 - 65	P1	49 - 52	26	21	46	50	65	1.7
-150							150	2.8

1. Tap projection length ℓ is a reference figure in accordance with JIS standards.
2. Adjusting Screw is included.

●For DIN

Tap holder model	Tap size		ød ₁	□d ₂	H	øD	L	Weight (kg)
	DIN376	DIN353						
MGT36-180145-65	M22,24	P5/8	18	14.5	45	38	65	1.4
-200160-65	M27	P3/4	20	16	51	40		1.4
-220180-65	M30	P7/8	22	18	53	42		1.5
-250200-65	M33	P1	25	20	58	49		1.6
-280220-65	M36		28	22	62	52		1.6

1. Adjusting Screw is included.

MGT Set Screw PAT. (high-strength)

- Set screws for attaching the tap holder to the body.

Model	MGT36SS
-------	----------------

Synchro Adjuster (special material)

- Synchro Adjuster made of special material built into the tap holder.

Model	MGT36SA-5P
-------	-------------------

1. Sold as five-piece sets.

Adjusting Screw

- Adjusting screw for the projection length of the tap.
(Adjustment amount: 3mm)

Model	MGT36AJ
-------	----------------

O-ring Set

- Set of O-rings mounted on the tap holder.

Model	MGT36OR
-------	----------------

Side Lock Bolt Set

Set Model	Tap Holder Model	Bolt size
MGT36SL 6	MGT36-M20-□	M6x 8L (4 pcs)
	-M22 U7/8-□	+
	-P1/2-□	M6x10L (2 pcs)
MGT36SL 8	-M24-□	
	-M27 U1-□	M8x10L (4 pcs)
	-M30-□	+
	-P3/4-□	M8x12L (2 pcs)
MGT36SL10	-M33-□	M10x12L (4 pcs)
	-M36-□	+
	-P1 -□	M10x14L (2 pcs)

[Small Diameter Tap MGT3 PAT.] M1 - M3

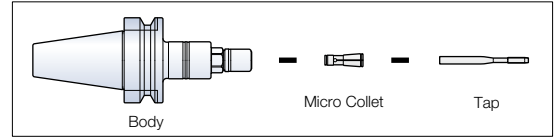
Stable small diameter tapping is achieved by the synchronization error compensation mechanism and minimized dynamic runout.



TAPPER

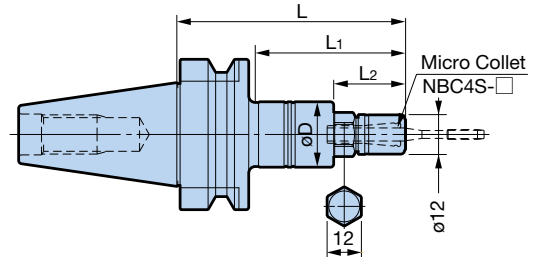


BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.



BIG-PLUS BBT SHANK Model	Tapping range d	øD	L	L ₁	L ₂	Weight (kg)
BBT30-MGT3-70	M1 - M3	20	70	46	22	0.49
BBT40-MGT3-90			90	61		1.2

- Nut is included. Wrench and collet must be ordered separately.
 - When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.
- Cannot be used with machining center without synchronized tapping function.
 - Cannot be used with center through.



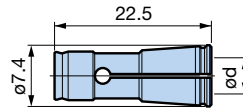
Mega Wrench



Model	MGR12
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- When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.

Micro Collet



Model	Tapping range		Tap shank diameter ød
	Metric	Unify	
NBC4S - 3.0AA	M1 - M2.6	No.0 - 4	3
NBC4S - 4.0AA	M3	No.5, 6	4

● Collet accuracy

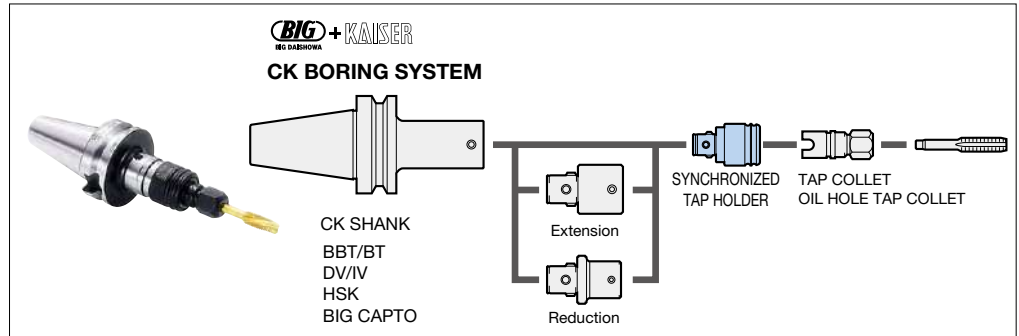
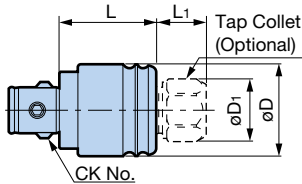
Collet class	Runout accuracy	
	Nose	4D
AA	Within 1 μm	Within 3 μm

SYNCHRONIZED TAP HOLDER STC M2 - M30

- Tap Collet type enables quick tap change.
- Flexible tool layout in combination with the CK Shanks.



- Model Description
- CKB2** - **STC** **8** - **47.5**
- CK No.
 - SYNCHRONIZED TAP HOLDER
 - Tapping range



Model	Tapping range	CK No.	øD	øD ₁	L	L ₁	Weight (kg)	Tap Collet
CKB2-STC 8-47.5	M 2 - M 4	CK2	25.5	15.8	30.5	17	0.10	TC 8-d
	M 5 - M 8			19				
CKB3-STC12-66	M 3 - M12	CK3	32	22	36	30	0.18	TC12-d
CKB4-STC20-72	M 7 - M12	CK4	44	22	47	25	0.42	TC20-d
	M14 - M20			31				
CKB5-STC30-92	M20 - M30	CK5	55	41	54	38	0.72	TC30-d

1. Tap collet must be ordered separately.
2. Cannot be used with machining center without synchronized tapping function.
3. The L₁ dimension is 5mm longer with oil hole tap collets.

Holders **A75**

Tap Collet TC Type [Optional accessory]



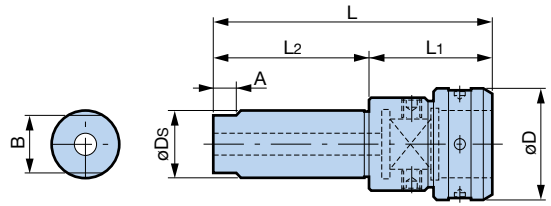
Tap Collets **A141**

Oil Hole Tap Collets **A142**

SYNCHRONIZED TAP HOLDER

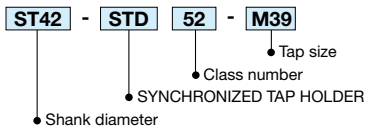
STD52 M39 - M52

● M39 to M52 large-diameter SYNCHRONIZED TAP HOLDER.



TAPPER

● Model Description



Model	øDs	øD	L	L ₁	L ₂	A	B	Tap size
ST42-STD52-M39	42	63	173	73	100	15	36	M39
-M42								M42
-M45								M45
-M48		70	178	78				M48
-M52								M52

1. Tap chucking dimensions are designed suitable for shank diameters and square sizes of the JIS standard taps.
2. Please contact us regarding sizes other than the above.
3. T52 wrench is not included. Please order separately.
(The same wrench used for the tap holder for the DT52 Drill Tapper.)

Ordering example for T52 wrench

Nut OD øD = 63 → Hook wrench DT52 (for ø60)
70 → Hook wrench DT52 (for ø70)

Table of tap compatibility (JIS Standard)

Tap dimensions		Tap type			Tapper			
Shank diameter	Square size	Metric	Unify	Pipe	AUTO TAPPER	M/C DRILL TAPPER	MEGA SYNCHRO	SYNCHRONIZED TAP HOLDER
3	2.5	M1 - M1.8	No.0,1,2				MGT3	
3	2.5	M2 - M2.6	No.3,4				MGT6	
4	3.2	M3, M3.5	No.5,6					STC8
5	4	M4, M4.5	No.8					
5.5	4.5	M5	No.10,12		B80			
6	4.5	M6	U1/4		B120			
6.1	5		U5/16					
6.2	5	M7, M8						
7	5.5	M9, M10	U3/8					
8	6	M11	U7/16	P1/8				
8.5	6.5	M12						
9	7		U1/2					
10.5	8	M14	U9/16					
11	9			P1/4				
12	9		U5/8					
12.5	10	M16						
14	11	M18	U3/4	P3/8				
15	12	M20						
17	13	M22	U7/8					
18	14			P1/2				
19	15	M24		P5/8				
20	15	M27	U1					
22	17		U1 ¹ / ₈					
23	17	M30		P3/4				
24	19		U1 ¹ / ₄	P7/8				
25	19	M33						
26	21		U1 ³ / ₈	P1				
28	21	M36		P1 ¹ / ₈				
30	23	M39	U1 ¹ / ₂					
32	26	M42		P1 ¹ / ₄				
35	26	M45	U1 ³ / ₄					
38	29	M48		P1 ¹ / ₂				
40	32		U2					
42	32	M52		P1 ³ / ₄				

1. BIG tapping head products are designed suitable for industry standard taps such as JIS. Some taps are produced based on manufacturers' standard. Be aware of this when selecting tools.

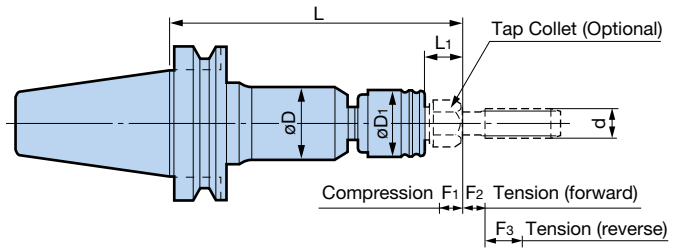
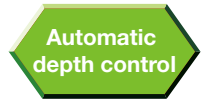
2. See each product page for the standard dimensions.

3. Even with the taps out of standard, tapping attachments are compatible as far as both the shank diameter and the square size are identical. (When using a pipe tap, the use of an exclusive Tap Collet is recommended.)

AUTO TAPPER B

Simple and compact tapper with automatic depth control.

- Reduces variation of tap depth to $\pm 0.15\text{mm}$, making it ideal for pipe tapping and blind hole tapping.
- Best-selling auto tapper series with a simple structure and affordable prices.



● Model Description

BBT30 - **AUTO-B** **80** - **125**

- BIG-PLUS BT No.
- AUTO TAPPER B
- Tapping range
- L dimension

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Tapping range d	øD	øD ₁	L	L ₁	F ₁	F ₂	F ₃	Tap Collet	Weight (kg)
BBT30-AUTO-B 80-125	M 3 - M 8	30	25.5	125	17	5	5	10.5	TC 8-d	0.8
-AUTO-B120-150	M 3 - M12	35	32	150	30	6	6	12.5	TC12-d	1.0
BBT40-AUTO-B 80-130	M 3 - M 8	30	25.5	130	17	5	5	10.5	TC 8-d	1.4
-AUTO-B120-155	M 3 - M12	35	32	155	30	6	6	12.5	TC12-d	1.6
-AUTO-B200-185	M 7 - M20	48	44	185	25	6.5	6.5	13	TC20-d	2.3
-AUTO-B300-220	M20 - M30	58	55	220	38	7.5	7.5	14.5	TC30-d	3.2
BBT50-AUTO-B 80-140	M 3 - M 8	30	25.5	140	17	5	5	10.5	TC 8-d	4.2
-AUTO-B120-165	M 3 - M12	35	32	165	30	6	6	12.5	TC12-d	4.4
-AUTO-B200-195	M 7 - M20	48	44	195	25	6.5	6.5	13	TC20-d	5.1
-AUTO-B300-220	M20 - M30	58	55	220	38	7.5	7.5	14.5	TC30-d	6.0

1. Tap Collet is not included. TC Tap Collet is ordered separately.
2. Cannot be used in left-hand thread tapping.
3. Be sure to include the approach amount (distance between the tap tip and workpiece) when programming the starting point of tapping.
4. F₂ in the table is the tension amount until it reaches neutral. Be sure to perform test tapping when accurate tapping depth is required, as it may fluctuate slightly depending on the tap size and cutting conditions.



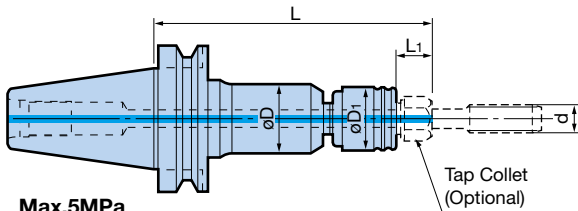
Center through tooling

AUTO TAPPER B M3 - M30

Automatic depth control

Center through

Not BIG-PLUS (DUAL CONTACT) specification



BT SHANK Model	Tapping range d	øD	øD ₁	L	L ₁	Weight (kg)	Tap Collet
BT40-TTB120-155	M 3 - M12	35	32	155	30	1.6	TC12
-TTB200-185	M 7 - M20	48	44	185	25	2.3	TC20
-TTB300-220	M20 - M30	58	55	220	38	3.2	TC30
BT50-TTB120-165	M 3 - M12	35	32	165	30	4.4	TC12
-TTB200-195	M 7 - M20	48	44	195	25	5.1	TC20
-TTB300-220	M20 - M30	58	55	220	38	6.0	TC30

1. Tap Collet is not included.
2. Cannot be used in left-hand thread tapping.
3. When using the depth control, be sure to include the approach amount for programming.
4. Compression is 3mm for all models.
5. The tension is the same as for AUTO TAPPER B.
6. Please contact us if higher pressure coolant than 5MPa is required.

Oil Hole Tap Collets **A142**

Tap Collets **A141**

AUTO TAPPER R M3 - M20

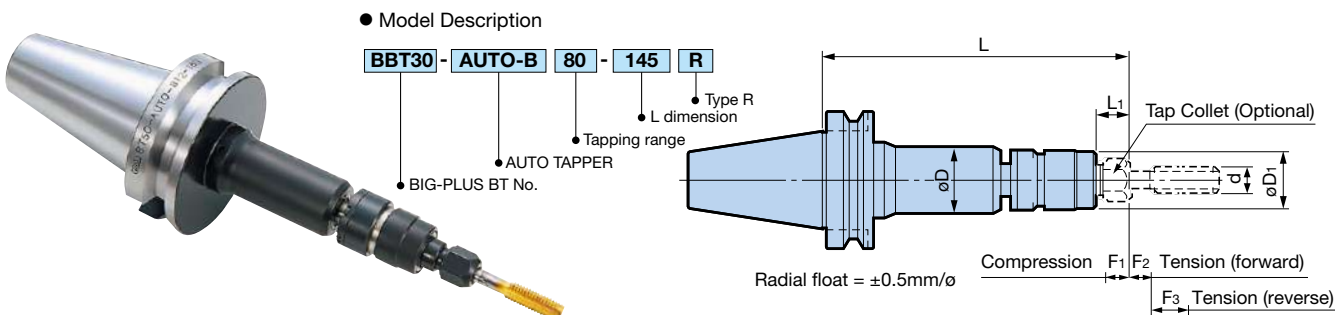
Tapper with built-in radial float mechanism that absorbs misalignment with starting holes.

- Ideal for die-cast workpieces or those with separately processed starting holes.
- The radial float amount of $\pm 0.5\text{mm}$ not only prevents the tap from breaking due to misalignment, but also improves the thread accuracy.

DUAL CONTACT



Radial float Automatic depth control



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Tapping range d	øD	øD ₁	L	L ₁	F ₁	F ₂	F ₃	Tap Collet	Weight (kg)
BBT30-AUTO-B 80-145R	M3 - M 8	30	25.5	145	17	5	5	10.5	TC 8-d	0.9
-B120-170R	M3 - M12	35	32	170	30	6	6	12.5	TC12-d	1.2
BBT40-AUTO-B 80-150R	M3 - M 8	30	25.5	150	17	5	5	10.5	TC 8-d	1.5
-B120-175R	M3 - M12	35	32	175	30	6	6	12.5	TC12-d	1.8
-B200-205R	M7 - M20	48	44	205	25	6.5	6.5	13	TC20-d	2.5
BBT50-AUTO-B120-185R	M3 - M12	35	32	185	30	6	6	12.5	TC12-d	4.6
-B200-215R	M7 - M20	48	44	215	25	6.5	6.5	13	TC20-d	5.3

1. Tap Collet is not included.
2. Cannot be used in left-hand thread tapping.
3. When using the depth control, be sure to include the following approach amount for programming.

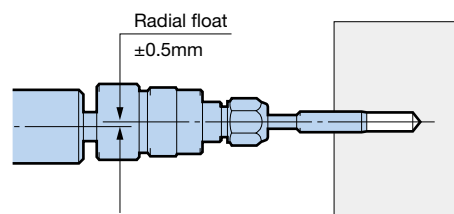
Tap Collets **A141**

Tapper type	Approach amount
B 80-R	12mm
B120-R	13mm
B200-R	14mm

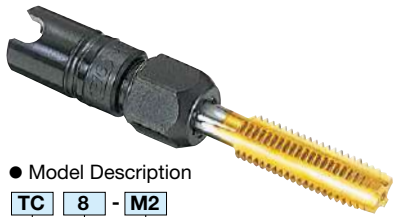
4. F₂ in the table is the tension amount until it reaches neutral.

Secure radial float function

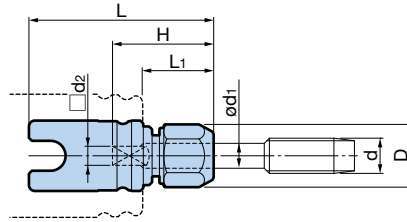
The smooth radial float absorbs the misalignment when processing aluminum die-cast workpieces with existing starting holes or workpieces with separately processed starting holes, enabling stable tapping.



TAP COLLET TC (for Auto Tapper B / R and Synchronized Tap Holder STC)



- Model Description
- TC** 8 - **M2**
- Tap size
- Body size
- Tap Collet



● **TC Mate**
Convenient for
attaching and
removing Tap Collets

TC Mate **H4**

Model	Tapping range d			ød ₁	□d ₂	H	L	L ₁	D	Weight (kg)	Tapper	
	Metric	Unify	Pipe									
TC 8-M 2	M2 - M2.6	No.3, No.4	-	3	2.5	21	40.5	17	16	0.05	STC8	
-M 3	M 3	No.5, No.6		4	3.2	23						
-M 4	M 4	No.8		5	4	27						
-M 5	M 5	No.10, No.12		5.5	4.5	29						
-M 6 U1/4	M 6	U1/4		6								
-U5/16	-	U5/16		6.1	5	30						
-M 8	M 7, M 8	-		6.2								
TC12-M 3	M 3	No.5, No.6		-	4	3.2			24		55	30
-M 4	M 4	No.8	5		4	29						
-M 5	M 5	No.10, No.12	5.5		4.5							
-M 6 U1/4	M 6	U1/4	6									
-U5/16	-	U5/16	6.1		5	30						
-M 8	M 7, M 8	-	6.2									
-M10 U3/8	M 9, M10	U3/8	7		5.5	31						
-U7/16 P1/8	-	U7/16	P1/8		8		6					
-M12	M12	-	-		8.5	6.5						
-U1/2	-	U1/2	-		9	7	32					
TC20-M 8	M 7, M 8	-	-	6.2	5	33	63	25	22	0.2	AUTO-B200 AUTO-B200-R TTB200 STC20	
-M10 U3/8	M 9, M10	U3/8		7	5.5							
-U7/16 P1/8	-	U7/16		P1/8	8							6
-M12	M12	-		-	8.5	6.5			34			
-U1/2	-	U1/2		-	9	7			35			
-M14 U9/16	M14	U9/16		-	10.5	8			36			
-P1/4	-	-		P1/4	11	9			31			
-U5/8	-	U5/8		-	12				37			
-M16	M16	-		-	12.5	10			38			
-M18 U3/4	M18	U3/4		-	14	11			39			
-P3/8	-	-		P3/8	15	12			40			
-M20	M20	-		-	15				40			
TC30-M20	M20	-	-	15	12	40	83	38	41	0.5	AUTO-B300 TTB300 STC30	
-M22 U7/8	M22	U7/8		-	17	13						41
-P1/2	-	-		P1/2	18	14						42
-M24 P5/8	M24	-		P5/8	19	15			43			
-M27 U1	M27	U1		-	20							
-U1 1/8	-	U1 1/8		-	22	17			45			
-M30 P3/4	M30	-		P3/4	23							
-P1	-	-		P1	26	21			47			

Model symbol description

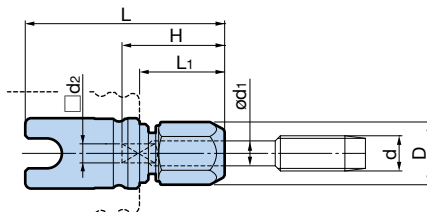
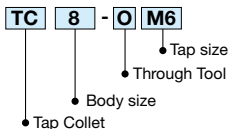
- M = Metric Thread
- U = Unify Thread
- P = Pipe Thread

OIL HOLE TAP COLLET TC (For Center Through AUTO TAPPER B, SYNCHRONIZED TAP HOLDER STC Type)

- Oil Hole Tap Collet that can feed coolant without waste.



● Model Description



● **TC Mate**
Convenient for
attaching and
removing Tap Collets



Model	Tapping range d			ød ₁	□d ₂	H	L	L ₁	D	Weight (kg)	Tapper
	Metric	Unify	Pipe								
TC 8-OM 6 OU1/4	M 6	U1/4	—	6	4.5	34	45.5	22	19	0.05	STC8
-OM 8	M 7,M 8	—	—	6.2	5	35					
TC12-OM 6 OU1/4	M 6	U1/4	—	6	4.5	34	60	35	22	0.1	TTB120 STC12
-OM 8	M 7,M 8	—	—	6.2	5	35					
-OM10 OU3/8	M 9,M10	U3/8	—	7	5.5	36					
-OU7/16 OP1/8	—	U7/16	P1/8	8	6	37					
-OM12	M12	—	—	8.5	6.5	38					
-OU1/2	—	U1/2	—	9	7	39					
TC20-OM 8	M 7,M 8	—	—	6.2	5	38	68	30	22	0.2	TTB200 STC20
-OM10 OU3/8	M 9,M10	U3/8	—	7	5.5	39					
-OU7/16 OP1/8	—	U7/16	P1/8	8	6	40					
-OM12	M12	—	—	8.5	6.5	41					
-OU1/2	—	U1/2	—	9	7	42					
-OM14 OU9/16	M14	U9/16	—	10.5	8	43					
-OP1/4	—	—	P1/4	11	9	44					
-OU5/8	—	U5/8	—	12	10	45					
-OM16	M16	—	—	12.5	10	46					
-OM18 OU3/4	M18	U3/4	—	14	11	47					
-OP3/8	—	—	P3/8	14	11	48					
-OM20	M20	—	—	15	12	49					
TC30-OM20	M20	—	—	15	12	45	88	42	41	0.5	TTB300 STC30
-OM22 OU7/8	M22	U7/8	—	17	13	46					
-OP1/2	—	—	P1/2	18	14	47					
-OM24	M24	—	—	19	15	48					
-OM27 OU1	M27	U1	—	20	15	49					
-OU1 1/8	—	U1 1/8	—	22	17	50					
-OM30 OP3/4	M30	—	P3/4	23	17	51	0.4				

Model symbol description

M = Metric Thread
 U = Unify Thread
 P = Pipe Thread

AUTO TAPPER SERIES

TAPPER

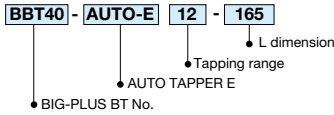
AUTO TAPPER E M3 - M36

Smoother axial float function and built-in torque limiter.

- Ideal for machining center tapping cycles.

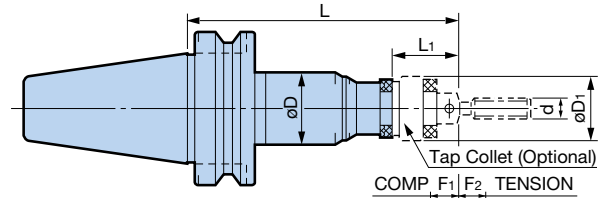


● Model Description



Original one-way torque limiter

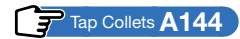
If the torque limiter is activated with the tap in reverse, tap breakage may occur, which is very dangerous. The **BIG** AUTO TAPPER series uses a unique one-way torque limiter that does not work while in reverse, allowing safe tapping.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

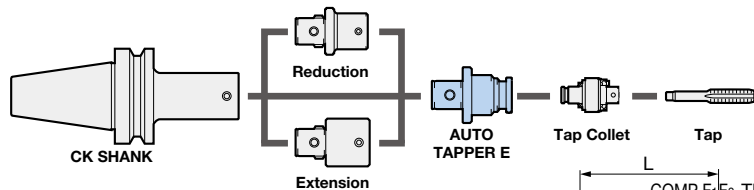
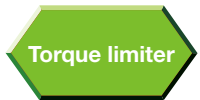
BIG-PLUS BBT SHANK Model	Tapping range d	øD	øD ₁	L	L ₁	F ₁	F ₂	Tap Collet	Weight (kg)
BBT40-AUTO-E12-165	M 3 - M12	46	38.5	165	40	15	20	TCE12-d	1.8
-AUTO-E24-195	M 9 - M24	64	58.5	195	55	15	20	TCE24-d	3.4
BBT50-AUTO-E12-165	M 3 - M12	46	38.5	165	40	15	20	TCE12-d	4.2
				195					4.8
-AUTO-E24-195	M 9 - M24	64	58.5	195	55	15	20	TCE24-d	5.7
				240					6.5
-AUTO-E36-255	M20 - M36	94	78.5	255	65	20	20	TCE36-d	11.0

1. Tap collet must be ordered separately.
2. Torque limiter is built into the Tap Collet.
3. The torque limiter of the Tap Collet is set for high-carbon steel upon delivery.
4. As the reverse torque is set to 3x, it cannot be used for the left-hand thread.

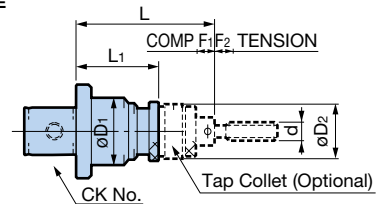
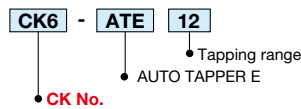


CK AUTO TAPPER E M3 - M24

- Combination with a long type CK Shank is convenient when long taper is required.

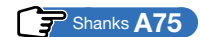


● Model Description



Model	Tapping range	CK No.	øD ₁	øD ₂	L	L ₁	F ₁	F ₂	Weight (kg)	Tap Collet
CK6-ATE12	M3 - M12	CK6	47	38.5	90	50	5	10	0.9	TCE12-d
CK6-ATE24	M9 - M24		64	58.5	135	80	7	15	1.8	TCE24-d

1. Tap collet must be ordered separately.
2. Torque limiter is built into the Tap Collet.
3. The torque limiter of the Tap Collet is set for high-carbon steel upon delivery.
4. As the reverse torque is set to 3x, it cannot be used for the left-hand thread.



TAP COLLET TCE (for Auto Tapper E)



Standard type

Long type
(L₂ is 50mm longer than the standard type.)

● Model Description

TCE12 - M3

● Tap size
● Tap Collet model

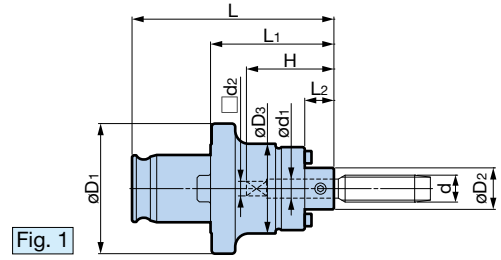


Fig. 1

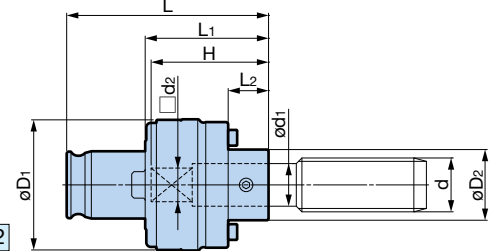


Fig. 2

※Models with (L) are the long type. L₂ is 50mm longer than the standard type. Example: TCE12-M3L

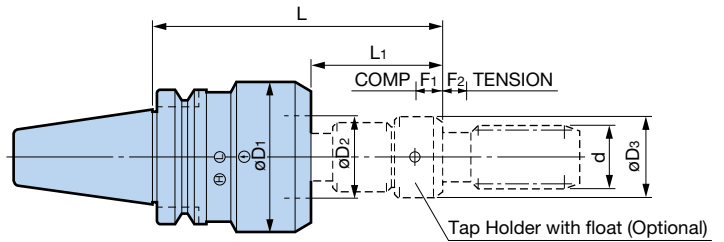
Model	Fig.	Tapping range d			ød ₁	□d ₂	H	L		L ₁		L ₂		øD ₁	øD ₂	øD ₃	Weight (kg)		Tapper		
		Metric	Unify	Pipe				Standard	Long	Standard	Long	Standard	Long				Standard	Long			
TCE12-M 3(L)	1	M 3	No.5,No.6	-	4	3.2	23	62	112	40	90	10	60	38	13	26	0.2	0.25	AUTO-E12 ATE12		
-M 4(L)		M 4	No.8		5	4	29														
-M 5(L)		M 5	No.10,No.12		5.5	4.5	32														
-M 6 U1/4(L)		M 6	U1/4		6																
-U5/16	2	-	U5/16	-	6.1	5	33	62	112	40	90	10	60	38	13	26	0.2	0.25		AUTO-E12 ATE12	
-M 8(L)		M 7,M 8	-		6.2																
-M10 U3/8(L)		M 9,M10	U3/8		7	5.5	35														
-U7/16		-	U7/16		8	6	36														
-P1/8		-	-		P1/8	8	6														33
-M12(L)		M12	-		8.5	6.5	36														
-U1/2		-	U1/2		9	7	37														
TCE24-M10 U3/8(L)		1	M 9,M10		U3/8	-	7														5.5
-U7/16	-		U7/16	8	6		39														
-P1/8	-		-	P1/8	8		6	33													
-M12(L)	M12		-	8.5	6.5		39														
-U1/2	2	-	U1/2	-	9	7	40	90	140	55	105	13	63	58	19	40	0.7	0.8	AUTO-E24 ATE24		
-M14 U9/16(L)		M14	U9/16		10.5	8	41														
-P1/4		-	-		P1/4	11	9													31	
-U5/8		-	U5/8		12		42														
-M16(L)		M16	-		12.5	10	43														
-M18 U3/4(L)		M18	U3/4		14	11	44														
-P3/8		-	-		P3/8	14	11													34	
-M20(L)		M20	-		15	12	45														
-M22 U7/8(L)	M22	U7/8	17	13	51																
-P1/2	1	-	-	-	18	14	42	116	-	65	-	18	78	32	60	1.8	-	-		AUTO-E36	
-M24(L)		M24	-		19	15	53														
TCE36-M20		M20	-		15	12	48														
-M22 U7/8		M22	U7/8		17	13	49														
-P1/2		-	-		P1/2	18	14												42		
-M24		M24	-		19	15	51														
-M27 U1		M27	U1		20		58														
-U1 1/8		-	U1 1/8		22		60														
-M30	2	M30	-	-	23	17	62	116	-	65	-	21	78.5	45	-	2.0	-	-	AUTO-E36		
-P3/4		-	-		P3/4	23															47
-U1 1/4		-	U1 1/4		24		62														
-P7/8		-	-		P7/8	24	19														47
-M33		M33	-		25		62														
-U1 3/8		-	U1 3/8		26		69														
-P1		-	-		P1	26														47	
-M36		M36	-		28		69														
-P1 1/8	-	-	P1 1/8	28		52															

Built-in torque limiter mechanism, ideal for large-diameter tapping.

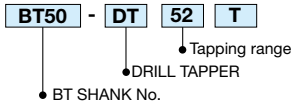
- Torque limiter with a proven track record, highly reliable and maintainable.



Not BIG-PLUS (DUAL CONTACT) specification

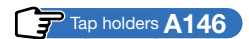


● Model Description



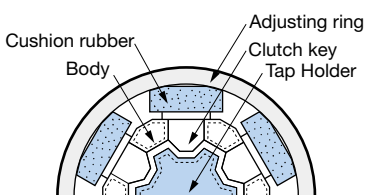
BT SHANK Model	Tapping range d	øD ₁	øD ₂	D ₃	L	L ₁	F ₁	F ₂	Tap Holder with float	Weight (kg)
BT50-DT52T	M30 - M33	113	58	58	165	50	20	20	T52- @ TCD	9.5
	M36 - M52			58 - 70	210	95				10.0

- The torque limiter can be adjusted into 2 steps, for steel or hard steel.
- Tap holder is not included.

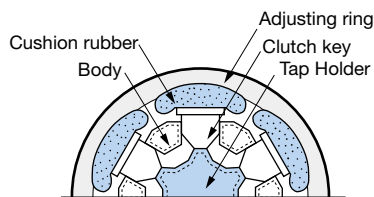


Safety clutch

(at normal torque transmission)



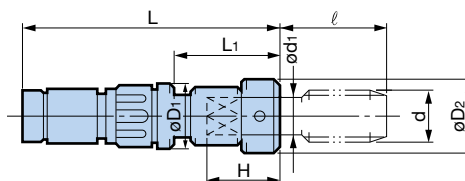
(over-torqued)



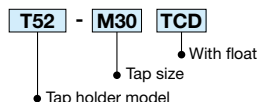
- Stable tapping is achieved in combination with a Tap Holder designed with optimum torque and spring pressure for each tap size.
- The adjusting ring allows the torque to be set to either high or low.

TAP HOLDER WITH FLOAT (for Drill Tapper for machining centers)

- Tap holders with optimal float amount and spring pressure for each tap size.



● Model Description



- Enter the required tap size in @ to order.

Model	Tapping range d	øD ₁	L ₁	L	Weight (kg)
T52- @ TCD	M30 - M33	58	49	182	3.5
	M36 - M52		94	227	4.0

1. Wrench is not included. Please order the T52 wrench separately. (See lower right of table)

T52 Tap Holder with float

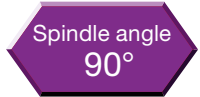
Model		T52- @ TCD							
d	M	M30	M33	M36	M39	M42	M45	M48	M52
	UNC	—	—	—	U1 1/2	—	U1 3/4	—	—
ød ₁		23	25	28	30	32	35	38	42
H		52	54	59	61	65		67	
øD ₂		58			63			70	
ℓ		83	91	96	104 (M39) 109 (U1 1/2)	110	115 (M45) 122 (U1 3/4)	118	128

Ordering example for T52 wrench

Nut OD øD₂ =58, 63 → Hook wrench for DT52 (for ø60)
70 → Hook wrench for DT52 (for ø70)

1. The tool projection length ℓ above is a reference figure in accordance with JIS standards.

Significantly reduces work time through systematized multilateral machining. BIG-PLUS DUAL CONTACT equipped as standard to further improve rigidity.

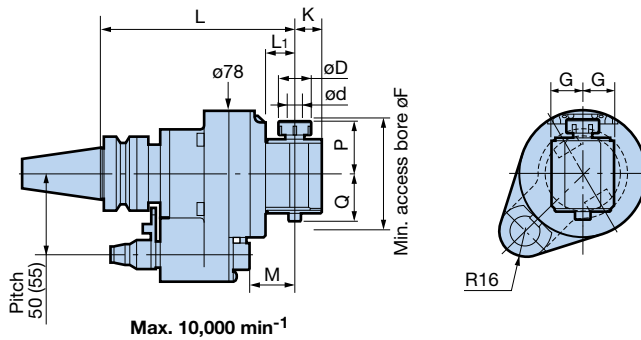


NEW BABY CHUCK Type PAT. Clamping diameter: $\phi 0.25 - \phi 20$

- High runout accuracy is achieved through the adoption of the high-accuracy New Baby Chuck.



Compact and lightweight
High-speed
ATC enabled
Weight 2.3kg - 2.7kg



● Model Description

BBT30-AG90-6-120

- BBT30: BIG-PLUS BT No.
- AG90: 90° Head type
- 6: Maximum clamping diameter
- 120: L dimension

● Tap Collet with tension mechanism can also be used to enable tapping. (NBC10 & 13 only)

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ϕd	ϕD	G	K	L	L ₁	M	P	Q	ϕF	Collet Model	Weight (kg)
BBT30-AG90- 6-120	0.25 - 6	20	19.5	17	120	18.5	28.5	33	29	65	NBC 6	2.3
- 8-125	0.5 - 8	25	21.5	21	125	23.5	33.5	42	41	87	NBC 8	2.5
-10-125	1.5 - 10	30	24.5	25				45	43	92	NBC10	2.6
-13-125	2.5 - 13	35						52	45	102	NBC13	2.7

- The cutting tool rotates in reverse to the machine spindle.
- Nut and wrench are included. Collet is not included.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- When supplied through the Stop Block, coolant can be ejected from the housing.
- Automatic tool change may not be available depending on machine tool models.
- New Baby Endmill Collets cannot be used.



Collets **G5**

Tap Collets **G31**

Stop Blocks **G35**

ANGLE HEAD AG90 SERIES

DUAL CONTACT
BBT/BT
SHANK



Spindle angle
90°

A
ANGLE HEAD

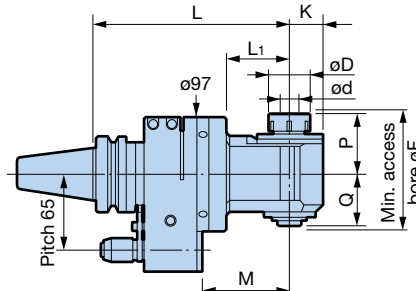


Fig. 1 NBS6 - NBS13 Type
Max. 6,000 min⁻¹

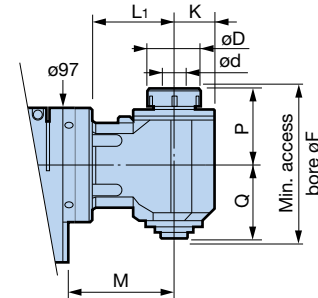


Fig. 2 NBS20 Type
Max. 3,000 min⁻¹

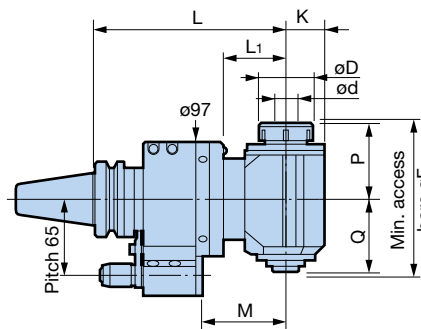
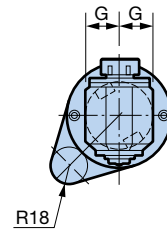


Fig. 3 High Rigidity Type
Max. 3,000 min⁻¹



● Model Description

BBT40 - AG90 / NBS 6 - 170

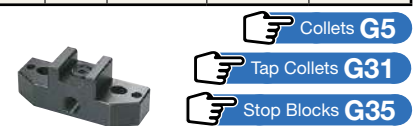
- BIG-PLUS BT No.
- 90° Head type
- NEW BABY CHUCK System
- Maximum clamping diameter
- L dimension

- High rigidity S type with reinforced Locating Pin part is also available. Add the letter S at the end when ordering.
- Tap Collet with tension mechanism can also be used to perform tapping. (NBS10 or larger)

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	ød	øD	G	K	L	L ₁	M	P	Q	øF	Collet Model	Weight (kg)	
													Standard Type	High Rigidity Type
BBT40-AG90/NBS 6 -170	1	0.25 - 6	20	21	17	170	55	77	33	29	67	NBC 6	5.1	6.0
-200						200	85	107					5.3	6.2
-230						230	115	137					5.5	6.4
-260						260	145	167					5.7	6.6
-AG90/NBS10 -170	1	1.5 - 10	30	30	25	170	55	77	45	43	91	NBC10	5.5	6.4
-200						200	85	107					5.9	6.8
-230						230	115	137					6.2	7.1
-AG90/NBS13 -170	1	2.5 - 13	35	31	28	170	55	77	52	45	101	NBC13	5.6	6.5
-200						200	85	107					6.0	6.9
-230						230	115	137					6.3	7.2
-AG90/NBS20 -185	2	2.5 - 20	46	35	35	185	70	92	65	62	132	NBC20	6.7	7.6
-AG90/NBS20S -165 S	3	2.5 - 20	46	35	33	165	53	72	65	62	132	NBC20	—	8.0

1. The cutting tool rotates in reverse to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.



Collets G5

Tap Collets G31

Stop Blocks G35

NEW BABY CHUCK Type PAT. Clamping diameter: $\phi 0.25 - \phi 20$

- High runout accuracy is achieved through the adoption of the high-accuracy New Baby Chuck.

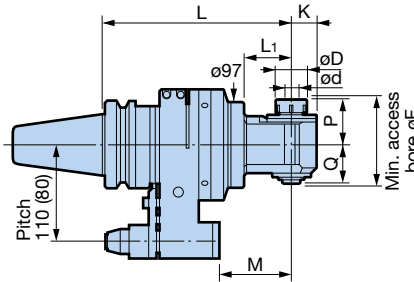


Fig. 1 NBS6 - NBS13 Type
Max. 6,000 min⁻¹

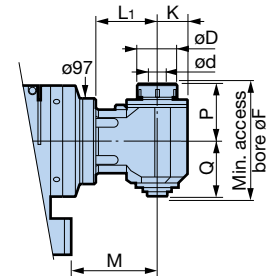


Fig. 2 NBS20 Type
Max. 3,000 min⁻¹

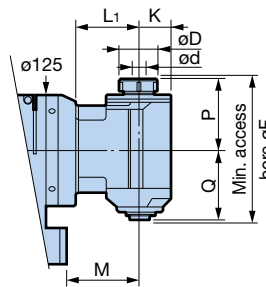
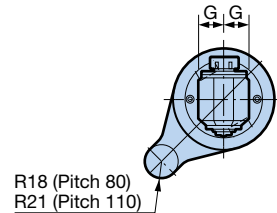
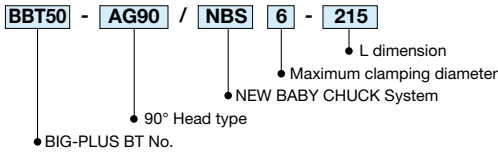


Fig. 3 Double-speed Type
Max. 8,000 min⁻¹



R18 (Pitch 80)
R21 (Pitch 110)

● Model Description



- High rigidity S type with reinforced Locating Pin part is also available. Add the letter S at the end when ordering.
- Tap Collet with tension mechanism can also be used to perform tapping. (NBS10 or larger)

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	ϕd	ϕD	G	K	L	L ₁	M	P	Q	ϕF	Collet Model	Weight (kg)		
													Standard Type (Pitch 110)	High Rigidity Type (Pitch 110)	High Rigidity Type (Pitch 80)
BBT50-AG90/NBS6 -215 <input type="checkbox"/>	1	0.25 - 6	20	21	17	215	55	82	33	29	67	NBC 6	12.6	13.9	13.2
						245	85	112					12.8	14.1	13.4
						275	115	142					13.0	14.3	13.6
						305	145	172					13.2	14.5	13.8
-AG90/NBS10 -215 <input type="checkbox"/>	1	1.5 - 10	30	30	25	215	55	82	45	43	91	NBC10	13.0	14.3	13.6
						245	85	112					13.4	14.7	14.0
						275	115	142					13.7	15.0	14.3
-AG90/NBS13 -215 <input type="checkbox"/>	1	2.5 - 13	35	31	28	215	55	82	52	45	101	NBC13	13.1	14.4	13.7
						245	85	112					13.5	14.8	14.1
						275	115	142					13.8	15.1	14.4
-AG90/NBS20 -230 <input type="checkbox"/>	2	2.5 - 20	46	35	35	230	70	97	65	62	132	NBC20	14.2	15.5	14.8
-AG90/NBS16H-215 <input type="checkbox"/>	3	2.5 - 16	42	45	35	215	71	82	80	80	163	NBC16	14.6	15.9	15.2

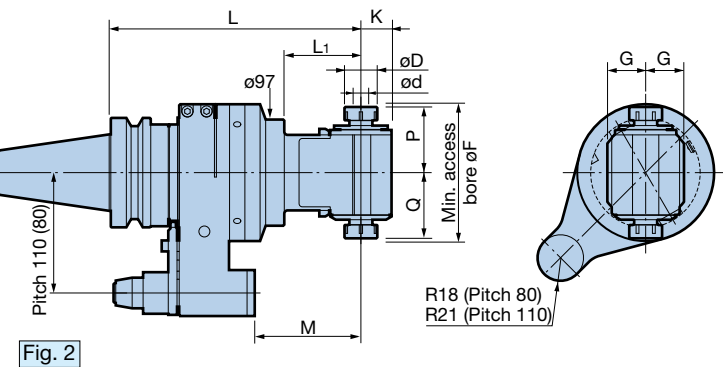
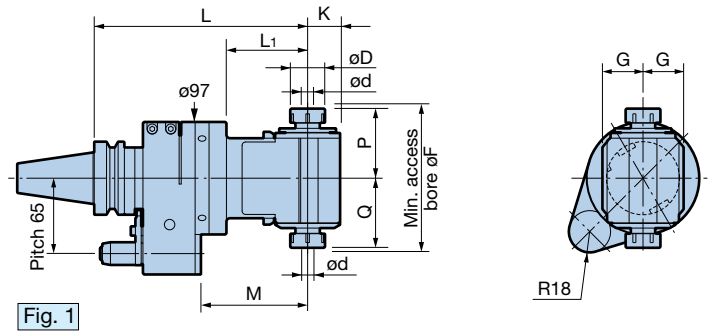
1. The cutting tool rotates in reverse to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.



- Collets G5
- Tap Collets G31
- Stop Blocks G35

● **TWIN HEAD (180° diagonal) PAT.** Clamping diameter: $\phi 1.5 - \phi 10$

- Twin spindle head with a compact design. Symmetrical machining can be performed using one unit, contributing to the reduction of the number of magazines.



- High rigidity S type with reinforced Locating Pin part is also available. Add the letter S at the end when ordering.
- Tap Collet with tension mechanism can also be used to perform tapping.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ϕd	ϕD	G	K	L	L ₁	M	P	Q	ϕF	Collet Model	Weight (kg)	
													Standard Type	High Rigidity Type
BBT40-AG90/NBS10W-185 <input type="checkbox"/>	1	1.5 - 10	30	31	28	185	70	92	60	60	124	NBC10	6.3 (pitch 65)	7.2 (pitch 65)
BBT50-AG90/NBS10W-230 <input type="checkbox"/>	2	1.5 - 10	30	31	28	230	70	97	60	60	124	NBC10	13.8	15.1 (pitch 110) 14.4 (pitch 80)

1. The cutting tool rotates in reverse to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. Output spindles do not rotate in forward direction simultaneously.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. A Stop Block is required when mounting on machines. Please order separately.
6. When supplied through the Stop Block, coolant can be ejected from the housing.
7. Automatic tool change may not be available depending on machine tool models.
8. New Baby Endmill Collets cannot be used.



Collets **G5**

Tap Collets **G31**

Stop Blocks **G35**

Oil Hole Type PAT. Clamping diameter: $\phi 2.5 - \phi 13$

● Feeds coolant through the cutting tool via Stop Block!



For drilling

Coolant through tool

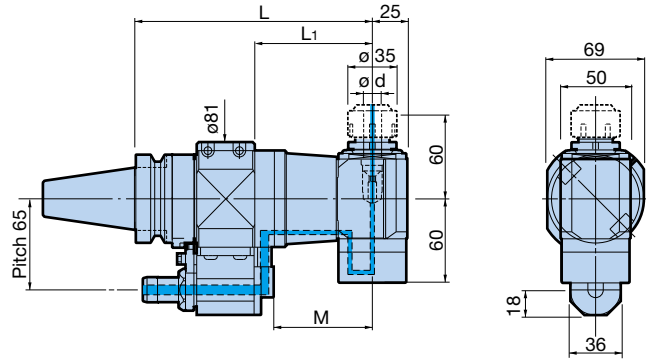
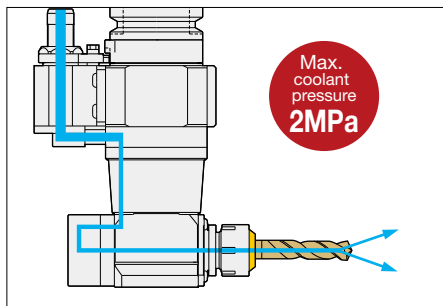


Fig. 1 Max. 5,000min⁻¹



Feeds coolant from the cutting edge via Stop Block

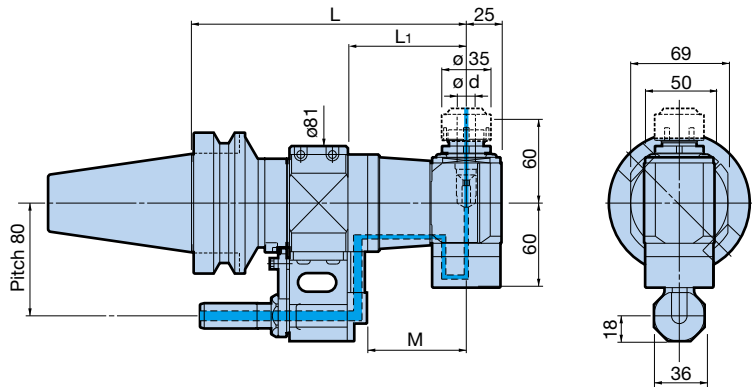


Fig. 2 Max. 5,000min⁻¹

● Model Description

BBT40 - O AG90 - 13 - 170

- L dimension
- Maximum clamping diameter
- 90° Head type
- Oil Hole
- BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	ϕd	L	L ₁	M	Collet Model	Speed Ratio Input:output	Weight (kg)
BBT40-OAG90-13-170	1	2.5 - 13	170	84	70.5	NBC13	1:1	6.0
BBT50-OAG90-13-195	2		195					9.2

1. The cutting tool rotates in reverse to the machine spindle.
2. For use with an oil hole drill only. Never run without supplying coolant through the unit.
3. Baby Perfect Seal nut with sealing mechanism is required. Please order separately.
4. Collet is ordered separately.
5. Wrench and adjust screw are included.
6. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
7. A Stop Block is required when mounting on machines. Please order separately.
8. Automatic tool change may not be available depending on machine tool models.



- Perfect Seal G28
- Collets G5
- Stop Blocks G35

ANGLE HEAD AG90 SERIES

DUAL CONTACT
BBT/BT
SHANK

Long type PAT. Clamping diameter: $\phi 0.25 - \phi 20$

- Ideal for inner-diameter lateral drilling and keyway grooving of large workpieces.
100, 200 or 300mm additional length to standard units are newly available!



A
ANGLE HEAD



● Tap Collet with tension mechanism can also be used to perform tapping.
※ Usable with NBS10 or larger.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Fig. 1

Max. 6000min⁻¹

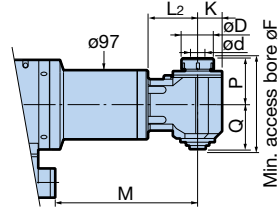
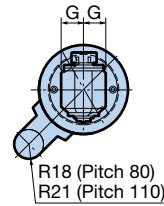
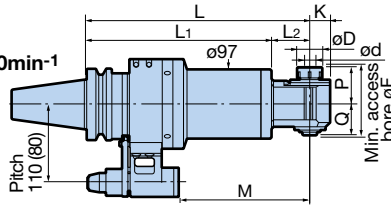


Fig. 2 Max. 3,000min⁻¹

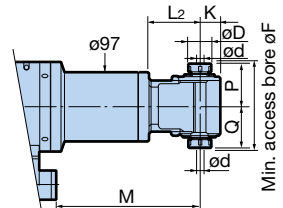


Fig. 3 Twin head (180° diagonal) Max. 6000min⁻¹

BIG-PLUS BBT SHANK Model	Fig.	ød	øD	G	K	L	L ₁	L ₂	M	P	Q	øF	Collet Model	Speed ratio Input:output	Weight (kg)
BBT50-AG90/NBS 6 -315LS	1	0.25 - 6	20	21	17	315	260	55	182	33	29	67	NBC 6	1:1	18.9
						345		85	212						19.1
						375		115	242						19.3
						405		145	272						19.5
-AG90/NBS10 -315LS	1	1.5 - 10	30	30	25	315	260	55	182	45	43	91	NBC10	1:1	19.3
						345		85	212						19.7
						375		115	242						20.0
-AG90/NBS13 -315LS	1	2.5 - 13	35	31	28	315	260	55	182	52	45	101	NBC13	1:1	19.4
						345		85	212						19.8
						375		115	242						20.1
-AG90/NBS20 -330LS	2	2.5 - 20	46	35	35	330	260	70	197	65	62	132	NBC20	1:1	20.5
-AG90/NBS10W-330LS	3	1.5 - 10	30	31	28	330	260	70	197	60	60	124	NBC10	1:1	20.1
BBT50-AG90/NBS 6 -415LS	1	0.25 - 6	20	21	17	415	360	55	282	33	29	67	NBC 6	1:1	23.3
						445		85	312						23.5
						475		115	342						23.7
						505		145	372						23.9
-AG90/NBS10 -415LS	1	1.5 - 10	30	30	25	415	360	55	282	45	43	91	NBC10	1:1	23.7
						445		85	312						24.1
						475		115	342						24.4
-AG90/NBS13 -415LS	1	2.5 - 13	35	31	28	415	360	55	282	52	45	101	NBC13	1:1	23.8
						445		85	312						24.2
						475		115	342						24.5
-AG90/NBS20 -430LS	2	2.5 - 20	46	35	35	430	360	70	297	65	62	132	NBC20	1:1	24.9
-AG90/NBS10W-430LS	3	1.5 - 10	30	31	28	430	360	70	297	60	60	124	NBC10	1:1	24.5
BBT50-AG90/NBS 6 -515LS	1	0.25 - 6	20	21	17	515	460	55	382	33	29	67	NBC 6	1:1	27.7
						545		85	412						27.9
						575		115	442						28.1
						605		145	472						28.3
-AG90/NBS10 -515LS	1	1.5 - 10	30	30	25	515	460	55	382	45	43	91	NBC10	1:1	28.1
						545		85	412						28.5
						575		115	442						28.8
-AG90/NBS13 -515LS	1	2.5 - 13	35	31	28	515	460	55	382	52	45	101	NBC13	1:1	28.2
						545		85	412						28.6
						575		115	442						28.9
-AG90/NBS20 -530LS	2	2.5 - 20	46	35	35	530	460	70	397	65	62	132	NBC20	1:1	29.3
-AG90/NBS10W-530LS	3	1.5 - 10	30	31	28	530	460	70	397	60	60	124	NBC10	1:1	28.9

- The cutting tool rotates in reverse to the machine spindle.
- Nut and wrench are included. Collet is not included.
- Output spindles of Twin Head do not rotate in forward direction simultaneously.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- New Baby Endmill Collets cannot be used.
- A Stop Block is required when mounting on machines. Please order separately.
- Automatic tool change may not be available depending on machine tool models.
- When supplied through the Stop Block, coolant can be ejected from the housing.





Compact type PAT. Clamping diameter: $\phi 2.5 - \phi 13$

- Compact and lightweight while fully equipped with the functions and accuracy required in drilling!

For drilling/tapping

Lightweight
and
compact



Compact and lightweight, while outperforming others:

- Reliable New Baby Collet
- Spiral bevel gears and angular contact bearings
- Special sealing mechanism for improved dustproof and waterproof performance

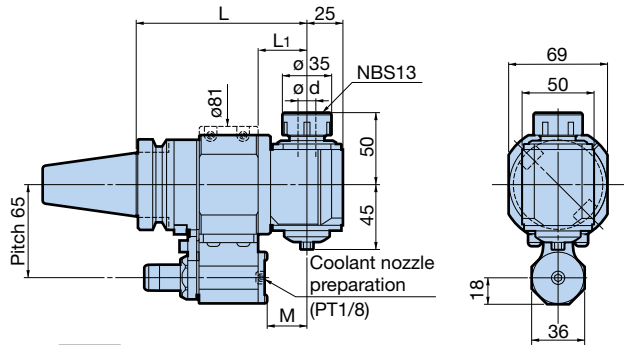


Fig. 1 Max. 5,000min⁻¹

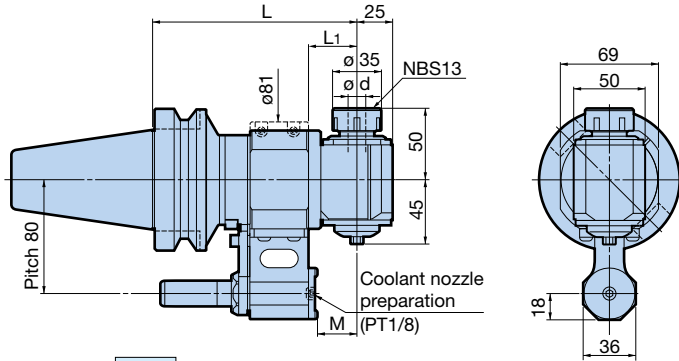


Fig. 2 Max. 5,000min⁻¹

● Model Description

BBT40 - AG90 - 13 - 120

- L dimension
- Maximum clamping diameter
- 90° Head type
- BIG-PLUS BT No.

● Tap Collet with tension mechanism can also be used to perform tapping.

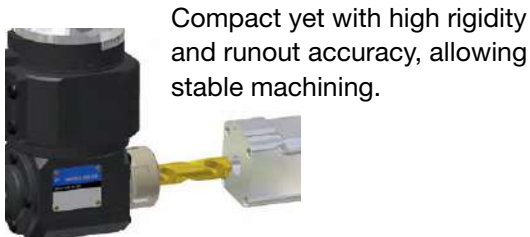
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	ϕd	L	L ₁	M	Collet Model	Speed ratio Input:output	Weight (kg)
BBT40-AG90-13-120	1	2.5 - 13	120	34	27.85	NBC13	1:1	4.5
-170			170	84	77.85			5.5
BBT50-AG90-13-145	2	2.5 - 13	145	34	27.85	NBC13	1:1	7.6
-195			195	84	77.85			8.6

- The cutting tool rotates in reverse to the machine spindle.
- Nut and wrench are included. Collet is not included.
- New Baby Endmill Collet cannot be used.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- A tapped hole (PT1/8) is prepared at the bottom cover of the Locating Pin housing so that a pipe for coolant can be connected.
- Automatic tool change may not be available depending on machine tool models.



Application example



	Drilling	Tapping
Tools used	$\phi 12$ carbide drill	M5 Tap
Workpiece material	S50C	A2017
Cutting speed	70m/min	7.5m/min
Feed	372mm/min	384mm/min
	0.2mm/rev	
Spindle speed	1,860min ⁻¹	450min ⁻¹

ANGLE HEAD AG90 SERIES

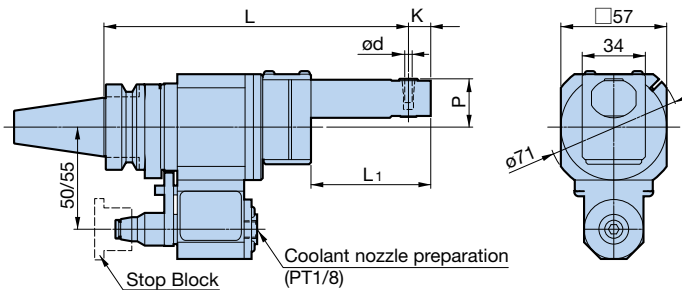
DUAL CONTACT
BBT/BT
SHANK

BBT30 lightweight type Clamping diameter: $\phi 3 - \phi 6$

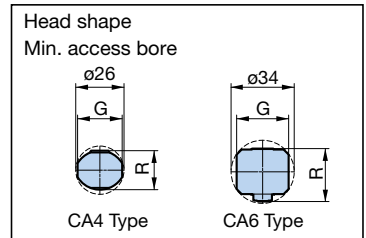
- Clears the ATC weight limit of the #30 machining center.



Lightweight
under **2kg**



Max. 2,000min⁻¹



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

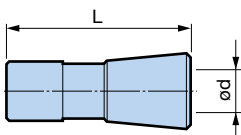
BIG-PLUS BBT SHANK Model	ϕd	L	L ₁	K	P	G	R	Speed ratio Input:output	Weight (kg)
BBT30-AG90-CA4SG-164	3 - 4	164	64.5	12	26	24	21	1:1.13 (acceleration)	1.90
BBT30-AG90-CA6SG-164	3 - 6	164	67	14.5	28	28	28.5	1:0.91 (deceleration)	1.98

1. The cutting tool rotates in forward to the machine spindle.
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Exclusive collet is not included. Please order separately.
5. A tapped hole (PT1/8) is prepared at the bottom cover of the Locating Pin housing so that a pipe for coolant can be connected.



Stop Blocks **G35**

- Exclusive collet



Model	ϕd	L	Model	ϕd	L
CA4-3	3	16.5	CA6-3	3	22
-3.5	3.5		-4	4	
-4	4		-5	5	
		-6	6		

1. Use only cutting tools that have a shank tolerance within h7.

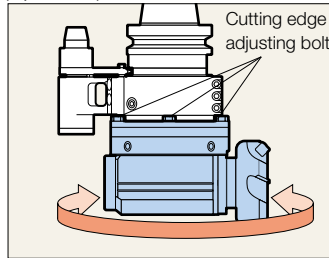
Face Milling type

- Tool life is improved by high-rigidity bearings and optimum spindle dimensions!
- Series' highest rotation transmission force of 20kw (at 1,500min⁻¹)
- 90° indexing mechanism is used to allow index of 90° increments after adjustment. (Indexing accuracy ±5')



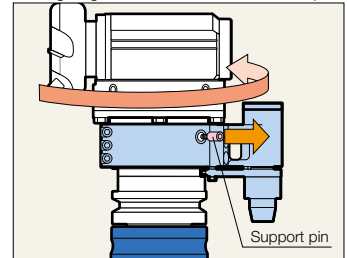
- Cutting edge direction freely adjustable in 360°

The cutting edge direction can be easily set at any angle through 360 degrees simply by loosening its adjustment bolts (8 positions).

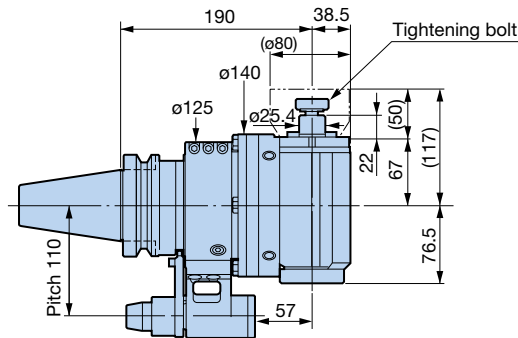


- Cutting edge direction indexable in 90° increments

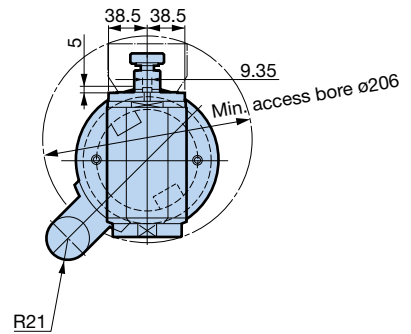
Indexing can be done in 90° increments after the cutting edge direction is adjusted. (Remove the support pin to adjust the cutting edge direction in 90° increments)



▲ Note: Be sure to remove from the machine before setting in 90° increments.



Max. 1,500min⁻¹



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Weight (kg)
BBT50-AG90-FMA25.4S-190S	19.2

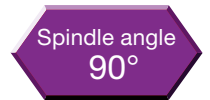
Figures in () indicate dimensions when 80mm diameter and 50mm high face mill cutter is mounted.

1. The cutting tool rotates in reverse to the machine spindle.
2. A Stop Block is required when mounting on machines. Please order separately.
3. Coolant cannot be supplied through the Locating Pin.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. Automatic tool change may not be available depending on machine tool models.



Stop Blocks **G35**

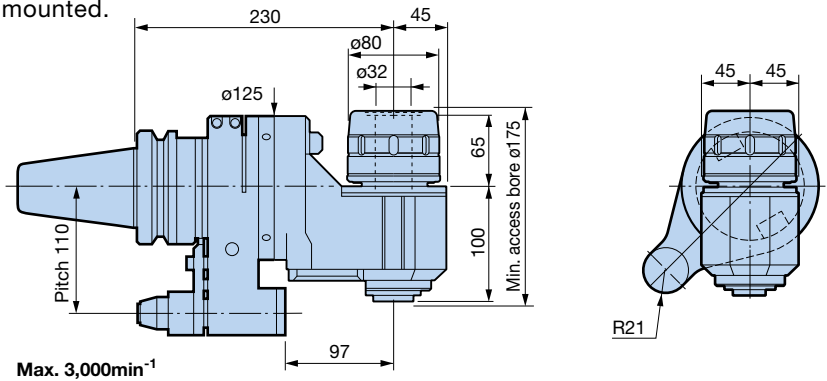
Versatile $\phi 32$ milling chuck allows use of various tools according to any machining application.



HMC32 Type

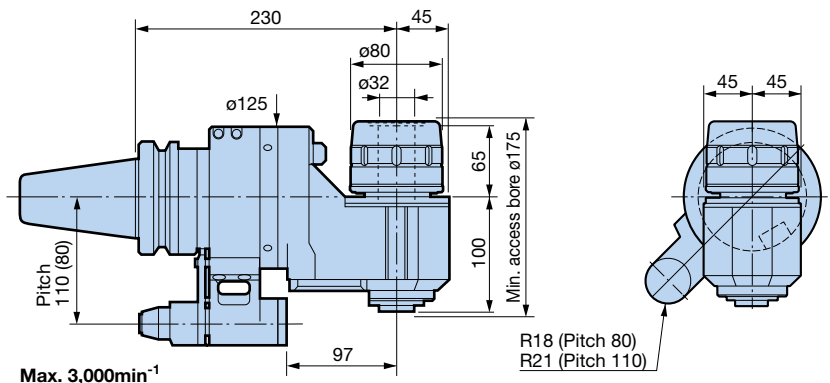
● Standard type

- High-rigidity milling chuck type that allows the most commonly used cylindrical shanks to be mounted.



● High rigidity S type

- About 30% higher rigidity compared to standard type



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

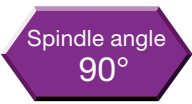
Type	BIG-PLUS BBT SHANK Model	Weight (kg)
Standard type	BBT50-AG90/HMC32-230	16.8 (pitch 110)
High rigidity S type	-230S	18.1 (pitch 110) 17.4 (pitch 80)

1. The cutting tool rotates in forward to the machine spindle.
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.
6. Wrench is included. (Model: **FK80-90**)



➡ Straight Collets **G22**
➡ Stop Blocks **G35**

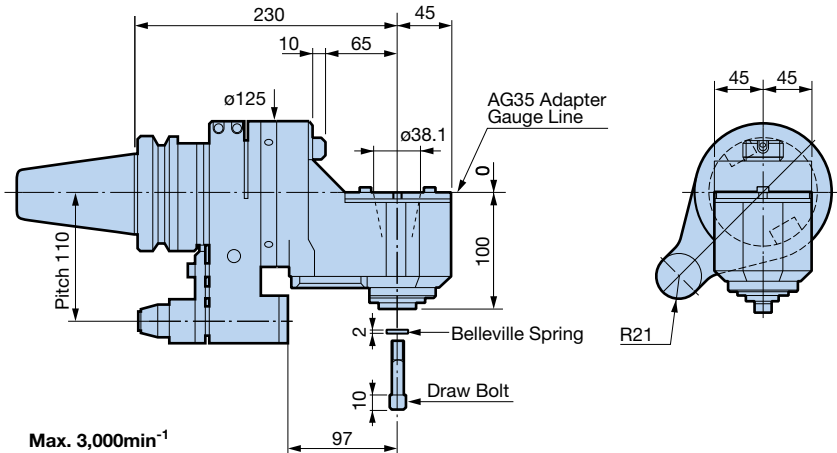
Offset design provides optimum tool projection with each adapter.



ANGLE HEAD

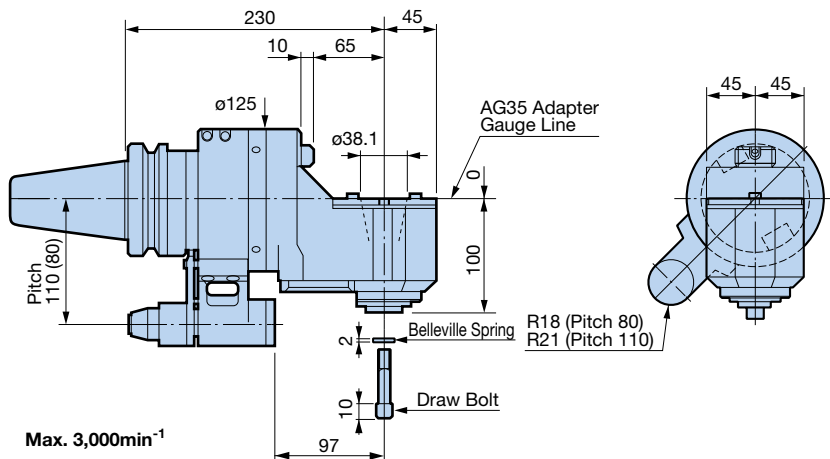
BUILD-UP Type

● Standard type



● High rigidity S type

· About 30% higher rigidity compared to standard type



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Type	BIG-PLUS BBT SHANK Model	Weight (kg)
Standard type	BBT50-AG90/AGH35-230	15.0 (pitch 110)
High rigidity S type	-230S	16.3 (pitch 110) 15.6 (pitch 80)

1. The cutting tool rotates in forward to the machine spindle.
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.
6. Wrench is included.



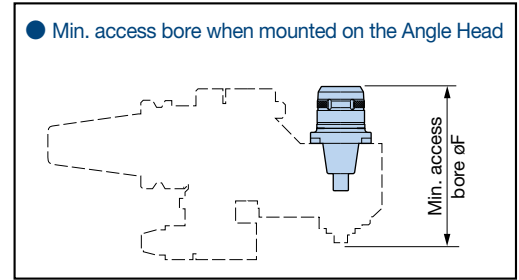
Stop Blocks **G35**

BUILD-UP Type AG35 ADAPTER

Spindle angle
90°

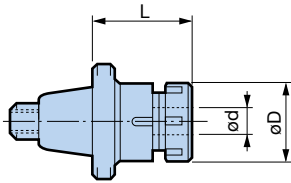
- Abundant adapters support various machining applications.

- Min. access bore when mounted on the Angle Head



- Tap Collet with tension mechanism can also be used to perform tapping.

NEW BABY CHUCK PAT.

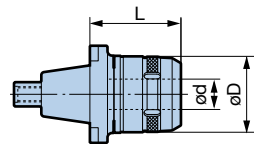


Model	ød	øD	L	øF	Weight (kg)
AG35-NBS10	1.5 - 10	30	47	162	0.6
-NBS13	2.5 - 13	35	54	168	0.7
-NBS16	2.5 - 16	42	54	170	0.8
-NBS20	2.5 - 20	46	54	170	0.9

1. Collet and wrench must be ordered separately. (See wrench G31)

Collets **G5**

Tap Collets **G31**

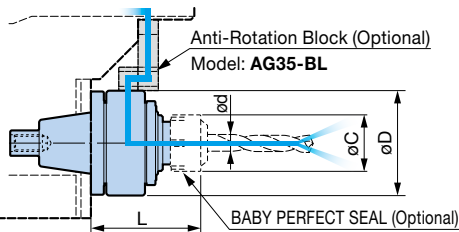


NEW Hi-POWER MILLING CHUCK

Model	ød	øD	L	øF	Weight (kg)
AG35-HMC20S	20	50	60	178	1.5

1. Wrench included. (Model: FK45-50L)

Straight Collets **G22**



Hi-JET HOLDER

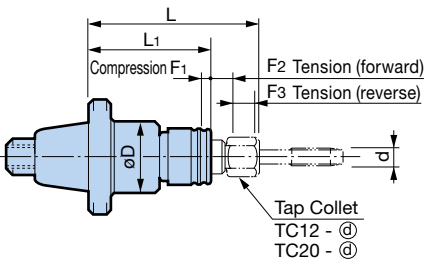
Through
Tools

Model	ød	øC	øD	L	øF	Weight (kg)
AG35-ONBS13N	3 - 13	35	65	68	186	1.1
-ONBS20N	3 - 20	46	65	68	188	1.2

1. Baby Perfect Seal nut with sealing mechanism is required. (optional accessory)
2. Collet and wrench must be ordered separately.
3. Anti-rotation block set must be ordered separately. (Model: AG35-BL)
4. Max. coolant pressure is 2MPa.

Baby Perfect Sea **G28**

Collets **G5**

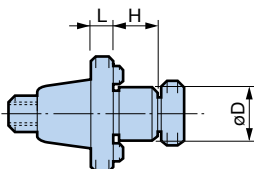


AUTO TAPPER B (with Tap Depth Control)

Model	d	øD	L	L ₁	F ₁	F ₂	F ₃	Weight (kg)
AG35-ATB12	M3 - M12	40	95	65	0.5	5	4	0.8
-ATB20	M7 - M20	54	125	100		6.5	5	1.5

1. Tap Collet must be ordered separately.

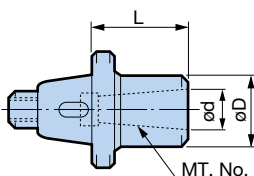
TC Tap Collets **A141**



FACE MILL ARBOR

Model	øD	L	H	Weight (kg)
AG35-FMA25.4-20	25.4	20	22	1.0
-30	25.4	30	22	1.0
AG35-FMH22 -30	22	30	18	1.0
-FMH27 -20	27	20	20	1.0

※ Cutter face protrudes by 7.5mm from the 125mm diameter housing with the following combinations; AG35-FMA25.4-20 + 50mm thick tool, AG35-FMA25.4-30/AG35-FMH22-30 + 40mm thick tool and AG35-FMH27-20 + 50mm thick tool.



MORSE TAPER ADAPTER

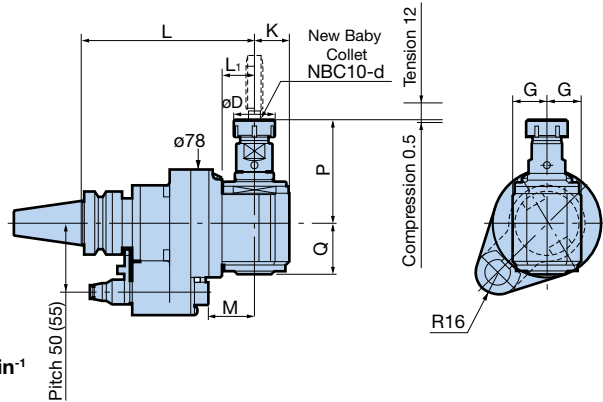
Model	ød	MT.No.	øD	L	øF	Weight (kg)
AG35-MT1	12.065	1	24	50	164	0.6
-MT2	17.78	2	32	60	180	0.7

Tapper Type

- Tapping depth is adjusted with automatic depth control.
- Spindle speed is reduced by half to achieve increased transmission torque (excluding BBT30 type).



Fig. 1
Max. 2,000min⁻¹



Model Description

- BBT40 - AG90 / TC 12 - 185**
- BBT40: BIG-PLUS BT No.
 - AG90: 90° Head type
 - TC 12: Tapper type with depth control mechanism
 - 12: Tapping capacity
 - 185: L dimension

Fig. 2
Max. 2,000min⁻¹

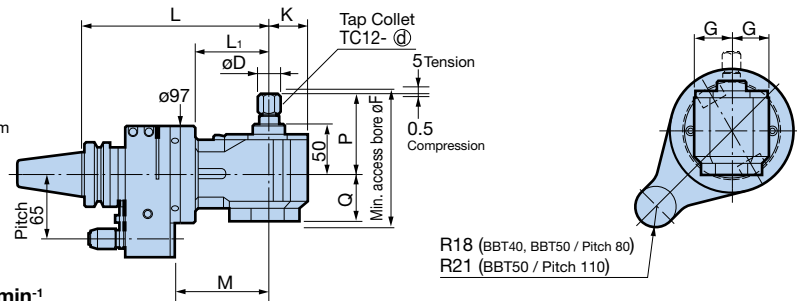


Fig. 3
Max. 2,000min⁻¹

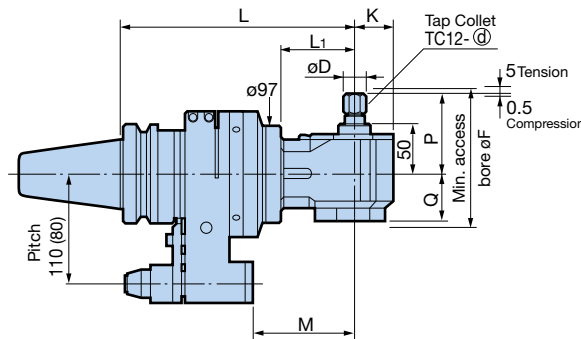
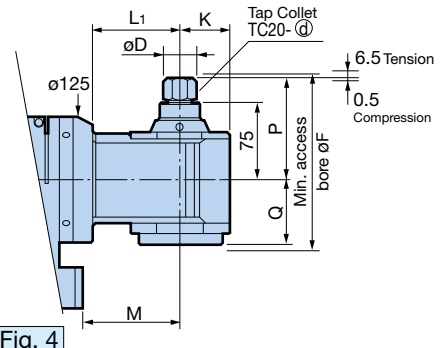


Fig. 4
Max. 1,000min⁻¹



- High rigidity S type with reinforced Locating Pin part is also available. Add the letter S at the end when ordering (except BBT30).

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	d	øD	G	K	L	L ₁	M	P	Q	øF	Collet Model	Speed ratio Input:output	Weight (kg)		
														Standard Type (Pitch)	High Rigidity Type (Pitch)	High Rigidity Type (Pitch 80)
BBT30-AG90-FT12-125	1	M4 - M12	30	24.5	25	125	23.5	33.5	75	37	117	NBC10	1:1	2.7	—	—
BBT40-AG90/TC12-185	2	M3 - M12	22	38	39	185	70	92	80	46	135	TC12-ø	2:1 (Deceleration)	7.0 (65)	7.9 (65)	—
BBT50-AG90/TC12-230	3	M3 - M12	22	38	39	230	70	97	80	46	135	TC12-ø		14.5 (110)	15.8 (110)	15.1
-AG90/TC20-230	4	M7 - M20	22/31	49	49	230	86	97	100	66.5	178	TC20-ø		16.3 (110)	17.6 (110)	16.9

- The cutting tool rotates in reverse to the machine spindle.
- TC Tap Collet and NBC Collet are not included. Please order separately.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- Note that tap rotation is reduced to half the speed of the machine spindle (except BBT30).
- A Stop Block is required when mounting on machines. Please order separately.
- The BBT30 Type does not provide depth control.
- When supplied through the Stop Block, coolant can be ejected from the housing.
- Automatic tool change may not be available depending on machine tool models.

TC Tap Collets **A141**

NBC Collets **G5**

Stop Blocks **G35**



45° exclusive fixing housing realizes secure diagonal machining.

- Highly versatile NEW BABY CHUCK enables high-accuracy machining.



NEW BABY CHUCK Type PAT. Clamping diameter: $\phi 1.5 - \phi 13$

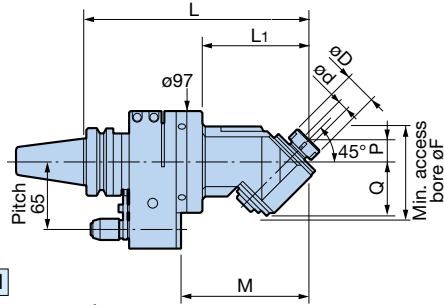


Fig. 1
Max. 6000min⁻¹

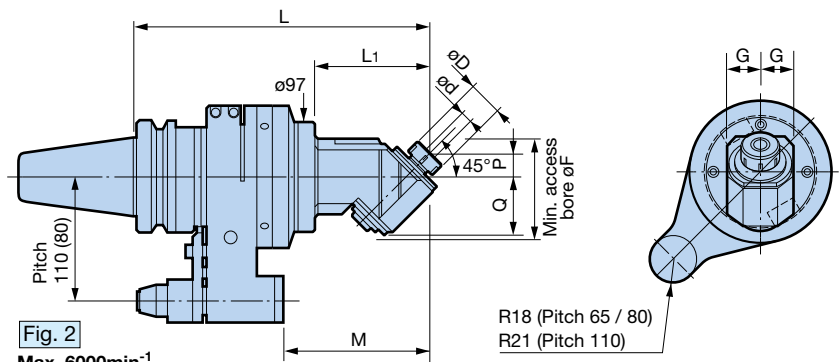


Fig. 2
Max. 6000min⁻¹

● Model Description

- BBT40 - AG45 / NBS 10 - 215
- L dimension
 - Maximum clamping diameter
 - NEW BABY CHUCK system
 - 45° Head type
 - BIG-PLUS BT No.

- High rigidity S type with reinforced Locating Pin part is also available. Add the letter S at the end when ordering.
- Tap Collet with tension mechanism can also be used to perform tapping.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	ød	øD	G	L	L ₁	M	P	Q	øF	Collet Model	Weight (kg)		
												Standard Type (Pitch)	High Rigidity Type (Pitch)	High Rigidity Type (Pitch 80)
BBT40-AG45/NBS10-215	1	1.5 - 10	30	30	215	100	122	20	51.5	90	NBC10	5.7 (65)	6.6 (65)	—
-AG45/NBS13-220		2.5 - 13	35		220	105	127	25				5.8 (65)	6.7 (65)	—
BBT50-AG45/NBS10-260	2	1.5 - 10	30	30	260	100	127	20	51.5	90	NBC10	13.2 (110)	14.5 (110)	13.8
-AG45/NBS13-265		2.5 - 13	35		265	105	132	25				13.3 (110)	14.6 (110)	13.9

1. The cutting tool rotates in reverse to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.



- Collets **G5**
- Tap Collets **G31**
- Stop Blocks **G35**

The cutting edge angle can be freely adjusted, making it ideal for machining the corners of molds in deep areas.

- The original 1° indexing mechanism allows easy angle adjustment.
- Robust clamping mechanism allows secure endmilling.



Universal Type PAT. Clamping diameter: $\varnothing 2.5 - \varnothing 20$



Indexing mechanism in 1° increments

Accurate angle adjustment is possible simply by tightening the angle setting pin.



The spindle angle can be adjusted in the range of 0° to 90°

The 1° angle indexing mechanism allows the angle to be easily set. (Indexing accuracy $\pm 5'$)

● Model Description

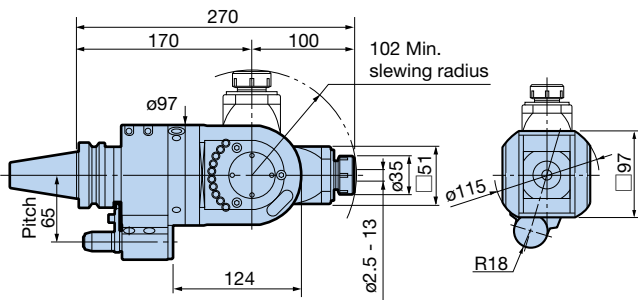
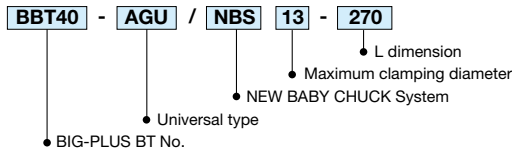


Fig. 1 Max. 6,000min⁻¹

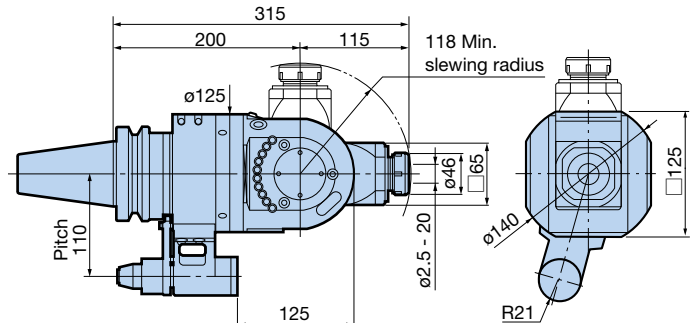


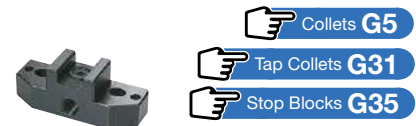
Fig. 2 Max. 4,000min⁻¹

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

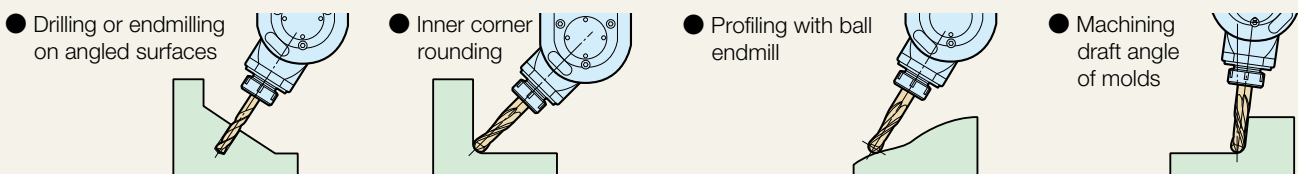
BIG-PLUS BBT SHANK Model	Fig.	Applicable Collet	Speed ratio Input:output	Weight (kg)
BBT40-AGU/NBS13-270	1	NBC13	1:1	9.7
BBT50-AGU/NBS20-315	2	NBC20	1:1	20.8

● Tap Collet with tension mechanism can also be used to perform tapping.

1. The cutting tool rotates in reverse to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.

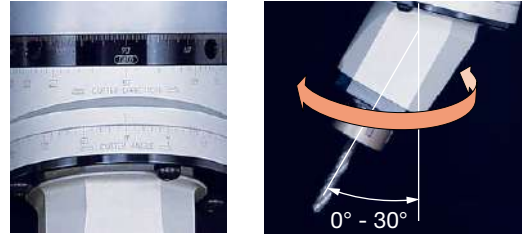


Machining examples Easy angle setup



AGU30 type PAT. Clamping diameter: $\phi 2.5 - \phi 20$

- Spindle angle adjustable $0^\circ - 30^\circ$.
- Rigidity is improved by the flange coupling in the swivel!
- The new drive system achieves high transmission torque, low vibration and noise.



Angle adjustment by scale alignment

The angle spindle can be easily adjusted between 0° and 30° just by aligning to the scale provided on the swivel.

Model Description

- BBT40** - **AGU30** / **NBS** **13** - **240**
- BIG-PLUS BT No.
 - AGU30 Type
 - NEW BABY CHUCK System
 - Maximum clamping diameter
 - L dimension

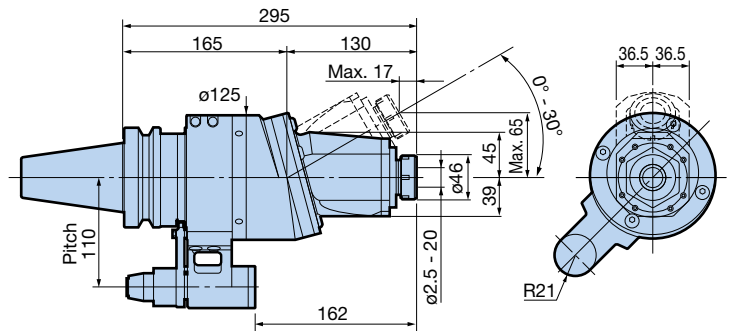
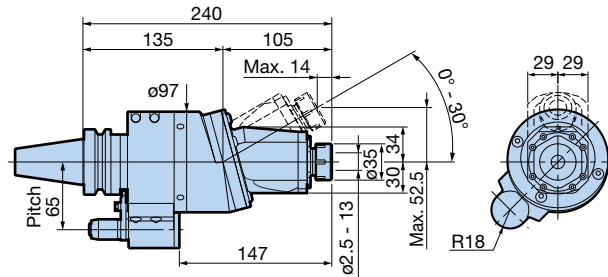


Fig. 1 Max. 6,000min⁻¹

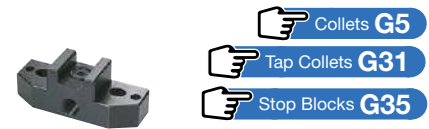
Fig. 2 Max. 4,000min⁻¹

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Fig.	Collet Model	Speed ratio Input:output	Weight (kg)
BBT40-AGU30/NBS13-240	1	NBS13	1:1	6.9
BBT50-AGU30/NBS20-295	2	NBS20	1:1	16.1

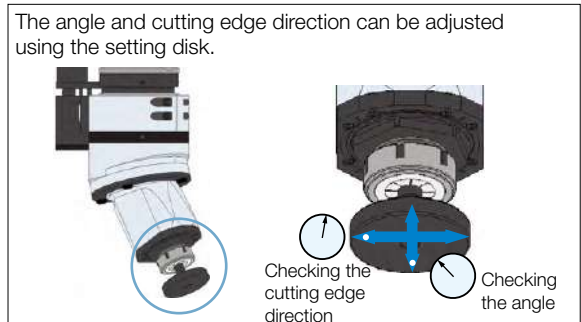
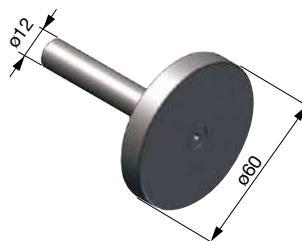
● Tap Collet with tension mechanism can also be used to perform tapping.

1. The cutting tool rotates in forward to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. When supplied through the Stop Block, coolant can be ejected from the housing.



● SETTING DISK (Standard accessory)

Use when accurate angle setting or fine adjustment of the cutting edge direction is required.



Small bore type

- Achieves angular drilling in the min. $\phi 30$ bore. (minimum diameter for CA6SGM is $\phi 40$)
- Prevents interference through flexible combination of base units and heads.
- The head is positioned at the center of the spindle, enabling easy programming.



● Model Description

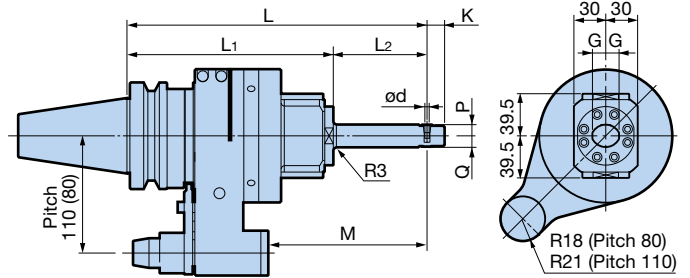
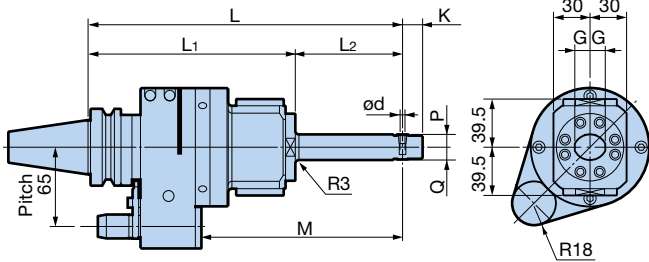
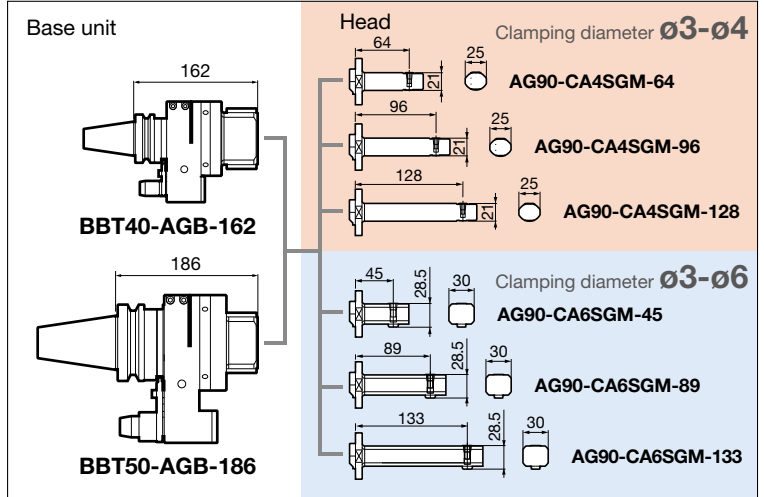
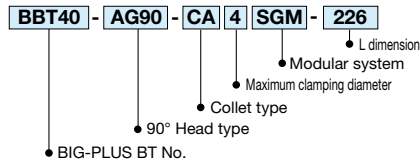


Fig. 1 Max. 2,000min⁻¹

Fig. 2 Max. 2,000min⁻¹

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Set Model	Base Model	Head Model	Fig.	ϕd	G	K	L	L ₁	L ₂	M	P	Q	Speed ratio Input:output	Weight (kg)		
														Pitch 65	Pitch 80	Pitch 110
BBT40-AG90-CA4SGM-226	BBT40- AGB- 162	AG90-CA4SGM- 64	1	3 - 4	12.5	16.5	226	170	56	133	10.5	10.5	1:1.06 (Acceleration)	5.6		
-258		258					88		165	5.7						
-290		290					120		197	5.8						
-CA6SGM-207		AG90-CA6SGM- 45	3 - 6	15	20	207	37	114	12.5	16	1:0.77 (Deceleration)	5.7				
-251		251				81	158	5.9								
-295		295				125	202	6.1								
BBT50-AG90-CA4SGM-250	BBT50- AGB- 186	AG90-CA4SGM- 64	2	3 - 4	12.5	16.5	250	194	56	117	10.5	10.5	1:1.06 (Acceleration)		12.5	11.9
-282		282					88		149					12.6	12	
-314		314					120		181					12.7	12.1	
-CA6SGM-231		AG90-CA6SGM- 45	3 - 6	15	20	231	37	98	12.5	16	1:0.77 (Deceleration)		12.6	12		
-275		275				81	142					12.8	12.2			
-319		319				125	186					13	12.4			

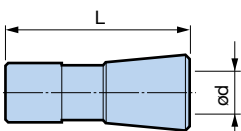
1. The cutting tool rotates in forward to the machine spindle.
2. Models with pitch 80 carry "S" at the end of the model number.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.

6. Wrench is included. Exclusive collet is not included. Please order separately.
7. Coolant cannot be supplied through the Locating Pin.



Stop Blocks **G35**

● Exclusive collet



Model	ϕd	L
CA4-3	3	16.5
-3.5	3.5	
-4	4	

Model	ϕd	L
CA6-3	3	22
-4	4	
-5	5	
-6	6	

1. Use a drill with a shank diameter matched with ϕd of the collet.
2. Tool shank tolerance must be within h7.



The Stop Block must be installed on the spindle cover when using a **(BIG)** product with a locating pin. The mounting dimensions vary depending on machine tool models, specifications, etc.

		For BBT 30	For BBT 40, BBT 50 (pitch 80) BDV (DV) 40, BDV (DV) 50 (pitch 80) HSK-A63, A100 (pitch 80)	For BBT50 (pitch 110) BDV50 (pitch 110) HSK-A100 (pitch 110)
Product	Page			
BBT / DV / BDV	ANGLE HEAD	A147-B17	BBT30	BBT40, BBT50 (pitch 80) BDV40, BDV50 (pitch 80)
	Hi-JET HOLDER	A165-B26	BBT30	-
	HIGH SPINDLE	A175-B25		
	AIR TURBINE ▲	A172-B24		
HSK	ANGLE HEAD	C36	-	HSK-A63, A100 (pitch 80)
	AIR TURBINE ▲	C50	-	HSK-A63,A100

- When ordering, provide us with the manufacturer, model and specifications of the machine tool, as well as the BIG product model number.
- Consult us regarding Stop Block and mounting dimensions.
- Check with the machine tool manufacturer for the shape of the Stop Block, as it will vary for each machine tool model.
- The dimension from the spindle gauge line to the top of the Stop Block (※) is our default length.

▲ As the Air Turbine requires clean air, do not share the same Stop Block with other products.

For further details:

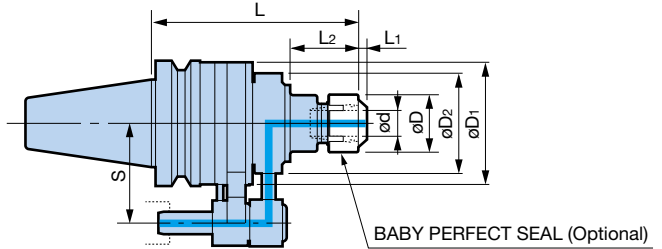
Angle Heads **G35**

Others **G37**

Unique separate sealing structure extends service life.

- Independent bearing and sealing sections eliminate infiltration of coolant into bearings.
- The seal replacement system allows maintenance and thus helps reduce costs.

NEW BABY CHUCK Type PAT.



● Model Description

BBT30 - ONBS 10 N - 135

- Hi-JET TYPE
- Maximum clamping diameter
- OIL HOLE NEW BABY CHUCK
- BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	øD ₁	øD ₂	L	L ₂	Max. min ⁻¹	Merit Set (spare)	Weight (kg)	Perfect Seal Model	Collet Model		
BBT30-ONBS10N-135	3 - 10	30	66	65	138	18	10,000	MES-40	2.7	BPS10	NBC10		
-ONBS13N-140	3 - 13	35			23	2.7			BPS13	NBC13			
-ONBS16N-140	3 - 16	42			24	2.6			BPS16	NBC16			
-ONBS20N-140	3 - 20	46			24	2.6			BPS20	NBC20			
BBT40-ONBS10N-165	3 - 10	30	81.6	73	168	46	10,000	MES-40	3.9	BPS10	NBC10		
-200					203	82	8,000		4.1				
-ONBS13N-165	3 - 13	35			168	47	10,000		4.0	BPS13	NBC13		
-200					203	82	8,000		4.2				
-ONBS16N-165	3 - 16	42			80	80	168	47	8,000	MES-50	4.3	BPS16	NBC16
-200							203	82	6,000		4.6		
-ONBS20N-165	3 - 20	46					168	48	8,000		4.3	BPS20	NBC20
-200							203	83	6,000		4.7		

1. Max. coolant pressure is 2MPa.
2. Wrench, nut (BPS), collet and adjusting screw are sold separately. BBT30 models include adjusting screw. Order together with a Perfect Seal of appropriate size.
3. For L₁, refer to Baby Perfect Seal on G28.
4. The standard S pitch is BBT40 = 65 and BBT50 = 80. For BBT30, it depends on the machine model.
5. A Stop Block is required when mounting on machines. Please order separately.



Stop Blocks **G37**

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

Optional Accessories

Collet



G5

BABY PERFECT SEAL



G28

Adjusting Screw



G10

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	øD ₁	øD ₂	L	L ₂	Max. min ⁻¹	Merit Set (spare)	Weight (kg)	Perfect Seal Model	Collet Model
BBT50-ONBS10N-165	3 - 10	30	99.6	80	168	47	8,000	MES-50	7.2	BPS10	NBC10
-200					203	82	6,000		7.4		
-250					253	132	4,000		7.6		
-ONBS13N-165	3 - 13	35			168	47	8,000		7.3	BPS13	NBC13
-200					203	82	6,000		7.5		
-250					253	132	4,000		7.8		
-ONBS16N-165	3 - 16	42			168	50	8,000		7.5	BPS16	NBC16
-200					203	85	6,000		7.8		
-250					253	135	4,000		8.2		
-ONBS20N-165	3 - 20	46	168	51	8,000	7.5	BPS20	NBC20			
-200			203	86	6,000	7.9					
-250			253	136	4,000	8.2					

1. Max. coolant pressure is 2MPa.
2. Wrench, nut (BPS), collet and adjusting screw are sold separately.
Order together with a Perfect Seal of appropriate size.
3. For L₁, refer to Baby Perfect Seal on G28.
4. The standard S pitch is BBT50 = 80.
5. A Stop Block is required when mounting on machines. Please order separately.

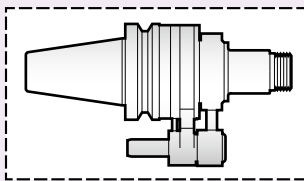


Stop Blocks **G37**

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

Example

Order together with a holder model and Perfect Seal of appropriate size



NEW BABY CHUCK TYPE MODEL (nut not included)
BBT40-ONBS10N-165

Optional Accessory
(Please order separately.)



New Baby Collet

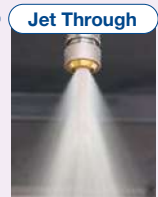
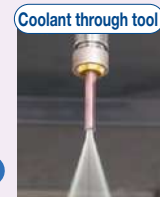
G5

Optional Accessory
(Please order separately.)



OIL HOLE SEAL NUT
BABY PERFECT SEAL MODEL
BPS10-03035

G28



For quotations or orders, please specify the machine tool manufacturer and model.

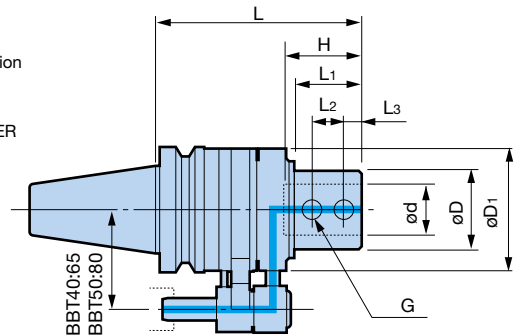
Wrenches **G31**

SIDE LOCK TYPE

● For cylindrical shank oil hole drills.



● Model Description
BBT40 - **OSL** **16** **N** - **150**
 ● L dimension
 ● Hi-JET TYPE
 ● Inner diameter
 ● OIL HOLE SIDE LOCK HOLDER
 ● BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	ød	øD	øD ₁	L	L ₁	L ₂	L ₃	G	H	Max. (min ⁻¹)	Merit Set	Weight (kg)		
BBT40-OSL16N-150	16	48	81.6	150	35	14	14	M10	48	8,000	MES-50	4.4		
-OSL20N-150	20	48		150	35									
-OSL25N-165	25	48		165	50	20	15	M16	56			6,000	MES-65	5.7
-OSL32N-165	32	58		99.6	165				45					
BBT50-OSL16N-150	16	48	99.6	150	38	14	14	M10	48	8,000	MES-50	7.5		
-OSL20N-150	20	48		150	38									
-OSL25N-165	25	48		165	53	20	15	M16	56			6,000	MES-65	7.9
-OSL32N-165	32	58		165	53									
-OSL40N-165	40	64	165	53	25			70	4,000	MES-90	11.9			
-OSL50N-185	50	84	129.6	185				54.5						

1. Max. coolant pressure is 2MPa.

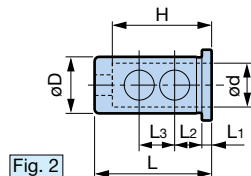
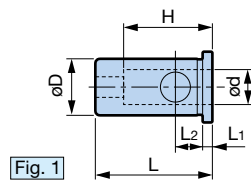
2. A Stop Block is required when mounting on machines. Please order separately.

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.



Stop Blocks **G37**

For Side Lock type
SL Sleeve



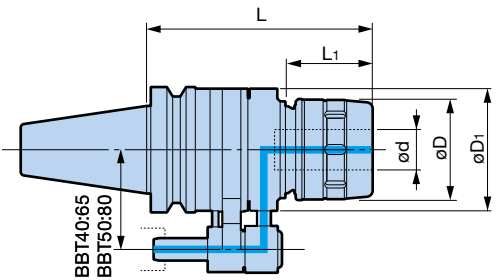
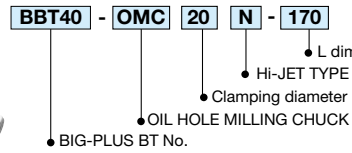
Model	Fig.	ød	øD	L	L ₁	L ₂	L ₃	H
OSL25-16	1	16	25	62	5.5	15.5	—	48
-20		20						50
OSL32-16	1	16	32	66	5.5	15.5	—	48
-20		20						50
-25	2	25					20	56
OSL40-16	1	16	40	76	5.5	15.5	—	48
-20		20						50
-25		25						56
-32	2	32					25	60

MILLING CHUCK TYPE

- High gripping force is ideal for endmilling.



● Model Description



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	øD ₁	L	L ₁	Max. (min ⁻¹)	Merit Set	Weight (kg)
BBT40-OMC20N-170	20	60	81.6	170	55	8,000	MES-50	4.8
-OMC32N-190	32	80	99.6	190	69	6,000	MES-65	6.5
BBT50-OMC20N-165	20	60	99.6	165	53	8,000	MES-50	6.8
-OMC32N-180	32	80		180	68	6,000	MES-65	8.5
-OMC42N-200	42	99	129.6	200	69	4,000	MES-90	13.5

1. Max. coolant pressure is 2MPa.
2. Contact a BIG agent for replacement of the Merit Set, as the clamping nut needs to be disassembled.
3. For the collet, use the Oil Hole Straight Collet (OCA).
4. A Stop Block is required when mounting on machines. Please order separately.
5. Wrench included.



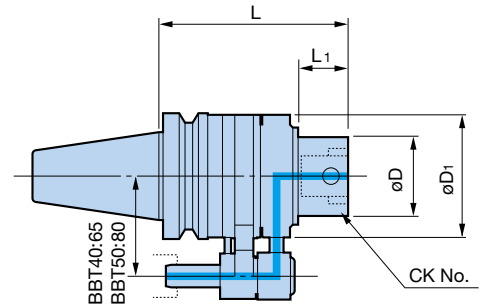
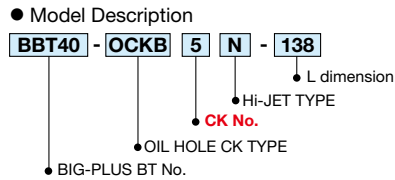
OCA Collets **G21**

Stop Blocks **G37**

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

BIG+KAISER
CK SHANK TYPE

- Improves boring accuracy, insert life and chip evacuation.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	CK No.	øD	øD ₁	L	L ₁	Max. (min ⁻¹)	Merit Set	Weight (kg)
BBT40-OCKB5N-138	CK5	50	81.6	138	23	8,000	MES-50	4.2
-OCKB6N-149	CK6	64	99.6	149	28	6,000	MES-65	5.4
BBT50-OCKB6N-139	CK6	64	99.6	139	27	6,000	MES-65	7.2
-OCKB7N-165	CK7	90	129.6	165	34.5	4,000	MES-90	12.3

1. Max. coolant pressure is 2MPa.
2. For boring heads, use the BIG+KAISER CK Boring System.
3. A Stop Block is required when mounting on machines. Please order separately.



Boring heads **A38**
Stop Blocks **G37**

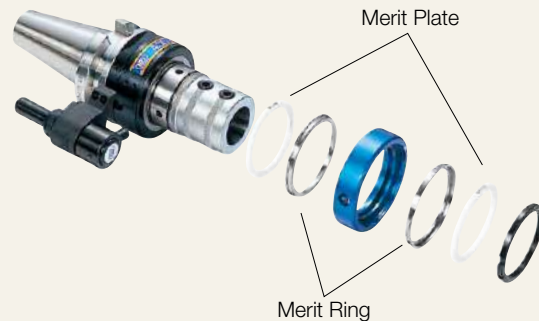
Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

Maintenance parts for seal **Merit Set**

If excessive coolant leak occurs while using the Hi-JET holder due to wear of the seal, purchase the seal replacement part "Merit Set".
The model number is indicated in the dimension table for each Hi-JET Holder type.

<Merit Set contents>

- Merit Ring ● Merit Plate ● O-rings for Merit Case, 2 pcs each



1. Merit Set replacement at BIG is also available. Please feel free to contact us.
2. For replacement of the Merit Set of the Milling Chuck Type, contact a BIG agent, as the clamping nut needs to be replaced (paid service).

Hi-JET HOLDER**MORSE TAPER TYPE**

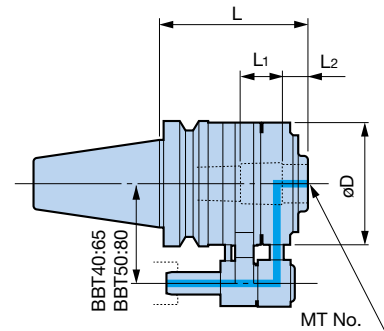
- Ideal for improving the life of Morse taper drills and accuracy of reaming.



● Model Description

BBT40 - OMT 3 N - 120

- L dimension
- Hi-JET TYPE
- Morse Taper No.
- OIL HOLE MORSE TAPER
- BIG-PLUS BT No.

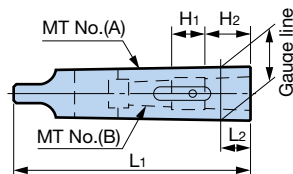
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Model	MT No.	øD	L	L ₁	L ₂	Max. (min ⁻¹)	Merit Set	Weight (kg)
BBT40-OMT3N-120	MT3	81.6	120	23	18	8,000	MES-50	3.7
-OMT4N-120	MT4		120	35	20			3.3
BBT50-OMT3N-115	MT3	99.6	115	23	18	8,000	MES-50	6.9
-OMT4N-120	MT4		120	34	21			6.6
-OMT5N-120	MT5		120	40	28	6,000	MES-65	6.4

1. Max. coolant pressure is 2MPa.

2. A Stop Block is required when mounting on machines. Please order separately.

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

Stop Blocks **G37**For Morse Taper type
MT Sleeve

Model	MT No. (A)	MT No. (B)	L ₁	L ₂	H ₁	H ₂
OMT3-2	3	2	109	15	20	17
OMT4-2	4	2	122	4.5	20	17
-3		3	140	22.5	22	21

1. The OMT sleeve is an exclusive product for the BIG Hi-JET holder.

The ultra-precision spindle enables challenging micromachining!

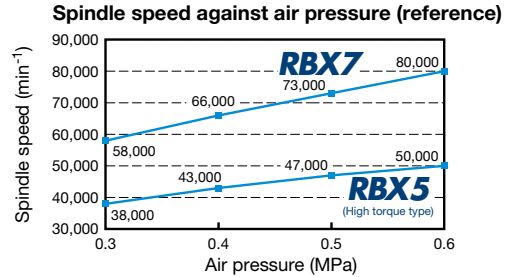
Ceramic ball bearing type
RBX Series PAT.

- Achieves efficient and accurate micromachining with excellent runout accuracy in the max. spindle speed range.

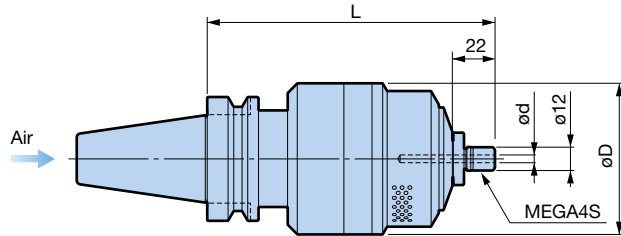
Machine spindle rotation zero

Max. 80,000 min⁻¹

	RBX5 <small>(High torque type)</small>	RBX7
Operating spindle speed (min ⁻¹)	40,000 - 50,000	60,000 - 80,000
Clamping diameter	ø0.45 - 4.05mm (MEGA4S)	
Spindle nose runout accuracy	Within 1 μm	
Air pressure	0.3 - 0.6MPa	
Air flow rate	300L/min [ANR] (at 0.6MPa)	



[Center through type]



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Operating spindle speed (min ⁻¹)	Clamping diameter ød	Usable tool diameter	øD	L	Mega Nut	Collet Model	Weight (kg)
BBT40-RBX5C-4S-150	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	150	MGN4S	NBC4S	4.1
-RBX7C-4S-150	60,000 - 80,000		ø1.0 or smaller	78				3.1
BBT50-RBX5C-4S-160	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	160	MGN4S	NBC4S	7.3
-RBX7C-4S-160	60,000 - 80,000		ø1.0 or smaller	78				6.3

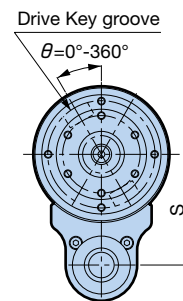
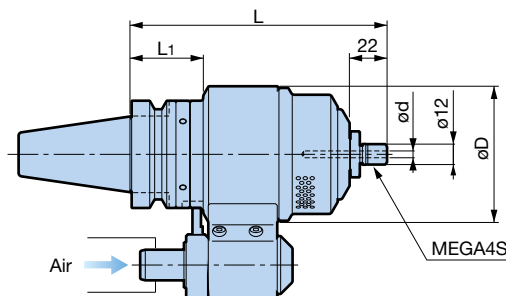
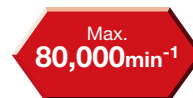
- Nut, exclusive wrench (RBX5,7 → XW27) and Mega Wrench (MGR12) are included, but collet must be ordered separately.
- Air filter regulator (XF1) is required.

Micro Collets G2

Caution Clean air is an essential condition for the use of this product. Therefore, coolant should never be supplied through the spindle of the machine using the Air Turbine Spindle.

[Side through type]

- ATC is available by supplying air via Stop Block. This enables unmanned operation.



ATC compatible

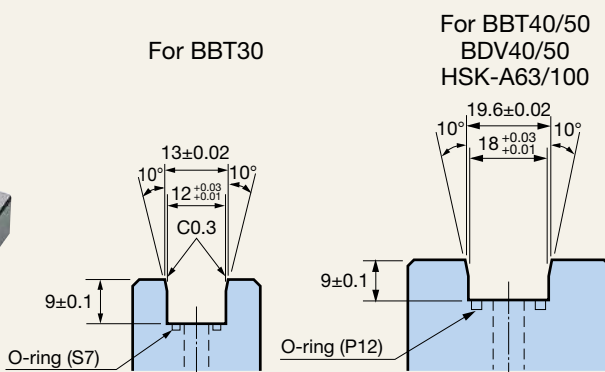
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Operating spindle speed (min ⁻¹)	Clamping diameter ød	Usable tool diameter	L	L ₁	øD	S	Mega Nut	Collet Model	Weight (kg)
BBT30-RBX7-4S-152-55	60,000 - 80,000	0.45 - 4.05	ø1.0mm or less	152	28	80	55	MGN4S	NBC4S	2.7
BBT40-RBX5-4S-151-65	40,000 - 50,000	0.45 - 4.05	ø1.5mm or less	151	43	96	65	MGN4S	NBC4S	5.0
-RBX7-4S-151-65	60,000 - 80,000		ø1.0mm or less			80				4.0
BBT50-RBX5-4S-166-80	40,000 - 50,000	0.45 - 4.05	ø1.5mm or less	166	58	100	80	MGN4S	NBC4S	9.7
-RBX7-4S-166-80	60,000 - 80,000		ø1.0mm or less							8.7

1. Nut, exclusive wrench (RBX5,7 → XW27) and Mega Wrench (MGR12) are included, but collet must be ordered separately.
2. Air filter regulator (XF1) is required. A173
3. A Stop Block is required when mounting on machines. Please order separately.



Stop Block



1. When ordering, provide us with the manufacturer, model and specifications of the machine tool, as well as the BIG product model number.
2. Consult us regarding Stop Block and mounting dimensions.
3. Check with the machine tool manufacturer for the shape of the Stop Block, as it will vary for each machine tool model. Although the Stop Block dimensions are compatible with other products such as Hi-Jet Holder or High Spindle, do not share the same Stop Block with them, as Air Turbine Spindle needs clean air.

Ceramic ball bearing type
RBX Series PAT.

[Manual tool change type]

- Easy installation as Stop Block is not needed.



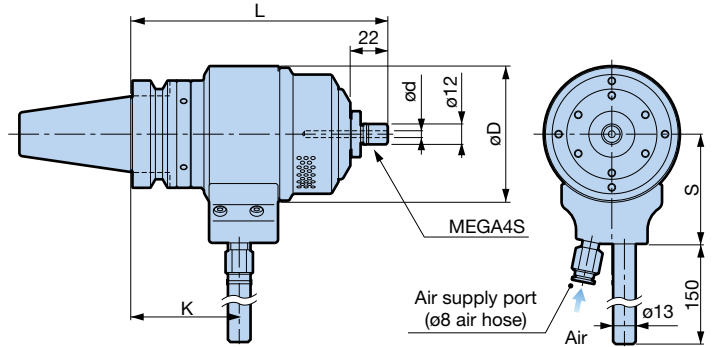
Machine spindle rotation **zero**

DUAL CONTACT



BIG-PLUS®


Max.
80,000min⁻¹




BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Operating spindle speed (min ⁻¹)	Clamping diameter ød	Usable tool diameter	L	øD	K	S	Mega Nut	Collet Model	Weight (kg)
BBT30-RBX7-4S-152H	60,000 - 80,000	0.45 - 4.05	ø1.0mm or less	152	80	64.5	65	MGN4S	NBC4S	2.7
BBT40-RBX5-4S-151H	40,000 - 50,000		ø1.5mm or less	151	96	63	71	MGN4S	NBC4S	5.0
-RBX7-4S-151H	60,000 - 80,000	ø1.0mm or less	80		65		4.0			
BBT50-RBX5-4S-166H	40,000 - 50,000	0.45 - 4.05	ø1.5mm or less	166	100	78	80	MGN4S	NBC4S	9.7
-RBX7-4S-166H	60,000 - 80,000		ø1.0mm or less							8.7

- Nut, exclusive wrench (RBX5,7 → **XW27**) and Mega Wrench (**MGR12**) are included, but collet must be ordered separately.
- Air filter regulator (XF1) is required.



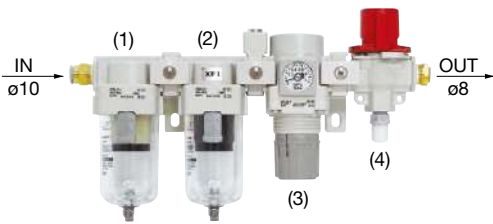
Micro Collets **G2**



RBX5 and RBX7 nuts **G3**

Air filter regulator

- Regulator that cleans the air used in driving the turbine.



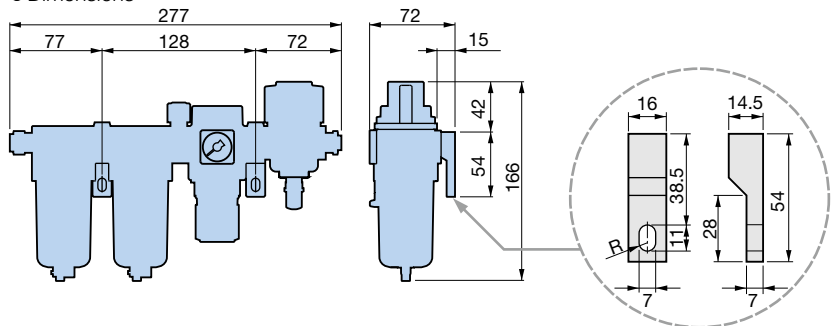
- Mist separator (filtration: 0.3 μm)
- Micro mist separator (filtration: 0.01 μm)
- Precision regulator
- Three ports valves for extracting residual pressure (non-grease type)

(Required for both the RBX and RSX models)

Model	XF1
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- [Accessories]
- ø10 air tube (3m)
 - ø8 air tube (3m)

● Dimensions



Hydrostatic air bearing type

RSX PAT.

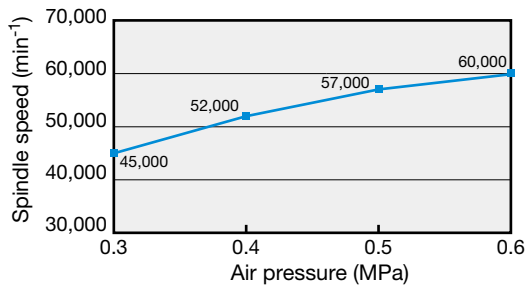
- Highest runout accuracy.

Ultra-high-precision AIR TURBINE SPINDLE capable of $\phi 0.03\text{mm}$ drilling in practical use.



Ideal for optical mold machining!

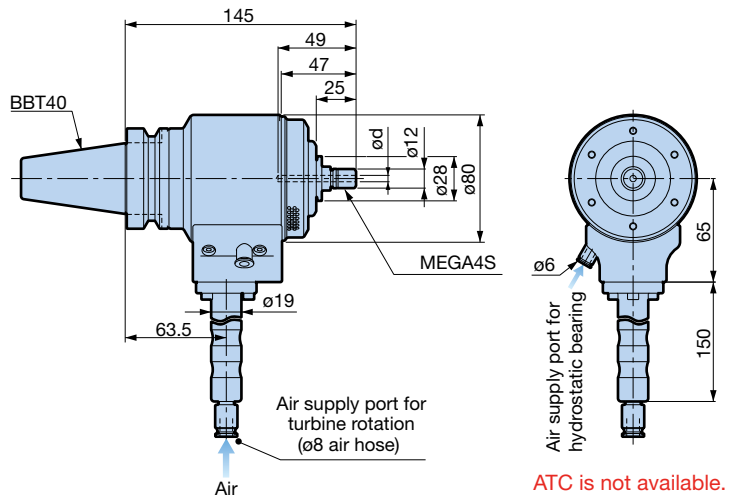
Spindle speed against air pressure (reference)



Machine spindle rotation **zero**



Max. **60,000min⁻¹**



ATC is not available.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	BBT40-RSX7-4S-145H
Operating spindle speed	40,000 - 60,000min ⁻¹
Clamping diameter ϕd	$\phi 0.45 - 4.05\text{mm}$ (Collet Model NBC4S)
Spindle nose runout accuracy	1 μm or less
Air pressure	0.6MPa or less
Air flow rate	300L/min [ANR] (at 0.6MPa)
Weight	Approx. 4kg

1. Nut, exclusive wrench (XW15) and Mega Wrench (MGR12) are included, but collet must be ordered separately.
2. Air filter regulator (XF1) and air dryer regulator (XF2) are required.



Air dryer regulator

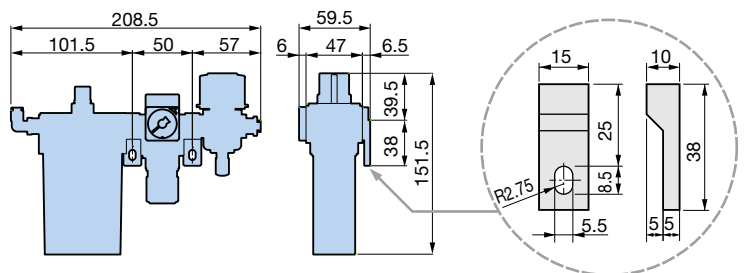
- Moisture removal apparatus for RSX type hydrostatic air bearings.



Model	XF2
-------	-----

[Accessories] · $\phi 6$ Air Tube (1m) · · · · · 1P
(3m) · · · · · 1P

● Dimensions



- (1) Membrane air dryer
- (2) Precision regulator
- (3) Three ports valves for extracting residual pressure (non-grease type)

Accelerates the machine spindle. Improves productivity for machines with low spindle speeds.

- BIG-PLUS gear drive with a long track record is used for the drive system. High torque and low heat generation are achieved.



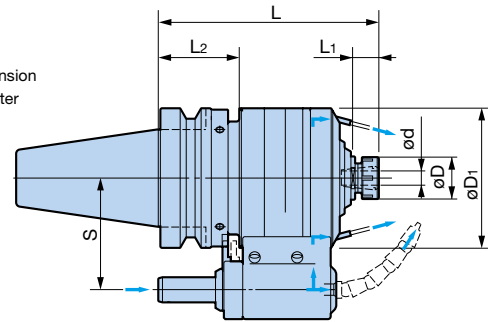
GTG type



● Model Description

BBT40 - GTG 5 - 8 - 139

- L dimension
- Clamping diameter
- 5x speed increase ratio
- HIGH SPINDLE
- BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	øD ₁	L	L ₁	L ₂	S	Collet Model	Speed ratio	Max. (min ⁻¹)	Allowable torque N·m	Weight (kg)
BBT40-GTG5- 8-139	0.5 - 8	25	80	139	19	43	65	NBC8	4.67	20,000	7.8	4.8
- 8-180				180	60			4.9				
-10-140				140	20			4.8				
-10-180	1.5 - 10	30	80	180	60	58	80	NBC10	5.67	20,000	8.0	4.9
-10-180				180	60			4.9				
BBT50-GTG6- 8-157	0.5 - 8	25	100	157	19	58	80	NBC8	5.67	20,000	8.0	8.8
- 8-200				200	62			8.9				
-10-158	1.5 - 10	30	100	158	20	58	80	NBC10	3.8	15,000	27.7	8.8
-10-200				200	62			9.0				
-GTG4-16-177	2.5 - 16	42	110	177	25.5	58	80	NBC16	3.8	15,000	27.7	10.6
-16-220				220	68.5			11.0				

1. The allowable torque is a calculated value of the drive system, and not the actual torque in cutting.
2. The maximum diameter when using an endmill is ø8 (GTG5, GTG6) and ø12 (GTG4).
3. A Stop Block is required when mounting on machines.
4. For continuous rotation of over 30 minutes, the spindle speed should be set within 80% of the maximum speed.
5. 1 pce. of the New Baby Collet in the table on the right is included.
6. Nut and 2 tightening wrenches are included.

Body Model	Included Collet Model
GTG5- 8	NBC 8- 8AA
GTG5-10	NBC10-10AA
GTG6- 8	NBC 8- 8AA
GTG6-10	NBC10-10AA
GTG4-16	NBC16-16AA



Collets **G5**
Stop Blocks **G37**

Please contact us if using neat oil coolant that may cause fire, or grinding or machining materials that generate powdery chips such as carbide.

GTX Type

- Bending rigidity is significantly improved.
- Long nose design ideal for mold machining.



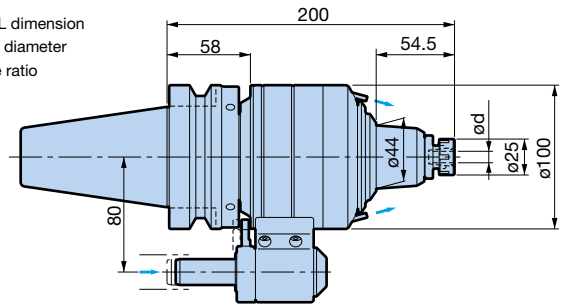
Ideal for mold machining!



● Model Description

BBT50 - GTX 6 - 8 - 200

- L dimension
- Clamping diameter
- 6x speed increase ratio
- HIGH SPINDLE
- BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	Speed ratio	Collet Model	Max. speed (30 min) min ⁻¹	Continuous speed min ⁻¹	Allowable torque N·m	Weight (kg)
BBT50-GTX6-8-200	0.5 - 8	5.67	NBC8	24,000	20,000	8.0	9.3

1. The allowable torque is a calculated value of the drive system, and not the actual torque in cutting.
2. The maximum clamping diameter when using a drill is ø4mm.
3. A Stop Block is required when mounting on machines.
4. For continuous operation of over 30 minutes, the continuous speed listed in the table is recommended.
5. Collet is not included. Please order separately.
6. Nut and 2 tightening wrenches are included.



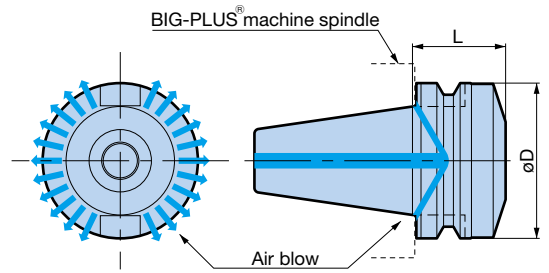
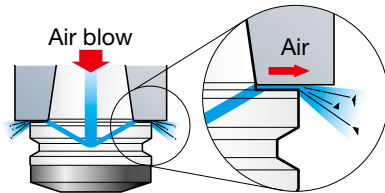
Collets **G5**
 Stop Blocks **G37**

Please contact us if using neat oil coolant that may cause fire, or grinding or machining materials that generate powdery chips such as carbide.

BIG-PLUS SPINDLE
FLANGE FACE CLEANER

Blowing air cleans the spindle flange face of BIG-PLUS machines.

- Removes oil and chips on the spindle flange face.



● Model Description

SBT30 - **ASC** - **30T**

- L dimension
- FLANGE FACE CLEANER
- Shank No.

Side through type for which air is supplied via a Stop Block is also available.
Please contact us for details.

Model	øD	L
SBT30-ASC- 30T	46	30
SBT40-ASC- 40T	63	40
SBT50-ASC- 60T	100	60

1. When the Flange Face Cleaner is mounted on the BIG-PLUS machine tool spindle, a 1mm gap exists between the flanges of the spindle and the cleaner.

High-Precision Test Bar

DynaTest DYNA TEST

See  I11 for details.



Test bar with the highest quality and accuracy.
Periodic inspection of the machine spindle runout prevents problems

- A high-precision test bar developed by BIG's precise machining technology.
- Periodic accuracy evaluation eliminates machining defects.
- Calibration certificate and traceability diagram available upon request (with charge).



BDV/DV SHANK



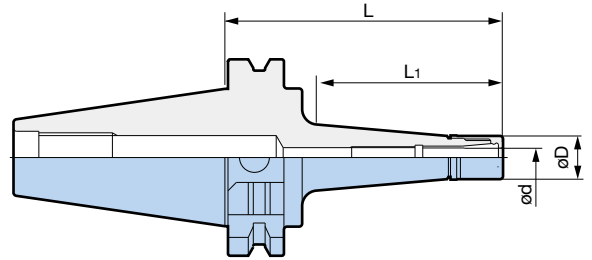
BDV/DV Shank



Ultra-slim design with $\varnothing 10\text{mm}$ nut outer diameter.
High speed collet chuck with minimized interference.



● Models for ultra-small endmilling are newly added!



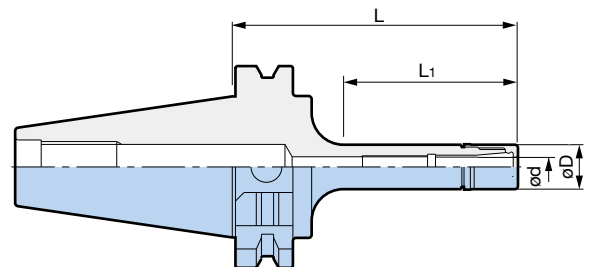
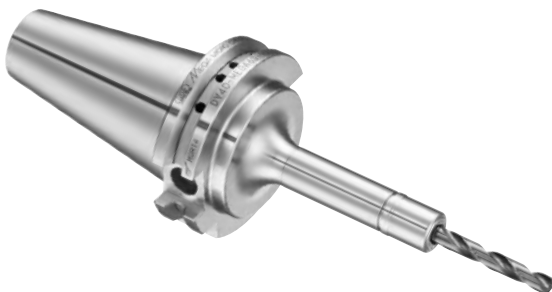
MEGA CHUCK Series

[High Rigidity Taper Type]

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	DV SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	Collet Model	Nut Model	Weight (kg)
—	DV30-MEGA6S- 60T	0.45 - 6.05	14	60	36	NBC6S-□	MGN6S	0.41
—	-MEGA8S- 75T	2.95 - 8.05	18	75	51	NBC8S-□	MGN8S	0.48
BDV40-MEGA3S- 90T	DV40-MEGA3S- 90T	0.45 - 3.25	10	90	60	NBC3S-□	MGN3S	0.9
-MEGA4S- 90T	-MEGA4S- 90T	0.45 - 4.05	12	90	60	NBC4S-□	MGN4S	1.0
-MEGA6S- 60T	-MEGA6S- 60T	0.45 - 6.05	14	60	30	NBC6S-□	MGN6S	0.9
- 90T	- 90T			90	60			1.0
-120T	-120T			120	90			1.1
-MEGA8S- 90T	-MEGA8S- 90T	2.95 - 8.05	18	90	60	NBC8S-□	MGN8S	1.0

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.



[Straight Type]

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	DV SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	Collet Model	Nut Model	Weight (kg)
BDV40-MEGA6S- 90	DV40-MEGA6S- 90	0.45 - 6.05	14	90	55	NBC6S-□	MGN6S	0.9

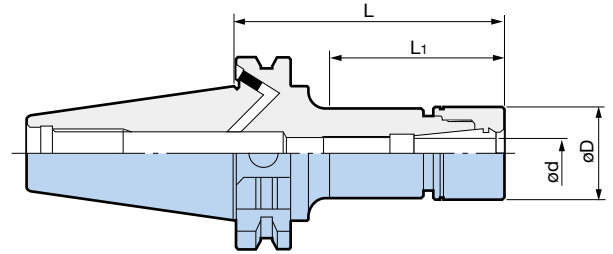
1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.

Standard Accessory	Optional Accessories			
<p>MEGA NUT</p> <p>For Spares </p>	<p>Mega Wrench</p> <p></p>	<p>Micro Collet</p> <p></p>	<p>MEGA MICRO SEAL NUT (for 6S and 8S) MEGA MICRO COOLANT NUT (for 6S)</p> <p></p>	<p>Collet Case</p> <p></p>

Clamping diameter: $\varnothing 0.25 - \varnothing 25.4$

MEGA NEW BABY CHUCK PAT.

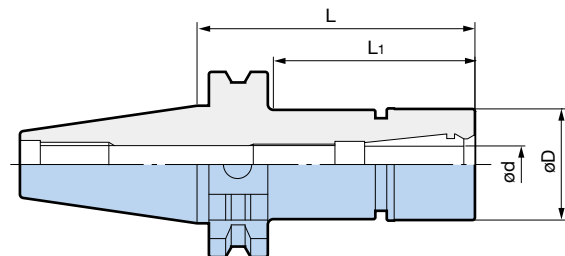
High speed version of NEW BABY CHUCK boasting a history of results.
Makes high speed machining possible in addition to its high accuracy and versatility.



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	Collet Model	Nut Model	Weight (kg)
BDV40-MEGA 6N- 90	0.25 - 6	20	90	55	NBC 6-□	MGN 6	1.1
-135			135	100			1.2
-MEGA 8N- 90	0.5 - 8	25	90	57	NBC 8-□	MGN 8	1.1
-135			135	102			1.3
-MEGA10N- 90	1.5 - 10	30	90	59	NBC10-□	MGN10	1.2
-135			135	104			1.4
-MEGA13N- 90	2.5 - 13	35	90	61	NBC13-□	MGN13	1.3
-135			135	106			1.6
-165			165	136			1.8
-MEGA16N- 90	2.5 - 16	42	90	65	NBC16-□	MGN16	1.5
-135			135	110			1.9
-165			165	140			2.2
-MEGA20N- 60	2.5 - 20	46	60	40	NBC20-□	MGN20	1.3
- 90			90	70			1.6
-135			135	115			2.0
-165			165	145			2.3
-200			200	180			2.6
-MEGA25N- 90	15.5 - 25.4	60	90	70	NBC25-□	MGN25	1.8
-120			120	100			2.3

- Nut is included. Collet, wrench, and Adjusting Screw must be ordered separately.
- Weight includes the nut but not the collet.
- Through holes are provided, allowing switching between center through and flange through use.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.



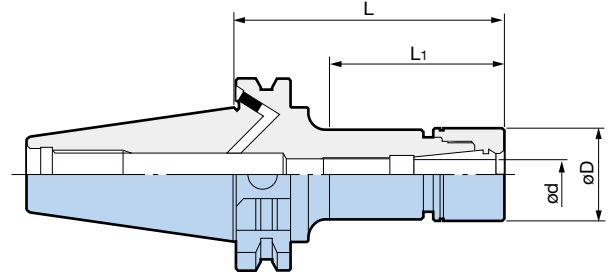
DV30 SHANK

Not BIG-PLUS (DUAL CONTACT) specification

DV SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	Collet Model	Nut Model	Weight (kg)
DV30-MEGA10N- 75	1.5 - 10	30	75	54	NBC10-□	MGN10	0.60

- Nut is included. Collet, wrench, and Adjusting Screw must be ordered separately.
- Weight includes the nut but not the collet.
- Center through coolant supply is available.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

The DUAL CONTACT BIG-PLUS system has been standardized. The abundant variety is also ideal as reliable general-purpose holders.



MEGA CHUCK Series

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

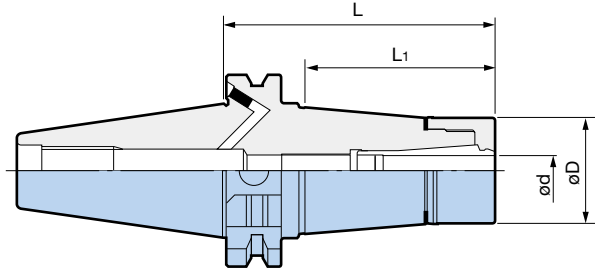
BIG-PLUS BDV SHANK Model	Clamping diameter $\varnothing D$	$\varnothing D$	L	L ₁	Collet Model	Nut Model	Weight (kg)
BDV50-MEGA 6N- 90	0.25 - 6	20	90	50	NBC 6-□	MGN 6	3.0
-120			120	80			3.0
-165			165	125			3.1
-MEGA10N- 90	1.5 - 10	30	90	55	NBC10-□	MGN10	3.2
-120			120	80			3.3
-165			165	125			3.5
-MEGA13N- 90	2.5 - 13	35	90	55	NBC13-□	MGN13	3.2
-120			120	80			3.4
-165			165	125			3.7
-MEGA16N- 90	2.5 - 16	42	90	55	NBC16-□	MGN16	3.4
-120			120	85			3.7
-165			165	130			4.1
-200			200	165			4.4
-MEGA20N- 90	2.5 - 20	46	90	55	NBC20-□	MGN20	3.5
-120			120	85			3.8
-165			165	130			4.3
-200			200	165			4.6
-MEGA25N-105	15.5 - 25.4	60	105	77	NBC25-□	MGN25	4.0
-135			135	107			4.6

- Nut is included. Collet, wrench, and Adjusting Screw must be ordered separately.
- Weight includes the nut but not the collet.
- Through holes are provided, allowing switching between center through and flange through use.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

Standard Accessory		Optional Accessories				
MEGA NUT <p>For Spares </p>	O-ring <p>For Spares </p>	MEGA NUT Flat Type <p></p>	Mega Wrench <p></p>	Collet <p></p>	MEGA PERFECT SEAL <p></p>	Adjusting Screw <p></p>

A high precision, high speed and high rigidity collet chuck especially for endmilling.

- Tapered body enhances damping effect by varying vibration frequency.
- Uses the MEGA E Collet designed for endmilling, delivering optimal clamping performance.



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Clamping diameter ϕd	ϕD	L	L ₁	Collet Model	Nut Model	Weight (kg)
BDV40-MEGA 6E- 90	3 - 6	25	90	60	MEC 6-□	MEN 6	1.2
-MEGA 8E- 60	3 - 8	30	60	30	MEC 8-□	MEN 8	1.2
- 90			90	63			1.3
-MEGA 10E- 60	3 - 10	35	60	33	MEC10-□	MEN10	1.3
- 90			90	64			1.4
-MEGA 13E- 60	3 - 12	42	60	35	MEC13-□	MEN13	1.5
- 90			90	61			1.7
-120			120	95			1.9
BDV50-MEGA 6E-120	3 - 6	25	120	90	MEC 6-□	MEN 6	3.3
-MEGA 8E-120	3 - 8	30	120	90	MEC 8-□	MEN 8	3.4
-MEGA 10E-120	3 - 10	35	120	90	MEC10-□	MEN10	3.6
-MEGA 13E- 90	3 - 12	42	90	60	MEC13-□	MEN13	3.6
-120			120	90			3.8
-165			165	137			4.4

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Through holes are provided, allowing switching between center through and flange through use.

Standard Accessory		Optional Accessories			
MEGA E Nut  For Spares 	O-ring  For Spares 	Mega Wrench  	MEGA E Collet  	MEGA E PERFECT SEAL  	Adjusting Screw  

Complete contact with the nut and body in conjunction with the BIG-PLUS specifications for double effect. High rigidity equal to integration with the machine spindle.

[Jet Through Type]

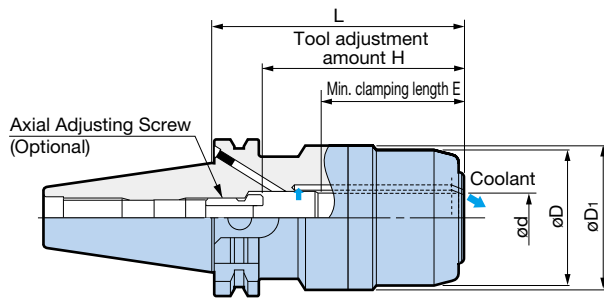


Fig. 1

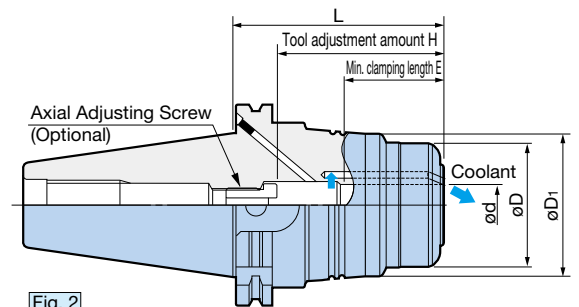


Fig. 2

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	H	E	Mega Wrench	Weight (kg)
BDV40-MEGA16DS- 90A	1	16	42	53	92	73	48	MGR42L	1.8
-MEGA20DS-100A		20	50	55	102	71 - 81	50	MGR50L	1.9
-135A					137				2.5
-MEGA25DS-100A		25	62	63	102	73 - 83	56	MGR62L	2.4
-135A					137				3.0
-MEGA32DS-100A		32	70	71	102	78 - 88	60	MGR70L	2.2
-135A	137				3.0				
BDV50-MEGA16DS- 70	2	16	46	55	72.5	73	48	MGR46L	3.5
-MEGA20DS-100		20	60	69	102.5	71 - 81	50	MGR60L	4.9
-135					137.5				5.7
-MEGA25DS-105	25	70	77	107.5	78 - 88	56	MGR70L	5.4	
-135				137.5				6.3	
-MEGA32DS-105	32	80	86	107.5	80 - 97	60	MGR80L	5.7	
-135				137.5				6.7	
-MEGA42DS-105	42	99	100	107	90 - 107		MGR99L	6.1	

- Wrench is not included. Please order separately.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
- Through holes are provided, allowing switching between center through and flange through use.

- MEGA16DS requires the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.
- DS types have jet-through coolant supply, thus tools with oil holes cannot be used.

Optional Accessories

Straight Collet



- PJC Collet G19
- PSC Collet G20
- C Collet G22

Mega Wrench



G26

Axial Adjusting Screw



G25

Clamping diameter: $\phi 20 - \phi 32$

MEGA PERFECT GRIP PAT.

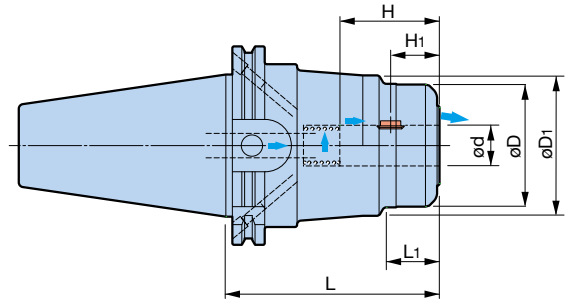
A holder equipped with tool Non-Pullout mechanism.
The unique Key Grip locking mechanism prevents the tool from slipping or pulling out during heavy machining.



Flood Jet-Through Coolant



Not BIG-PLUS (DUAL CONTACT) specification



- Model Description
- DV50** - **MEGA** **20** **DPG** - **105** **ADF**
- DV No.
- MEGA CHUCK
- Chuck bore
- PERFECT GRIP
- L dimension

DV SHANK Model	ϕd	ϕD	ϕD_1	L	L ₁	H	H ₁	Mega Wrench	Weight (kg)
DV50-MEGA20DPG -105ADF	20	60	69	105	27	49	24	MGR60L	5.1
-MEGA25DPG -105ADF	25	70	77		33	55	23	MGR70L	5.4
-MEGA32DPG -105ADF	32	80	86		41	59		MGR80L	5.6

- Key Grip and Spring are included.
- Wrench is not included. Please order separately.
- H₁ is the dimension from the center of the Key Grip to the front end of the chuck.
- Key Grips are consumable products. Do not use a damaged Key Grip.
- For coolant through tools, a seal bushing (optional) is required instead of a spring. Please contact us for details.

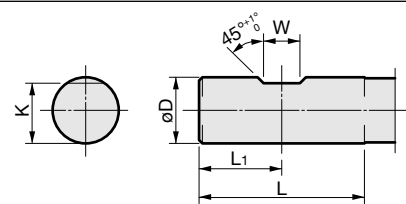
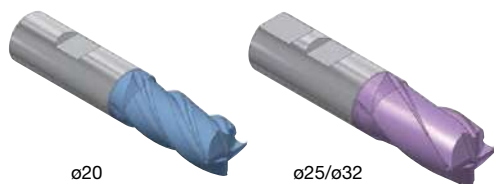
Standard Accessories

Chuck size	Key Grip 2 pcs	Spring
$\phi 20$	PKG20-2P	PSP1823
$\phi 25$	PKG25-2P	PSP2420
$\phi 32$	PKG32-2P	PSP3128

1. Key Grips are sold as 2-piece sets.

Cylindrical Shank with Flat Section JIS B 4005 (ISO3338-2)

The following standard shank is required for MEGA Perfect GRIP.



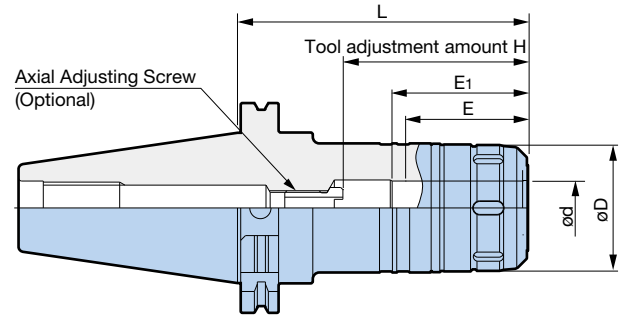
ϕD		L	L ₁	W		K	
Nominal	Tolerance			Nominal	Tolerance	Nominal	Tolerance
20	0 -0.013	50	25	11	+0.2 0	18.2	0 -0.4
25		56	32	12		23	
32	0 -0.016	60	36	14		30	

CAUTION
In case you are adding your own flat, the tool projection length in the MEGA Perfect GRIP will be decided by the flat position. Refer to H₁ in the MEGA Perfect GRIP chart, decide the flat position to add, and then cut the cutter at L₁ on cutter shank.

- JIS Standards require sizes $\phi 25$ or higher to be double-flat types. The MEGA Perfect GRIP does not use a rear flat surface, but is capable of clamping double flat shanks.
- JIS B4005 has the same dimensions as International Standard ISO3338-2 and German Standard DIN1835-1.

MILLING CHUCK

The BIG original slit mechanism supports high power and high-precision endmilling from heavy cuts to fine cuts.



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	DV SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	H	Min. clamping length		Wrench	MEGA WRENCH Model	Weight (kg)
						E	E ₁			
BDV40-HMC20S- 85	DV40-HMC20S- 85	20	50	85	69 - 79	50	56	FK45-50L	MGR50L	1.6
-105	-105			105						1.9
-120	-120			120						2.1
-HMC25S- 95	-HMC25S- 95	25	59	95	71 - 81	56	57	FK58-62L	MGR59L	2.0
-105	-105			105						2.2
-HMC32S- 95	-HMC32S- 95	32	68	95	79 - 89	60	64	FK68-75L	MGR68L	2.1
-105	-105			105						2.3
-135	-135			135						3.0
BDV50-HMC20S-105	DV50-HMC20S-105	20	50	105	69 - 79	50	56	FK45-50L	MGR50L	3.9
-135	-135			135						4.3
-HMC25S-105	-HMC25S-105	25	59	105	76 - 86	56	57	FK58-62L	MGR59L	4.2
-135	-135			135						4.8
-HMC32S-105	-HMC32S-105	32	68	105	88 - 98	60	72	FK68-75L	MGR68L	4.4
-135	-135			135						5.2
-165	-165			165						6.0
-HMC42S-135	-HMC42S-135	42	85	135	93 - 105	70	73	FK80-90L	MGR85L	6.3

1. Wrench and Axial Adjusting Screw are not included. Please order separately.

2. When using center through coolant;

- Set screw with sealing compound applied (standard accessory) should be used to plug an air bleeding hole.
- Oil hole type should be chosen when Straight Collet is required.

3. Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw.

4. When using center through coolant, insert a tool shank into E₁ or more.

- MEGA WRENCH can also be used to tighten/remove tools.

Optional Accessories

Straight Collet	Wrench	Mega Wrench	Axial Adjusting Screw
 <ul style="list-style-type: none"> PJC Collet  G19 PSC Collet  G20 OCA Collet  G21 C Collet  G22 	  G25	  G26	  G25

Clamping diameter: $\varnothing 12$

NEW Hi-POWER MILLING CHUCK

[HMC12J Type]

- A slim yet highly rigid milling chuck with $\varnothing 32$ outer diameter nut for reduced interference.



■ Jet through coolant securely supplied from chuck nose to cutting edge.

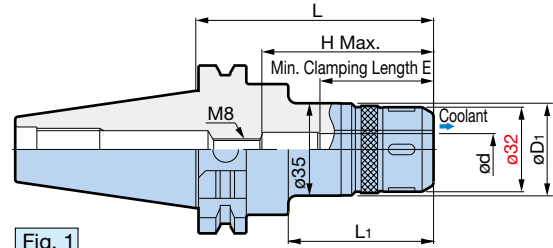


Fig. 1

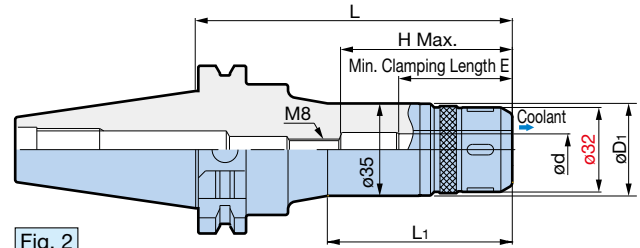


Fig. 2

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	DV SHANK Model	Fig.	Clamping Diameter $\varnothing d$	$\varnothing D_1$	L	L ₁	H Max.	E	Wrench	Weight (kg)
BDV40-HMC12J- 90	DV40-HMC12J- 90	1	12	35	90	55	65	43	FK31-33	1.4
-120	-120	2			120	1.6				
BDV50-HMC12J-105	DV50-HMC12J-105	1			105	70				3.5
-135	-135	2			135	3.8				

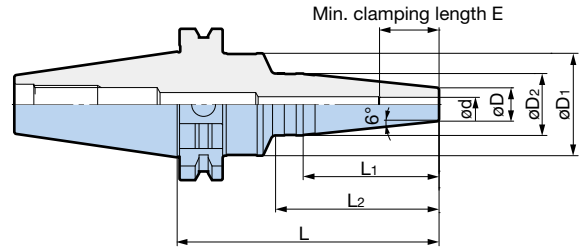
1. Wrench is not included. Please order separately.
2. MEGA WRENCH cannot be used.

For versatile high-precision machining including molds and automotive components.

- Slim design minimizes workpiece interference, ideal for mold making.



[SUPER SLIM Type PAT.] Clamping diameter: $\phi 4$ - $\phi 12$



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV** spindles.

BIG-PLUS BDV SHANK Model	Clamping diameter ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	L ₂	E	Weight (kg)
BDV40-HDC 4S-110	4	14	43	26	110	57	68	19	1.2
-HDC 6S-110	6							25	
-HDC 8S-110	8							31	
-HDC10S-110	10							33	
-HDC12S-110	12	21	44	32	52	70	36	1.3	

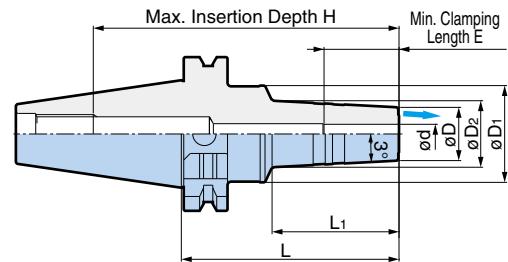
1. Adjusting Screw cannot be used.

- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Jet Through Type PAT.] Clamping diameter: $\phi 4$ - $\phi 12$



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV** spindles.

BIG-PLUS BDV SHANK Model	Clamping diameter ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	H	E	Weight (kg)
BDV40-HDC 4J- 90	4	20	38	25	90	50	(125)	19	1.1
-HDC 6J- 90	6							25	
-HDC 8J- 90	8							31	
-HDC10J- 90	10							33	
-HDC12J- 90	12	26	44	31	52	36	1.2		

1. Adjusting Screw cannot be used.

2. H dimensions in () are reference length up to the PULLSTUD BOLT.

- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

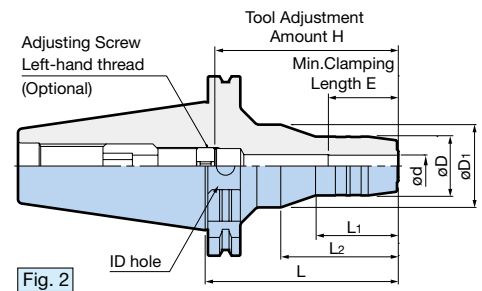
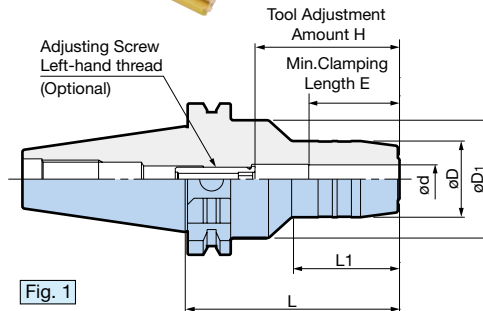
Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

HYDRAULIC CHUCK

DUAL CONTACT
BDV/DV
SHANK

[Standard Type] Clamping diameter: $\phi 6 - \phi 20$



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Fig.	ϕd	ϕD	ϕD_1	L	L ₁	L ₂	H	E	Adjusting Screw (Optional)	Weight (kg)
BDV40-HDC 6 - 90	1	6	26	49.5	90	43	-	28 - 50	28	HDA 6-05032	1.3
-HDC 8 - 90		8	28					33 - 55	33	HDA 8-06032	
-HDC10 - 90		10	30						38 - 60	38	
-HDC12 - 90		12	32					43 - 70		44	
-HDC14 - 90		14	34			47			51	HDA16-12037	
-HDC16 - 90		16	38								
-HDC18 - 90		18	40								
-HDC20 - 90		20	42								
BDV50-HDC12L-105	2	12	32	45	105	44	63	100 - 120	38	HDA 6-20010	3.2
-HDC20L-105		20	42	50		46	63	71 - 111	43	HDA20-12047	3.3

1. Adjusting Screw with hexagon sockets on both sides is also available, allowing adjustment from the shank side as well. Add the letter "W" at the end of the model number when ordering. (Example: HDA6-05032W)

● It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)

- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

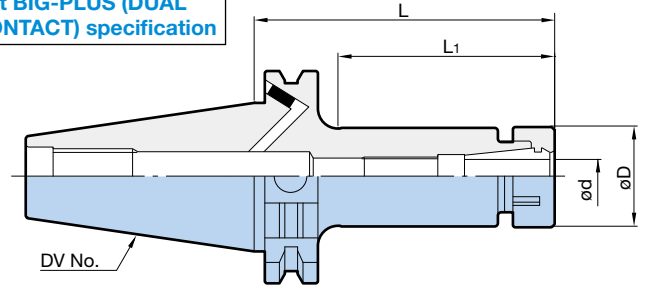
Straight Collets **G19**

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

Coolant-through hole



Not BIG-PLUS (DUAL CONTACT) specification



NEW BABY CHUCK

DV SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	Collet Model	Nut Model	Weight (kg)
DV40-NBS 6- 60	0.25 - 6	20	60	34	NBC 6-□	NBN 6	0.9
- 90			90	60			1.0
-135			135	105			1.0
-NBS 8- 60	0.5 - 8	25	60	34	NBC 8-□	NBN 8	0.9
- 90			90	62			1.0
-135			135	107			1.2
-NBS10- 60	1.5 - 10	30	60	34	NBC10-□	NBN10	1.0
- 90			90	64			1.1
-135			135	104			1.4
-NBS13- 60	2.5 - 13	35	60	37	NBC13-□	NBN13	1.0
- 90			90	66			1.2
-135			135	106			1.6
-NBS16- 60	2.5 - 16	42	60	38	NBC16-□	NBN16	1.1
- 90			90	68			1.4
-135			135	113			1.8
-NBS20- 60	2.5 - 20	46	60	40	NBC20-□	NBN20	1.3
- 90			90	70			1.6
-135			135	115			2.0
-165			165	145			2.3
-200			200	180			2.6

- The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
- Through holes are provided, allowing switching between center through and flange through use.
- Weight includes the nut but not the collet.

Standard Accessory	Optional Accessories				
New Baby Nut  For Spares 	New Baby Wrench  	Collet  	BABY PERFECT SEAL  	Adjusting Screw  	Tap Adjusting Screw  

Clamping diameter: $\varnothing 0.25$ - $\varnothing 20$ **NEW BABY CHUCK** PAT.

DV SHANK Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	Collet Model	Nut Model	Weight (kg)
DV50-NBS 6-120	0.25 - 6	20	120	85	NBC 6-□	NBN 6	2.8
-165			165	125			3.1
-NBS 8-120	0.5 - 8	25	120	85	NBC 8-□	NBN 8	2.9
-165			165	130			3.0
-NBS10- 90	1.5 - 10	30	90	60	NBC10-□	NBN10	2.9
-120			120	85			3.0
-165			165	130			3.2
-NBS13- 90	2.5 - 13	35	90	60	NBC13-□	NBN13	3.0
-120			120	80			3.4
-165			165	125			3.7
-NBS16- 90	2.5 - 16	42	90	60	NBC16-□	NBN16	3.1
-120			120	85			3.9
-165			165	130			4.3
-200			200	165			4.6
-NBS20- 75	2.5 - 20	46	75	45	NBC20-□	NBN20	3.1
- 90			90	60			3.2
-120			120	85			4.0
-165			165	130			4.5
-200			200	165			4.8

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.

3. Weight includes the nut but not the collet.

2. Through holes are provided, allowing switching between center through and flange through use.

CK SHANK (DV: DIN69871 A and D Standards IV: ISO7388 Standard compatible)

Coolant-through hole



Not BIG-PLUS (DUAL CONTACT) specification

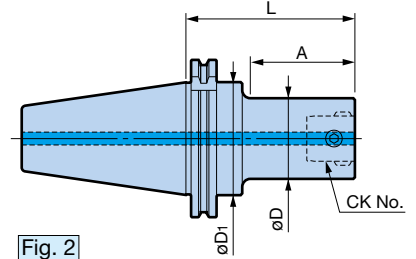


Fig. 2

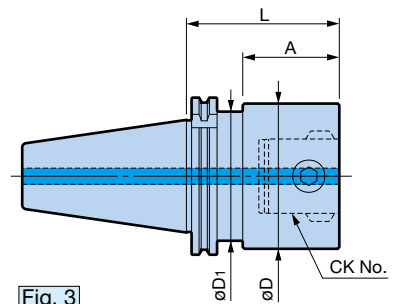


Fig. 3

● Model Description

IV40 - **CKB1** - **75**
 ● L dimension
 ● CK No.
 ● Shank standard and taper No.

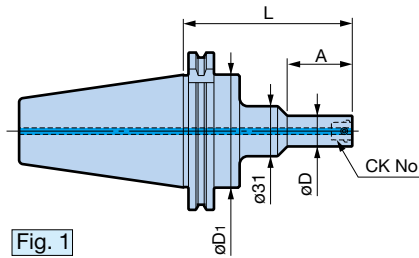


Fig. 1

IV and DV Shank models are mounted on DIN standard spindles.

IV/DV SHANK Model	Fig.	CK No.	øD ₁	øD	L	A	Weight (kg)
IV40-CKB1- 75	1	CK1	44.7	19	75	35	1.1
-CKB2- 85	2	CK2		24	85	45	1.1
-CKB3- 95		CK3		31	95	55	1.3
-CKB4- 90		CK4		39	90	54	1.4
IV50-CKB1-105	1	CK1	70.1	19	105	39	3.0
-CKB2-115	2	CK2		24	115	74	3.0
-CKB3-125		CK3		31	125	95	3.2
-CKB4-120		CK4		39	120	90	3.5
-180					180	150	4.0
-CKB5-105		CK5		50	105	75	3.7
-180					180	150	4.8
-225					225	195	5.5
-CKB6- 95		CK6		64	95	59	4.1
-170					170	134	6.0
-230	230		194		7.4		
DV40-CKB5- 80	3	CK5	49.6	50	80	60	1.5
-CKB6- 65		CK6		64	65	45	1.4
DV50-CKB7- 95	3	CK7	80	90	95	75	5.3

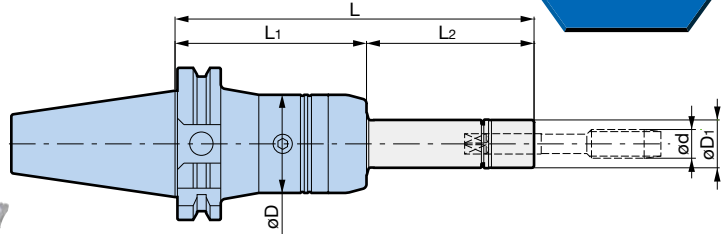
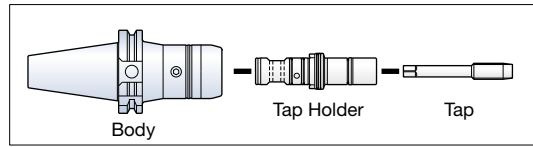
1. The L₁ and A diameters in the table are the values when the EWN BORING HEAD is attached.
2. Cutting edges and drive keys are aligned with boring heads mounted.
3. Center through coolant supply is available.
4. Mounting the DV Shank model on an ISO standard spindle may cause interference.

<CAT and ANSI standard shanks are also available upon request.>

Heads **A39**

MEGA SYNCHRO TAPPING HOLDER PAT.

Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.



TAPPER

BIG-PLUS BDV SHANK Model	DV SHANK Model	Tap Holder Model	Tapping range d	øD	øD1	L	L1	L2	Weight (kg)
BDV40-MGT 6- 80	DV40-MGT 6- 80	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	110	80	30	1.3
		- 70				150		70	
		-100				180		100	
-MGT12- 80	-MGT12- 80	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	110	80	30	1.3
		- 70				150		70	
		-100				180		100	
-MGT20-105	-MGT20-105	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	140	105	35	1.9
		- 85				190		85	
		-115				220		115	
BDV50-MGT 6- 85	DV50-MGT 6- 85	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	115	85	30	3.2
		- 70				155		70	
		-100				185		100	
-MGT12- 85	-MGT12- 85	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	115	85	30	3.2
		- 70				155		70	
		-100				185		100	
-MGT20-105	-MGT20-105	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	140	105	35	3.8
		- 85				190		85	
		-115				220		115	

- MGT Set Screw is included.
- Tap holder and wrench are not included. Please order separately.
Cannot be used with machining center without synchronized tapping function.

Caution

Tap with eccentric thread relief, having no margin on tap periphery, may cause oversize threads. In such case, tap with con-eccentric thread relief is recommended.

Tap holders **A130**

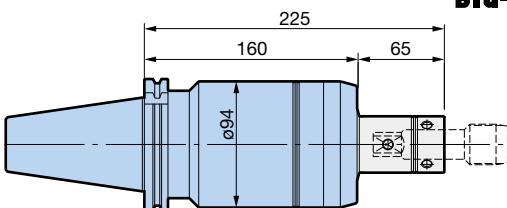
Tapping range (DIN/ISO)

Tap Holder Size	DIN Standard			ISO Standard	
	DIN371	DIN376	DIN353	ISO529	ISO2284
MGT 6	M3 - M 6	M 5 - M 8		M 3 - M5	
MGT12	M5 - M10	M 8 - M12	1/8	M6, M8, M12	1/8
MGT20	M10	M12 - M20	1/4 - 1/2	M10 - M20	1/4 - 3/8

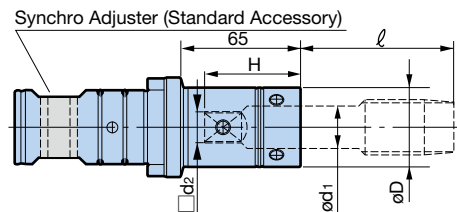
Tap holders **A130**

[Large Diameter Tap MGT36]

M22 - M36



Tap Holder MGT36 DIN standard



Tap Holder Model	Tap size		ød1	□ d2	H	øD	Weight (kg)
	DIN376	DIN353					
MGT36-180145-65	M22, 24	P5/8	18	14.5	45	38	1.4
-200160-65	M27	P3/4	20	16	51	40	1.4
-220180-65	M30	P7/8	22	18	53	42	1.5
-250200-65	M33	P1	25	20	58	49	1.6
-280220-65	M36		28	22	62	52	1.6

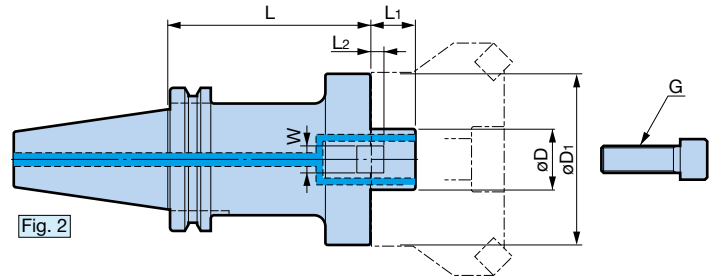
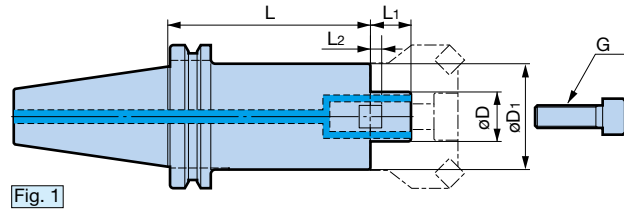
JIS Tap Holders **A133**

- MGT Set Screw is included.
- Tap holder must be ordered separately.
Cannot be used with machining center without synchronized tapping function.

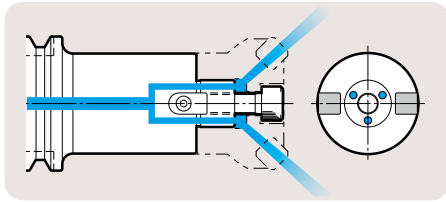


FACE MILL ARBOR TYPE H

DUAL CONTACT



Securely supplies coolant/air to the cutting edge



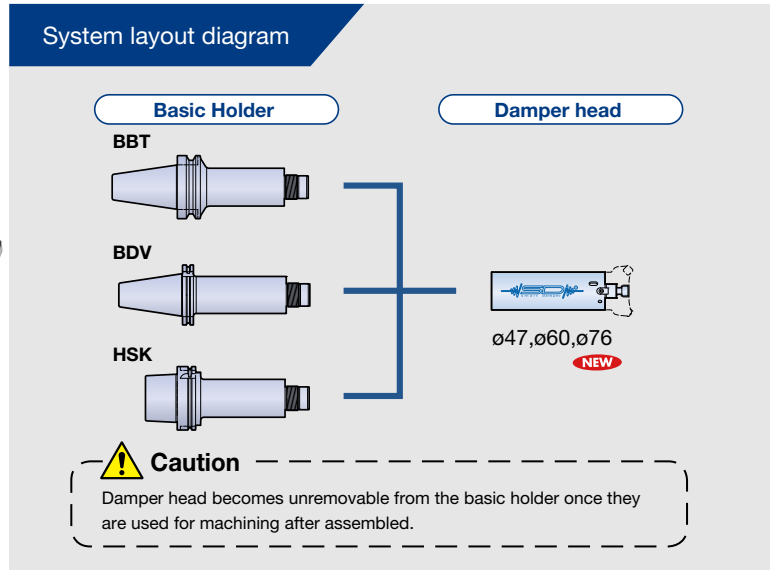
BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Fig.	øD	øD ₁	L	L ₁	L ₂	W	G	Weight (kg)						
BDV40-FMH16-37- 40	1	16	37	40	16	5	8	M 8	1.1						
-FMH22-47- 45				45					1.2						
- 60				60					1.4						
- 90				90					1.8						
-150				150					2.5						
-60- 50	2	22	47	50	18	5	10	M10	1.4						
- 90				90					2.0						
-FMH27-60- 50				50					1.4						
- 90				90					2.0						
-76- 60				60					1.9						
- 90	27	76	90	20	6	12	M12	2.3							
-FMH32-96- 60	1	32	96	60	22	7	14	M16	2.1						
BDV50-FMH16-37-105				16					37	105	16	5	8	M 8	3.4
-FMH22-47- 60				22					47	60	18	5	10	M10	3.1
-105										105					3.7
-150										150					4.3
-200	200	4.9													
-250	250	5.6													
-60- 60	2	22	60	60	18	5	10	M10	3.5						
-105				105					4.4						
-150				150					5.4						
-200				200					6.5						
-FMH27-60- 45				45					3.2						
- 90	27	60	90	20	6	12	M12	4.1							
-150			150					5.4							
-200			200					6.5							
-76- 45			27					76	45	20	6	12	M12	3.6	
- 90									90					5.1	
-150	150	7.2													
-200	200	8.9													
-FMH32-96- 50	2	32		96	50	22	7		14					M16	4.1
- 90			90		6.2										
-150			150		8.4										
-200			200		10.4										
-FMH40-100- 50			1		40			100		50	26	8.5	16		M20 (MBA-M20H)
- 75	75	5.6													
-105	105	6.9													

- Center through coolant supply only is available.
- The weight does not include the cutter.
- Cutter clamping screw is included.
If the provided clamping screw is not compatible, separately select one from the clamping screw table on A117.
- When using a cutter without oil holes, an optional clamping screw with a through hole allows coolant supply.
- For the detailed dimensions of clamping screw MBA-M20H, see A117.

Built-in Damper SMART DAMPER

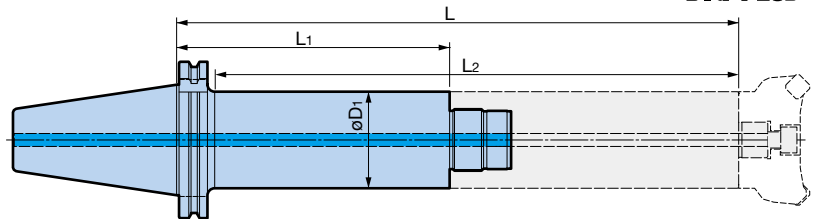
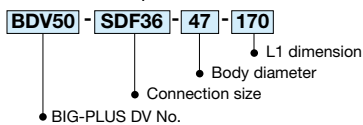
- Dynamic damper eliminates chatter.



[Basic Holder]



● Model Description



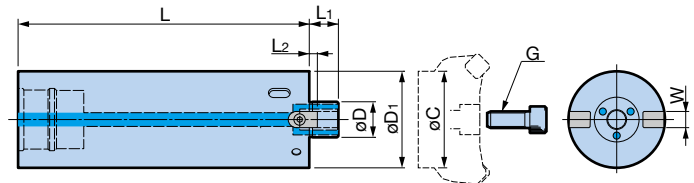
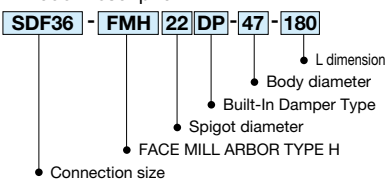
BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	øD ₁	L	L ₁	L ₂	Weight (kg)	Applicable damper head
BDV50-SDF36-47-170	47	350	170	325	4.9	FMH22DP-47
-60-170	60	350	170	325	6.2	FMH□□DP-60
-60-220		400	220	375	7.3	
-SDF57-76-170 NEW	76	350	170	325	8.5	FMH27DP-76
-76-220 NEW		400	220	375	10.2	

[Damper Head]



● Model Description



Model	øD	øD ₁	L	L ₁	L ₂	W	G	Weight (kg)	Wrench Model	Min. flange diameter øC
SDF36-FMH22DP-47-180	22	47	180	18	5	10	M10	3.0	FK45-50L	36
-60-180		60						4.5	FK58-62L	38
-FMH27DP-60-180		60						4.5	FK58-62L	46
SDF57-FMH27DP-76-180 NEW	27	76	180	20	6	12	M12	8.1	FK68-75L	48

1. Refer to the operation manual regarding the mounting method to the basic holder.
2. The weight does not include the cutter.
3. Hook wrench and cutter clamping screw are included.
4. If the standard clamping screw does not fit the cutter, select the suitable one from the clamping screw table and order it separately.
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor. Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

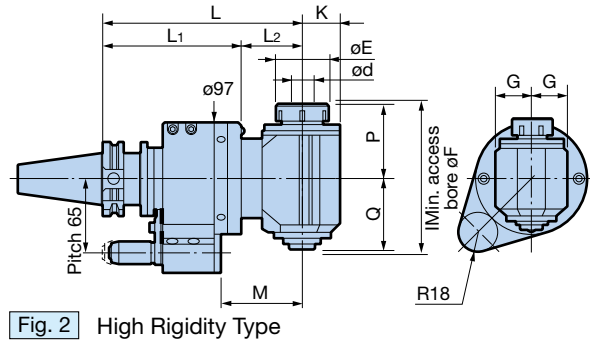
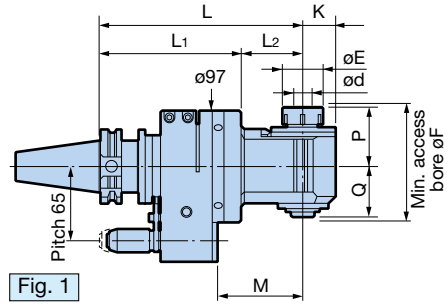


Spindle angle
90°

NEW BABY CHUCK Type PAT. Clamping diameter: $\varnothing 0.25 - \varnothing 20$

- High runout accuracy is achieved through the adoption of the high-precision New Baby Chuck.

B
ANGLE HEAD



● Tap Collet with tension mechanism can also be used to perform tapping. (NBS10 or larger)

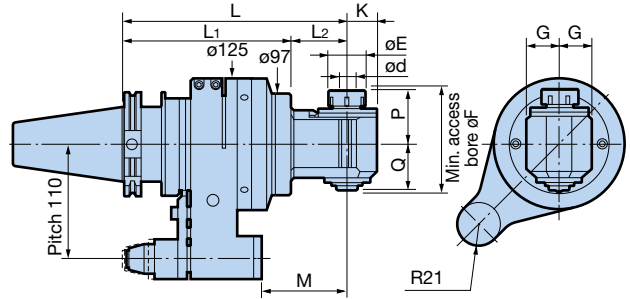
BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing E$	G	K	L	L ₁	L ₂	M	P	Q	$\varnothing F$	Collet Model	Max. (min ⁻¹)	Weight (kg)
BDV40-AG90/NBS 6 -180	1	0.25 - 6	20	21	17	180	125	55	77	33	29	67	NBC 6	6,000	5.1
						210		85	107						5.3
						240		115	137						5.5
						270		145	167						5.7
-AG90/NBS10 -180	1	1.5 - 10	30	30	25	180	125	55	77	45	43	91	NBC10	6,000	5.5
						210		85	107						5.9
						240		115	137						6.2
-AG90/NBS13 -180	1	2.5 - 13	35	31	28	180	125	55	77	52	45	101	NBC13	6,000	5.6
						210		85	107						6.0
						240		115	137						6.3
-AG90/NBS20S-175S	2	2.5 - 20	46	35	33	175	122	53	72	65	62	132	NBC20	3,000	8.0

- The cutting tool rotates in reverse to the machine spindle.
- Nuts and wrench are included. Collet is not included.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- When supplied through the Stop Block, coolant can be ejected from the housing.
- Automatic tool change may not be available depending on machine tool models.
- New Baby Endmill Collets cannot be used.



- Collets **G5**
- Tap Collets **G31**
- Stop Blocks **G35**



● Tap Collet with tension mechanism can also be used to perform tapping. (NBS10 or larger)

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Clamping diameter $\varnothing d$	$\varnothing E$	G	K	L	L ₁	L ₂	M	P	Q	$\varnothing F$	Collet Model	Max. (min ⁻¹)	Weight (kg)
BDV50-AG90/NBS 6 -215	0.25 - 6	20	21	17	215	160	55	82	33	29	67	NBC 6	6,000	12.6
					245		85	112						12.8
					275		115	142						13.0
					305		145	172						13.2
-AG90/NBS10 -215	1.5 - 10	30	30	25	215	160	55	82	45	43	91	NBC10	6,000	13.0
					245		85	112						13.4
					275		115	142						13.7
-AG90/NBS13 -215	2.5 - 13	35	31	28	215	160	55	82	52	45	101	NBC13	6,000	13.1
					245		85	112						13.5
					275		115	142						13.8
-AG90/NBS20 -230	2.5 - 20	46	35	35	230	160	70	97	65	62	132	NBC20	3,000	14.2

- The cutting tool rotates in reverse to the machine spindle.
- Nuts and wrench are included. Collet is not included.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- When supplied through the Stop Block, coolant can be ejected from the housing.
- Automatic tool change may not be available depending on machine tool models.
- New Baby Endmill Collets cannot be used.



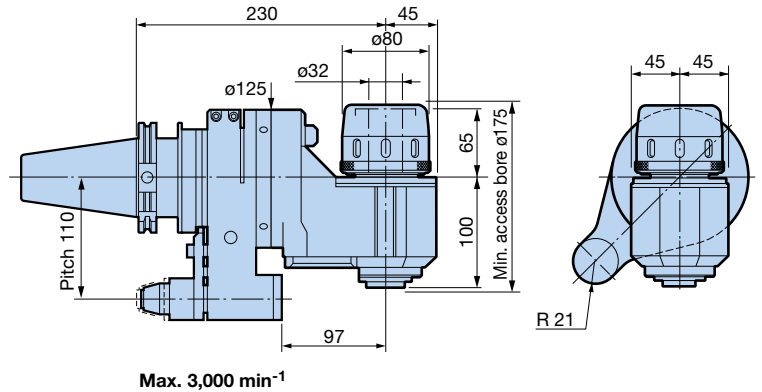
- Collets **G5**
- Tap Collets **G31**
- Stop Blocks **G35**

Versatile $\phi 32$ milling chuck allows use of various tools according to any machining application.

HMC32 Type

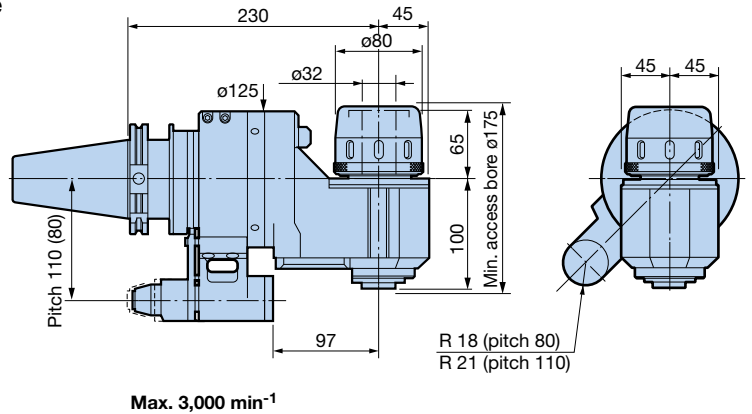
● Standard type

- High-rigidity milling chuck type that allows the most commonly used cylindrical shanks to be mounted.



● High rigidity S type

- About 30% higher rigidity compared to standard type



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

Type	BIG-PLUS BDV SHANK Model	Weight (kg)
Standard type	BDV50-AG90/HMC32-230	16.8 (pitch 110)
High rigidity S type	-230S	18.1 (pitch 110) 17.4 (pitch 80)

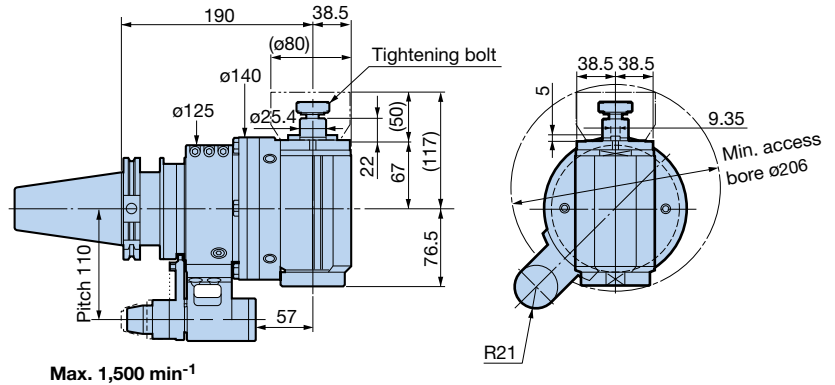
- The cutting tool rotates in forward to the machine spindle.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- When supplied through the Stop Block, coolant can be ejected from the housing.
- Automatic tool change may not be available depending on machine tool models.
- Wrench is included. (Model: **FK80-90**)



➔ Straight Collets **G22**
➔ Stop Blocks **G35**

Face Milling Type

- Tool life is improved by high-rigidity bearings and optimum spindle dimensions!
- Series' highest rotation transmission force of 20kw (at 1,500min⁻¹)
- 90° indexing mechanism is used to allow index of 90° increments after adjustment.
(Indexing accuracy ±5')



Max. 1,500 min⁻¹

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Weight (kg)
BDV50-AG90-FMA25.4S-190S	19.2

Figures in () indicate dimensions when 80mm diameter and 50mm high face mill cutter is mounted.

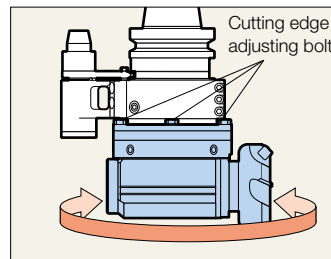
1. The cutting tool rotates in reverse to the machine spindle.
2. A Stop Block is required when mounting on machines. Please order separately.
3. Coolant cannot be supplied through the Locating Pin.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. Automatic tool change may not be available depending on machine tool models.



Stop Blocks G35

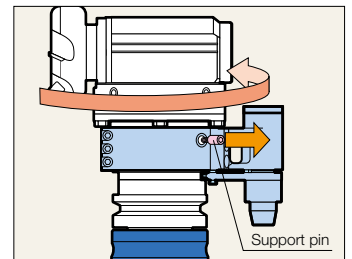
■ Cutting edge direction freely adjustable in 360°

The cutting edge direction can be easily set at any angle through 360 degrees simply by loosening its adjustment bolts (8 positions).



■ Cutting edge direction indexable in 90° increments

Indexing can be done in 90° increments after the cutting edge is adjusted. (Remove the support pin to adjust the cutting edge direction in 90° increments)



⚠ Caution: Be sure to remove from the machine before setting in 90° increments.

Offset design provides optimum tool projection with each adapter.

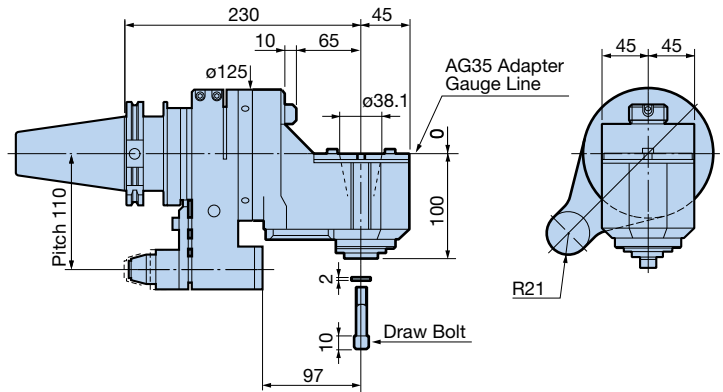
BUILD-UP Type

- Standard type



Spindle angle
90°

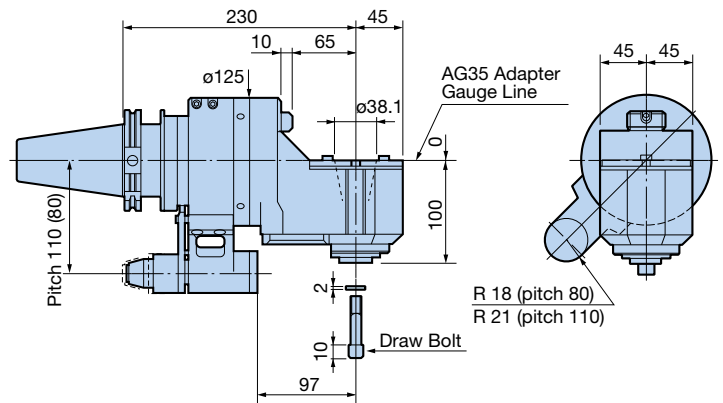
B
ANGLE HEAD



Max. 3,000 min⁻¹

- High rigidity S type

· About 30% higher rigidity compared to standard type



Max. 3,000 min⁻¹

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

Type	BIG-PLUS BDV SHANK Model	Weight (kg)	
Standard type	BDV50-AG90/AGH35-230	15.0 (pitch 110)	
High rigidity S type	-230S	16.3 (pitch 110)	15.6 (pitch 80)

1. The cutting tool rotates in forward to the machine spindle.
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.



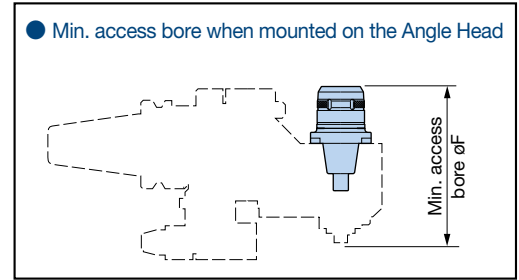
Stop Blocks G35

BUILD-UP Type AG35 ADAPTER

● Abundant adapters support various machining applications.

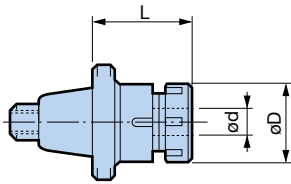
Spindle angle
90°

● Min. access bore when mounted on the Angle Head



● Tap Collet with tension mechanism can also be used to perform tapping.

NEW BABY CHUCK PAT.

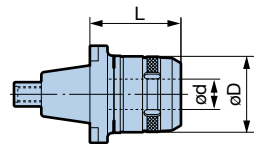


Model	ød	øD	L	øF	Weight (kg)
AG35-NBS10	1.5 - 10	30	47	162	0.6
-NBS13	2.5 - 13	35	54	168	0.7
-NBS16	2.5 - 16	42	54	170	0.8
-NBS20	2.5 - 20	46	54	170	0.9

1. Collet and wrench must be ordered separately. (See wrench G31)

Collets **G5**

Tap Collets **G31**

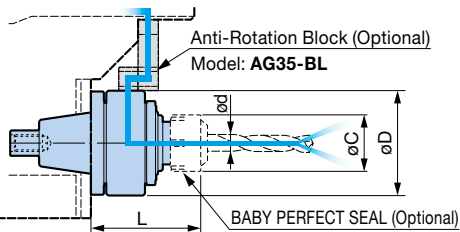


NEW Hi-POWER MILLING CHUCK

Model	ød	øD	L	øF	Weight (kg)
AG35-HMC20S	20	50	60	178	1.5

1. Wrench included. (Model: FK45-50L)

Straight Collets **G22**



Hi-JET HOLDER

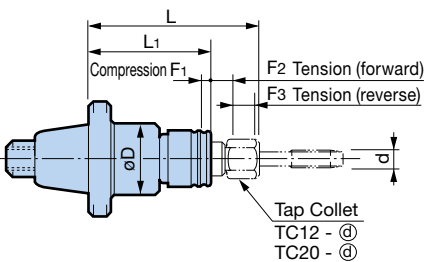
Through Tools

Model	ød	øC	øD	L	øF	Weight (kg)
AG35-ONBS13N	3 - 13	35	65	68	186	1.1
-ONBS20N	3 - 20	46	65	68	188	1.2

1. Baby Perfect Seal nut with sealing mechanism is required. (optional accessory)
2. Collet and wrench must be ordered separately.
3. Anti-rotation block set must be ordered separately. (Model: AG35-BL)
4. Max. coolant pressure is 2MPa.

Baby Perfect Seal **G28**

Collets **G5**

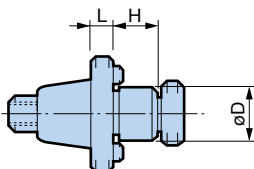


AUTO TAPPER B (with Tap Depth Control)

Model	d	øD	L	L ₁	F ₁	F ₂	F ₃	Weight (kg)
AG35-ATB12	M3 - M12	40	95	65	0.5	5	4	0.8
-ATB20	M7 - M20	54	125	100		6.5	5	1.5

1. Tap Collet must be ordered separately.

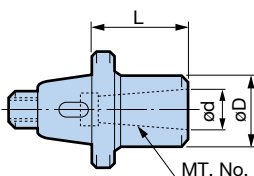
TC Tap Collets **A141**



FACE MILL ARBOR

Model	øD	L	H	Weight (kg)
AG35-FMA25.4-20	25.4	20	22	1.0
-30	25.4	30	22	1.0
AG35-FMH22 -30	22	30	18	1.0
-FMH27 -20	27	20	20	1.0

※ Cutter face protrudes by 7.5mm from the 125mm diameter housing with the following combinations; AG35-FMA25.4-20 + 50mm thick tool, AG35-FMA25.4-30/AG35-FMH22-30 + 40mm thick tool and AG35-FMH27-20 + 50mm thick tool.

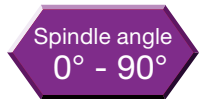


MORSE TAPER ADAPTER

Model	ød	MT.No.	øD	L	øF	Weight (kg)
AG35-MT1	12.065	1	24	50	164	0.6
-MT2	17.78	2	32	60	180	0.7

The cutting edge angle can be freely adjusted, making it ideal for machining the corners of molds in deep areas.

- The original 1° indexing mechanism allows easy angle adjustment.
- Robust clamping mechanism allows secure endmilling.



Universal Type Clamping diameter: $\varnothing 2.5 - \varnothing 20$



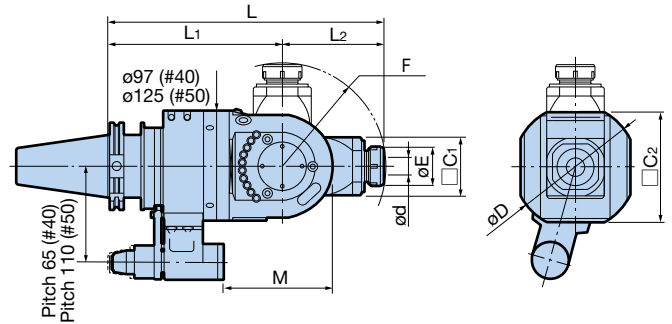
Indexing mechanism in 1° increments

Accurate angle adjustment is possible simply by tightening the angle setting pin.



The spindle angle can be adjusted in the range of 0° to 90°

The 1° angle indexing mechanism allows the angle to be easily set. (Indexing accuracy $\pm 5'$)

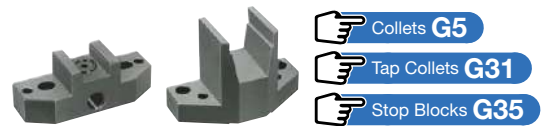


BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Clamping diameter $\varnothing d$	$\varnothing E$	$\varnothing D$	$\square C_1$	$\square C_2$	L	L ₁	L ₂	M	F	Collet Model	Max. (min ⁻¹)	Weight (kg)
BDV40-AGU/NBS13-280	2.5 - 13	35	115	51	97	280	180	100	124	102	NBC13	6,000	9.7
BDV50-AGU/NBS20-315	2.5 - 20	46	140	65	125	315	200	115	125	118	NBC20	4,000	20.8

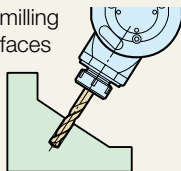
1. The cutting tool rotates in reverse to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.

● Tap Collet with tension mechanism can also be used to perform tapping.

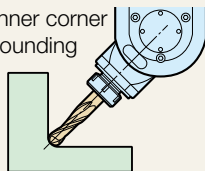


Machining examples Easy angle setup

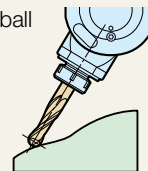
- Drilling or endmilling on angled surfaces



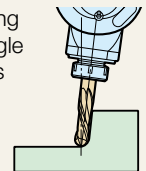
- Inner corner rounding



- Profiling with ball endmill



- Machining draft angle of molds



The ultra-precision spindle enables challenging micromachining!

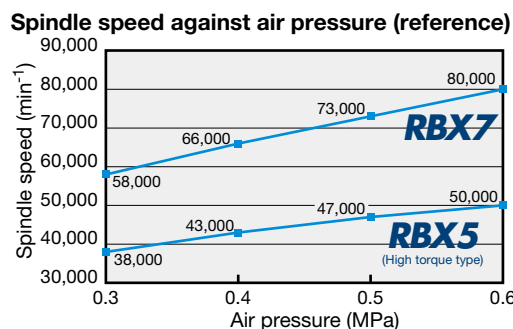
Ceramic ball bearing type
RBX Series PAT.

Machine spindle rotation **zero**



Max.
80,000min⁻¹

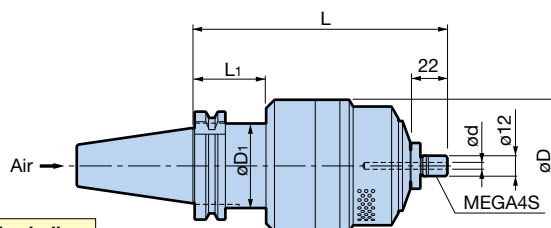
	RBX5	RBX7
Operating spindle speed (min ⁻¹)	40,000 - 50,000	60,000 - 80,000
Clamping diameter	ø0.45 - 4.05mm (MEGA4S)	
Spindle nose runout accuracy	Within 1 μm	
Air pressure	0.3 - 0.6MPa or less	
Air flow rate	300L/min [ANR] (at 0.6MPa)	



[Center Through Type]



ATC compatible



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Operating spindle speed (min ⁻¹)	Clamping diameter ød	Usable tool diameter	L	L ₁	øD	øD ₁	Weight (kg)
BDV40-RBX5C-4S-150	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	150	43	96	49.6	4.1
-RBX7C-4S-150	60,000 - 80,000		ø1.0 or smaller			78		3.1
BDV50-RBX5C-4S-145	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	145	38	96	68	6.8
-RBX7C-4S-145	60,000 - 80,000		ø1.0 or smaller			78		5.8

- Nut, exclusive wrench (RBX5, 7 → XW27) and Mega Wrench (MGR12) are included. Collet is not included. Please order separately.
- Air filter regulator (XF1) is required. **A173**

Micro Collets **G2**

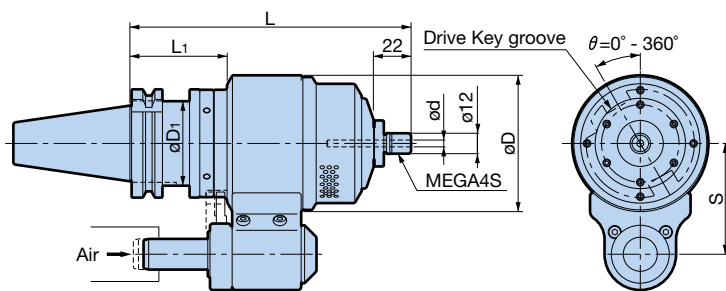


• Clean air is an essential condition for the use of this product. Therefore, coolant should never be supplied through the spindle of the machine using the Air Turbine Spindle.

[Side Through Type]



ATC compatible



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	Operating spindle speed (min ⁻¹)	Usable tool diameter	L	L ₁	øD	øD ₁	S	Weight (kg)
BDV40-RBX5-4S-165-65	40,000 - 50,000	ø1.5 or smaller	165	57	96	49.6	65	5.0
-RBX7-4S-165-65	60,000 - 80,000				80			4.0
BDV50-RBX5-4S-170-80	40,000 - 50,000	ø1.5 or smaller	170	62	100	68	80	9.7
-RBX7-4S-170-80	60,000 - 80,000							ø1.0 or smaller

- Nut, exclusive wrench (RBX5, 7 → XW27) and Mega Wrench (MGR12) are included. Collet is not included. Please order separately.
- Air filter regulator (XF1) is required. **A173**
- A Stop Block is required when mounting on machines. Please order separately.



Micro Collets **G2**

Stop Blocks **A172**

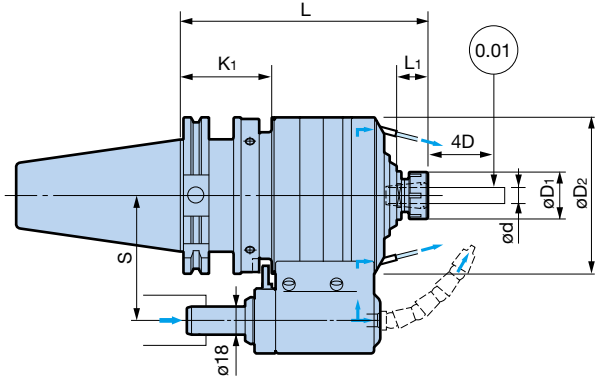
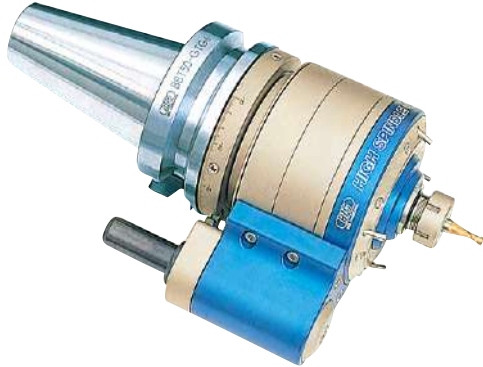
Accelerates the machine spindle. Improves productivity for machines with low spindle speeds.

- BIG's gear drive with a long track record is used for the drive system. High torque and low heat generation are achieved.



Max.
20,000min⁻¹

GTG Type



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

Please contact our agent when using neat oil coolant that may cause fire, or grinding or machining materials that generate powdery chips such as carbide.

BIG-PLUS BDV SHANK Model	ød	L	L ₁	øD ₁	øD ₂	K ₁	S	Collet Model	Speed ratio	Max. (min ⁻¹)	Weight (kg)
BDV40-GTG5-10-155	1.5 - 10	155	20	30	80	58	65	NBC10	4.67	20,000	5.0
BDV50-GTG6-10-163	1.5 - 10	163	20	30	100	63	80	NBC10	5.67	20,000	9.0
-GTG4-16-182	2.5 - 16	182	25.5	42	110	63	80	NBC16	3.80	15,000	10.8

1. The allowable torque is a calculated value of the drive system, and not the actual torque in cutting.
2. The maximum diameter when using an endmill is ø8 (GTG5, GTG6) and ø12 (GTG4).
3. A Stop Block is required when mounting on machines.
4. For continuous rotation of over 30 minutes, the spindle speed should be set within 80% of the maximum speed.
5. Nut, wrench, and exclusive spanner are included.



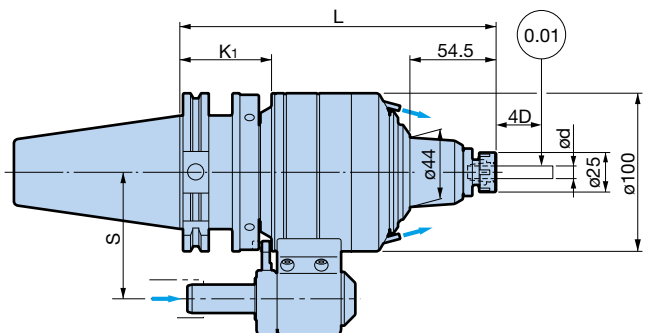
Collets **G5** Stop Blocks **G37**

Body Model	Included Collet Model (1 pc)
GTG5-10	NBC10-10AA
GTG6-10	NBC10-10AA
GTG4-16	NBC16-16AA

GTX Type

- Bending rigidity is significantly improved.
- Long nose design ideal for mold machining.

Max.
24,000min⁻¹



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	ød	L	K ₁	S	Collet Model	Max. speed (30 min) min ⁻¹	Continuous speed min ⁻¹	Weight (kg)
BDV50-GTX6-8-205	0.5 - 8	205	62	80	NBC8	24,000	20,000	9.5

1. The allowable torque is a calculated value of the drive system, and not the actual torque in cutting.
2. The maximum clamping diameter when using a drill is ø4mm.
3. A Stop Block is required when mounting on machines.
4. For continuous operation of over 30 minutes, the continuous speed is recommended.
5. Collet is not included. Please order separately.
6. Nut, wrench, and exclusive spanner are included.



Stop Blocks **G37** Collets **G5**

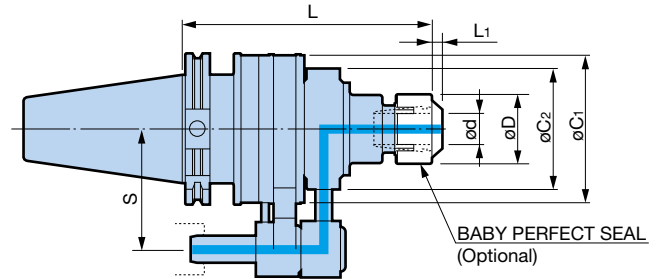
Unique separate sealing structure extends life.

- Independent bearing and sealing sections eliminate infiltration of coolant into bearings.
- The seal replacement system allows maintenance and thus helps reduce costs.

NEW BABY CHUCK Type PAT.



Not BIG-PLUS (DUAL CONTACT) specification



DV SHANK Model	Clamping diameter ød	øD	L	øC1	øC2	S	Collet Model	Max. (min ⁻¹)	Merit Set	Weight (kg)
DV40-ONBS13N-165	3 - 13	35	165	81.6	73	65	NBC13	10,000	MES-40	4.0
-ONBS16N-165	3 - 16	42			80		NBC16	8,000	MES-50	4.3
-ONBS20N-165	3 - 20	46			80		NBC20	8,000	4.3	
DV50-ONBS13N-165	3 - 13	35	165	99.6	80	80	NBC13	8,000	MES-50	7.3
-ONBS16N-165	3 - 16	42					NBC16			7.3
-ONBS20N-165	3 - 20	46					NBC20			7.5

1. Max. coolant pressure is 2MPa.
2. Wrench, nut (BPS), collet and Adjusting Screw are sold separately. Order together with a Perfect Seal of appropriate size.
3. For L₁, refer to the Baby Perfect Seal on G28.
4. A Stop Block is required when mounting on machines. Please order separately.



Stop Blocks **G37**

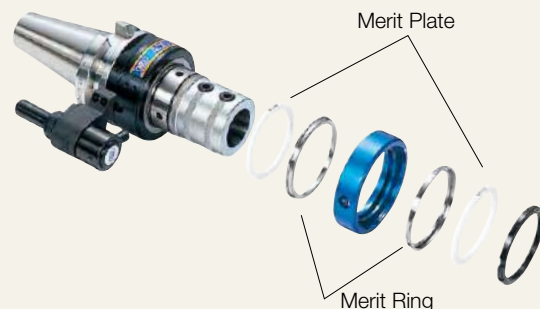
Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

Optional Accessories		
<p>Collet</p> <p>G5</p>	<p>BABY PERFECT SEAL</p> <p>G28</p>	<p>Adjusting Screw</p> <p>G10</p>

Maintenance parts for seal **Merit Set**

If excessive coolant leak occurs while using the Hi-JET holder due to wear of the seal, purchase the seal replacement part "Merit Set". The model name is indicated in the dimension table for each Hi-JET Holder type.

- <Merit Set contents>
- Merit Ring ● Merit Plate ● O-rings for Merit Case, 2 pcs each



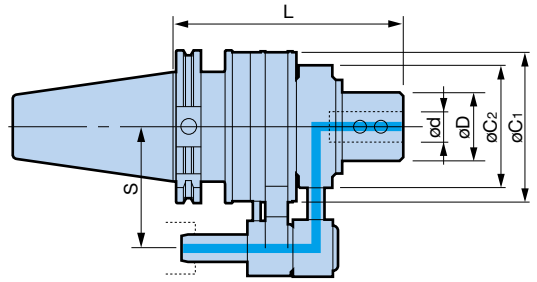
1. Merit Set replacement at BIG is also available. Please feel free to contact us.

SIDE LOCK TYPE

- For cylindrical shank oil hole drills.



Not BIG-PLUS (DUAL CONTACT) specification



DV SHANK Model	ød	øD	L	øC1	øC2	S	Max. (min ⁻¹)	Merit Set	Weight (kg)
DV40-OSL16N-150	16	48	150	81.6	80	65	8,000	MES-50	4.4
-OSL20N-150	20								
-OSL25N-165	25		165						
-OSL32N-165	32	58		99.6	98	6,000	MES-65	5.7	
DV50-OSL16N-150	16	48	150	99.6	80	80	8,000	MES-50	7.5
-OSL20N-150	20								
-OSL25N-165	25		165						
-OSL32N-165	32	58		98	6,000	MES-65	7.9		
-OSL40N-165	40	64							8.0
-OSL50N-185	50	84	185	129.6	121		4,000	MES-90	11.9

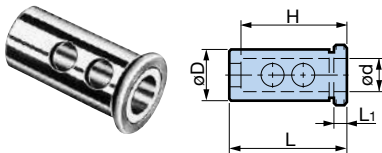
1. Max. coolant pressure is 2MPa. 2. A Stop Block is required when mounting on machines. Please order separately.

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.



Stop Blocks **G37**

For Side Lock type SL Sleeve



Model	ød	øD	L	L ₁	H
OSL25-16	16	25	62	5.5	48
-20	20				50
OSL32-16	16	32	66	5.5	48
-20	20				50
-25	25				56

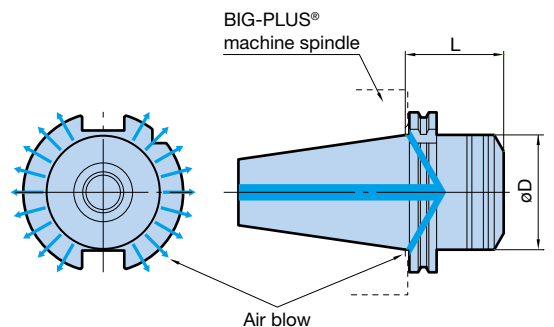
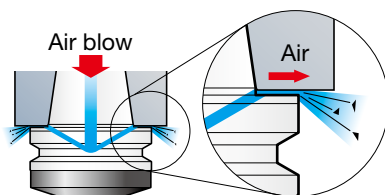
Model	ød	øD	L	L ₁	H
OSL40-16	16	40	76	5.5	48
-20	20				50
-25	25				56
-32	32				60

OTHER TOOLS

BIG-PLUS SPINDLE FLANGE FACE CLEANER

Cleans the spindle flange face of BIG-PLUS machines.

- Removes oil and chips on the spindle flange face.



Model	øD	L
SDV40-ASC-40T	45	40
SDV50-ASC-60T	70	60

1. When the Flange Face Cleaner is mounted on the BIG-PLUS machine tool spindle, a 1mm gap exists between the flanges of the spindle and the cleaner.

DUAL
CONTACT A/E/F Types
HSK SHANK

HSK Shank



Ultra-slim design of $\varnothing 10\text{mm}$ nut outer diameter.
High speed collet chuck with minimized interference.

Max.
40,000min⁻¹

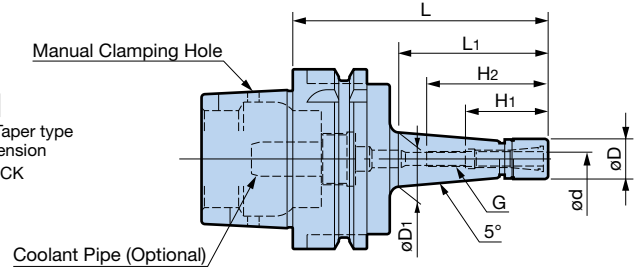
● Models for ultra-small endmilling are newly added!

[High Rigidity Taper Type]



● Model Description
HSK-A40 - **MEGA** **3** **S** - **75** **T**

- HSK Shank Type
- MEGA CHUCK
- MICRO CHUCK
- L dimension
- Taper type



Through hole type.

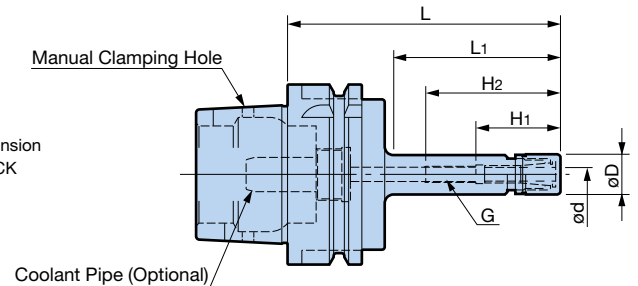
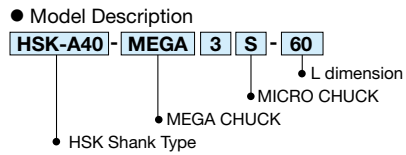
A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H ₁	H ₂	G	Collet Model	Weight (kg)
HSK-A40-MEGA3S- 75T	0.45 - 3.25	10	16	75	44	22	38	M4 P0.7	NBC 3S-□	0.28
- 90T			18	90	60					0.31
-MEGA4S- 60T	0.45 - 4.05	12	14	60	27	26.5	44	M5 P0.8	NBC 4S-□	0.27
- 90T			20	90	60		47			0.33
-105T			23	105	76		0.37			
-MEGA6S- 60T ※	0.45 - 6.05	14	16	60	29	28.5	(40)	M7 P0.75	NBC 6S-□	0.28
- 75T			19	75	45		49			0.31
- 90T			21.5	90	60		0.34			
-105T			25	105	76		0.39			
HSK-A50-MEGA6S-105T	0.45 - 6.05	14	22.5	105	66	28.5	49	M7 P0.75	NBC 6S-□	0.6
HSK-A63-MEGA3S- 75T	0.45 - 3.25	10	14	75	36	22	38	M4 P0.7	NBC 3S-□	0.8
-120T			21.5	120	81					0.9
-MEGA4S- 75T	0.45 - 4.05	12	15.5	75	36	26.5	47	M5 P0.8	NBC 4S-□	0.9
- 90T			18	90	51					0.9
-120T			23.5	120	81					1.0
-MEGA6S- 60T	0.45 - 6.05	14	15.5	60	23	28.5	37	M7 P0.75	NBC 6S-□	0.8
- 75T			17	75	36		48			0.9
- 90T			20	90	51		49			0.9
-105T			22.5	105	66					0.9
-120T			25	120	81					1.0
-135T			27.5	135	96					1.0
-MEGA8S- 90T	2.95 - 8.05	18	23.5	90	51	31	50.5	M9 P0.75	NBC 8S-□	0.9
-120T			28.5	120	81					1.1

- Nut is included. Collet and wrench must be ordered separately.
- Weight includes the nut but not the collet.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
- Models marked with "※" do not have inner thread. H₂ () dimension is the max. tool shank length that can be inserted into the holder.
- Coolant pipe is not included. C63

[Straight Type]

- Straight type with less workpiece interference.

Max.
35,000min⁻¹

Through hole type.

A Type (DIN 69893-1) (ISO 12164)

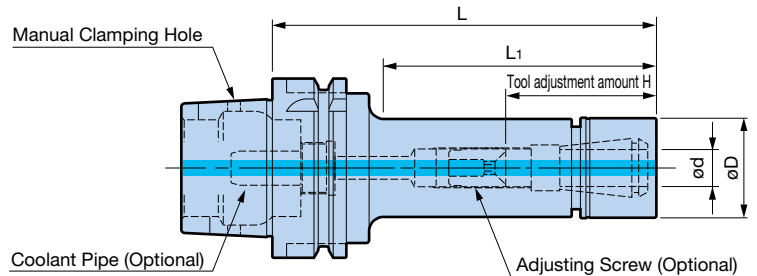
Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H ₁	H ₂	G	Collet Model	Weight (kg)
HSK-A40-MEGA3S- 60	0.45 - 3.25	10	60	26	22	39	M4 P0.7	NBC 3S-□	0.26
-MEGA4S- 60	0.45 - 4.05	12	60	27	26.5	44	M5 P0.8	NBC 4S-□	0.26
- 90			90	57		47			0.29
-MEGA6S- 60 ※	0.45 - 6.05	14	60	28	—	(40)	—	NBC 6S-□	0.27
- 90			90	58					28.5
HSK-A50-MEGA4S- 75	0.45 - 4.05	12	75	36	26.5	47	M5 P0.8	NBC 4S-□	0.5
-MEGA6S- 75	0.45 - 6.05	14	75	36	28.5	49	M7 P0.75	NBC 6S-□	0.6
HSK-A63-MEGA4S- 75	0.45 - 4.05	12	75	36	26.5	48	M5 P0.8	NBC 4S-□	0.8
-105			105	61		47			0.9
-MEGA6S- 75	0.45 - 6.05	14	75	36	28.5	48	M7 P0.75	NBC 6S-□	0.9
-105			105	61		49			0.9
-MEGA8S- 90	2.95 - 8.05	18	90	48	31	50.5	M9 P0.75	NBC 8S-□	0.9

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.

4. Models marked with "※" do not have inner thread. H₂ () dimension is the max. tool shank length that can be inserted into the holder.
5. Coolant pipe is not included. C63

Standard Accessory	Optional Accessories			
MEGA NUT For Spares G3	Mega Wrench G26	Micro Collet G2	Mega Micro Seal Nut (For 6S and 8S) Mega Micro Coolant Nut (For 6S) G3	Collet Case G4

The best selling MEGA CHUCK series pursues high speed capability for its body, nut, collet and wrench.



- Model Description
- HSK-A40** - **MEGA** **6** **N** - **60**
- HSK Shank Type
 - MEGA CHUCK
 - Maximum clamping diameter
 - NEW BABY CHUCK
 - L dimension

A Type (DIN 69893-1) (ISO 12164)


Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-A40-MEGA 6N- 60 ※	0.25 - 6	20	60	30	33	NBC 6-□	0.31
- 75			75	45	23 - 38		0.34
- 90			90	60	23 - 43		0.37
-MEGA 8N- 60 ※	0.5 - 8	25	60	30	41	NBC 8-□	0.35
- 90			90	60	26 - 44		0.44
-MEGA10N- 60 ※	1.5 - 10	30	60	26	40	NBC10-□	0.42
- 90			90	54	38 - 48		0.56
-MEGA13N- 75 ※	2.5 - 13	35	75	55	55	NBC13-□	0.55
- 90			90	70	64		0.64
-MEGA16N- 75 ※	2.5 - 16	42	75	55	53	NBC16-□	0.65
- 90			90	70	63		0.78
-MEGA20N- 90 ※	2.5 - 20	46	90	70	66	NBC20-□	0.86

1. Nut is included. Adjusting screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
5. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
6. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
7. Coolant pipe is not included. C63

Standard Accessory		Optional Accessories				
<p>MEGA NUT</p> <p>For Spares G10</p>	<p>O-ring</p> <p>For Spares G10</p>	<p>MEGA NUT Flat Type</p> <p> G10</p>	<p>Mega Wrench</p> <p> G26</p>	<p>Collet</p> <p> G5</p>	<p>MEGA PERFECT SEAL</p> <p> G11</p>	<p>Adjusting Screw</p> <p> G10</p>

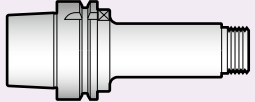
A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-A50-MEGA 6N- 75	0.25 - 6	20	75	37	23 - 43	NBC 6-□	0.6
-100			100	60			0.6
-135			135	93			0.7
-165			165	123			0.8
-MEGA 8N- 75	0.5 - 8	25	75	37	26 - 37	NBC 8-□	0.6
-100			100	62	26 - 45		0.7
-135			135	96			0.8
-165			165	125			0.9
-MEGA10N- 75 ※	1.5 - 10	30	75	38	38 - 48	NBC10-□	0.7
-100			100	63			0.8
-135			135	98			1.0
-165			165	128			1.1
-MEGA13N- 75 ※	2.5 - 13	35	75	40	46	NBC13-□	0.7
-100			100	65			44 - 56
-135			135	100	44 - 63		1.1
-165			165	130			1.3
-MEGA16N- 75 ※	2.5 - 16	42	75	49	48	NBC16-□	1.0
-100			100	74			48 - 55
-135			135	109	48 - 68		1.4
-165			165	139			1.7
-MEGA20N- 75 ※ ▲	2.5 - 20	46	75	49	47	NBC20-□	0.9
-100			100	74	51 - 54		1.1
-135			135	109	51 - 68		1.5
-165			165	139			1.8
-MEGA25N- 95 ※	15.5 - 25.4	60	95	69	65	NBC25-□	1.3

- Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
- Weight includes the nut but not the collet.
- Center through coolant supply is available.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
- Models with ※ indication cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
- Models with ▲ indication cannot use a NEW BABY ENDMILL COLLET.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
- Coolant pipe is not included. 

When ordering a **MEGA PERFECT SEAL**, the "Nut-Less Body" without the standard nut attached is also available.


● **Example** Attach **/NL** (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
HSK-A40-MEGA 6N-60/NL
(NL at the end of the model number means nut not attached)

+


NBC Collet
NBC6-3AA

+


MEGA PERFECT SEAL Model
MPS6-03035


MEGA NUT Flat Type Model
MGN6F

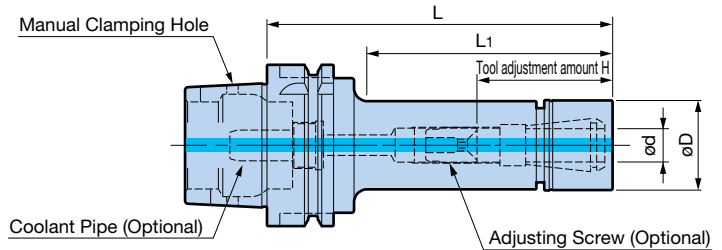
The best selling MEGA CHUCK series pursues high speed capability for its body, nut, collet and wrench.



● Model Description

HSK-A63 - **MEGA** **6** **N** - **75**

- L dimension
- NEW BABY CHUCK
- Maximum clamping diameter
- MEGA CHUCK
- HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)


Model	Clamping diameter $\varnothing D$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-A63-MEGA 6N- 75	0.25 - 6	20	75	35	23 - 38	NBC 6-□	0.9
- 90			90	48	23 - 43		0.9
-105			105	63			0.9
-120			120	76			1.0
-135			135	91			1.0
-165			165	121	1.0		
-MEGA 8N- 75	0.5 - 8	25	75	35	26 - 38	NBC 8-□	0.9
- 90			90	50	26 - 45		1.0
-105			105	63			1.0
-120			120	76			1.1
-135			135	91			1.1
-165			165	121	1.2		
-MEGA10N- 75 ※	1.5 - 10	30	75	36	50	NBC10-□	1.0
- 90			90	50	38 - 45		1.0
-105			105	65	38 - 48		1.1
-120			120	80			1.2
-135			135	93			1.3
-165			165	123			1.4
-MEGA13N- 75 ※	2.5 - 13	35	75	37	49	NBC13-□	1.0
- 90 ※			90	51	64		1.1
-105			105	66	44 - 56		1.2
-120			120	81	44 - 63		1.3
-135			135	96			1.4
-165			165	125			1.7
-MEGA16N- 75 ※	2.5 - 16	42	75	39		48	NBC16-□
- 90 ※			90	54	63	1.3	
-105			105	69	48 - 54	1.4	
-120			120	84	48 - 68	1.5	
-135			135	99		1.7	
-165			165	129		2.0	
-200	200	164	2.4				
-MEGA20N- 75 ※	2.5 - 20	46	75	39	51	NBC20-□	1.2
- 90 ※			90	54	61		1.4
-105			105	69	51 - 54		1.5
-120			120	84	51 - 68		1.7
-135			135	99			1.8
-165			165	129			2.3
-200	200	164	2.7				
-MEGA25N- 90 ※	15.5 - 25.4	60	90	-	63	NBC25-□	1.6
-120 ※			120	-	90		2.2

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
5. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
6. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
7. Coolant pipe is not included. C63

A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-A100-MEGA 6N- 90	0.25 - 6	20	90	43	23 - 43	NBC 6-□	2.5
-105			105	58			2.5
-120			120	73			2.5
-135			135	88			2.5
-165			165	113			2.6
-MEGA 8N- 90			0.5 - 8	25			90
-105	105	58			2.6		
-120	120	73			2.6		
-135	135	88			2.7		
-165	165	113			2.7		
-MEGA10N- 90	1.5 - 10	30			90	43	38 - 45
-105			105	58	2.7		
-120			120	73	38 - 48	2.7	
-135			135	88	2.8		
-165			165	113	3.0		
-MEGA13N- 90 ※			2.5 - 13	35	90	43	55
-105 ※	105	58			70	2.8	
-120	120	73			44 - 63	2.9	
-135	135	88				3.0	
-165	165	118				3.2	
-200	200	148				3.5	
-MEGA16N- 90 ※	2.5 - 16	42	90	47	55	NBC16-□	2.8
-105 ※			105	58	70		2.9
-120			120	73	48 - 68		3.1
-135			135	88			3.2
-165			165	118			3.6
-200			200	151			4.0
-MEGA20N- 90 ※	2.5 - 20	46	90	47	55	NBC20-□	2.9
-105 ※			105	58	70		3.0
-120			120	73	51 - 68		3.2
-135			135	88			3.3
-165			165	118			3.8
-200			200	153			4.3
-MEGA25N-120 ※	15.5 - 25.4	60	120	78	85	NBC25-□	3.8
-165			165	123	64 - 74		4.6
HSK-A125-MEGA20N-120	2.5 - 20	46	120	78	51 - 61	NBC20-□	4.7
-165			165	118	51 - 68		5.2

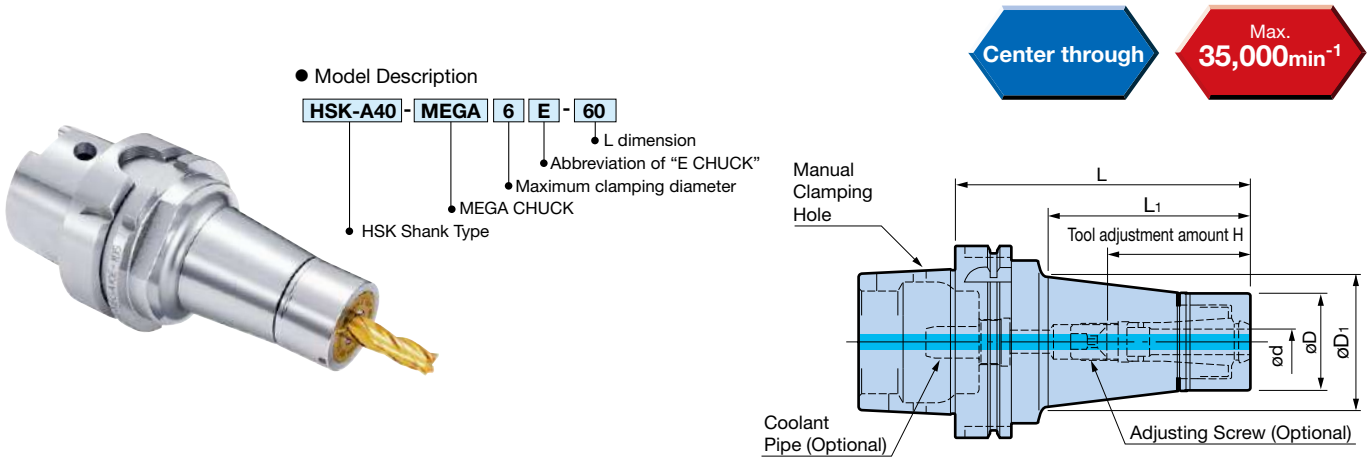
1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

5. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
6. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
7. Coolant pipe is not included. 

Standard Accessory		Optional Accessories				
MEGA NUT  For Spares 	O-ring  For Spares 	MEGA NUT Flat Type  	Mega Wrench  	Collet  	MEGA PERFECT SEAL  	Adjusting Screw  

A high precision, high speed and high rigidity collet chuck especially for endmilling.

- Tapered body enhances damping effect by varying vibration frequency.
- Uses the MEGA E Collet designed for endmilling, delivering optimal clamping performance.



A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H	Collet Model	Weight (kg)
HSK-A40-MEGA 6E- 60 ※	3 - 6	25	26	60	24	41	MEC 6-□	0.39
- 75 ※			28.5	75	39	55		0.45
-MEGA 8E- 65 ※	3 - 8	30	34	65	30	44	MEC 8-□	0.46
- 75 ※			34	75	40	54		0.51
-MEGA10E- 70 ※	3 - 10	35	35	70	35	48	MEC10-□	0.52
- 90			35	90	55	48 - 52		0.67
-MEGA13E- 70 ※	3 - 12	42	42	70	35	50	MEC13-□	0.62
- 90 ※			42	90	55	67		0.81
HSK-A50-MEGA 6E- 75	3 - 6	25	28.5	75	37	37 - 43	MEC 6-□	0.6
-MEGA 8E- 75 ※	3 - 8	30	33	75	40	42	MEC 8-□	0.7
-MEGA10E- 75 ※	3 - 10	35	38	75	40	48	MEC10-□	0.8
-MEGA13E- 75 ※	3 - 12	42	—	75	49	50	MEC13-□	0.9
-100			—	100	74	50 - 55		1.1
HSK-A63-MEGA 6E- 65 ※	3 - 6	25	26.5	65	28	43	MEC 6-□	0.9
- 90			30	90	51	37 - 45		1.0
-105			33	105	66			1.1
-120			36	120	82			1.2
-135			39	135	99			1.4
-MEGA 8E- 67 ※	3 - 8	30	31.5	67	30	45	MEC 8-□	0.9
- 90			35	90	52	37 - 45		1.1
-105			38	105	68	42 - 51		1.2
-120			40.5	120	83			1.4
-135			44	135	100			1.6
-MEGA10E- 75 ※	3 - 10	35	37.5	75	37	48	MEC10-□	1.1
- 90 ※			40	90	53	64		1.2
-105			43	105	69	48 - 58		1.4
-120			46	120	85			1.5
-135			43	135	99			1.7
-MEGA13E- 75 ※	3 - 12	42	44	75	31	49	MEC13-□	1.2
- 90 ※			45	90	46	64		1.4
-105			46	105	61	50 - 57		1.6
-120			47.5	120	77			1.8
-135			47	135	92			1.9

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.

2. Center through coolant supply is available.

3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

5. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.

When using, slowly ramp up to the appropriate speed starting from slow speeds.

6. Coolant pipe is not included. C63

A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ϕD	ϕD	ϕD_1	L	L ₁	H	Collet Model	Weight (kg)
HSK-A100-MEGA 6E- 75 ※	3 - 6	25	28	75	33	46	MEC 6-□	2.5
- 90			29.5	90	48	37 - 45		2.6
-105			32.5	105	63			2.7
-120			35	120	78			2.8
-135			37.5	135	93			2.9
-165			43	165	123			3.2
-MEGA 8E- 75 ※	3 - 8	30	33	75	33	46	MEC 8-□	2.5
- 90			34.5	90	48	42 - 51		2.6
-105			37	105	63			2.8
-120			39.5	120	78			2.9
-135			42.5	135	93			3.1
-165			47.5	165	123			3.4
-MEGA 10E- 80 ※	3 - 10	35	37.5	80	38	51	MEC10-□	2.6
- 90 ※			39.5	90	48	61		2.7
-105			42	105	63	48 - 58		2.9
-120			44.5	120	78			3.1
-135			47	135	93			3.3
-165			52.5	165	123			3.7
-MEGA 13E- 90 ※	3 - 12	42	46	90	48	50	MEC13-□	2.9
-105			48.5	105	63	50 - 61		3.1
-120			51.5	120	78			3.3
-135			54	135	93			3.6
-165			59	165	123			4.2

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.


2. Center through coolant supply is available.

3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

5. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.

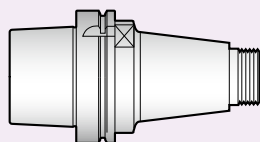
When using, slowly ramp up to the appropriate speed starting from slow speeds.

6. Coolant pipe is not included.  C63

Standard Accessory		Optional Accessories			
MEGA E Nut  For Spares  G13	O-ring  For Spares  G13	Mega Wrench   G26	MEGA E Collet   G13	MEGA E PERFECT SEAL   G15	Adjusting Screw   G14

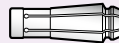
When ordering a **MEGA E PERFECT SEAL**, the "Nut-Less Body" without the standard nut attached is also available.

● **Example** Attach **/NL** (Nut less) to the end of the holder model number and order the MEC Collet/MEGA E PERFECT SEAL separately.



MEGA E CHUCK Model + /NL
(Nut not attached)
HSK-A40-MEGA6E-60/NL

+



MEC Collet
MEC6-3AA

+

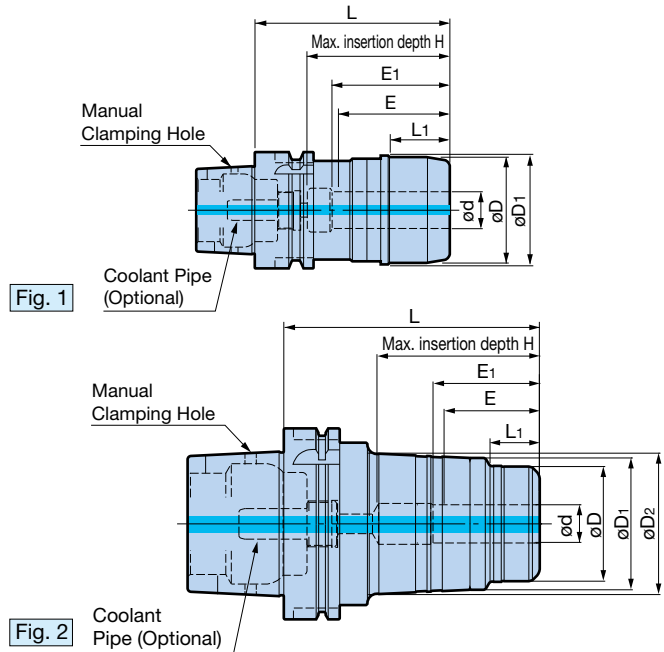


MEGA E PERFECT SEAL Model
EPS6-03

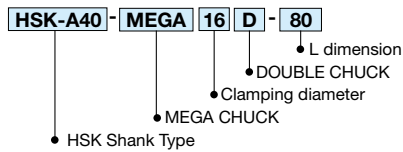
Complete contact with the nut and body.
High rigidity equal to integration with the machine spindle.



[Standard Type]



● Model Description



MEGA CHUCK Series

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H	Min. clamping length		Mega Wrench	Weight (kg)
									E	E ₁		
HSK-A 40-MEGA16D- 80	1	16	46	—	—	80	25	62	48	50	MGR46L	0.75
HSK-A 50-MEGA16D- 85	1	16	46	—	—	85	25	62	48	50	MGR46L	1.0
-MEGA20D- 85 ※		20	50			86	30	63	50	51	MGR50L	1.1
HSK-A 63-MEGA16D- 80A	2	16	42	53	—	80	25	55	48	55	MGR42L	1.3
- 90A						90		65				1.5
-105A						105		71				1.8
-135A ○						135		71				2.3
-165A ○						165		71				2.8
-MEGA20D- 90A	2	20	50	55	—	90	34	65	50	56	MGR50L	1.6
-105A						105		80				1.5
-120A						120		85				2.1
-135A ○						135		85				2.4
-165A △						165		69 - 79				3.0
-MEGA25D-100A	1	25	62	63	—	100	39	75	56	57	MGR62L	2.0
-135A △						135		66 - 76				2.8
-MEGA32D-105A						105		80				2.2
-135A ○	32	70	71	—	—	135	33	90	60	64	MGR70L	2.9

- Wrench is not included. Please order separately.
- Center through coolant supply is available.
- Models with △ indication can be used with optional axial adjusting screws. Models with ○ indication require the hex socket head screw (M8) for axial adjustment.
Adjusting screws cannot be used with models without the symbols above.
However, please contact us if using for center through applications.
- H dimension is the max. tool shank length that can be inserted into the holder.
△ marked models show the adjustment amount when using an optional axial adjusting screw.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
- When using center through coolant, insert a tool shank into E₁ or more.
- Coolant pipe is not included. C63
- ※ marked models are not compatible with some Straight Collets.
Compatibility Table G23

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H	Min. clamping length		Mega Wrench Model	Weight (kg)
									E	E ₁		
HSK-A100-MEGA16D-105	2	16	46	55	63	105	23	71	48	50	MGR46L	3.5
-135 ○						135						4.1
-165 ○						165						4.7
-MEGA20D-105	2	20	60	69	74	105	25	73	50	56	MGR60L	4.1
-135 □						135		5.0				
-165 △						165		69 - 79				5.9
-MEGA25D-105 ※	2	25	70	77	85	105	32	73	56	65	MGR70L	4.5
-135 □						135		90				5.6
-165 △						165		76 - 86				6.8
-MEGA32D-115	2	32	80	86	—	115	39	83	60	71	MGR80L	5.0
-135						135		103				5.8
-165 □						165		105				7.1
-MEGA42D-115 ※	1	42	99	100	—	115	40	83	70	71	MGR99L	5.5
-135						135		97				6.9

1. Wrench is not included. Please order separately.

2. Center through coolant supply is available.

Models with △ indication can be used with optional axial adjusting screws.

Models with ○ indication require the use of commercially available hex socket head screw (M8) for axial adjustment.

Models with □ indication require the hex socket head screw (M12) for axial adjustment. However, please contact us if using for center through applications.


Adjusting screws cannot be used with models without the symbols above.

4. H dimension is the max. tool shank length that can be inserted into the holder.


5. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.

When using, slowly ramp up to the appropriate speed starting from slow speeds.

6. When using center through coolant, insert a tool shank into E₁ or more.

7. Coolant pipe is not included.  C63





● ※ marked models are not compatible with some Straight Collets.

Compatibility Table  G23

Optional Accessories

Straight Collet



- PJC Collet  G19
- PSC Collet  G20
- OCA Collet  G21
- C Collet  G22

Mega Wrench



 G26

Axial Adjusting Screw



 G25

Complete contact with the nut and body.
High rigidity equal to integration with the machine spindle.

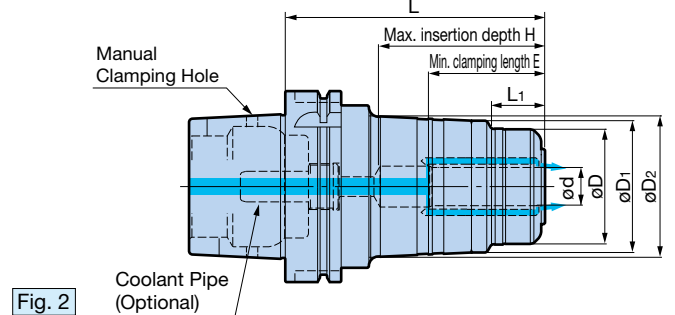
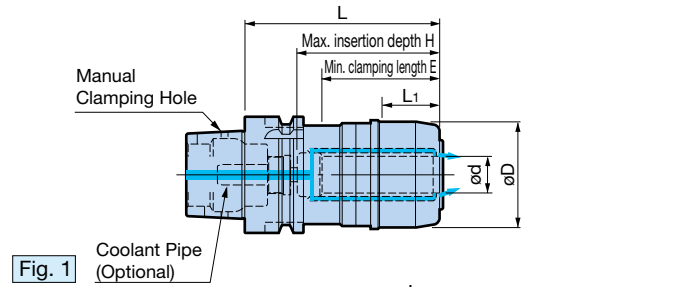
[Jet Through Type]



Model Description

HSK-A40 - MEGA 16 DS - 80

- Jet through DOUBLE CHUCK
- Clamping diameter
- MEGA CHUCK
- HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H	E	Mega Wrench Model	Weight (kg)
HSK-A 40-MEGA16DS- 80	1	16	46	—	—	82.5	28	64	48	MGR46L	0.75
HSK-A 50-MEGA16DS- 85	1	16	46	—	—	87.5	28	64	48	MGR46L	1.0
-MEGA20DS- 85		20	50	—	—	88.5	33	65	50	MGR50L	1.1
HSK-A 63-MEGA16DS- 80A	2	16	42	53	—	82	27	57	48	MGR42L	1.3
-MEGA20DS- 90A		20	50	55	—	92	36	67	50	MGR50L	1.6
-120A ○						122		87			2.1
-MEGA25DS-100A	1	25	62	—	—	102	41	77	56	MGR62L	2.0
-MEGA32DS-105A		32	70	—	—	107	35	82	60	MGR70L	2.2
HSK-A100-MEGA16DS-105	2	16	46	55	63	107.5	26	73	48	MGR46L	3.5
-135 ○						137.5		75			4.1
-MEGA20DS-105		20	60	69	74	107.5	28	75	50	MGR60L	4.1
-135 □						137.5		87			5.0
-165 △						167.5		71 - 81			5.9
-MEGA25DS-105						107.5		75			4.5
-135 □		25	70	77	85	137.5	34	92	56	MGR70L	5.6
-165 △						167.5		78 - 88			6.8
-MEGA32DS-115		32	80	86	—	117.5	42	85	60	MGR80L	5.0
-135 □						137.5		105			5.8
-165 □	167.5					107		7.1			
-MEGA42DS-115 ※	1	42	99	—	—	117	42	85	70	MGR99L	5.5
HSK-A125-MEGA20DS-135	2	20	60	69	80	28	87	50	MGR60L	6.7	
-165 △					79		71 - 81			7.6	
-MEGA25DS-135		25	70	77	83	137.5	34	92	56	MGR70L	7.1
-MEGA32DS-135						137.5		92			7.8
-165		32	80	86	93	137.5	42	107	60	MGR80L	9.1
-MEGA42DS-120						167.5		85			7.9

- Wrench is not included. Please order separately.
- Center through coolant supply is available.
- Jet-through type provides coolant from the chuck nose, thus tools with oil holes cannot be used.**
- Models marked with △ can be used with optional axial adjusting screws. Models marked with ○ require the hex socket head screw (M8) for axial adjustment. Models marked with □ require the hex socket head screw (M12) for axial adjustment. However, please contact us if using for center through applications. **Adjusting screws cannot be used with models without the symbols above.**
- H dimension is the max. tool shank length that can be inserted into the holder. Models marked with △ show the adjustment amount when using an optional axial adjusting screw.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

- Coolant pipe is not included. C63
- ※ marked models are not compatible with some Straight Collets. Compatibility Table G23

Optional Accessories		
Straight Collet <ul style="list-style-type: none"> PJC Collet G19 PSC Collet G20 C Collet G22 	Mega Wrench G26	Axial Adjusting Screw G25

For versatile high-precision machining including molds and automotive components.

Center through

- Slim design minimizes workpiece interference, ideal for mold making.

[SUPER SLIM Type PAT.]



● Model Description

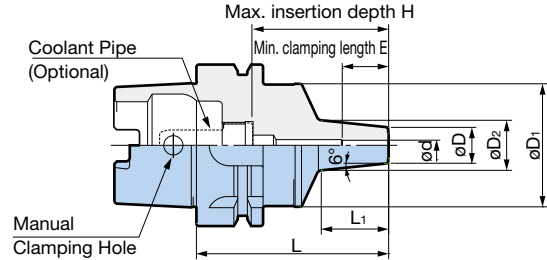
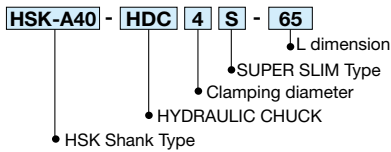


Fig. 1

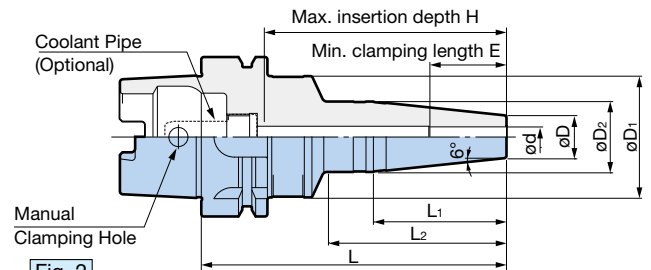


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	L ₂	H	E	Weight (kg)
HSK-A40-HDC 4S- 65	1	4	14	33	21	65	28	—	49	19	0.33
HSK-A50-HDC 4S- 75	1	4	14	40	21	75	31	—	55	19	0.56
HSK-A63-HDC 3S- 90*	1	3	14	48	24	90	43	—	68	16	1.0
-120*	2				26	120	57	72	98		1.1
-HDC 4S- 75	1	4	14	48	20	75	26	—	53	19	1.0
- 90					2	23	90	43	68		
-120	1	5	14	48	26	120	57	72	98	21	1.1
-HDC 5S-120								70	25		
-HDC 6S-120	1	6	14	48	26	150	57	85	128	25	1.3
-150								70	31		
-HDC 8S-120	2	8	17	48	28	150	52	70	95	31	1.2
-150								85	125		
-HDC10S-120	2	10	19	48	30	150	52	70	94	33	1.2
-150								87	124		
-HDC12S-120	2	12	21	48	32	150	52	70	93	36	1.2
-150								87	123		

- Adjusting Screw cannot be used.
- Coolant pipe is not included.
- When using coolant with models marked with *, some coolant may leak from the inner diameter slits.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

For versatile high-precision machining including molds and automotive components.

Center through

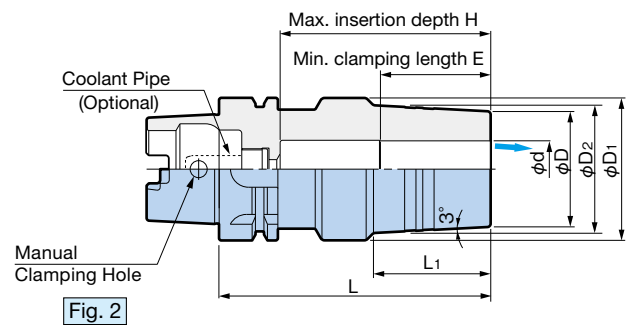
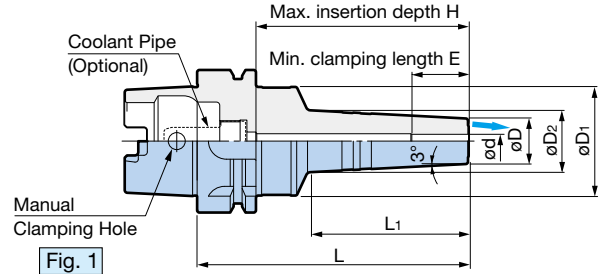
- Slim design minimizes workpiece interference, ideal for mold making.

[Jet Through Type PAT.]



● Model Description

- HSK-A63** - **HDC** **4** **J** - **75**
- L dimension
 - Jet Through Type
 - Clamping diameter
 - HYDRAULIC CHUCK
 - HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H	E	Weight (kg)
HSK-A63-HDC 4J- 75	1	4	20	48	23	75	29	53	19	1.0
-HDC 6J-120		6			28			98	25	1.2
-HDC 8J-120		8			30			95	31	1.2
-HDC10J-120		10	24		32			94	33	1.3
-HDC12J-120		12	26		34			93	36	1.3
-HDC16J-120		16	34		43			92	43	1.5
-HDC20J-120		20	38		-			91	49	1.5
-HDC25J-120	2	25	51	63	57	120	50	93	49	2.1
-HDC32J-120		32	60	69	-		53	93	56	2.3

1. Adjusting Screw cannot be used.
 2. Coolant pipe is not included.
 3. HDC4J to 12J models allow jet through to be switched to center through by assembling the accessory plug.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Standard Type]



- Model Description
- HSK-A40** - HSK Shank Type
- HDC** - HYDRAULIC CHUCK
- 6** - Clamping diameter
- 70** - L dimension

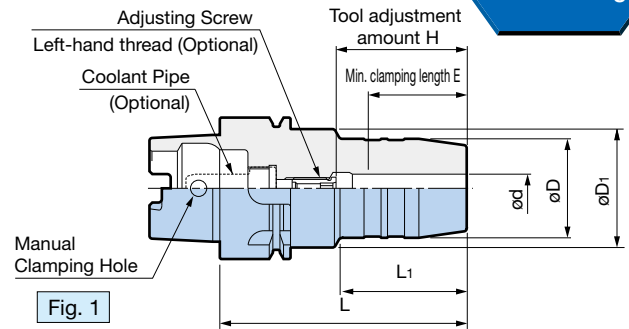
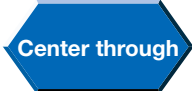


Fig. 1

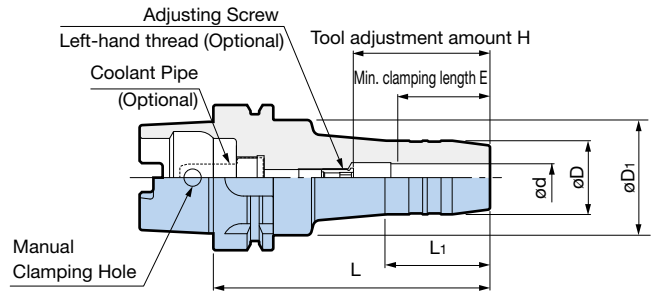


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	L	L_1	H	E	Adjusting Screw (Optional)	Weight (kg)									
HSK-A40-HDC 6- 70	1	6	26	34	70	36	28 - 36	28	HDA 6-05013	0.47									
-HDC 8- 70		8	28																
-HDC10- 75		10	30																
-HDC12- 80		12	32																
HSK-A50-HDC 6- 75	1	6	26	42	75	32	28 - 37	28	HDA 6-05013	0.7									
-HDC 8- 75		8	28																
-HDC10- 80		10	30																
-HDC12- 85		12	32																
-HDC16- 90 \triangle		16	38		90	48	43 - 51	43	HDA10-08015	0.7									
-HDC20- 90 \triangle		20	42			64													
-HDC25- 90 $\ast \triangle$		25	55			63					23	62	52	—	1.3				
HSK-A63-HDC 6- 70 \ast		2	6		26	50	70	24	46	28	—	1.0							
-120	120			44			28 - 48	HDA 6-05032					1.2						
-150	150													70	24	46	—	1.0	
-HDC 7-120	7		27	120	44		28 - 48		HDA 8-06032										1.3
-HDC 8- 70 \ast	8		28																
-120														150	45	33 - 53	33	HDA10-08032	
-150				120	45		38 - 58		38	HDA12-10025	1.3								
-HDC10- 80 \ast	10		30	80				35				55	—	1.1					
-120				120	45		38 - 58	38	HDA12-10025	1.3									
-150				150															
-HDC11-120	11		31	120	45		38 - 58	38	—	1.1									
-HDC12- 85 \ast				85							40	60	HDA12-10025	1.4					
-120				120							45	38 - 58			38	HDA12-10025	1.4		
-150	150																		

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw. Models marked with \ast cannot be used with Adjusting Screws. H dimension is the max. tool shank depth that can be inserted into the holder.
 2. Coolant pipe is not included. C63
 3. Adjusting Screw with hexagon sockets on both sides is also available, allowing adjustment from the shank side as well. Add the letter "W" at the end of the model number when ordering. (Example: HDA6-05013W)
- Models marked with \triangle cannot be used with a Straight Collet.
 - It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

For HSK-A63-HDC13 and beyond, refer to the next page \rightarrow



Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Standard Type]

Center through



- Model Description
HSK-A63 - **HDC** **13** - **120**
- L dimension
- Clamping diameter
- HYDRAULIC CHUCK
- HSK Shank Type

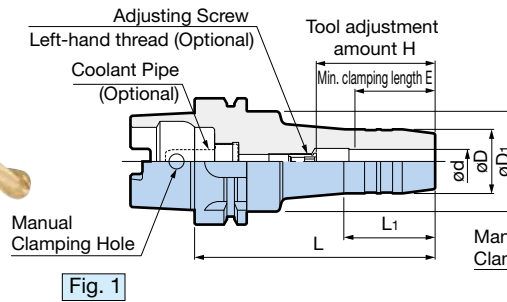


Fig. 1

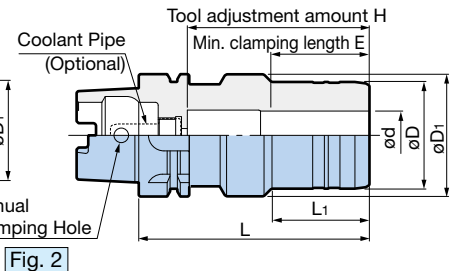


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	L	L ₁	H	E	Adjusting Screw (Optional)	Weight (kg)	
HSK-A 63-HDC13-120	1	13	33	50	120	45	38 - 58	38	HDA12-10025	1.4	
-HDC14- 85 ※		14	34		85	40	60		—	1.2	
-120					45	38 - 58	HDA12-10025		1.4		
-150		150	43				HDA16-12015	1.7			
-HDC15-120		15	37		120	46	58 - 68	43	HDA16-12015	1.5	
-HDC16- 90 ※		16	38		90	46	65	43	—	1.3	
-120					120		58 - 68		HDA16-12015	1.5	
-150					150		43 - 68		HDA16-12037	1.9	
-HDC18- 90 ※		18	40		90	46	65	43	—	1.3	
-120					120		58 - 68		HDA20-16015	1.6	
-150					150		43 - 68		HDA25-16039	2.0	
-HDC20- 90 ※		20	42		90	48	65	43	—	1.3	
-120					120		58 - 68		HDA20-16015	1.6	
-150					150		43 - 68		HDA25-16039	2.0	
-HDC25-120 ※	2	25	55	63	120	51	95	52	—	2.1	
-HDC32-125 ※		32	60	69	125	59	100	56	—	2.4	
HSK-A100-HDC 6- 75 ※	1	6	26	50	75	26	46	28	—	2.4	
-120					120	44	28 - 48		HDA 6-05032	2.6	
-165					165	44	28 - 48		—	2.9	
-HDC 8- 75 ※					75	26	75		26	46	—
-120		120	44				28 - 48	HDA 8-06032	2.6		
-165		165	44		28 - 48	—	3.0				
-HDC10- 90 ※		10	30		90	42	61	33	—	2.5	
-120					120	45	33 - 53		HDA10-08032	2.7	
-165					165	45	33 - 53		—	3.1	
-HDC12- 95 ※		12	32		95	47	63	38	—	2.5	
-120					120		38 - 58		HDA12-10025	2.7	
-165					165		38 - 58		HDA12-10032	3.1	
-HDC16-100 ※		16	38		100	53	68	43	—	2.6	
-135					135		43 - 68		HDA16-12030	3.0	
-165					165		43 - 68		HDA16-12037	3.3	
-HDC20-105 ※		20	42		105	59	73	43	—	2.7	
-135					135		58 - 68		HDA20-16015	3.1	
-165					165		43 - 68		HDA25-16039	3.6	
-HDC25-110 ※		25	55		63	110	62	78	52	—	3.3
-HDC32-110 ※		32	64		75	110	62	78	56	—	3.7

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank depth that can be inserted into the holder.
 2. Coolant pipe is not included. C63
 3. Adjusting Screw with hexagon sockets on both sides is also available, allowing adjustment from the shank side as well.
Add the letter "W" at the end of the model number when ordering. (Example: HDA12-10025W)
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

Straight Collets G19

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

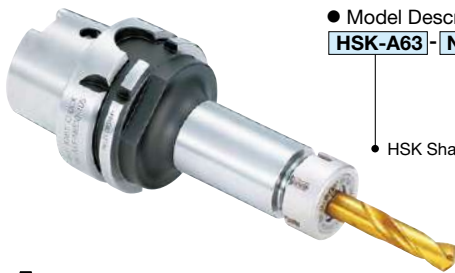
Clamping diameter: $\varnothing 0.25 - \varnothing 20$

NEW BABY CHUCK PAT.

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

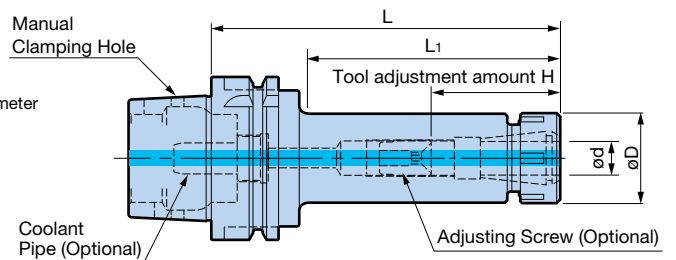


- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.



● Model Description
HSK-A63 - **NBS** **6** - **75**

- L dimension
- Maximum clamping diameter
- NEW BABY CHUCK
- HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-A63-NBS 6- 75	0.25 - 6	20	75	35	20 - 35	NBC 6-□	0.9
-105			105	63	20 - 40		0.9
-135			135	91			1.0
-165			165	121	1.0		
-NBS 8- 75	0.5 - 8	25	75	35	23 - 37	NBC 8-□	0.9
-105			105	61	23 - 42		1.0
-135			135	91			1.1
-165			165	121	1.2		
-NBS10- 75 ※	1.5 - 10	30	75	35	48	NBC10-□	1.0
-105			105	63	35 - 45		1.1
-135			135	93			1.3
-165			165	123	1.4		
-NBS13- 75 ※	2.5 - 13	35	75	37	48	NBC13-□	1.0
-105			105	67	41 - 55		1.2
-135			135	97	41 - 60		1.5
-165			165	127			1.7
-NBS16- 75 ※	2.5 - 16	42	75	37	45	NBC16-□	1.1
-105			105	67	45 - 55		1.4
-135			135	97	45 - 65		1.8
-165			165	127			2.0
-200			200	162			2.4
-NBS20- 75 ※	2.5 - 20	46	75	39	48	NBC20-□	1.2
-105			105	69	48 - 53		1.5
-135			135	99	48 - 65		1.9
-165			165	129			2.3
-200			200	164			2.7

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).
5. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
6. Coolant pipe is not included. C63

Standard Accessory	Optional Accessories				
New Baby Nut For Spares G30	New Baby Wrench G31	Collet G5	BABY PERFECT SEAL G28	Adjusting Screw G10	Tap Adjusting Screw G30

When ordering a BABY PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

- Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.



A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

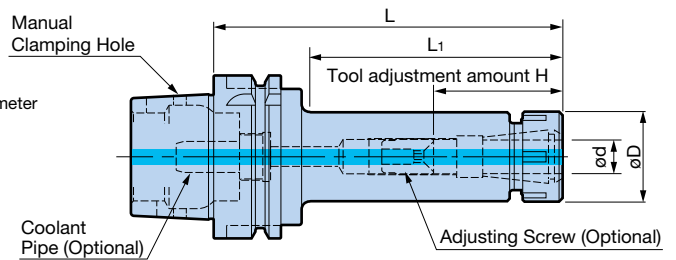


- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.



● Model Description
HSK-A100 - **NBS** **6** - **90**

- L dimension
- Maximum clamping diameter
- NEW BABY CHUCK
- HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-A100-NBS 6- 90	0.25 - 6	20	90	43	20 - 40	NBC 6-□	2.5
-120			120	68			2.5
-165			165	113			2.6
-NBS 8- 90	0.5 - 8	25	90	43	23 - 42	NBC 8-□	2.5
-120			120	73			2.6
-165			165	113			2.7
-NBS10- 90	1.5 - 10	30	90	43	35 - 45	NBC10-□	2.6
-120			120	73			2.7
-165			165	113			2.9
-NBS13- 90 ※	2.5 - 13	35	90	43	58	NBC13-□	2.7
-120			120	73	41 - 60		2.9
-165			165	113			3.2
-200			200	148	3.4		
-NBS16- 90 ※	2.5 - 16	42	90	43	58	NBC16-□	2.8
-120			120	73	45 - 65		3.1
-165			165	118			3.5
-200			200	151			3.9
-NBS20- 90 ※	2.5 - 20	46	90	47	56	NBC20-□	2.9
-120			120	73	48 - 65		3.3
-165			165	118			3.8
-200			200	153			4.2

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).
5. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
6. Coolant pipe is not included. C63

Standard Accessory	Optional Accessories				
<p>New Baby Nut</p> <p>For Spares G30</p>	<p>New Baby Wrench</p> <p> G31</p>	<p>Collet</p> <p> G5</p>	<p>BABY PERFECT SEAL</p> <p> G28</p>	<p>Adjusting Screw</p> <p> G10</p>	<p>Tap Adjusting Screw</p> <p> G30</p>

When ordering a **BABY PERFECT SEAL**, the "Nut-Less Body" without the standard nut attached is also available.

- **Example** Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.

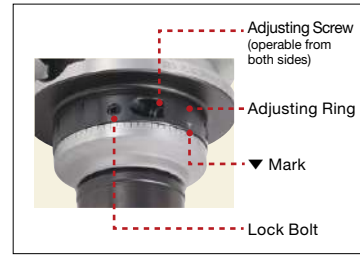


MEGA NEW BABY CHUCK Model + NL
HSK-A100-NBS 6-90/NL
(NL at the end of the model number means nut not attached)

NBC Collet
NBC6-3AA

BABY PERFECT SEAL Model
BPS6-03035

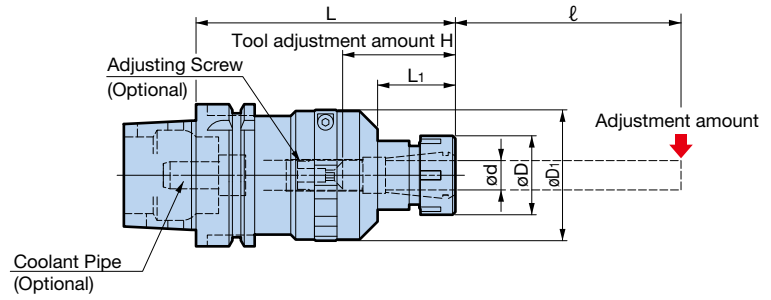
Compensates for increased runout of machine tool spindles caused by extended use.



Simple structure allows for easy adjustment of runout accuracy!

1. Turn the adjusting ring and line up the ▼ mark with peak runout position.
2. Adjust the lock bolts in 3 locations to fix the ring.
3. The runout amount is adjusted by tightening the adjusting screw.

- Model Description
- HSK-A63** - **NBS** **8** - **105** **NRA**
- HSK Shank Type
 - NEW BABY CHUCK System
 - Maximum clamping diameter
 - L dimension
 - Runout Adjustable Type



A Type (DIN 69893-1) (ISO 12164)

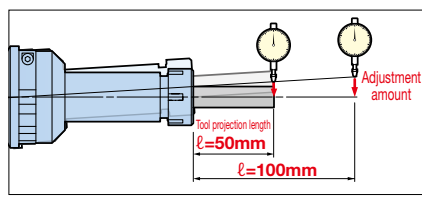
ℓ = Tool projection length

Model	∅d	∅D	∅D ₁	L	L ₁	H	Collet Model	Adjustment amount		Weight (kg)
								ℓ=50mm	ℓ=100mm	
HSK-A63-NBS 8-105NRA	0.5 - 8	25	45	105	43	23 - 42	NBC 8-□	23 µm	34 µm	1.2
-NBS13-115NRA	2.5 - 13	35	58	115	34.5	41 - 60	NBC13-□	18 µm	27 µm	1.8
-NBS20-135NRA	2.5 - 20	46	70	135	45	48 - 65	NBC20-□	17 µm	25 µm	2.4

1. Nut is included. Collet, wrench, and adjusting screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Tool adjustment amount H indicates the adjustment length with an Adjusting Screw (NBA).
4. Coolant pipe is not included. C63

Runout adjustment amount

The adjustment amount depends on the length of the holder and the tool projection length. The maximum adjustment amount possible for 50mm and 100mm tool projection lengths is listed in the table. The maximum adjustment amount is a reference figure available when the Adjusting Screw is tightened with the listed allowable torque.



Adjusting Screw allowable torque

NEW BABY CHUCK Type	Wrench (Optional accessory)	Allowable Torque (N·m)
NBS 8-NRA	CK-T2.5	3
NBS13-NRA	CK-T3	6
NBS20-NRA		

Standard Accessory	Optional Accessories			
<p>New Baby Nut</p> <p>For Spares G30</p>	<p>New Baby Wrench</p> <p> G31</p>	<p>Collet</p> <p> G5</p>	<p>BABY PERFECT SEAL</p> <p> G28</p>	<p>Adjusting Screw</p> <p> G10</p>

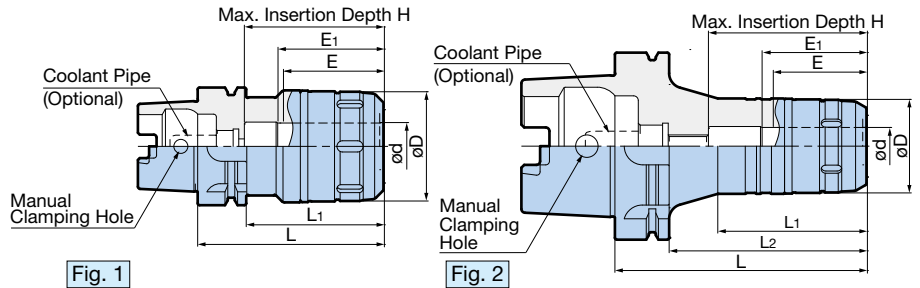
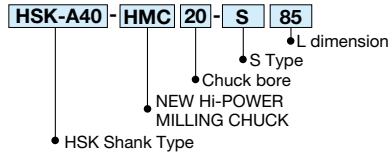
The BIG original slit mechanism supports high power and high-precision endmilling from heavy cuts to fine cuts.

Center through

[S Type]



Model Description



A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	$\varnothing d$	$\varnothing D$	L	L ₁	L ₂	H	Min. Clamping Length		FK Wrench Model	MEGA WRENCH Model	Weight (kg)
								E	E ₁			
HSK-A 40-HMC20S- 85	1	20	50	85	65	—	66	50	56	FK45-50L	MGR50L	0.9
HSK-A 50-HMC20S- 90	1	20	50	90	64	—	66	50	56	FK45-50L	MGR50L	1.2
-HMC32S-115 ※		32	62	115	89	—	69	56	58	FK58-62L	MGR62L	1.6
HSK-A 63-HMC20S- 90	1	20	50	90	64	—	65	50	56	FK45-50L	MGR50L	1.5
-120 ○				120	94	—	85					1.9
-HMC25S-100	1	25	59	100	74	—	75	56	57	FK58-62L	MGR59L	1.9
-135 △				135	109	—	66 - 76					2.5
-HMC32S-110	1	32	68	110	84	—	85	60	64	FK68-75L	MGR68L	2.3
-135 ○				135	109	—	90					2.6
-165 △				165	139	—	79 - 89					3.2
HSK-A100-HMC20S-105	1	20	50	105	76	—	73	50	56	FK45-50L	MGR50L	3.0
-135 □	135			80	106	85	3.5					
-165 △	165			100	136	69 - 79	4.1					
-HMC25S-105 ※	1	25	59	105	76	—	73	56	57	FK58-62L	MGR59L	3.3
-135 □				135	106	—	90					3.9
-165 △	2	165	105	136	76 - 86	4.8						
-HMC32S-115	1	32	68	115	86	—	83	60	72	FK68-75L	MGR68L	3.9
-135				135	106	—	103					4.4
-165 □				165	105	136	105					5.4
-200 △	2	32	68	200	130	171	90 - 100	60	72	FK68-75L	MGR68L	6.4
-300 △				300	200	271						9.3
-HMC42S-115 ※	1	42	85	115	86	—	83	70	73	FK80-90L	MGR85L	4.9
-135				135	106	—	103					5.5
-165 □				165	136	—	107					6.8

- Wrench must be ordered separately.
- Center through coolant supply is available.
- Models marked with △ can be used with optional axial adjusting screws.
Models marked with ○ require the hex socket head screw (M8) for axial adjustment.
Models marked with □ require the hex socket head screw (M12) for axial adjustment.
Adjusting screws cannot be used with models without the symbols above.
However, for models marked with ○ and □, please contact us if using for center through applications.
- H dimension is the max. tool shank length that can be inserted into the holder.
Models marked with △ show the adjustment amount when using an optional axial adjusting screw.
- Coolant pipe is not included. C63
- When using center through coolant, insert a tool shank into E₁ or more.

- ※ marked models are not compatible with some Straight Collets. Compatibility Table G23
- MEGA WRENCH can also be used to tighten/remove tools.

Optional Accessories			
<p>STRAIGHT COLLET</p> <p>PJC Collet G19</p> <p>PSC Collet G20</p> <p>OCA Collet G21</p> <p>C Collet G22</p>	<p>Wrench</p> <p> G25</p>	<p>Mega Wrench</p> <p> G26</p>	<p>Axial Adjusting Screw</p> <p> G25</p>

Clamping diameter: $\phi 12$

NEW Hi-POWER MILLING CHUCK

HSK
SHANK

[HMC12J Type]

- A slim yet highly rigid milling chuck with $\phi 32$ outer diameter nut for reduced interference.



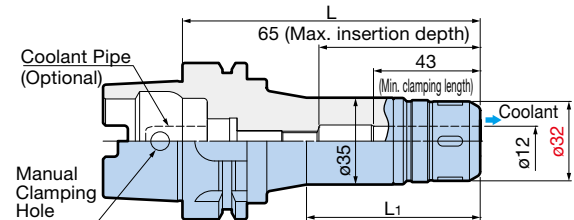
- Jet through coolant securely supplied from chuck nose to cutting edge.



A Type (DIN 69893-1) (ISO 12164)

Model	L	L ₁	FK Wrench Model	Weight (kg)
HSK-A63-HMC12J- 90	90	52	FK31-33	1.1
-120 ※	120	70		1.4

1. Wrench must be ordered separately.
2. Coolant pipe is not included. C63
3. ※HSK-A63-HMC12J-120 requires the hex socket head screw (M8) for tool adjustment. However, please contact us if using for center through applications.
4. MEGA WRENCH cannot be used.



PJC Straight Collet G19

Clamping diameter: $\phi 20 - \phi 32$

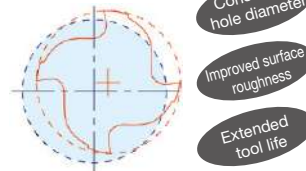
Runout Adjustable RA Holder

HSK
SHANK

Compensates for increased runout of machine tool spindles caused by extended use.



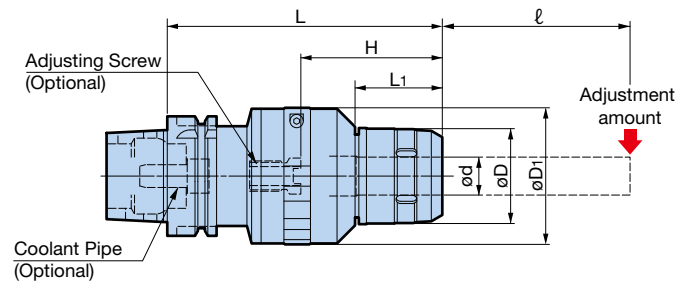
Tool edge runout Within $2\mu\text{m}$!



● Model Description

HSK-A63 - HMC 20 S - 145 NRA

- HSK Shank Type
- NEW HI-POWER MILLING CHUCK
- Chuck bore
- S Type
- L dimension
- Runout Adjustable Type
- NRA



A Type (DIN 69893-1) (ISO 12164)

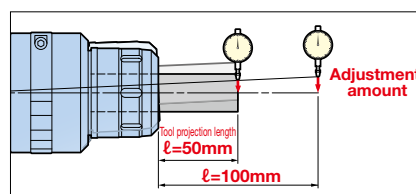
ℓ = Tool projection length

Model	ϕd	ϕD	ϕD_1	L	L ₁	H	H Max.	Min. clamping length	Adjustment amount		FK Wrench Model	MEGA WRENCH Model	Weight (kg)
									ℓ=50mm	ℓ=100mm			
HSK-A63-HMC20S-145NRA	20	50	72	145	46	69 - 79	85	45	23 μm	33 μm	FK45-50L	MGR50L	2.9
-HMC32S-155NRA ※	32	68	86	155	55	-	120	53	20 μm	28 μm	FK68-75L	MGR68L	3.9

1. Wrench and axial adjusting screw must be ordered separately if required.
2. "H" indicates the adjustment amount with an axial adjusting screw (HMA). ※marked models cannot be used with axial adjusting screws.
3. H max. is the maximum tool insertion length when the adjusting screw is removed.
4. Coolant pipe must be ordered separately. C63

■ Runout adjustment amount

The adjustment amount depends on the holder length and the tool projection length. The maximum adjustment amount possible for 50mm and 100mm tool projection lengths is listed in the table. The maximum adjustment amount is a reference figure available when the Adjusting Screw is tightened with the listed allowable torque.



Adjusting Screw allowable torque

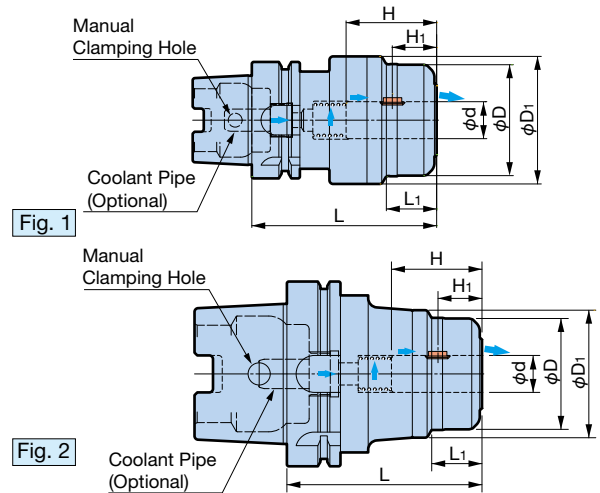
NEW HI-POWER MILLING CHUCK Type	Wrench (Optional accessory)	Allowable torque (N·m)
HMC20S-NRA	CK-T4	8
HMC32S-NRA		

A holder equipped with tool Non-Pullout mechanism.
The unique Key Grip locking mechanism prevents the tool from slipping or pulling out during heavy machining.

Center through



Flood Jet-Through Coolant



A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ϕd	ϕD	ϕD_1	L	L_1	H	H_1	Mega Wrench	Weight (kg)
HSK-A 63-MEGA16DPG- 90	1	16	46	55	90	24	47	23	MGR46L	1.6
-MEGA20DPG-100		20	60	69	100	27	49	24	MGR60L	2.2
HSK-A100-MEGA20DPG-105	2	20	60	69	105	27	49	24	MGR60L	4.1
-MEGA25DPG-105		25	70	77		33	55	23	MGR70L	4.5
-MEGA32DPG-115		32	80	86		41	59	23	MGR80L	5.0
HSK-A125-MEGA16DPG-135	2	16	46	55	135	24	47	23	MGR46L	5.9
-MEGA20DPG-135		20	60	69		27	49	24	MGR60L	6.7
-MEGA25DPG-135		25	70	77		33	55	23	MGR70L	7.3
-MEGA32DPG-135		32	80	86		41	59	23	MGR80L	7.8

- Key Grip and Spring are included.
- Wrench is not included. Please order separately.
- H_1 is the dimension from the center of the Key Grip to the front end of the chuck.
- Coolant pipe is not included. C63
- Key Grips are consumable products. Do not use a damaged Key Grip.
- For coolant through tools, a seal bushing (optional) is required instead of a spring. Please contact us for details.

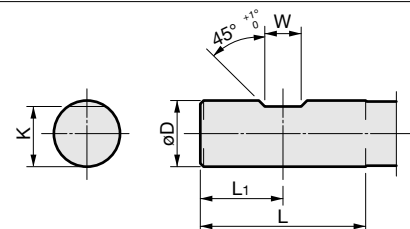
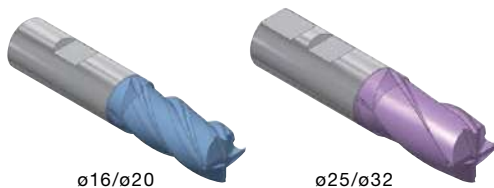
Standard ACCESSORIES

Chuck Size	Key Grip 2 pcs	Spring
$\phi 16$	PKG16-2P	PSP1519
$\phi 20$	PKG20-2P	PSP1823
$\phi 25$	PKG25-2P	PSP2420
$\phi 32$	PKG32-2P	PSP3128

1. Key Grips are sold as 2-piece sets.

Cylindrical Shank with Flat Section JIS B 4005 (ISO3338-2)

The following standard shank is required for MEGA Perfect GRIP.



CAUTION
In case you are adding your own flat, the tool projection length in the MEGA Perfect GRIP will be decided by the flat position. Refer to H_1 in the MEGA Perfect GRIP chart, decide the flat position to add, and then cut the cutter at L_1 on cutter shank.

ϕD	Nominal	Tolerance	L	L_1	W		K	
					Nominal	Tolerance	Nominal	Tolerance
16	16	0 -0.011	48	24	10	$+0.2$ 0	14.2	0 -0.4
20	20	0 -0.013	50	25	11		18.2	
25	25	0 -0.013	56	32	12		23	
32	32	0 -0.016	60	36	14	30		

- JIS Standards require sizes $\phi 25$ or higher to be double-flat types. The MEGA Perfect GRIP does not use a rear flat surface, but is capable of clamping double flat shanks.
- JIS B4005 has the same dimensions as International Standard ISO3338-2 and German Standard DIN1835-1.

Clamping diameter: $\varnothing 3 - \varnothing 20$

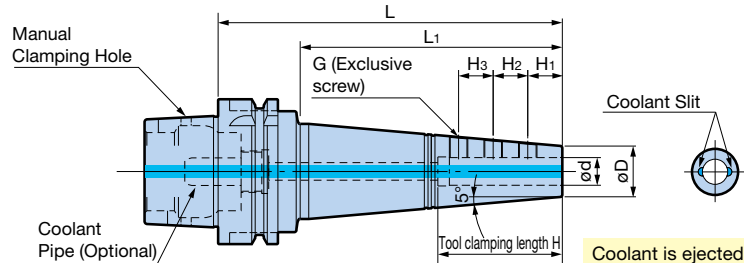
MOLD CHUCK

HSK
SHANK

High performance side lock holder with slim design, high runout accuracy and high speed capability.
Runout accuracy of $5\mu\text{m}$ between cutting edges of 2-flute ball endmill.



- Model Description
- HSK-A63** - **SSL** **3** - **135**
- HSK Shank Type
- MOLD CHUCK
- Clamping diameter
- L dimension



Coolant is ejected from two grooves provided within the clamping bore.

A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	H ₁	H ₂	H ₃	G	Weight (kg)						
HSK-A 63-SSL 3-135	3	10	135	99	(113)	6	6	-	M 3	1.0						
-SSL 4-135	4	11								7	1.0					
-SSL 6-135	6	13								13	1.1					
-SSL 8-135	8	15								18	1.1					
-SSL10-150	10	17	150	114	48	15	20	-	M 6	1.3						
-SSL12-150	12	22								16	16	1.5				
-SSL16-150	16	26								20	22	1.6				
HSK-A100-SSL 8-150	8	15								150	111	(121)	13.5	18	-	M 6
-SSL10-150	10	17	20	2.9												
-SSL12-150	12	22	16	16	3.0											
-200	12	22	200	161	60	15	16	16	3.7							
-SSL16-150	16	26	150	110	65	15	20	22	M 8	3.3						
-200			200	160						20	22	4.0				
-SSL20-150			150	110						200	160	80	20	25	M 8	3.4
-200			200	160												20

- Center through coolant supply is available.
 - () indications in H dimension mean inner bore beyond the clamping bore of those models is larger than the chucking bore.
 - Ensure the tip of the ball endmill is in 90° phase to the clamping bolt when clamping.
 - Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
 - Coolant pipe is not included. C63
 - H dimensions in () are reference length up to the Coolant Pipe.
- BIG original side lock screws must be used as they are made to an exclusive design and different from other screws on the market.

Exclusive Side Lock Screw (Standard Accessory)

Model	Thread size	Screw length / quantity	Body Model
H0304FS-2P	M3 P0.5	4mm x 2pcs	SSL3
H0404FS-2P	M4 P0.5	4mm x 2pcs	SSL4
H06FSA	M6 P0.75	4.5, 5mm x 1pc each	SSL6
H06FSB		4.5, 6mm x 1pc each	SSL8, 10
H08FSA	M8 P0.75	6mm x 2pcs, 8mm x 1pc	SSL12
H08FSB		6, 8, 10mm x 1pc each	SSL16, 20

- Each model consists of one set of screws required for each holder.

Optimal operation with eliminated workpiece/jig interference is achieved in deep endmilling, wall machining and precision mold machining.

Center through

Holder material
Tool steel

[Slim Type]

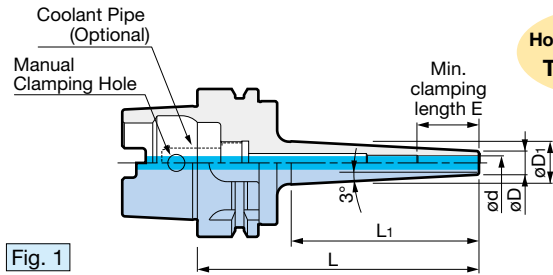


Fig. 1

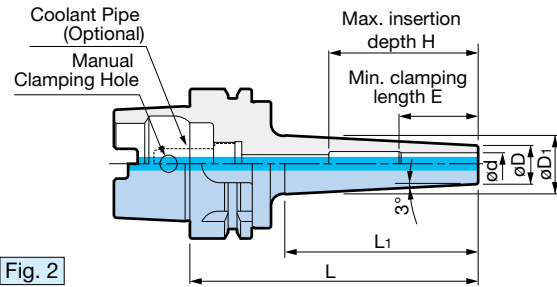


Fig. 2

● Model Description

HSK-A63 - **SRC** **6** **S** - **120**

- L dimension
- Slim Type
- Clamping diameter
- SHRINK CHUCK
- HSK Shank Type

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	L	L ₁	H	E	Weight (kg)
HSK-A63-SRC 6S-120	1	6	10	19	120	81	(98)	26	0.9
-165				23	165	121	(143)		1.0
-SRC 8S-120	2	8	13	22	120	81	(98)	32	1.0
-165				26	165	123	(143)		1.1
-SRC10S-120		10	16	25	120	81	62	36	1.0
-165				29	165	123	72		1.2
-SRC12S-120	12	19	19	28	120	81	72	36	1.0
-165				32	165	125			1.3

1. Use a carbide shank cutter within a tolerance of h6.
2. Center through coolant supply is available with tools with oil holes.
3. Coolant pipe is not included. C63
4. H dimensions in () are reference length up to the Coolant Pipe.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

[Standard Type]

● Model Description

HSK-A63 - **SRC** **4** - **90**

● L dimension
● Clamping diameter
● SHRINK CHUCK
● HSK Shank Type

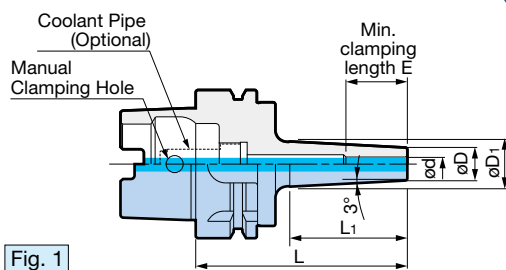


Fig. 1

Center through

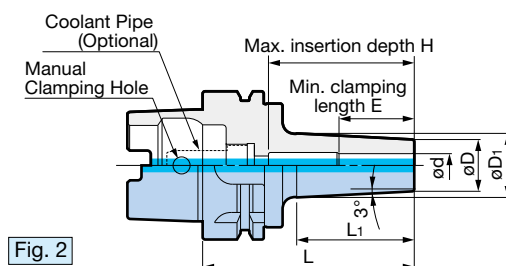
Holder material
Tool steel

Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	L	L_1	H	E	Weight (kg)	
HSK-A 63-SRC 4- 90 ※	1	4	10	15	90	46	(68)	16	0.9	
-SRC 6- 90		6	14	20		51	(68)		26	0.9
-150				26		108	(128)			1.1
-SRC 8- 90	2	8	18	24	90	51	(68)	26	1.0	
-150				30	150	110	(128)		1.2	
-SRC10- 90		10	22	28	90	51	62	32	1.0	
-150				34	150	111			1.3	
-SRC12- 90		12	24	30	90	51	65	36	1.0	
-150				36	150	112	72		1.4	
-SRC16- 90		16	28	34	90	51	65	38	1.1	
-165				41	165	119	80		1.8	
-SRC20- 90		20	34	40	90	53	65	42	1.2	
-165				47	165	122	100		1.9	

- Use a carbide shank cutter within a tolerance of h6.
For models marked with ※, use a carbide shank with a tolerance within h5.
- Center through coolant supply is available with tools with oil holes.
- Coolant pipe is not included. C63
- H dimensions in () are reference length up to the Coolant Pipe.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

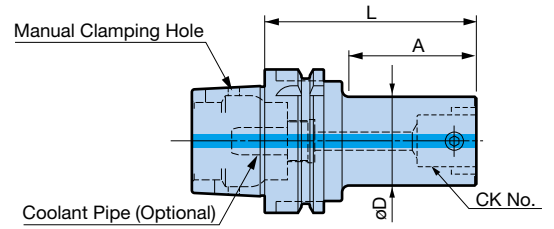
BIG+KAISER Boring System with a high reputation for many years.
Basic holder for the high precision rough and finish boring head series.



CK SHANK



● Model Description
HSK-A40 - **CKB1** - **73**
● CK No.
● HSK Shank Type



Select a head and holder with matching **CK No.**

A Type (DIN 69893-1) (ISO 12164)

Model	CK No.	$\varnothing D$	L	A	Weight (kg)
HSK-A 40-CKB1- 73	CK1	19	72.5	41	0.38
-CKB2- 85	CK2	24	84.5	56	0.41
-CKB3- 80	CK3	31	80	44	0.48
-CKB4- 73	CK4	39	73	(53)	0.57
HSK-A 50-CKB1- 73	CK1	19	72.5	33	0.5
-CKB2- 85	CK2	24	84.5	45	0.6
-CKB3- 80	CK3	31	80	45	0.7
-CKB4- 73	CK4	39	73	30	0.8
-CKB5- 83	CK5	50	83	(57)	1.0
HSK-A 63-CKB1- 78	CK1	19	77.5	38	0.9
-CKB2- 90	CK2	24	89.5	50	1.0
-CKB3-100	CK3	31	100	61	1.1
-130			130	91	1.3
-CKB4- 93	CK4	39	93	57	1.2
-123			123	87	1.5
-CKB5- 83	CK5	50	83	40	1.3
-113			113	70	1.8
-CKB6- 79	CK6	64	79	(53)	1.5
-109			109	(83)	2.3
HSK-A100-CKB1-103	CK1	19	102.5	60	2.5
-CKB2-115	CK2	24	114.5	72	2.6
-CKB3-125	CK3	31	125	83	2.8
-CKB4-118	CK4	39	118	76	3.0
-178			178	136	3.5
-CKB5-108	CK5	50	108	66	3.3
-183			183	141	4.4
-228			228	186	5.0
-CKB6- 94	CK6	64	94	54	3.4
-169			169	129	5.3
-229			229	189	6.7
-CKB7-123			CK7	90	123
-213	213	184			10.2
-273	273	244			13.2
HSK-A125-CKB6- 94	CK6	64	94	52	4.9
-CKB7-123	CK7	90	123	75	7.5

- Center through coolant supply is available.
- Coolant pipe is not included. **C63**

- Cutting edges and drive keys are aligned with boring heads mounted.
For EWN and EWB BORING HEADS, the cutting edge is on the orientation notch side.

For boring heads, refer to the Roughing and Finishing pages.

CK BORING SYSTEM

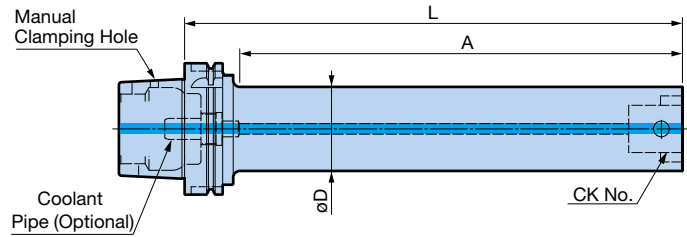
Built-in Damper SMART DAMPER PAT.

Center through

- Built-in damper eliminates chatter in deep hole boring.

● Model Description
HSK-A100 - **CKB4** **DP** - **241**

- HSK Shank Type
- CK No.
- Built-in Damper Type
- L dimension



A Type (DIN 69893-1) (ISO 12164)

Model	CK No.	øD	L	A	Weight (kg)
HSK-A100-CKB4DP-241	CK4	39	241	199	4.3
-CKB5DP-303	CK5	50	303	261	6.5
-CKB6DP-379	CK6	64	379	337	11.2

1. Cutting edges and drive keys are aligned with boring heads mounted.
2. Head and inserts are not included.
3. Extension should not be used due to possible chatter. Heads **A49**
4. Coolant pipe is not included. **C63**

SMART DAMPERS other than the above are also available.



FINISH BORING HEAD and SMART DAMPER have been integrated

SMART DAMPER EWN BORING HEAD

For details, **A51**



Instantly absorbs chatter even for rough boring with high load

SMART DAMPER SW HEAD PAT.

For details, **A41**



Standard CK Shanks can be used, allowing flexible tool layout

SMART DAMPER Extension

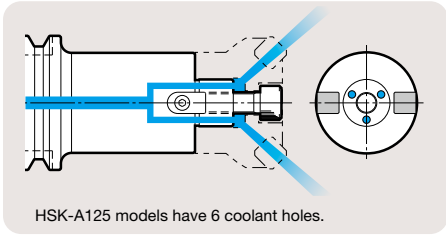
For details, **A78**

FACE MILL ARBOR TYPE H

- Face mill arbor capable of securely supplying coolant/air to cutting edges through oil holes of cutters.



Securely supplies coolant/air to the cutting edge



● Model Description

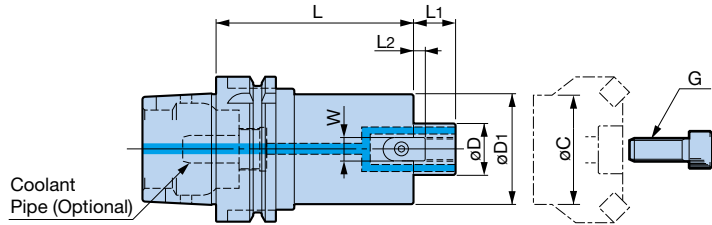
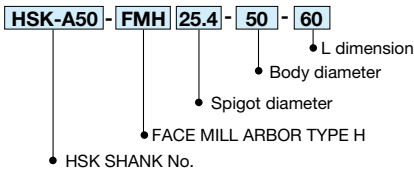


Fig. 1

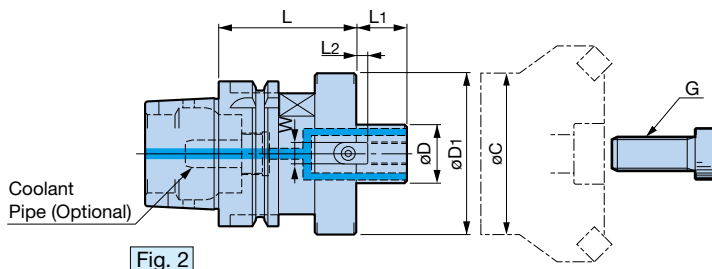


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	øD (h6)	øD ₁	L	L ₁	Drive Key		G	Weight (kg)	Min. flange diameter øC
						L ₂	W			
HSK-A50-FMH25.4 -50- 60	2	25.4	50	60	22	5	9.5	M12	0.9	46
-FMH22 -47- 60	2	22	47	60	18	5	10	M10	0.8	36
- 90				90					1.2	
-FMH27 -60- 60	2	27	60	60	20	6	12	M12	1.0	46
- 90				90					1.3	
HSK-A63-FMH22.225-47- 60	1	22.225	47	60	17	3.5	8	M10	1.3	39
- 90				90					1.7	
-FMH25.4 -70- 60	2	25.4	70	60	22	5	9.5	M12	1.8	46
- 90				90					2.5	
-150				150					4.1	
-FMH31.75 -76- 60	2	31.75	76	60	30	7	12.7	M16	2.0	56
- 90				90					2.7	
-FMH16 -37- 45	1	16	37	45	16	5	8	M 8	1.0	28
-FMH22 -47- 60	1	22	47	60	18	5	10	M10	1.3	36
- 90				90					1.7	
-150				150					2.5	
-60- 60	2	22	60	60	18	5	10	M10	1.4	38
- 90				90					1.8	
-FMH27 -60- 60	2	27	60	60	20	6	12	M12	1.6	46
- 90				90					2.3	
-FMH32 -96- 60	2	32	96	60	22	7	14	M16	2.0	58


1. The weight does not include the cutter.
2. Cutter clamping screw is included.
If the standard clamping screw does not fit the cutter, select the suitable one from the clamping screw table and order it separately. C30
3. When using a cutter without oil holes, an optional clamp screw with an oil hole allows coolant supply.
4. Coolant pipe is not included. C63
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

FACE MILL ARBOR TYPE H**A** Type (DIN 69893-1) (ISO 12164)


Model	Fig.	øD (h6)	øD ₁	L	L ₁	Drive Key		G	Weight (kg)	Min. flange diameter øC
						L ₂	W			
HSK-A100-FMH22.225- 47-105	1	22.225	47	105	17	3.5	8	M10	3.4	39
-150				150					4.0	
-200				200					4.7	
-250				250					5.3	
-FMH22 - 47-105				105					3.4	
-150	150	4.0								
-200	200	4.7								
-250	250	5.4								
-FMH22 - 60- 60	1	22	47	60	18	5	10	M10	2.9	38
-105				105					3.9	
-150				150					5.4	
-200				200					6.1	
-250				250					7.2	
-FMH27 - 60- 60	1	27	60	60	20	6	12	M12	2.9	46
- 90				90					3.7	
-150				150					5.0	
-200				200					5.9	
-250				250					7.0	
-FMH27 - 76- 60	1	27	76	60	20	6	12	M12	3.2	48
- 90				90					4.3	
-150				150					6.5	
-FMH32 - 96- 60				2					32	
- 90	90	5.5								
-150	150	8.9								
-FMH40 -100- 75	2	40	100	75	26	8.5	16	M20 (MBA-M20H)	4.9	70
-105				105					6.8	
HSK-A125-FMH22A - 49- 50	1	22	49	50	18	5	10	M10	4.1	40
-100				100					4.8	
-150				150					5.4	
-200				200					6.7	
-FMH27A - 60- 90				1					27	
-150	150	6.3								
-FMH32A - 78- 60	1	32	78	22	7	14	M16	4.8	58	
- 96-105	1		96					7.8		
-FMH40A - 80- 90	1	40	80	90	26	8.5	16	M20 (MBA-M20H)	6.0	70


1. The weight does not include the cutter.

2. Cutter clamping screw is included.

If the standard clamping screw does not fit the cutter, select the suitable one from the clamping screw table and order it separately.  C30

3. When using a cutter without oil holes, an optional clamp screw with an oil hole allows coolant supply.

4. For the detailed dimensions of clamping screw MBA-M20H  C30

5. Coolant pipe is not included.  C63

6. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.

Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

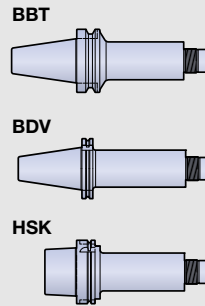
Built-in Damper SMART DAMPER

- Eliminates chatter in deep hole boring.

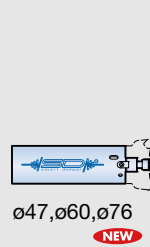


System layout diagram

Basic Holder



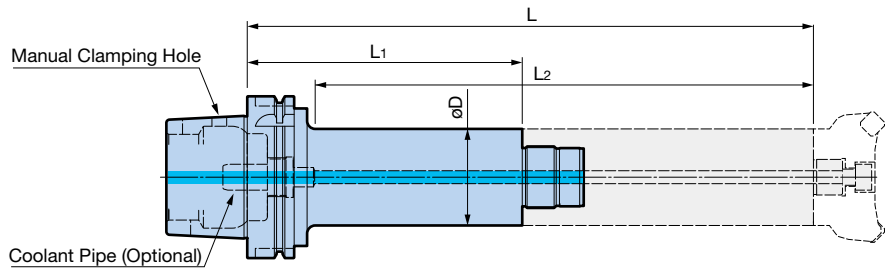
Damper head



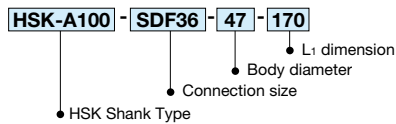
Caution

Damper head becomes unremovable from the basic holder once they are used for machining after assembled.

[Basic Holder]



● Model Description

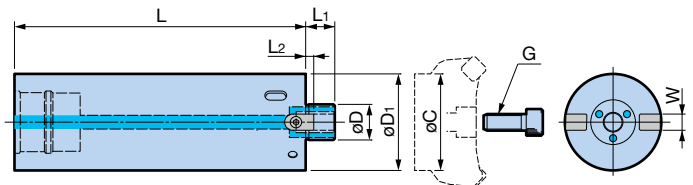


A Type (DIN 69893-1) (ISO 12164)

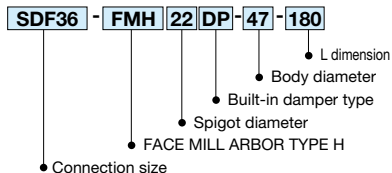
Model	øD	L	L ₁	L ₂	Weight (kg)	Compatible Damper Head
HSK-A100-SDF36-47-170	47	350	170	310	4.4	FMH□□DP-47
-47-220		400	220	360	5.0	
-SDF36-60-170	60	350	170	310	5.5	FMH□□DP-60
-60-220		400	220	360	6.5	
-SDF57-76-170 NEW	76	350	170	310	7.7	FMH□□DP-76
-76-220 NEW		400	220	360	9.4	

1. Coolant pipe is not included. C63

[Damper Head]



● Model Description



Model	øD	øD ₁	L	L ₁	L ₂	W	G	Weight (kg)	Wrench Model	Min. flange diameter øC
SDF36-FMH22DP-47-180	22	47	180	18	5	10	M10	3.0	FK45-50L	36
-60-180		60						4.5		38
-FMH27DP-60-180	27	60	180	20	6	12	M12	8.1	FK58-62L	46
SDF57-FMH27DP-76-180 NEW		76								8.1

1. Refer to the operation manual regarding the mounting method to the basic holder.
2. The weight does not include the cutter.
3. Hook wrench and cutter tightening clamp screw are included.
4. If the standard clamping screw does not fit the cutter, select the suitable one from the clamping screw table and order it separately. C30
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

FACE MILL ARBOR TYPE A

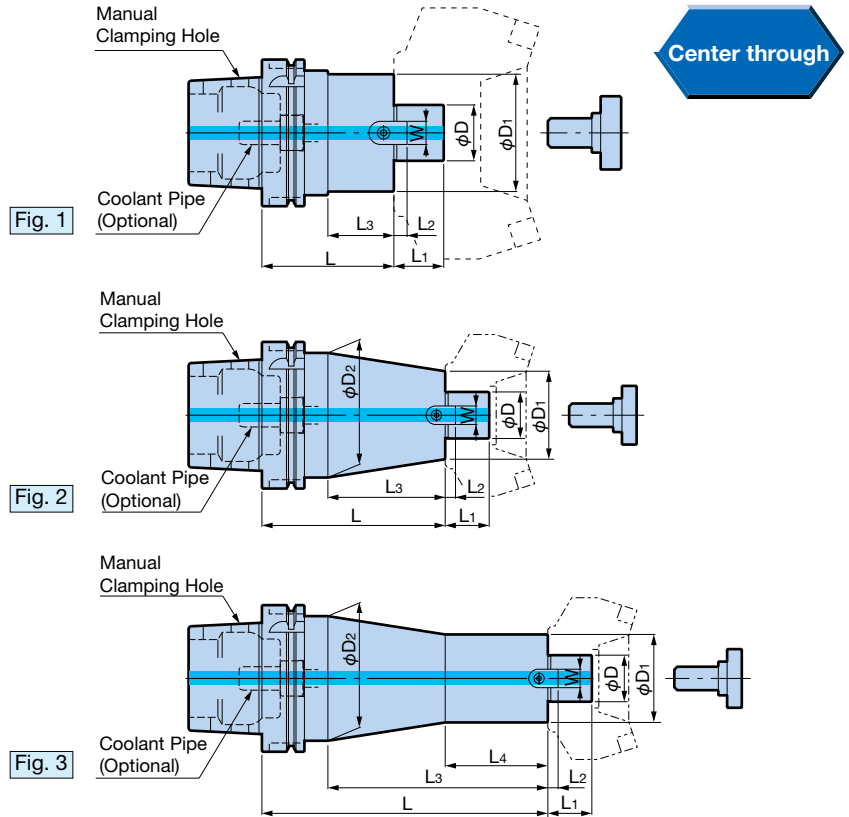
HSK
SHANK



● Model Description

HSK-A40 - **FMA** **25.4** - **50**

- L dimension
- Spigot diameter
- FACE MILL ARBOR TYPE A
- HSK Shank Type

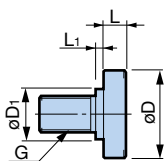


A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	øD (h6)	øD ₁	øD ₂	L	L ₁	Drive Key		L ₃	L ₄	Clamp Bolt	Weight (kg)						
							L ₂	W										
HSK-A 40-FMA25.4 - 50	1	25.4	50	—	50	22	5	9.5	15	—	MBA-M12	0.6						
HSK-A 50-FMA25.4 - 60	1	25.4	50	—	60	22	5	9.5	14	—	MBA-M12	1.0						
90					1.3													
-FMA31.75- 60					31.75							60	60	30	7	12.7	13	MBA-M16
HSK-A 63-FMA25.4 - 60	1	25.4	50	—	60	22	5	9.5	18	—	MBA-M12	1.3						
90					48				1.7									
-FMA31.75- 60					31.75				60			60	30	7	12.7	18	MBA-M16	1.5
-FMA38.1 - 60					38.1				80			60	34	9	15.9	18	MBA-M20	2.3
HSK-A100-FMA25.4 -105	2	25.4	50	70	105	22	5	9.5	60	—	MBA-M12	4.5						
135					90				5.3									
195					150				7.1									
-FMA31.75-105	3	31.75	60	85	105	30	7	12.7	60	20	MBA-M16	4.8						
135					90				5.6									
195					150				7.0									
-FMA38.1 - 90	1	38.1	80	—	90	34	9	15.9	45	—	MBA-M20	4.9						
-FMA50.8 - 75					50.8				100			75	36	10	19	25	MBA-M24	5.3

- Cutter clamp screw is included.
- A clamping screw with oil hole must be ordered separately for use with center through coolant/air.
- Coolant pipe is not included. C63

Clamping Screw



Clamping Screw	Clamping screw with oil hole	Model	Model	øD	øD ₁	L	L ₁	G
		MBA-M12	TMBA-M12	33	23	10	2	12
		-M12H	—					—
		-M16	-M16	40	23	10	6	16
		-M16H	—					—
		-M20	-M20	50	27	14	6	20
		-M20H	—					—
		-M24	-M24	65	37	—	10	24

SIDE LOCK ENDMILL HOLDER

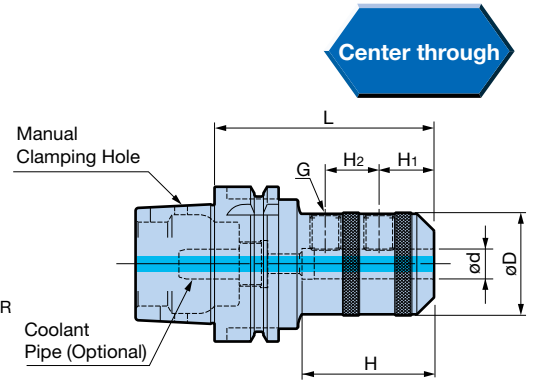
Clamping diameter: $\phi 6 - \phi 50$



● Model Description

HSK-A63 - ISL 6 - 80

- HSK Shank Type
- SIDE LOCK ENDMILL HOLDER
- Clamping diameter
- L dimension



A Type (DIN 69893-1) (ISO 12164) Endmill holder in accordance with ISO5414

Model	Clamping diameter ϕd	ϕD	L	H	H ₁	H ₂	G	Weight (kg)
HSK-A 63-ISL 6- 80	6	25	80	58	18	-	M 6	0.9
-ISL 8- 80	8	28					M 8	1.0
-ISL10- 80	10	35					M10	1.1
-ISL12- 80	12	42					M12	1.2
-ISL16- 80	16	48					M14	1.4
-ISL20- 80	20	52					M16	1.5
-ISL25-105	25	65					105	60
-ISL32-115	32	72	115	64	24	28	M20	2.7
HSK-A100-ISL20- 90	20	52	90	54	25	-	M16	3.4
-135			135					4.1
-195			195					5.0
-ISL25-105	25	65	105	60	24	25	M18	4.3
-135			135					5.0
-195			195					6.4
-ISL32-125			125					4.9
-165	32	72	165	90	30	32	M20	6.3
-195			195					7.2
-ISL40-125			125					5.8
-165	40	90	165	90	30	32	M20	8.1
-210			210					10.2
-ISL50-135			135					6.7
-165	50	99.5	165	35	35	M24	8.5	
-210			210				11.0	

- Center through coolant supply is available.
- Coolant pipe is not included. C63

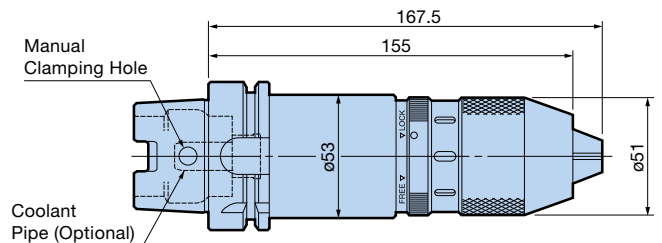
SUPER KEYLESS CHUCK

Clamping diameter: $\phi 0.5 - \phi 13$

- Securely chucks the drill with simple operation.

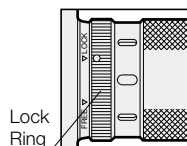


Integral holder type keyless chuck



Reverse lock mechanism (SKL13)

- No loosening even when the main spindle suddenly stops, by the reverse lock mechanism using a lock ring.
- Runout accuracy within 0.05mm



A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter	Weight (kg)	Hook Wrench (Standard accessory)
HSK-A63-SKL13-155	$\phi 0.5 - \phi 13$	2.4	FS13LC

- Hook wrench is included.
- Coolant pipe is not included. (Cannot be used with center through) C63

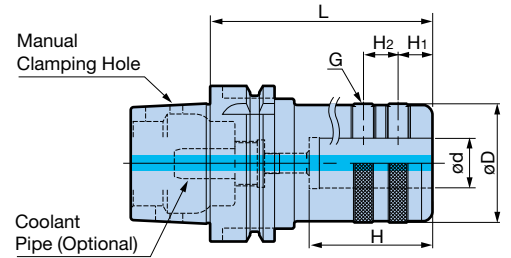
SIDE LOCK DRILL HOLDER



● Model Description

- HSK-A63** - **TSL** **16** - **90**
- HSK Shank Type
 - SIDE LOCK DRILL HOLDER
 - Clamping diameter
 - L dimension

Center through

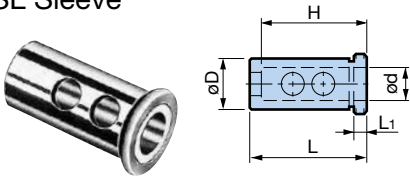


A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	H	H ₁	H ₂	G	Weight (kg)
HSK-A 63-TSL16- 90	16	48	90	48	14	14	M10	1.5
-TSL20- 90	20			50				1.4
-TSL25- 90	25			56				1.4
-TSL32-105	32	63	105	60	15	20	M16	2.0
-TSL40-120	40	68	120	70				25
HSK-A100-TSL16- 90	16	48	90	48	14	14	M10	3.0
-TSL20- 90	20			50				2.9
-TSL25- 90	25			56				2.9
-TSL32-105	32	63	105	60	15	20	M16	3.6
-TSL40-105	40	68		3.6				
-TSL50-105	50	84		70				25

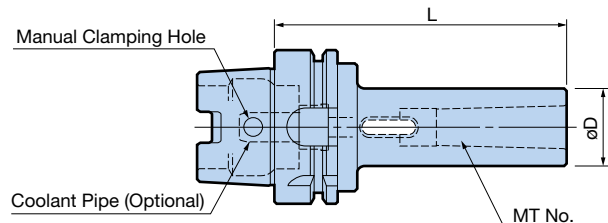
- Center through coolant supply is available.
- Coolant pipe is not included. C63

For Side Lock type SL Sleeve



Model	$\varnothing d$	$\varnothing D$	L	L ₁	H
OSL25-16	16	25	62	5.5	48
-20	20				50
OSL32-20	20	32	66	5.5	50
-25	25				56
OSL40-25	25	40	76	5.5	56
-32	32				60

MORSE TAPER HOLDER TYPE A (Tang Type)



A Type (DIN 69893-1) (ISO 12164)

Model	MT No.	$\varnothing D$	L	Weight (kg)
HSK-A 63-MTA1-100	1	25	100	1.0
-MTA2-120	2	32	120	1.2
-MTA3-135	3	40	135	1.6
-MTA4-165	4	50	165	2.4
HSK-A100-MTA1-105	1	25	105	2.6
-MTA2-125	2	32	125	2.8
-MTA3-140	3	40	140	3.2
-MTA4-165	4	50	165	3.9

● Model Description

- HSK-A63** - **MTA** **1** - **100**
- HSK Shank Type
 - MORSE TAPER HOLDER TYPE A
 - MT. No.
 - L dimension

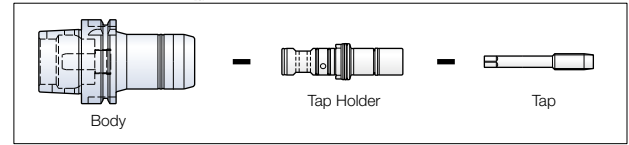
- Coolant pipe is not included. C63

Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.

● Long tap holder now available as standard in addition to various tap sizes.



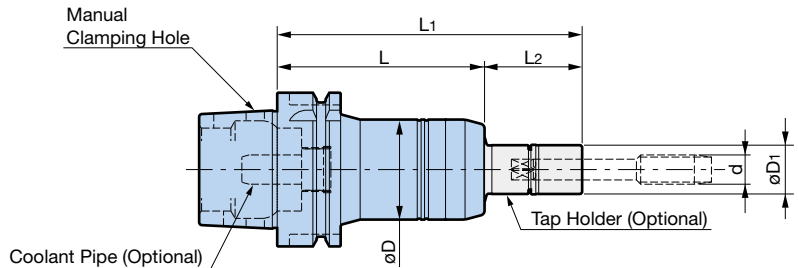
For tap holders **A128**



● Model Description (Body)

HSK-A40 - **MGT6** - **80**

- L dimension
- MEGA SYNCHRO No.
- HSK Shank Type

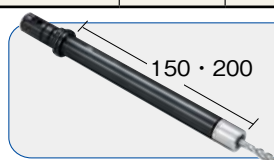


A Type (DIN 69893-1) (ISO 12164)

Model	Tap Holder Model	Tapping range d	øD	øD ₁	L	L ₁	L ₂	Body weight (kg)
HSK-A 40-MGT 6- 80	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	80	110	30	0.6
	- 70					150	70	
	-100					180	100	
-MGT12- 85	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	85	115	30	0.7
	- 70					155	70	
	-100					185	100	
HSK-A 50-MGT 6- 85	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	85	115	30	0.8
	- 70					155	70	
	-100					185	100	
-MGT12- 85	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	85	115	30	0.9
	- 70					155	70	
	-100					185	100	
-MGT20-125	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	125	160	35	1.6
	- 85					210	85	
	-115					240	115	
HSK-A 63-MGT 6- 85	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	85	115	30	1.1
	- 70					155	70	
	-100					185	100	
-MGT12- 85	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	85	115	30	1.2
	- 70					155	70	
	-100					185	100	
-MGT20-110	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	110	145	35	1.8
	- 85					195	85	
	-115					225	115	
HSK-A100-MGT 6- 95	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	95	125	30	2.6
	- 70					165	70	
	-100					195	100	
-MGT12- 95	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	95	125	30	2.7
	- 70					165	70	
	-100					195	100	
-MGT20-115	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	115	150	35	3.3
	- 85					200	85	
	-115					230	115	
HSK-A125-MGT12-105	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	105	135	30	4.1
	- 70					175	70	
	-100					205	100	
-MGT20-120	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	120	155	35	4.7
	- 85					205	85	
	-115					235	115	

1. MGT Set Screw is included.
 2. Tap holder is not included. Please order separately.
 3. Coolant pipe is not included. **C63**
- Cannot be used with machining center without synchronized tapping function.

Tap holders **A128**



L₂ = 150, 200mm
long tap holders are also available.
For details, **A128**

MEGA SYNCHRO TAPPING HOLDER PAT.

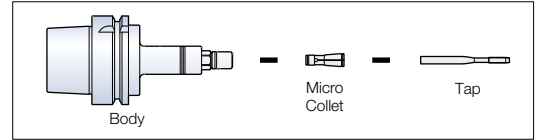
TAPPER

DUAL CONTACT

HSK
SHANK

[Small Diameter Tap MGT3 PAT.] M1 - M3

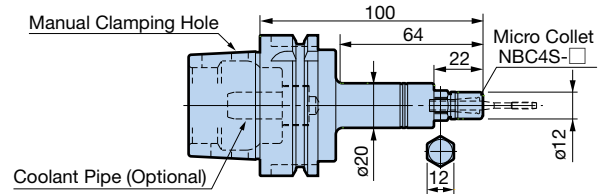
Stable small diameter tapping is achieved by the synchronization error compensation mechanism and minimized dynamic runout.



A Type (DIN 69893-1) (ISO 12164)

Model	Body weight (kg)
HSK-A63-MGT3-100	1.0

1. Nut is included, but wrench and collet are not. Please order separately.
 2. When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.
- Cannot be used with machining center without synchronized tapping function.
 - Cannot be used with center through.



Mega Wrench and Collets **A135**

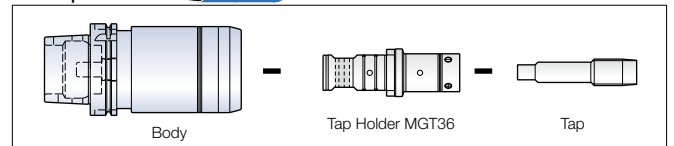
[Large Diameter Tap MGT36 PAT.] M20 - M36

With a structure that smoothly tracks under high cutting torque of large diameter tapping, it compensates for axial deviation due to synchronization error, greatly reducing load during tapping.

Center through



For tap holders **A133**

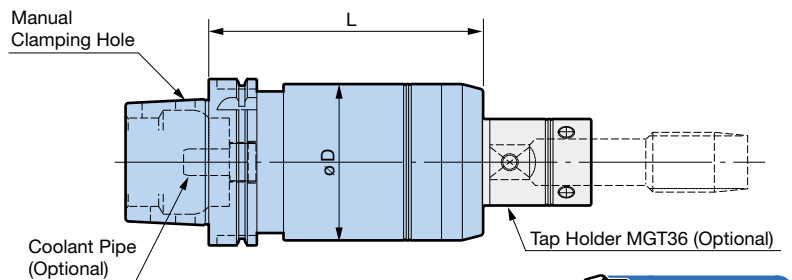


A Type (DIN 69893-1) (ISO 12164)

Model	øD	L	Body weight (kg)
HSK-A100-MGT36-165	94	165	8.2
HSK-A125-MGT36-170	94	170	10.1

1. MGT Set Screw is included.
2. Tap holder is not included. Please order separately.
3. Coolant pipe is not included. **C63**

Cannot be used with machining center without synchronized tapping function.

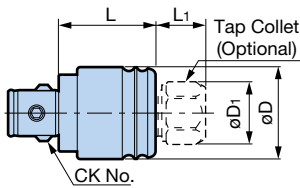
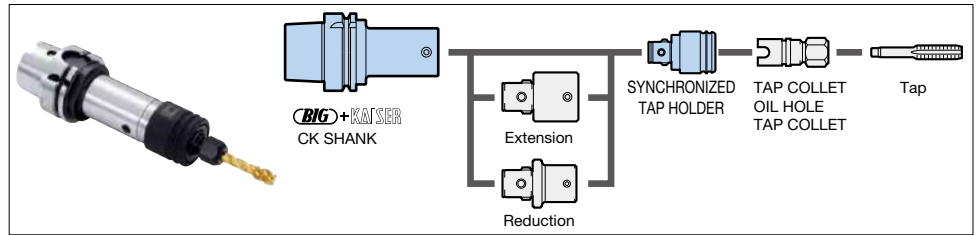


Tap Holder **A133**

MGT36 accessories **A134**

SYNCHRONIZED TAP HOLDER STC

- Flexible tool layout in combination with the **BIG** + **KAISER** CK Shanks.



Model	Tapping range	CK No.	øD	øD ₁	L	L ₁	Weight (kg)	Tap Collet
CKB2-STC 8-47.5	M 2 - M 4	CK2	25.5	15.8	30.5	17	0.10	TC 8-d
	M 5 - M 8			19				
CKB3-STC12-66	M 3 - M12	CK3	32	22	36	30	0.18	TC12-d
CKB4-STC20-72	M 7 - M12	CK4	44	22	47	25	0.42	TC20-d
	M14 - M20			31				
CKB5-STC30-92	M20 - M30	CK5	55	41	54	38	0.72	TC30-d

1. Tap Collet TC Type is not included but must be ordered separately if required.
2. Cannot be used with machining center without synchronized tapping function.
3. The extension can be used to allow tapping inside deep holes.
4. The L₁ dimension is 5mm longer with oil hole tap collets.

Tap Collets **A141**

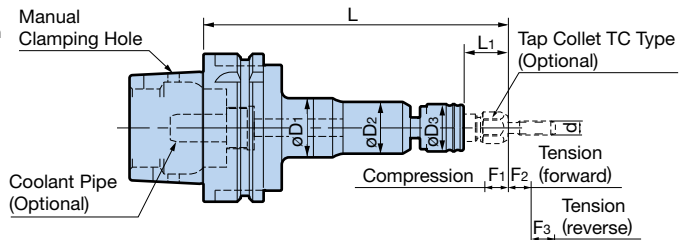
Oil Hole Tap Collets **A142**

Holder **C25**

Simple and compact tapper with automatic depth control.



- Model Description
- HSK-A100** - **AUTO-B** **120** - **190**
- L dimension
- Tapping range
- AUTO TAPPER B
- HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

Model	Tapping range d	øD ₁	øD ₂	øD ₃	L	L ₁	F ₁	F ₂	F ₃	Weight (kg)	Applicable Tap Collet
HSK-A100-AUTO-B120-190	M 3 - M12	40	35	32	190	30	6	6	12.5	3.1	TC12-d
-AUTO-B200-225	M 7 - M20	54	48	44	225	25	6.5	6.5	13	4.1	TC20-d
-AUTO-B300-255	M20 - M30	63	58	55	255	38	7.5	7.5	14.5	5.1	TC30-d

1. Tap Collet is not included. TC Tap Collet must be ordered separately.
2. Cannot be used in left-hand thread tapping.
3. Be sure to include the approach amount (distance between the tap tip and workpiece) when programming the starting point of tapping.
4. Coolant pipe is not included. **C63**
5. F₂ in the table is the tension amount until it reaches neutral. Be sure to perform test tapping when accurate tapping depth is required, as it may fluctuate slightly depending on the tap size and cutting conditions.

Tap Collets **A141**

High runout accuracy is achieved through the adoption of the high-precision New Baby Chuck.

Spindle angle
90°

NEW BABY CHUCK Type PAT. Clamping diameter: $\phi 0.25 - \phi 20$

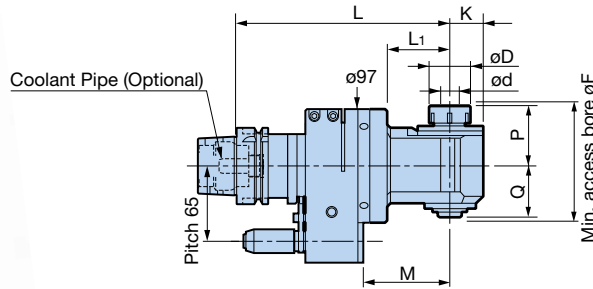


Fig. 1 Max. 6,000min⁻¹

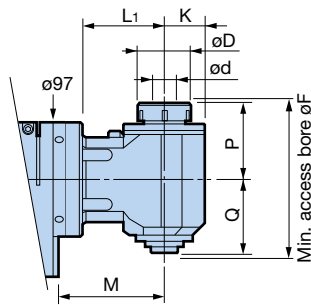


Fig. 2 Max. 3,000min⁻¹

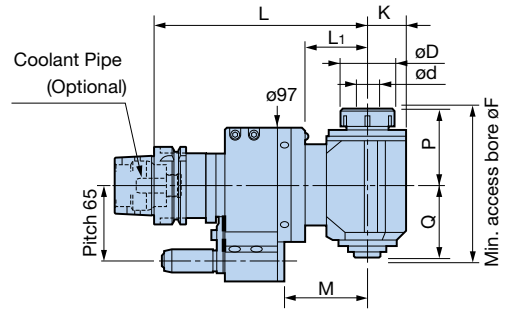
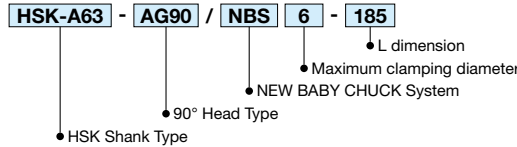


Fig. 3 Rigid Type
Max. 3,000min⁻¹

● Model Description



- High rigidity S type with reinforced Locating Pin also available. Add the letter S at the end when ordering.
- Tap Collet with tension mechanism can also be used to perform tapping. (NBS10 or larger)

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ϕd	ϕD	G	K	L	L ₁	M	P	Q	ϕF	Collet Model	Speed Ratio Input:output	Weight (kg)	
														Standard	High Rigidity
HSK-A63-AG90/NBS 6 -185 <input type="checkbox"/>	1	0.25 - 6	20	21	17	185	55	77	33	29	67	NBC 6	1:1	5.0	5.9
						215	85	107						5.2	6.1
						245	115	137						5.4	6.3
						275	145	167						5.6	6.5
-AG90/NBS10 -185 <input type="checkbox"/>	1	1.5 - 10	30	30	25	185	55	77	45	43	91	NBC10	1:1	5.4	6.3
						215	85	107						5.8	6.7
						245	115	137						6.1	7.0
-AG90/NBS13 -185 <input type="checkbox"/>	1	2.5 - 13	35	31	28	185	55	77	52	45	101	NBC13	1:1	5.5	6.4
						215	85	107						5.9	6.8
						245	115	137						6.2	7.1
-AG90/NBS20 -200 <input type="checkbox"/>	2	2.5 - 20	46	35	35	200	70	92	65	62	132	NBC20	1:1	6.6	7.5
-AG90/NBS20S -180 S <input type="checkbox"/>	3	2.5 - 20	46	35	33	180	53	72	65	62	132	NBC20	1:1	—	7.9

- The cutting tool rotates in reverse to the machine spindle.
- Nut and wrench are included. Collet is not included.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- When supplied through the Stop Block, coolant can be ejected from the housing.
- Automatic tool change may not be available depending on machine tool models.
- New Baby Endmill Collets cannot be used.
- Coolant pipe is not included. (Cannot be used with center through) C63



Collets **G5**

Tap Collets **G31**

Stop Blocks **G35**

High runout accuracy is achieved through the adoption of the high-precision New Baby Chuck.

Spindle angle
90°

NEW BABY CHUCK Type PAT. Clamping diameter: $\phi 0.25 - \phi 20$

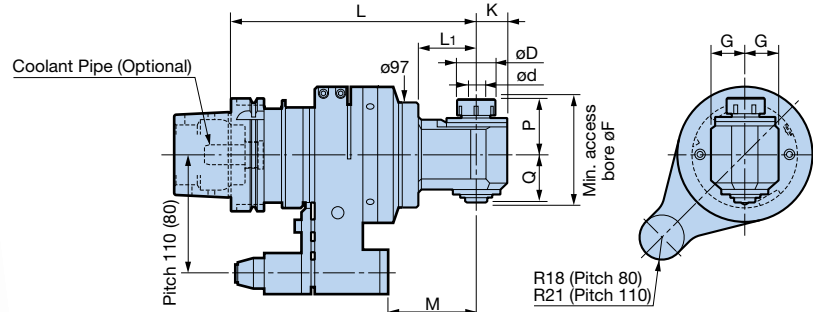


Fig. 1 Max. 6,000min⁻¹

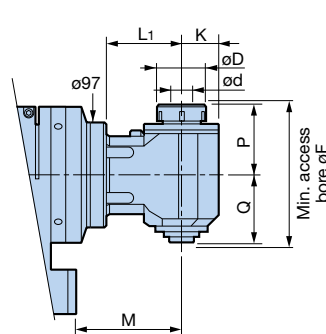


Fig. 2 Max. 3,000min⁻¹

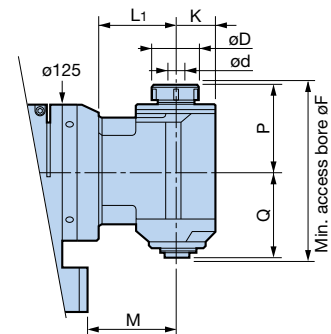


Fig. 3 Double-speed type
Max. 8,000min⁻¹

- High rigidity S type with reinforced Locating Pin also available. Add the letter S at the end when ordering.
- Tap Collet with tension mechanism can also be used to perform tapping. (NBS10 or larger)

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ød	øD	G	K	L	L ₁	M	P	Q	øF	Collet Model	Speed Ratio Input:output	Weight (kg)		
														Standard (pitch 110)	High Rigidity (pitch 110)	High Rigidity (pitch 80)
HSK-A100-AG90/NBS6-225	1	0.25 - 6	20	21	17	225	55	82	33	29	67	NBC 6	1:1	11.8	13.1	12.4
-255						255	85	112						12.0	13.3	12.6
-285						285	115	142						12.2	13.5	12.8
-315						315	145	172						12.4	13.7	13.0
-AG90/NBS10 -225	1	1.5 - 10	30	30	25	225	55	82	45	43	91	NBC10	1:1	12.2	13.5	12.8
-255						255	85	112						12.6	13.9	13.2
-285						285	115	142						12.9	14.2	13.5
-AG90/NBS13 -225	1	2.5 - 13	35	31	28	225	55	82	52	45	101	NBC13	1:1	12.3	13.6	12.9
-255						255	85	112						12.7	14.0	13.3
-285						285	115	142						13.0	14.3	13.6
-AG90/NBS20 -240	2	2.5 - 20	46	35	35	240	70	97	65	62	132	NBC20	1:1	13.4	14.7	14.0
-AG90/NBS16H-225	3	2.5 - 16	42	45	35	225	71	82	80	80	163	NBC16	1:2 (acceleration)	13.8	15.1	14.4

- The cutting tool rotates in reverse to the machine spindle.
- Nut and wrench are included. Collet is not included.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- When supplied through the Stop Block, coolant can be ejected from the housing.
- Automatic tool change may not be available depending on machine tool models.
- New Baby Endmill Collets cannot be used.
- Coolant pipe is not included. (Cannot be used with center through) C63



Collets **G5**

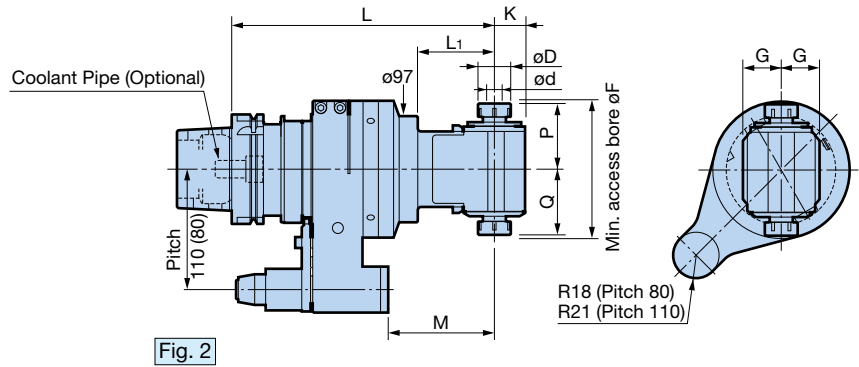
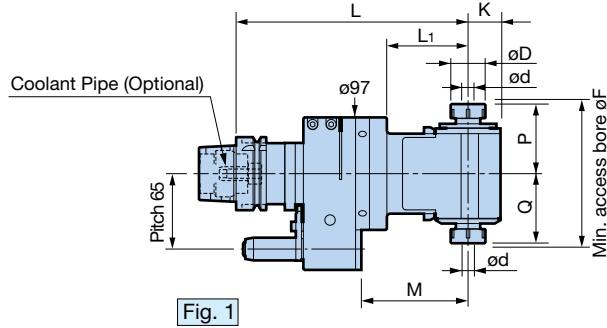
Tap Collets **G31**

Stop Blocks **G35**

Spindle angle
90°

● **TWIN HEAD (180° diagonal) PAT.** Clamping diameter: $\phi 1.5 - \phi 10$

- Twin spindle head with a compact design.
- Symmetrical machining can be performed using one unit, contributing to the reduction of the number of magazines.



- High rigidity S type with reinforced Locating Pin also available. Add the letter S at the end when ordering.
- Tap Collet with tension mechanism can also be used to perform tapping.

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ϕd	ϕD	G	K	L	L ₁	M	P	Q	ϕF	Collet Model	Speed ratio Input:output	Weight (kg)	
														Standard Type	High Rigidity Type
HSK-A 63-AG90/NBS10W-200 <input type="checkbox"/>	1	1.5 - 10	30	31	28	200	70	92	60	60	124	NBC10	1.1	6.2 (pitch 65)	7.1 (pitch 65)
HSK-A100-AG90/NBS10W-240 <input type="checkbox"/>	2	1.5 - 10	30	31	28	240	70	97	60	60	124	NBC10		13.0	14.3 (pitch 110)

1. The cutting tool rotates in reverse to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. Output spindles do not rotate in forward direction simultaneously.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. New Baby Endmill Collets cannot be used.
6. A Stop Block is required when mounting on machines. Please order separately.
7. Automatic tool change may not be available depending on machine tool models.
8. When supplied through the Stop Block, coolant can be ejected from the housing.
9. Coolant pipe is not included. (Cannot be used with center through)



- Collets **G5**
- Tap Collets **G31**
- Stop Blocks **G35**

Compact type PAT. Clamping diameter: $\phi 2.5 - \phi 13$

Spindle angle
90°

For drilling/tapping

Lightweight
&
Compact

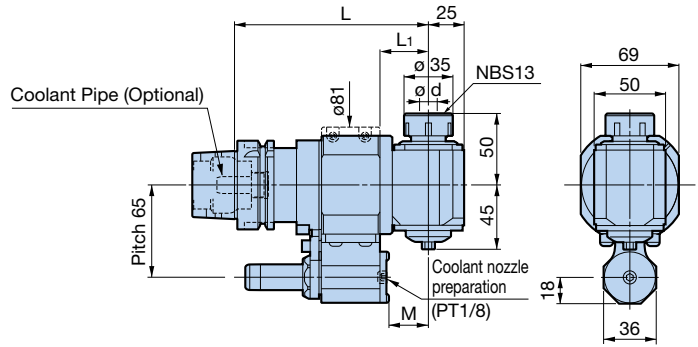


Fig. 1 Max. 5,000min⁻¹

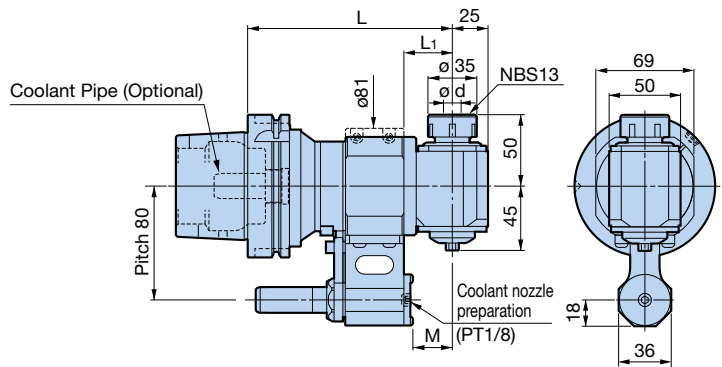


Fig. 2 Max. 5,000min⁻¹

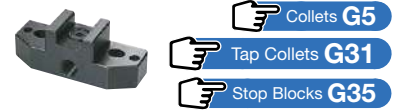
- Model Description
- HSK-A63** - **AG90** - **13** - **135**
- HSK Shank Type
- 90° Head Type
- L dimension
- Maximum clamping diameter

A Type (DIN 69893-1) (ISO 12164)

● Tap Collet with tension mechanism can also be used to perform tapping.

Model	Fig.	ϕd	L	L ₁	M	Collet Model	Speed ratio Input:output	Weight (kg)
HSK-A 63-AG90-13-135 -185	1	2.5 - 13	135	34	27.85	NBC13	1:1	4.4
			185	84	77.85			5.4
HSK-A100-AG90-13-145 -195	2	2.5 - 13	145	34	27.85	NBC13	1:1	6.8
			195	84	77.85			7.8

- The cutting tool rotates in reverse to the machine spindle.
- Nut and wrench are included. Collet is not included.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- Consult with the machine tool manufacturer for the dimensions of the Stop Block, as they vary depending on machine models.
- A tapped hole (PT1/8) is prepared at the bottom cover of the Locating Pin housing so that a pipe for coolant can be connected.
- Automatic tool change may not be available depending on machine tool models.
- New Baby Endmill Collets cannot be used.
- Coolant pipe is not included. (Cannot be used with center through) C63



Application example



Compact yet with high rigidity and runout accuracy, allowing stable machining.

	Drilling	Tapping
Tools used	$\phi 12$ carbide drill	M5 Tap
Workpiece material	S50C	A2017
Cutting speed	70m/min	7.5m/min
Feed	372mm/min	384mm/min
	0.2mm/rev	
Spindle speed	1,860min ⁻¹	450min ⁻¹

Oil Hole Type PAT. Clamping diameter: $\phi 2.5 - \phi 13$

- Feeds coolant through the cutting tool via Stop Block.

Spindle angle
90°



Coolant through tool

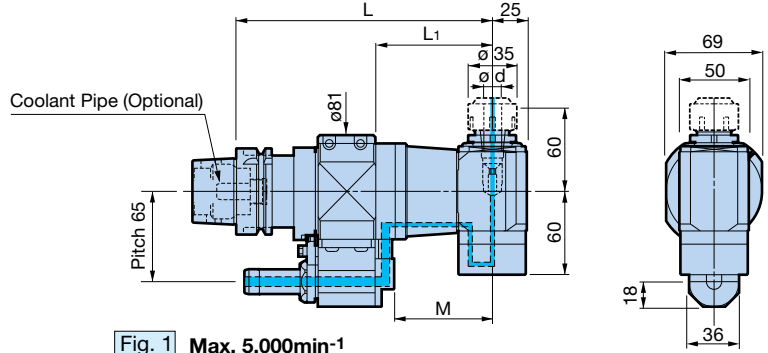


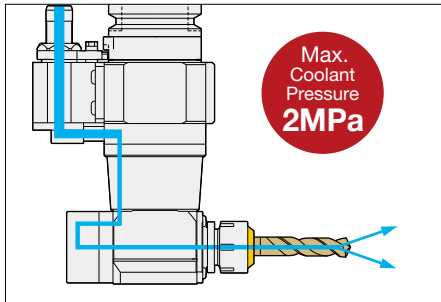
Fig. 1 Max. 5,000min⁻¹

For drilling

● Model Description

HSK-A63 - O AG90 - 13 - 185

- L dimension
- Maximum clamping diameter
- 90° Head Type
- Oil Hole
- HSK Shank Type



Max. Coolant Pressure
2MPa

Feeds oil from the cutting edge via Stop Block

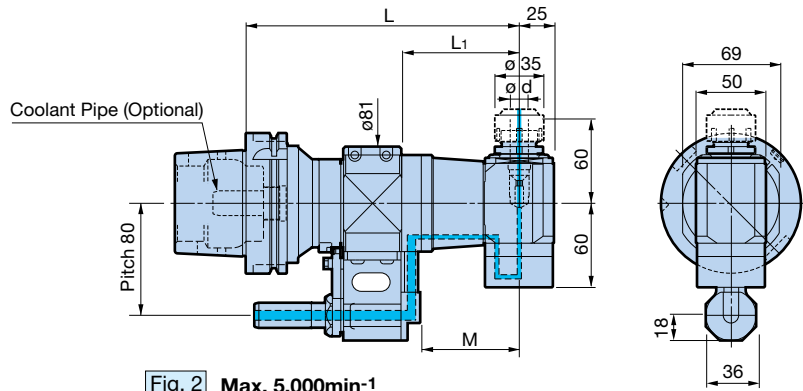


Fig. 2 Max. 5,000min⁻¹

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ϕd	L	L ₁	M	Collet Model	Speed ratio Input:output	Weight (kg)
HSK-A 63-OAG90-13-185	1	2.5 - 13	185	84	70.5	NBC13	1:1	5.9
HSK-A100-OAG90-13-195	2		195					8.4

- The cutting tool rotates in reverse to the machine spindle.
- For use with an oil hole drill only. Never run without supplying coolant through the unit.
- Baby Perfect Seal nut with sealing mechanism is required. Please order separately.
- Collet is ordered separately.
- Wrench and Adjusting Screw are included.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- Automatic tool change may not be available depending on machine tool models.
- Coolant pipe is not included. (Cannot be used with center through) **C63**

Collets **G5**

Perfect Seal **G28**

Stop Blocks **G35**



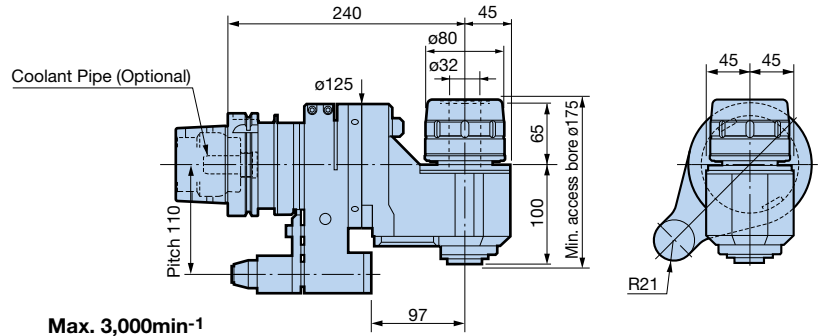
Highly versatile $\phi 32$ milling chuck is used.
Straight Collets allow the use of tools with various diameters.

Spindle angle
90°

HMC32 Type

● Standard type

- High-rigidity milling chuck type that allows the most commonly used cylindrical shanks to be mounted.



Max. 3,000min⁻¹

Model	Weight (kg)
HSK-A100-AG90/HMC32-240	16.0

1. The cutting tool rotates in forward to the machine spindle.
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Automatic tool change may not be available depending on machine tool models.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Coolant pipe is not included.
(Cannot be used with center through coolant/air) C63
7. Wrench is included. (Model: **FK80-90**)

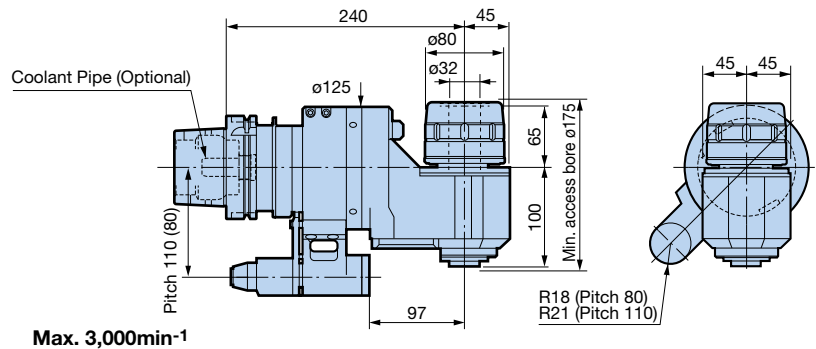


Straight Collets **G22**

Stop Blocks **G35**

● High rigidity S type

- About 30% higher rigidity compared to standard type



Max. 3,000min⁻¹

Model	Weight (kg)	
	Pitch 110	Pitch 80
HSK-A100-AG90/HMC32-240S	17.3	16.6

1. The cutting tool rotates in forward to the machine spindle.
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Automatic tool change may not be available depending on machine tool models.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Coolant pipe is not included.
(Cannot be used with center through coolant/air) C63
7. Wrench is included. (Model: **FK80-90**)



Straight Collets **G22**

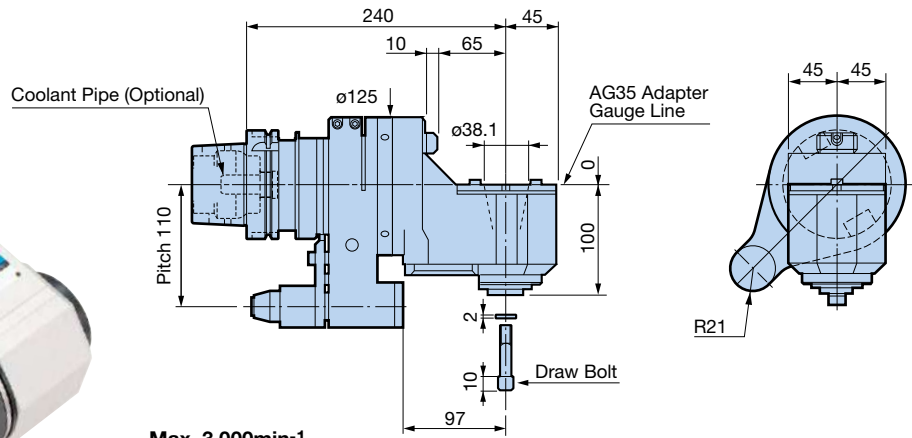
Stop Blocks **G35**

Offset design provides optimum tool projection with each adapter.

Spindle angle
90°

BUILD-UP Type

● Standard type



Max. 3,000min⁻¹

Model	Weight (kg)
HSK-A100-AG90/AGH35-240	14.2

1. The cutting tool rotates in forward to the machine spindle.
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Automatic tool change may not be available depending on machine tool models.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Coolant pipe is not included.
(Cannot be used with center through coolant/air) C63
7. Wrench is included. (Model: **FK80-90**)

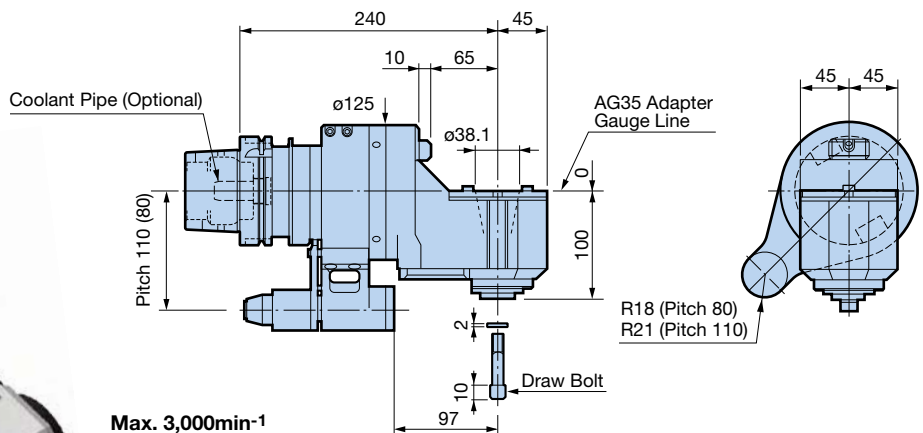


The AG35 adapter series **A158**

Stop Blocks **G35**

● High rigidity S type

- About 30% higher rigidity compared to standard type



Max. 3,000min⁻¹

Model	Weight (kg)	
	Pitch 110	Pitch 80
HSK-A100-AG90/AGH35-240S	15.5	14.8

1. The cutting tool rotates in forward to the machine spindle.
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Automatic tool change may not be available depending on machine tool models.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Coolant pipe is not included.
(Cannot be used with center through coolant/air) C63
7. Wrench is included. (Model: **FK80-90**)



The AG35 adapter series **A158**

Stop Blocks **G35**

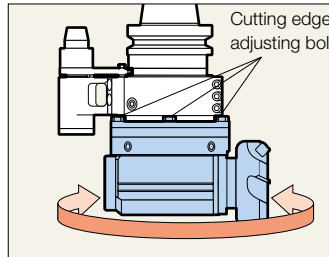
Face Milling Type

Spindle angle
90°

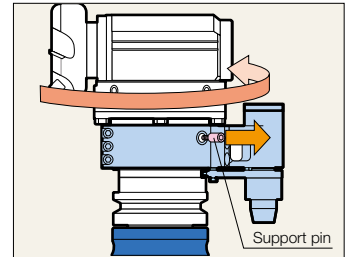
- Tool life is improved by high-rigidity bearings and optimum spindle dimensions!
- Series' highest rotation transmission force of 20kw (at 1,500min⁻¹)
- 90° indexing mechanism is used to allow index of 90° increments after adjustment. (Indexing accuracy ±5')



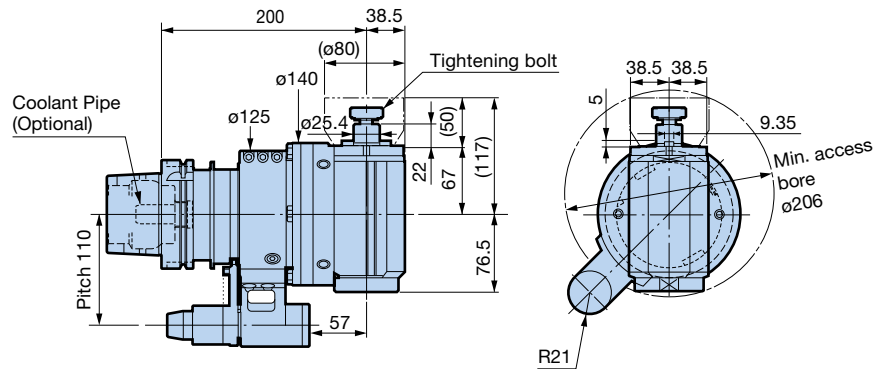
■ Cutting edge direction freely adjustable in 360°
The cutting edge direction can be easily set at any angle through 360 degrees simply by loosening its adjustment bolts (8 positions).



■ Cutting edge direction indexable in 90° increments
Indexing can be done in 90° increments after the cutting edge is adjusted. (Remove the support pin to adjust the cutting edge direction in 90° increments)



▲ Note: Be sure to remove from the machine before setting in 90° increments.



Max. 1,500min⁻¹

Model	Weight (kg)
HSK-A100-AG90-FMA25.4S-200S	18.4

Figures in () indicate dimensions when 80mm diameter and 50mm high face mill cutter is mounted.

1. The cutting tool rotates in reverse to the machine spindle.
2. Coolant cannot be supplied through the Locating Pin.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. Coolant pipe is not included. (Cannot be used with center through) C63



Stop Blocks **G35**

Tapper Type

- Tapping depth is adjusted with automatic depth control.

Spindle angle
90°

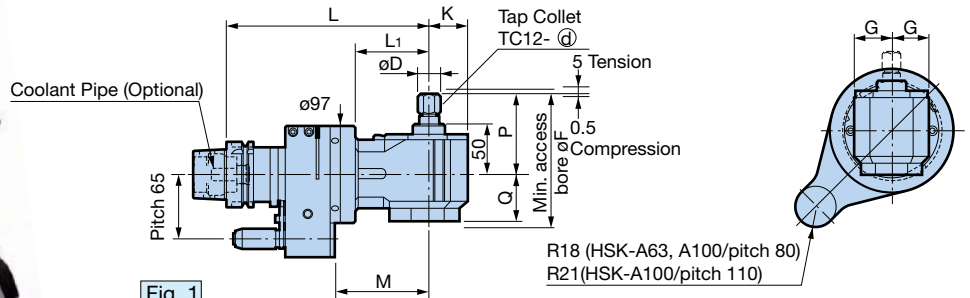


Fig. 1
Max. 2,000min⁻¹

R18 (HSK-A63, A100/pitch 80)
R21 (HSK-A100/pitch 110)

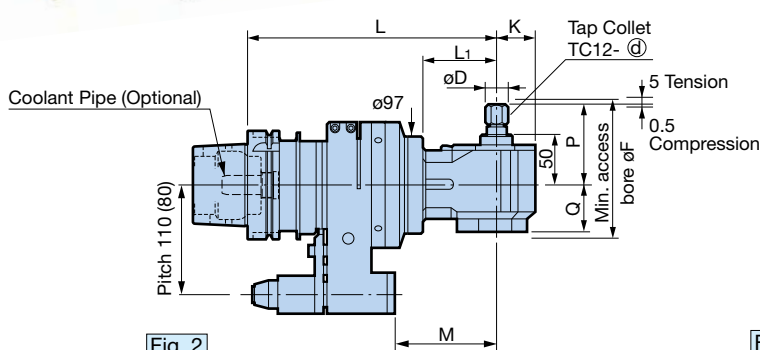


Fig. 2
Max. 2,000min⁻¹

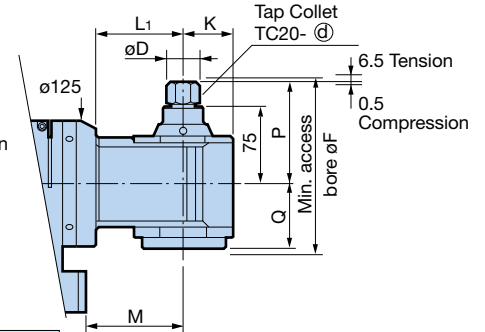
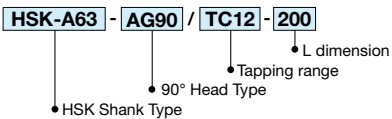


Fig. 3
Max. 1,000min⁻¹

● Model Description



● High rigidity S type with reinforced Locating Pin is also available. Add the letter S at the end when ordering.

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	d	øD	G	K	L	L ₁	M	P	Q	øF	Collet Model	Speed ratio Input:output	Weight (kg)		
														Standard (pitch)	High Rigidity (pitch)	High Rigidity (pitch 80)
HSK-A 63-AG90/TC12-200	1	M3 - M12	22	38	39	200	70	92	80	46	135	TC12-⊕	2:1 (Deceleration)	6.9 (65)	7.8 (65)	—
HSK-A100-AG90/TC12-240	2	M3 - M12	22	38	39	240	70	97	80	46	135	TC12-⊕		13.7 (110)	15.0 (110)	14.3
-AG90/TC20-240	3	M7 - M20	22/31	49	49		86		100	66.5	178	TC20-⊕		15.5 (110)	16.8 (110)	16.1

1. The cutting tool rotates in reverse to the machine spindle.
2. TC Tap Collet is not included. Please order separately.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. Note that tap rotation is reduced to half the speed of the machine spindle.

5. A Stop Block is required when mounting on machines. Please order separately.
6. When supplied through the Stop Block, coolant can be ejected from the housing.
7. Automatic tool change may not be available depending on machine tool models.
8. Coolant pipe is not included. (Cannot be used with center through) **C63**



TC Tap Collets **A141**

Stop Blocks **G35**

45° exclusive fixing housing brings about secure diagonal machining.

- Highly versatile NEW BABY CHUCK enables high-accuracy machining.

Spindle angle
45°

NEW BABY CHUCK Type PAT. Clamping diameter: $\phi 1.5 - \phi 13$

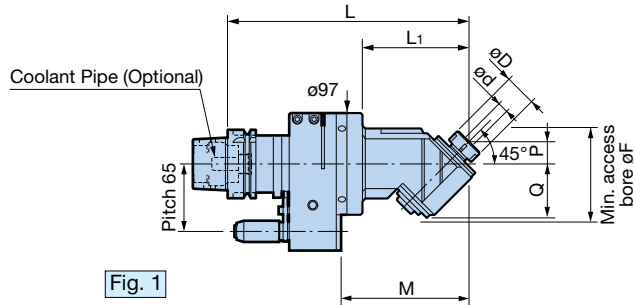


Fig. 1
Max. 6,000min⁻¹

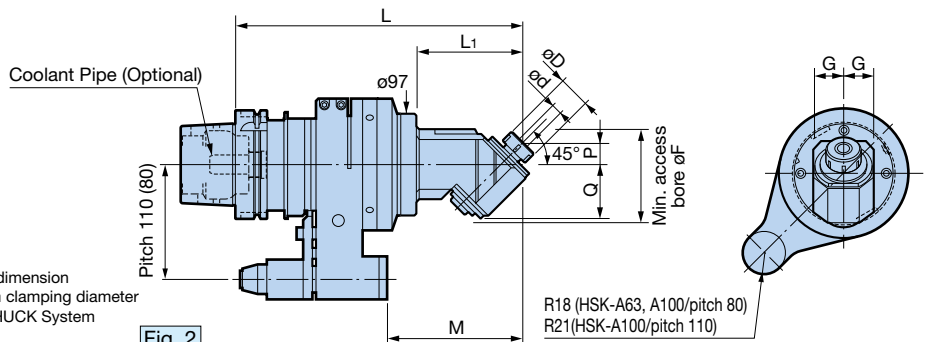


Fig. 2
Max. 6,000min⁻¹

● Model Description

HSK-A63 - AG45 / NBS 10 - 230

- HSK Shank Type
- 45° Head Type
- NEW BABY CHUCK System
- Maximum clamping diameter
- L dimension

- High rigidity S type with reinforced Locating Pin also available. Add the letter S at the end when ordering.
- Tap Collet with tension mechanism can also be used to perform tapping.

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ød	øD	G	L	L ₁	M	P	Q	øF	Collet Model	Speed ratio Input:output	Weight (kg)		
													Standard Type (pitch)	High Rigidity Type (pitch)	High Rigidity Type (pitch 80)
HSK-A 63-AG45/NBS10-230	1	1.5 - 10	30	30	230	100	122	20	51.5	90	NBC10	1:1	5.6 (65)	6.5 (65)	—
		2.5 - 13	35		235	105	127	25					5.7 (65)	6.6 (65)	—
HSK-A100-AG45/NBS10-270	2	1.5 - 10	30	30	270	100	127	20	51.5	90	NBC10	1:1	12.4 (110)	13.7 (110)	13.0
		2.5 - 13	35		275	105	132	25					12.5 (110)	13.8 (110)	13.1

1. The cutting tool rotates in reverse to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.
8. Coolant pipe is not included. (Cannot be used with center through)



Collets **G5**

Tap Collets **G31**

Stop Blocks **G35**

The cutting edge angle can be freely adjusted, making it ideal for machining the corners of molds in deep areas.

Spindle angle
0° - 90°

- The original 1° indexing mechanism allows easy angle adjustment.
- Robust clamping mechanism allows secure endmilling.

Universal Type PAT. Clamping diameter: $\varnothing 2.5 - \varnothing 20$



Indexing mechanism in 1° increments

Accurate angle adjustment is possible simply by tightening the angle setting pin.

The spindle angle can be adjusted in the range of 0° to 90°

The 1° angle indexing mechanism allows the angle to be easily set. (Indexing accuracy $\pm 5'$)

● Model Description

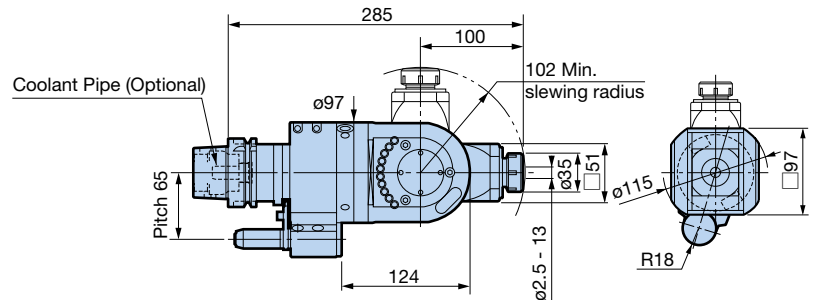
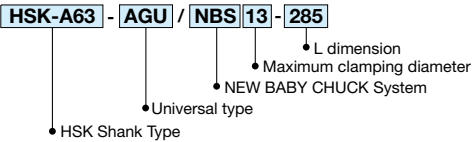


Fig. 1 Max. 6,000min⁻¹

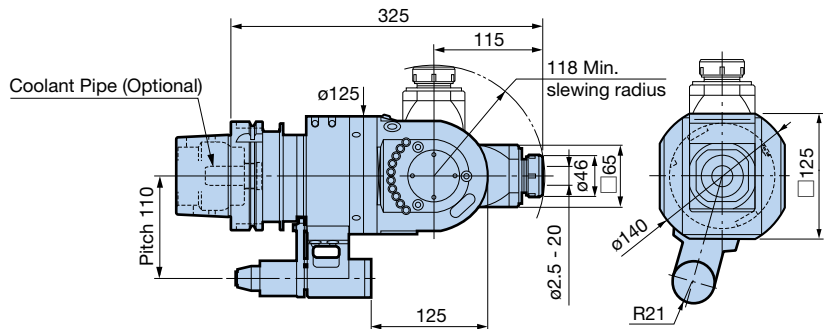


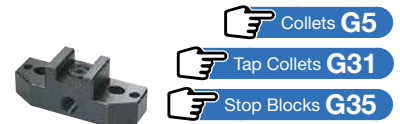
Fig. 2 Max. 4,000min⁻¹

A Type (DIN 69893-1) (ISO 12164)

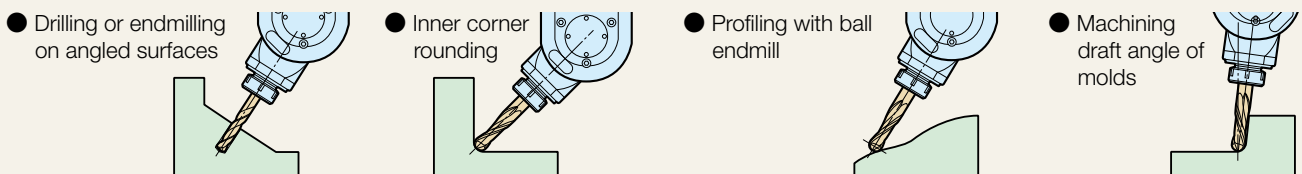
Model	Fig.	Collet Model	Speed ratio Input:output	Weight (kg)
HSK-A 63-AGU/NBS13-285	1	NBC13	1:1	9.6
HSK-A100-AGU/NBS20-325	2	NBC20	1:1	20.0

● Tap Collet with tension mechanism can also be used to perform tapping.

1. The cutting tool rotates in reverse to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. Coolant pipe is not included. (Cannot be used with center through)



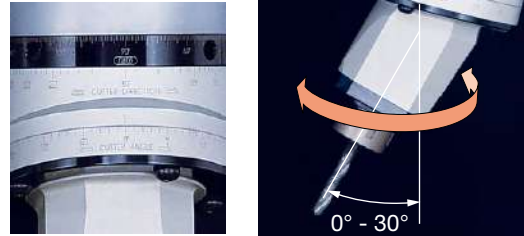
Machining examples Easy angle setup



Spindle angle
0° - 30°

AGU30 Type PAT. Clamping diameter: $\phi 2.5 - \phi 20$

- Spindle angle adjustable 0°- 30°.
- Rigidity is improved by the flange coupling in the swivel!
- The new drive system achieves high transmission torque, low vibration and low noise.



Angle adjustment by scale alignment

The angle spindle can be easily adjusted between 0° and 30° just by aligning to the scale provided on the swivel.

● Model Description

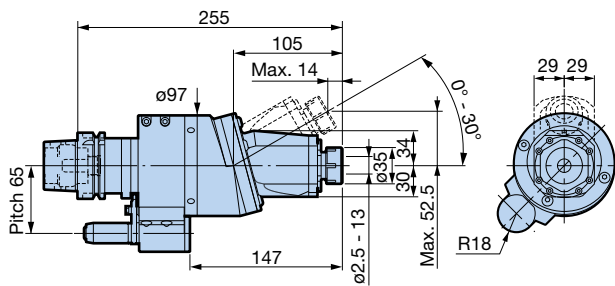
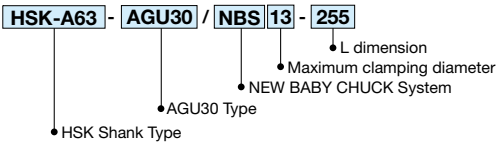


Fig. 1 Max. 6,000min⁻¹

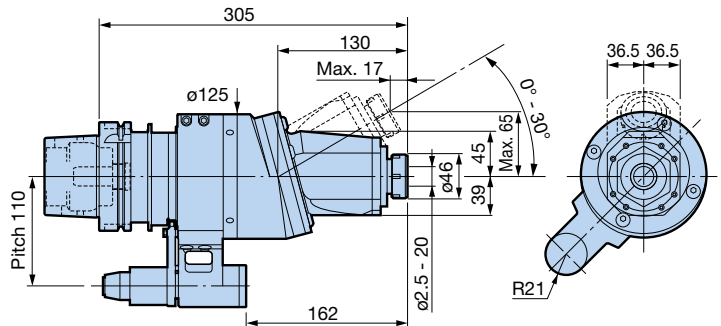


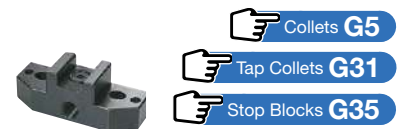
Fig. 2 Max. 4,000min⁻¹

A Type (DIN 69893-1) (ISO 12164)

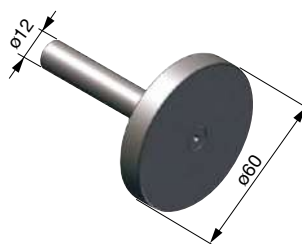
Model	Fig.	Collet Model	Speed ratio Input:output	Weight (kg)
HSK-A 63-AGU30/NBS13-255	1	NBS13	1:1	6.8
HSK-A100-AGU30/NBS20-305	2	NBS20	1:1	15.3

● Tap Collet with tension mechanism can also be used to perform tapping.

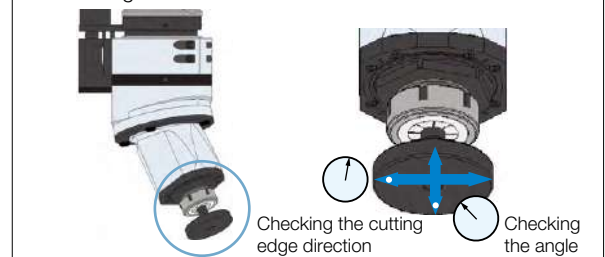
1. The cutting tool rotates in forward to the machine spindle.
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. When supplied through the Stop Block, coolant can be ejected from the housing.
7. Coolant pipe is not included. (Cannot be used with center through)



- **SETTING DISK** (Standard accessory)
Use when accurate angle setting or fine adjustment of the cutting edge direction is required.

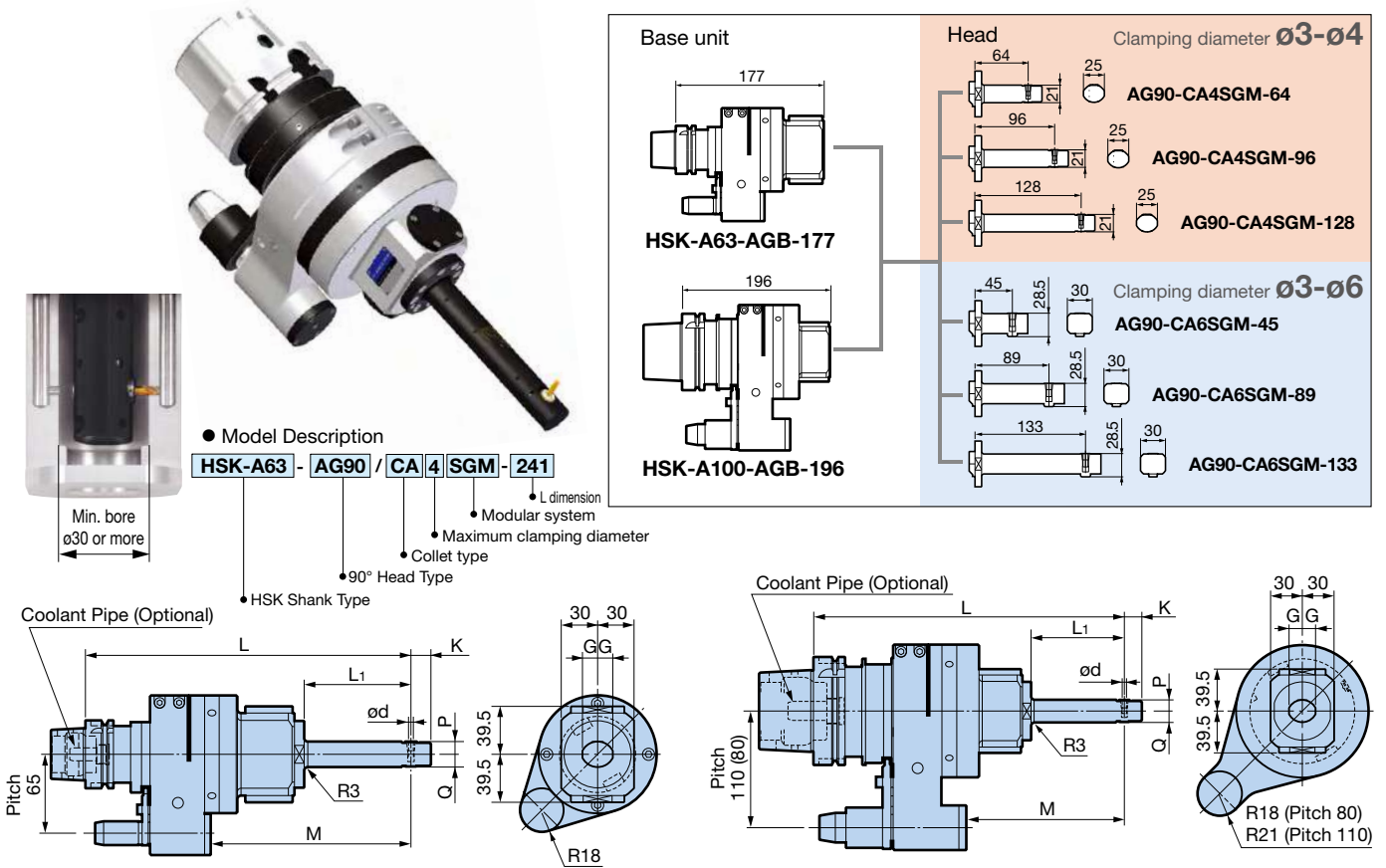


The angle and cutting edge direction can be adjusted using the setting disk.



Small bore type

- Achieves angular drilling in the min. $\phi 30$ bore. (minimum diameter for CA6SGM is $\phi 40$)
- Prevents interference through flexible combination of base units and heads.
- The head is positioned at the center of the spindle, enabling easy programming.



A Type (DIN 69893-1) (ISO 12164)

Set Model	Base Model	Head Model	Fig.	ϕd	G	K	L	L ₁	M	P	Q	Speed ratio Input:output	Weight (kg)		
													Pitch 65	Pitch 80	Pitch 110
HSK-A 63-AG90-CA4SGM-241	HSK-A63-AGB-177	AG90-CA4SGM- 64	1	3 - 4	12.5	16.5	241	56	133	10.5	10.5	1:1.06 (Acceleration)	5.5		
-273		273					88	165	5.6						
-305		305					120	197	5.7						
-CA6SGM-222		AG90-CA6SGM- 45	2	3 - 6	15	20	222	37	114	12.5	16	1:0.77 (Deceleration)	5.6		
-266		266					81	158	5.8						
-310		310					125	202	6.0						
HSK-A100-AG90-CA4SGM-260	HSK-A100-AGB-196	AG90-CA4SGM- 64	2	3 - 4	12.5	16.5	260	56	117	10.5	10.5	1:1.06 (Acceleration)	11.7	11.1	
-292		292					88	149	11.8				11.2		
-324		324					120	181	11.9				11.3		
-CA6SGM-241		AG90-CA6SGM- 45	2	3 - 6	15	20	241	37	98	12.5	16	1:0.77 (Deceleration)	11.8	11.2	
-285		285					81	142	12.0				11.4		
-329		329					125	186	12.2				11.6		

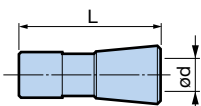
- The cutting tool rotates in forward to the machine spindle.
- Models with pitch 80 carry "S" at the end of the model number.
- The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
- A Stop Block is required when mounting on machines. Please order separately.
- Automatic tool change may not be available depending on machine tool models.

- Wrench is included. Exclusive collet is not included. Please order separately.
- Coolant cannot be supplied through the Locating Pin.
- Coolant pipe is not included. (Cannot be used with center through) C63



Stop Blocks **G35**

● Exclusive collet



Model	ϕd	L
CA4-3	3	16.5
-3.5	3.5	
-4	4	

Model	ϕd	L
CA6-3	3	22
-4	4	
-5	5	
-6	6	

- Use drill with a shank diameter matched with ϕd of the collet.
- Tool shank tolerance must be within h7.

The ultra-precision spindle enables challenging micromachining!

Machine spindle rotation **zero**

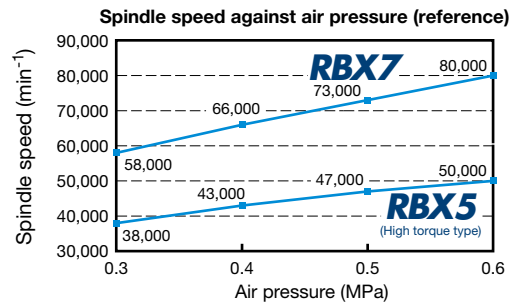
Max. **80,000**min⁻¹

Ceramic ball bearing type

RBX Series PAT.

- Achieves efficient and accurate micromachining with excellent runout accuracy in the max. spindle speed range.

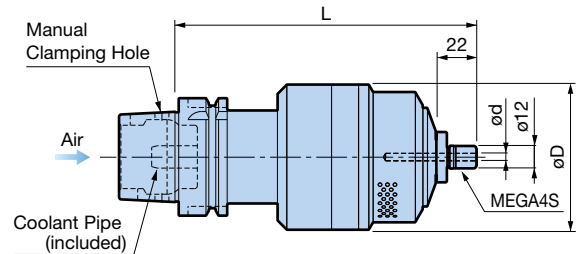
	RBX5 (High torque type)	RBX7
Operating spindle speed (min ⁻¹)	40,000 - 50,000	60,000 - 80,000
Clamping diameter	ø0.45 - 4.05mm (MEGA4S)	
Spindle nose runout accuracy	Within 1 μm	
Air pressure	0.3 - 0.6MPa	
Air flow rate	300L/min [ANR] (at 0.6MPa)	



[Center Through Type]



ATC compatible



A Type (DIN 69893-1) (ISO 12164)

Model	Operating spindle speed (min ⁻¹)	Clamping diameter ød	Usable tool diameter	øD	L	Mega Nut	Collet Model	Weight (kg)
HSK-A 63-RBX5C-4S-160	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	160	MGN4S	NBC4S	3.9
-RBX7C-4S-160	60,000 - 80,000		ø1.0 or smaller	78				2.9
HSK-A100-RBX5C-4S-165	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	165	MGN4S	NBC4S	5.9
-RBX7C-4S-165	60,000 - 80,000		ø1.0 or smaller	78				4.9

1. Nut, exclusive wrench (RBX5,7 → **XW27**) and Mega Wrench (**MGR12**) are included. Collet is not included. Please order separately.

2. Air filter regulator (XF1) is required. **A173**

Micro Collets **G2**



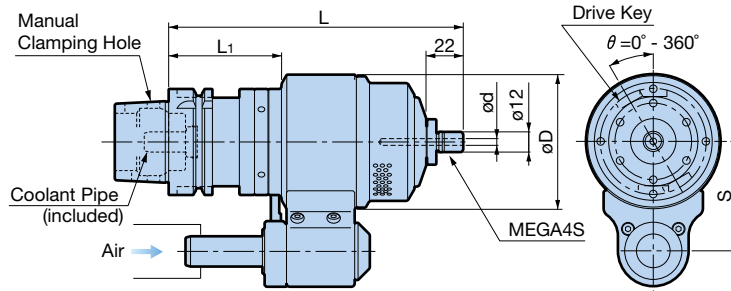
Caution

- Clean air is an essential condition for the use of this product. Therefore, coolant should never be supplied through the spindle of the machine using the Air Turbine Spindle.

AIR TURBINE SPINDLE

HSK
SHANK

[Side Through Type]



Max.
80,000min⁻¹

Machine spindle rotation **ZERO**

ATC compatible

A Type (DIN 69893-1) (ISO 12164)

Model	Operating spindle speed (min ⁻¹)	Clamping diameter ød	Usable tool diameter	øD	L	L ₁	S	Mega Nut	Collet Model	Weight (kg)
HSK-A 63-RBX5-4S-175-65	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	175	67	65	MGN4S	NBC4S	4.8
	60,000 - 80,000		ø1.0 or smaller	80						3.8
HSK-A100-RBX5-4S-180-80	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	100	180	72	80	MGN4S	NBC4S	9.4
	60,000 - 80,000		ø1.0 or smaller							80

1. Nut, exclusive wrench (RBX5,7 → XW27) and Mega Wrench (MGR12) are included. Collet is not included. Please order separately.

2. Air filter regulator (XF1) is required. A173

RBX5, RBX7 nut **G3**

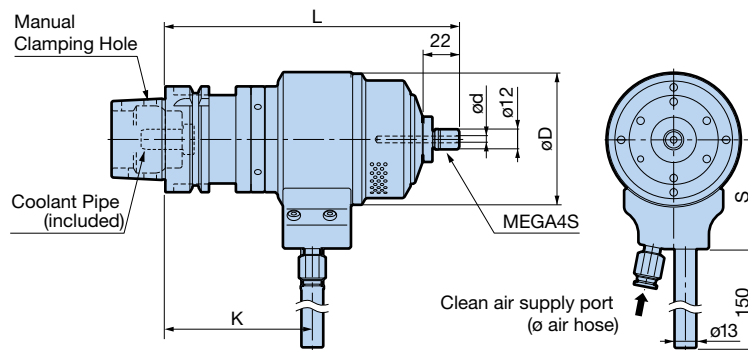
Micro Collets **G2**

Stop Blocks **A172**



[Manual Tool Change Type]

- Easy installation as Stop Block is not needed.



Max.
80,000min⁻¹

Machine spindle rotation **ZERO**

A Type (DIN 69893-1) (ISO 12164)

Model	Operating spindle speed (min ⁻¹)	Clamping diameter ød	Usable tool diameter	øD	L	K	S	Mega Nut	Collet Model	Weight (kg)
HSK-A 63-RBX5-4S-175H	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	175	87	71	MGN4S	NBC4S	4.8
	60,000 - 80,000		ø1.0 or smaller	80			65			3.8
HSK-A100-RBX5-4S-180H	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	100	180	92	80	MGN4S	NBC4S	9.4
	60,000 - 80,000		ø1.0 or smaller							80

1. Nut, exclusive wrench (RBX5,7 → XW27) and Mega Wrench (MGR12) are included. Collet is not included. Please order separately.

2. Air filter regulator (XF1) is required. A173

RBX5, RBX7 nut **G3**

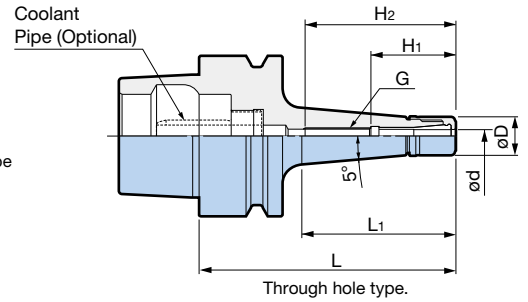
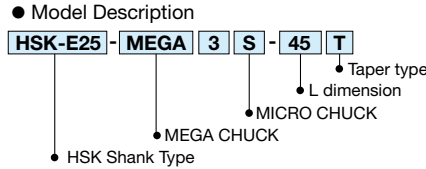
Micro Collets **G2**

Ultra-slim design with $\varnothing 10$ nut outer diameter avoids interference.
Enhances precision of micro tool machining.

Max.
60,000min⁻¹

[High Rigidity Taper Type]

● Models for ultra-small endmilling are newly added!



E Type (DIN 69893-5)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H ₁	H ₂	G	Collet Model	Weight (kg)
HSK-E25-MEGA3S- 45T ※	0.45 - 3.25	10	45	32	22	(32)	—	NBC3S-□	0.06
- 60T			60	48		38	M4 P0.7		0.08
-MEGA4S- 45T ※	0.45 - 4.05	12	45	33	26.5	(32)	—	NBC4S-□	0.07
- 60T			60	49		41	M5 P0.8		0.10
-MEGA6S- 45T ※	0.45 - 6.05	14	45	33	28.5	(31)	—	NBC6S-□	0.08
- 60T			60	49		40	M7 P0.75		0.10
HSK-E32-MEGA3S- 60T	0.45 - 3.25	10	60	35	22	38	M4 P0.7	NBC3S-□	0.15
- 75T			75	50		38			0.17
-MEGA4S- 45T ※	0.45 - 4.05	12	45	23	26.5	(26)	—	NBC4S-□	0.14
- 60T			60	35		46	M5 P0.8		0.16
-MEGA6S- 45T ※	0.45 - 6.05	14	45	23	28.5	(28)	—	NBC6S-□	0.14
- 60T			60	36		38	M7 P0.75		0.17
-MEGA8S- 60T ※	2.95 - 8.05	18	60	38	31	(43)	—	NBC8S-□	0.20
HSK-E40-MEGA3S- 60T	0.45 - 3.25	10	60	35	22	39	M4 P0.7	NBC3S-□	0.23
- 75T			75	50		38			0.25
-MEGA4S- 60T	0.45 - 4.05	12	60	35	26.5	44	M5 P0.8	NBC4S-□	0.24
- 75T			75	50		47			0.27
-MEGA6S- 60T ※	0.45 - 6.05	14	60	35	28.5	(42)	—	NBC6S-□	0.24
- 75T			75	50		49	M7 P0.75		0.28
- 90T			90	65		49	0.32		
HSK-E50-MEGA3S- 80T	0.45 - 3.25	10	80	49	22	38	M4 P0.7	NBC3S-□	0.5
-MEGA4S- 80T	0.45 - 4.05	12		48	26.5	47	M5 P0.8	NBC4S-□	0.5
-MEGA6S- 80T	0.45 - 6.05	14		49	28.5	49	M7 P0.75	NBC6S-□	0.5

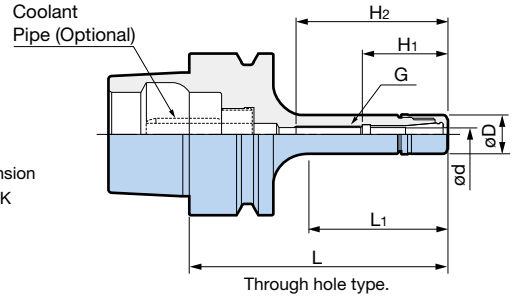
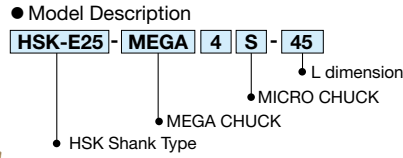
- Nut is included. Collet and wrench must be ordered separately.
- Weight includes the nut but not the collet.
- Models marked with "※" do not have inner thread. H₂ () dimension is the max. tool shank length that can be inserted into the holder.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
- Coolant pipe is not included. C63
- For machines which cannot be used with a through hole, order a plug separately. C63

MEGA CHUCK Series



[Straight Type]

- Straight type with less workpiece interference.



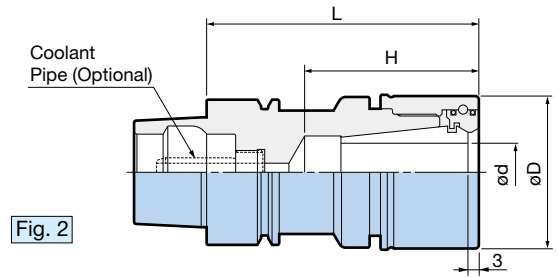
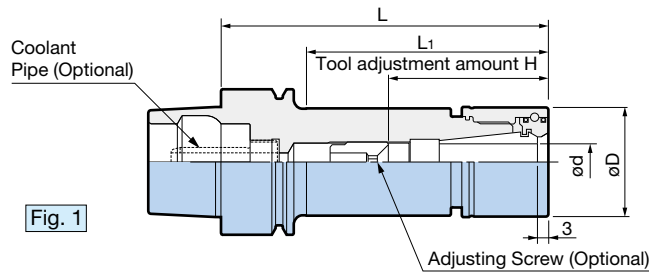
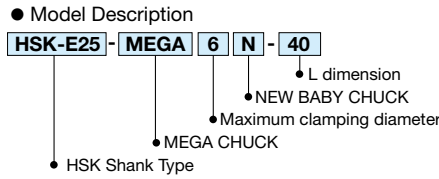
E Type (DIN 69893-5)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H ₁	H ₂	G	Collet Model	Weight (kg)
HSK-E25-MEGA4S-45 ※	0.45 - 4.05	12	45	31	26.5	(32)	—	NBC4S-□	0.06
			60	46		42	M5 P0.8		0.08
-MEGA6S-45 ※	0.45 - 6.05	14	45	32	28	(31)	—	NBC6S-□	0.07
			60	47		41	M7 P0.75		0.08
HSK-E32-MEGA3S-45 ※	0.45 - 3.25	10	45	23	22	(31)	—	NBC3S-□	0.13
-MEGA4S-45	0.45 - 4.05	12	45	22	26.5	31	M5 P0.8	NBC4S-□	0.14
			60	34		46			0.15
-MEGA6S-45 ※	0.45 - 6.05	14	45	22	28.5	(28)	—	NBC6S-□	0.14
			60	35		38	M7 P0.75		0.15
HSK-E40-MEGA3S-40 ※	0.45 - 3.25	10	40	19	22	(24)	—	NBC3S-□	0.21
-MEGA4S-60	0.45 - 4.05	12	60	34	26.5	44	M5 P0.8	NBC4S-□	0.23
			60	35		42			—
-MEGA6S-45 ※	0.45 - 6.05	14	45	23	27.5	(27)	—	NBC6S-□	0.22
			60	35		42	—		0.23
HSK-E50-MEGA3S-50 ※	0.45 - 3.25	10	50	20	22	(30)	—	NBC3S-□	0.5
-MEGA4S-50 ※	0.45 - 4.05	12	50	21	26.5	(30)	—	NBC4S-□	0.5
			80	44		47	M5 P0.8		0.5
-MEGA6S-55 ※	0.45 - 6.05	14	55	26	28.5	(35)	—	NBC6S-□	0.5
			80	44		49	M7 P0.75		0.5

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Models marked with "※" do not have inner thread. H₂ () dimension is the max. tool shank length that can be inserted into the holder.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Coolant pipe is not included. C63
6. For machines which cannot be used with a through hole, order a plug separately. C63

Standard Accessory	Optional Accessories			
<p>MEGA NUT</p> <p>For Spares G3</p>	<p>Mega Wrench</p> <p> G26</p>	<p>Micro Collet</p> <p> G2</p>	<p>Mega Micro Seal Nut (for 6S and 8S) Mega Micro Coolant Nut (for 6S)</p> <p> G3</p>	<p>Collet Case</p> <p> G4</p>

High-speed small-diameter drilling and endmilling are achieved with the exceptional tool balance and high-precision collet chuck system.



MEGA CHUCK Series


E Type (DIN 69893-5)

Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-E25-MEGA 6N- 40 ※	1	0.25 - 6	20	40	29	25	NBC 6-□	0.10
8N- 45 ※	2	0.5 - 8	25	45	—	30	NBC 8-□	0.12
10N- 60 ※▲		1.5 - 10	30	60	—	45	NBC10-□	0.17
HSK-E32-MEGA 6N- 45 ※	1	0.25 - 6	20	45	24	28	NBC 6-□	0.17
- 60				60	37	23 - 27		0.20
-MEGA 8N- 50 ※	1	0.5 - 8	25	50	29	33	NBC 8-□	0.22
- 65				65	44	26 - 32		0.27
-MEGA10N- 65 ※	2	1.5 - 10	30	65	—	47	NBC10-□	0.28
-MEGA13N- 70 ※				70	—	44		0.31
HSK-E40-MEGA 6N- 50 ※	1	0.25 - 6	20	50	26	31	NBC 6-□	0.26
- 60				60	34	23 - 26		0.28
- 75				75	49	23 - 41		0.31
- 90				90	64	23 - 43		0.35
-120				120	94			0.41
-MEGA 8N- 55 ※				1	0.5 - 8	25		55
- 75	75	51	26 - 41				0.38	
- 90	90	66	26 - 45				0.43	
-MEGA10N- 60 ※	1	1.5 - 10	30	60	37	40	NBC10-□	0.39
- 75 ※				75	52	55		0.46
- 90				90	67	38 - 48		0.53
-MEGA13N- 65 ※	1	2.5 - 13	35	65	44	44	NBC13-□	0.45
- 75 ※				75	54	55		0.53
- 90				90	69	44 - 48		0.62
-120				120	99	44 - 63		0.80
-150				150	129			1.00
-MEGA16N- 65 ※▲	2	2.5 - 16	42	65	—	46	NBC16-□	0.43
- 75 ※				75	—	48		0.60

- Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
- Weight includes the nut but not the collet.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
- ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
- Models with ▲ indication cannot use a NEW BABY ENDMILL COLLET.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
- Coolant pipe is not included. C63
- For machines which cannot be used with a through hole, order a plug separately. C63

E Type (DIN 69893-5)

Model	Fig.	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-E50-MEGA 6N- 55 ※	1	0.25 - 6	20	55	27	35	NBC 6-□	0.5
- 70				70	38	23 - 39		0.5
-100				100	64	23 - 43		0.6
-MEGA 8N- 60 ※	1	0.5 - 8	25	60	30	37	NBC 8-□	0.6
- 90				90	56	26 - 45		0.7
-MEGA10N- 60 ※ ▲				1	1.5 - 10	30		60
- 90	90	58	38 - 48				0.7	
-MEGA13N- 70 ※	1	2.5 - 13	35				70	40
- 90				90	60	44 - 47	0.8	
-120				120	90	44 - 63	1.0	
-150				150	120		1.3	
-MEGA16N- 75 ※	1	2.5 - 16	42	75	48	52	NBC16-□	0.9
- 90 ※				90	63	65		1.0
-MEGA20N- 75 ※ ▲	2	2.5 - 20	46	75	—	49	NBC20-□	0.8
-100				100	—	51 - 54		1.1
-130				130	—	51 - 68		1.5

- Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
- Weight includes the nut but not the collet.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
- ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
- Models with ▲ indication cannot use a NEW BABY ENDMILL COLLET.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
- Coolant pipe is not included.  C63

Standard Accessory		Optional Accessories				
MEGA NUT  For Spares  G10	O-ring  For Spares  G10	MEGA NUT Flat Type   G10	Mega Wrench   G26	Collet   G5	MEGA PERFECT SEAL   G11	Adjusting Screw   G10

When ordering a **MEGA PERFECT SEAL**, the "Nut-Less Body" without the standard nut attached is also available.

- **Example** Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.

MEGA NEW BABY CHUCK Model + NL
HSK-E50-MEGA 6N-55/NL
 (NL at the end of the model number means nut not attached)

NBC Collet
NBC6-3AA

MEGA PERFECT SEAL Model
MPS6-03035

MEGA NUT Flat Type Model
MGN6F

The ultimate precision hydraulic chuck.
Amazing runout accuracy within $1\mu\text{m}$ at 4D.

[Super Slim Type PAT.]

1 μm
ULTRA PRECISION

Max.
60,000 min^{-1}



UP

● Model Description

HSK-E25 - HDC 3 S - 40 UP

- HSK Shank Type
- HYDRAULIC CHUCK
- Clamping diameter
- Super Slim Type
- L dimension
- High Precision UP Type

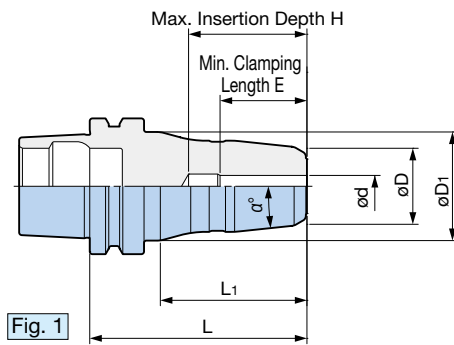


Fig. 1

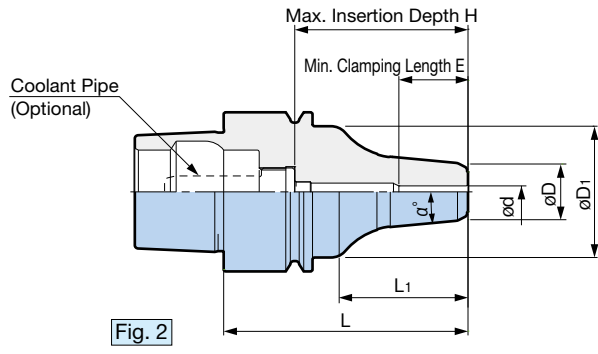


Fig. 2

Center through

E Type (DIN 69893-5)

Model	Fig.	Clamping Diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L_1	α°	H	E	Max. min^{-1}	Weight (kg)	
HSK-E25-HDC3S -40UP	1	3	14	20	40	27	6°	22	16	60,000	0.09	
-HDC3.175S-40UP		3.175										
-HDC4S -40UP		4										
-HDC6S -45UP※		6						23				45
HSK-E32-HDC3S -52UP	1	3	14	26	52	29	6°	28	16	45,000	0.19	
-HDC3.175S-52UP		3.175										
-HDC4S -52UP		4			57	34		33				25
-HDC6S -57UP		6										
HSK-E40-HDC3S -55UP▲	2	3	14	33	55	29	6°	39	16	40,000	0.31	
-HDC3.175S-55UP▲		3.175										
-HDC4S -55UP▲		4			60	34		40				25
-HDC6S -60UP		6										

1. HSK-E25 and -E32 cannot be used with center through.
 2. Coolant pipe is not included. C63
 3. Adjusting Screw cannot be used.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

4. ※ HSK-E25-HDC6S-45UP has a body diameter of $\varnothing 23$ (ISO standard: $\varnothing 20$ or less). Note that it may not be usable depending on the machine.
5. For HSK-E40, which cannot be used with a through hole, order a plug separately. C63
6. When using coolant with models marked with ▲, some coolant may leak from the inner diameter slits.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

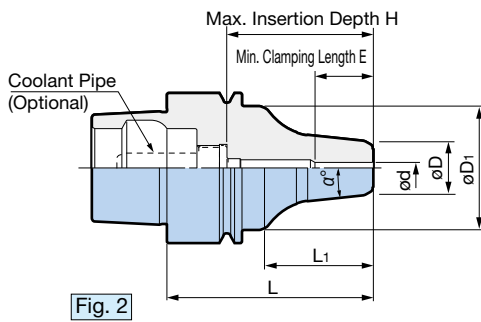
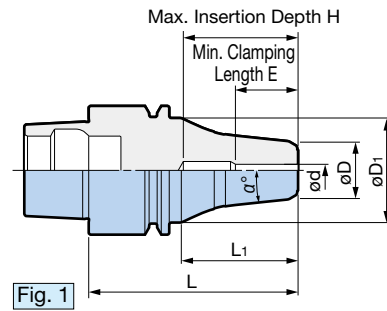
High-precision and ultra-compact design. New hydraulic chuck suitable for small machining centers.

Max.
60,000min⁻¹

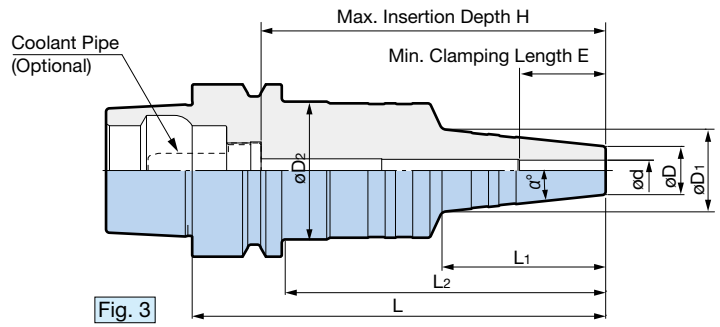
[Super Slim Type PAT.]



● **Model Description**
HSK-E25 - HDC 3 S - 40
 ● L dimension
 ● Super Slim Type
 ● Clamping diameter
 ● HYDRAULIC CHUCK
 ● HSK Shank Type



Center through



Center through

C
HYDRAULIC CHUCK

E Type (DIN 69893-5)

Model	Fig.	Clamping Diameter ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	L ₂	α°	H	E	Max. min ⁻¹	Weight (kg)					
HSK-E25-HDC 3S - 40	1	3	14	20	-	40	27	-	6°	22	16	60,000	0.09					
-HDC 3.175S- 40		3.175																
-HDC 4S - 40		4																
-HDC 6S - 45*		6												23	45	31	8°	26
HSK-E32-HDC 3S - 52	1	3	14	26	-	52	29	-	6°	28	16	45,000	0.19					
-HDC 3.175S- 52		3.175																
-HDC 4S - 52		4																
-HDC 6S - 57		6												57	34	33	25	0.20
HSK-E40-HDC 3S - 55▲	2	3	14	33	-	55	29	-	6°	39	16	40,000	0.31					
-HDC 3.175S- 55▲		3.175																
-HDC 4S - 55▲		4																
-HDC 6S - 60		6												60	34	40	25	0.32
-HDC 8S - 65 NEW		8				17	65	39	39	31	0.33							
-HDC10S - 70 NEW		10				19	70	40	42	33	35,000	0.37						
-HDC12S - 70 NEW		12				21							36	0.38				
HSK-E50-HDC 4S -120		3				4	14	24	40	120	47	93	6°	100	19	30,000	0.90	
-HDC 6S -120	6		25															
-HDC 8S -120	8		17	28	40	31												0.92
-HDC10S -120	10		19	30	48	33												0.92
-HDC12S -120	12		21	32	49	36												0.93

1. HSK-E25 and -E32 cannot be used with center through.

2. Coolant pipe is not included. C63

3. Adjusting Screw cannot be used.

● It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

4. * HSK-E25-HDC6S-45 has a body diameter of $\phi 23$ (ISO standard: $\phi 20$ or less).

Note that it may not be usable depending on the machine.

5. For machines with HSK-E40 spindle which cannot be used with a through hole, order a plug separately. C63

6. When using coolant with models marked with ▲, some coolant may leak from the inner diameter slits.

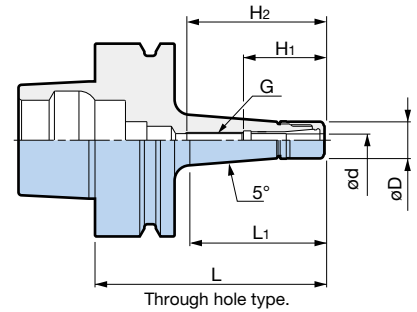
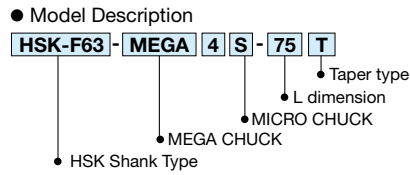
Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

Ultra-slim design with $\varnothing 10\text{mm}$ nut outer diameter.
High speed collet chuck with minimized interference.

Max.
30,000min⁻¹

[High Rigidity Taper Type]

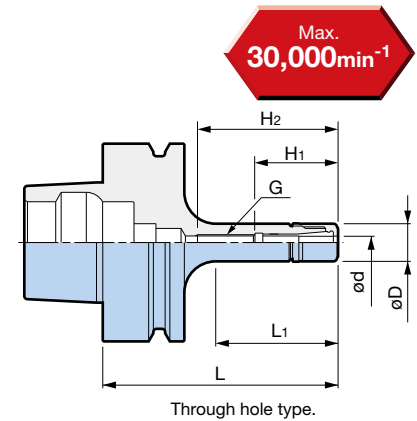
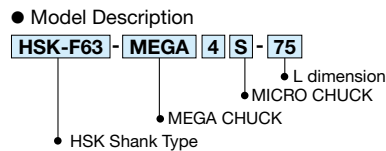


F Type (DIN 69893-6)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H ₁	H ₂	G	Collet Model	Weight (kg)
HSK-F63-MEGA4S-75T	0.45 - 4.05	12	75	44	26.5	41	M5 P0.8	NBC4S-□	0.7
-MEGA6S-75T	0.45 - 6.05	14	75	44	28.5	41	M7 P0.75	NBC6S-□	0.7
-MEGA8S-75T	2.95 - 8.05	18	75	44	31	58	M9 P0.75	NBC8S-□	0.7

- Nut is included. Collet and wrench must be ordered separately.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
- For machines which cannot be used with a through hole, order a plug separately. **C63**

[Straight Type]



Max.
30,000min⁻¹

F Type (DIN 69893-6)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H ₁	H ₂	G	Collet Model	Weight (kg)
HSK-F63-MEGA4S- 75 -105	0.45 - 4.05	12	75	39	26.5	41	M5 P0.8	NBC4S-□	0.7
			105	76		47			0.7
-MEGA6S- 75 - 90 -105	0.45 - 6.05	14	75	46	28.5	41	M7 P0.75	NBC6S-□	0.7
			90	61		49			0.8
			105	76		49			0.8

- Nut is included. Collet and wrench must be ordered separately.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
- For machines which cannot be used with a through hole, order a plug separately. **C63**

Standard Accessory	Optional Accessories			
<p>MEGA NUT</p> <p>For Spares G3</p>	<p>Mega Wrench</p> <p> G26</p>	<p>Micro Collet</p> <p> G2</p>	<p>Mega Micro Seal Nut (for 6S and 8S) Mega Micro Coolant Nut (for 6S)</p> <p> G3</p>	<p>Collet Case</p> <p> G4</p>

Clamping diameter: $\varnothing 0.25 - \varnothing 20$

MEGA NEW BABY CHUCK PAT.

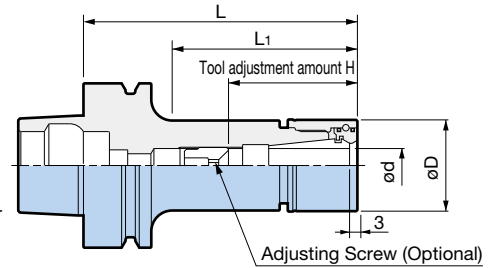
High-speed small-diameter drilling and endmilling are achieved with the exceptional tool balance and high-precision collet chuck system.



● Model Description

HSK-F63 - **MEGA** **6** **N** - **75**

- L dimension
- NEW BABY CHUCK
- Maximum clamping diameter
- MEGA CHUCK
- HSK Shank Type



F Type (DIN 69893-6)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-F63-MEGA 6N- 75	0.25 - 6	20	75	42	23 - 31	NBC 6-□	0.7
- 90			90	53	23 - 43		0.8
-105			105	69			0.8
-135			135	99	0.9		
-MEGA 8N- 75	0.5 - 8	25	75	43	26 - 38	NBC 8-□	0.8
- 90			90	54	26 - 45		0.9
-105			105	69			0.9
-120			120	84			0.9
-135			135	99			1.0
-165			165	129	1.1		
-MEGA10N- 75 ※	1.5 - 10	30	75	43	48	NBC10-□	0.9
- 90			90	54	38 - 48		0.9
-105			105	69			1.0
-120			120	84	1.1		
-MEGA13N- 75 ※	2.5 - 13	35	75	43	47	NBC13-□	0.9
- 90 ※			90	56	61		1.0
-105			105	71	44 - 53		1.1
-120			120	86	44 - 63		1.2
-165			165	131			1.6
-MEGA16N- 75 ※	2.5 - 16	42	75	43	48	NBC16-□	1.0
- 90 ※			90	58	61		1.2
-105			105	73	48 - 56		1.3
-MEGA20N- 75 ※	2.5 - 20	46	75	45	51	NBC20-□	1.1
- 90 ※			90	60	61		1.3
-105			105	75	51 - 58		1.4

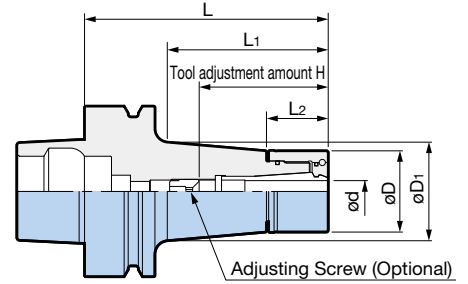
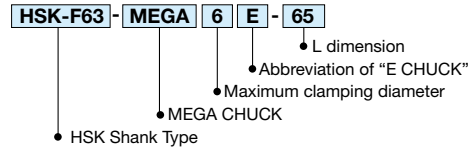
- Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
- ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
- For machines which cannot be used with a through hole, order a plug separately.

Standard Accessory		Optional Accessories				
MEGA NUT For Spares	O-ring For Spares	MEGA NUT Flat Type 	Mega Wrench 	Collet 	MEGA PERFECT SEAL 	Adjusting Screw

High precision holder with superior collet chuck technology and the pursuit of high-speed and powerful endmilling.



● Model Description



F Type (DIN 69893-6)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	L ₂	H	Collet Model	Weight (kg)
HSK-F63-MEGA 6E- 65 ※	3 - 6	25	28.5	65	34	21	39	MEC 6-□	0.8
- 90			31.5	90	58		37 - 45		0.9
-MEGA 8E- 65 ※	3 - 8	30	33	65	34	22.5	41	MEC 8-□	0.8
- 90			36.5	90	59		42 - 47		1.0
-MEGA10E- 75 ※	3 - 10	35	38.5	75	44	23	48	MEC10-□	1.0
- 90 ※			41.5	90	59		67		1.2
-105			44	105	75		48 - 58		1.3
-120			47	120	91				1.6
-135			49	135	107				1.8
-MEGA13E- 75 ※	3 - 12	42	46	75	47	25	50	MEC13-□	1.1
- 90 ※			48.5	90	62		64		1.4
-105			51	105	78		50 - 58		1.6
-135			52	135	108		50 - 60		2.0

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
3. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. For machines which cannot be used with a through hole, order a plug separately.

Standard Accessory		Optional Accessories			
<p>MEGA E Nut</p> <p>For Spares </p>	<p>O-ring</p> <p>For Spares </p>	<p>Mega Wrench</p> <p></p>	<p>MEGA E Collet</p> <p></p>	<p>MEGA E PERFECT SEAL</p> <p></p>	<p>Adjusting Screw</p> <p></p>

Complete contact with the nut and body.
High rigidity equal to integration with the machine spindle.



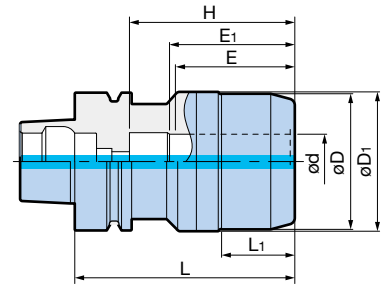
[Standard Type]



● Model Description

HSK-F63 - MEGA 16 D - 80A

- DOUBLE POWER Standard Type
- Clamping diameter
- MEGA CHUCK
- HSK Shank Type



F Type (DIN 69893-6)

Model	Clamping diameter ϕd	ϕD	ϕD_1	L	L ₁	H	Min. clamping length		Mega Wrench	Weight (kg)
							E	E ₁		
HSK-F63-MEGA16D- 80A	16	42	53	80	25	55	48	50	MGR42L	1.2
-MEGA20D- 90A	20	50	55	90	34	65	50	56	MGR50L	1.4
-MEGA25D-100A	25	62	63	100	39	75	56	57	MGR62L	1.8
-MEGA32D-105A	32	70	71	105	33	80	60	64	MGR70L	2.0

1. Wrench is not included. Please order separately.
2. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
3. H dimension is the max. tool shank length that can be inserted into the holder. **Adjusting screws cannot be used.**
4. For machines which cannot be used with a through hole, order a plug separately. C63
5. When using center through coolant, insert a tool shank into E₁ or more.

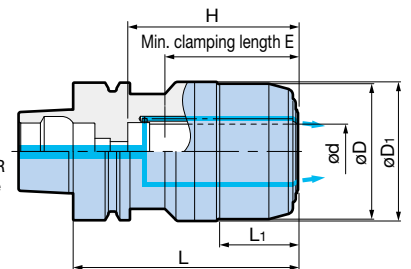
[Jet Through Type] Coolant to tool periphery



● Model Description

HSK-F63 - MEGA 16 DS - 80A



- DOUBLE POWER Jet Through Type
- Clamping diameter
- MEGA CHUCK
- HSK Shank Type



F Type (DIN 69893-6)

Model	Clamping diameter ϕd	ϕD	ϕD_1	L	L ₁	H	E	Mega Wrench	Weight (kg)
-MEGA20DS- 90A	20	50	55	92	36	67	50	MGR50L	1.4
-MEGA25DS-100A	25	62	63	102	41	77	56	MGR62L	1.8
-MEGA32DS-105A	32	70	71	107	35	82	60	MGR70L	2.0

1. Wrench is not included. Please order separately.
2. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
When using, slowly ramp up to the appropriate speed starting from slow speeds.
3. **Jet-through type provides coolant from the chuck nose, thus tools with oil holes cannot be used.**
4. H dimension is the max. tool shank length that can be inserted into the holder. **Adjusting screws cannot be used.**
5. For machines which cannot be used with a through hole, order a plug separately. C63

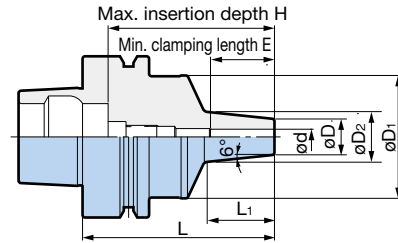
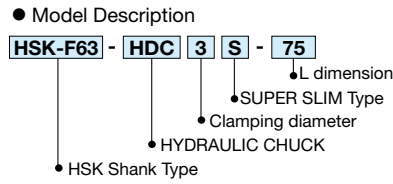
Optional Accessories	
<p>Straight Collet</p>  <ul style="list-style-type: none"> PJC Collet G19 PSC Collet G20 OCA Collet G21 C Collet G22 	<p>Mega Wrench</p>  <p> G26</p>

For versatile high-precision machining including molds and automotive components.

- Slim design minimizes workpiece interference, ideal for mold making.

Center through

[SUPER SLIM Type PAT.]



F Type (DIN 69893-6)

Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H	E	Weight (kg)
HSK-F63-HDC 3S- 75 ※	3	14	48	20	75	26	65	16	1.0
-HDC 4S- 75	4							19	1.0
-HDC 6S- 75	6							25	1.0
-HDC 8S- 75	8							31	1.0
-HDC10S- 75	10							33	1.0
-HDC12S- 75	12							36	1.0

1. Adjusting Screw cannot be used.
 2. For machines which cannot be used with a through hole, order a plug separately. **C63**
 3. When using coolant with models marked with ※, some coolant may leak from the inner diameter slits.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. **G25**

Caution

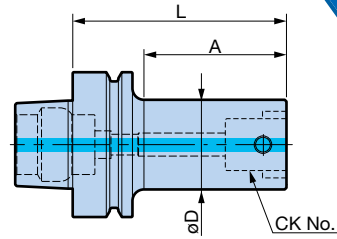
- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

HYDRAULIC CHUCK

CK SHANK



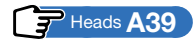
- Model Description
HSK-F63 - **CKB1** - **78**
- L dimension
- CK No.
- HSK Shank Type



F Type (DIN 69893-6)

Select a head and holder with matching CK No.

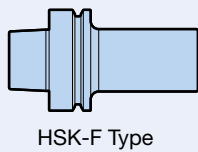
Model	CK No.	øD	L	A	Weight (kg)
HSK-F63-CKB1- 78	CK1	19	77.5	40	0.8
CKB2- 90	CK2	24	89.5	58	0.8
CKB3-100	CK3	31	100	69	1.0
CKB4- 93	CK4	39	93	62	1.2
CKB5- 83	CK5	50	83	55	1.3



- Supports various applications from rough to finish boring with abundant heads and accessories.



CK BORING SYSTEM Diagram



HSK-F Type

CK1 - CK5



A wide variety of products are available in addition to the listed boring head accessories.

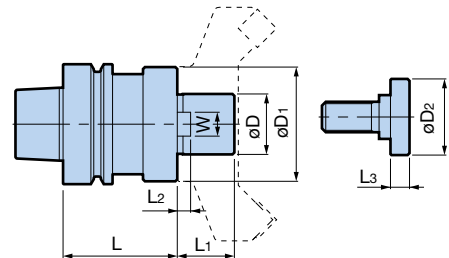
Back boring available

Diameter: ø30 - ø95

General Toolholder
FACE MILL ARBOR TYPE A



- Model Description
HSK-F63 - **FMA** **25.4** - **45**
- L dimension
- Spigot diameter
- FACE MILL ARBOR TYPE A
- HSK Shank Type



F Type (DIN 69893-6)

Model	øD	øD1	øD2	L	L1	Drive Key		L3	Clamp Screw	Weight (kg)
						L2	W			
HSK-F63-FMA25.4-45	25.4	45	33	45	22	5	9.5	10	MBA-M12	1.0

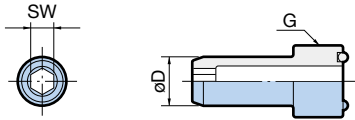
1. Cutter clamp screw is included.

Coolant Pipe (Compatible for form A & E)

Contact us for the Coolant Pipe for the HSK-F type.

● Mono Block Type

- Some machine tool builders may recommend the Mono Block Type. Check with the machine when selecting Mono Block or 1° Swing Type.



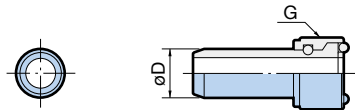
⚠ Caution

For machines capable of supplying coolant through the spindle, the Coolant Pipe should be fitted to all the holders to protect against accidental selection of coolant.

Model	øD	G	SW
HSK 25-CP	5	M 8xP1	2.5
32-CP	6	M10xP1	3
40-CP	8	M12xP1	4
50-CP	10	M16xP1	5
63-CP	12	M18xP1	6
80-CP	14	M20xP1.5	8
100-CP	16	M24xP1.5	8
125-CP	18	M30xP1.5	10

● 1° Swing Type

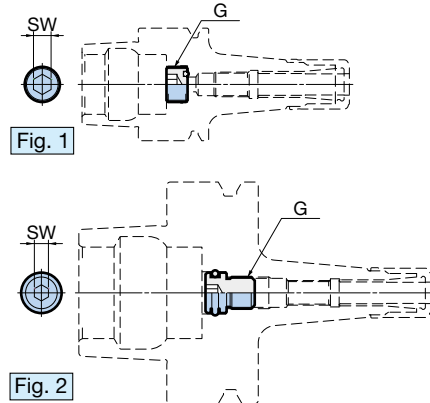
- The DIN and ISO standards require movement range of $\pm 1^\circ$. An exclusive wrench (optional) is required when attaching the 1° Swing Type to a holder.



Model	øD	G	Wrench Model (Optional)
HSK 40-CPM	8	M12xP1	CPW- 40
50-CPM	10	M16xP1	CPW- 50
63-CPM	12	M18xP1	CPW- 63
80-CPM	14	M20xP1.5	CPW- 80
100-CPM	16	M24xP1.5	CPW-100
125-CPM	18	M30xP1.5	CPW-125

HSK Plug

For machines which cannot be used with a through hole, use a plug.



⚠ Caution

For machines which cannot be used with a through hole, use a plug.

Model	Fig.	Shank	G	SW
HSK25-PG	1	HSK-A25	M 8xP1	4
		HSK-E25		
HSK32-PG	1	HSK-A32	M10xP1	5
		HSK-E32		
HSK40-PG	1	HSK-A40	M12xP1	6
		HSK-E40		
HSK-F63-PG	2	HSK-F63	M 9xP0.75	4

1. HSK-F63-PG cannot be used with other manufacturers' tooling.

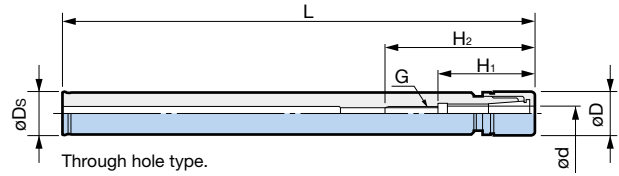
Cylindrical Shank

CYLINDRICAL Shank



D

- Achieves high-precision machining in combination with the Mega New Baby Chuck.



- Model Description
- ST10** - **MEGA** **3** **S** - **120**
- Cylindrical shank diameter
 - MEGA CHUCK
 - MICRO CHUCK
 - L dimension

Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_s$	L	H ₁	H ₂	G	Collet Model	Weight (kg)
ST10-MEGA3S-120	0.45 - 3.25	10	10	120	22	38	M4 P0.7	NBC3S-□	0.06
ST12-MEGA4S-130	0.45 - 4.05	12	12	130	26.5	47	M5 P0.8	NBC4S-□	0.11
				160					0.13
ST14-MEGA6S-160	0.45 - 6.05	14	14	160	28.5	49	M7 P0.75	NBC6S-□	0.18
				200					0.21
ST16-MEGA8S-160	2.95 - 8.05	18	16	160	31	50.5	M9 P0.75	NBC8S-□	0.23
				200					0.25

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.

Cylindrical Shank Set

- With a set box convenient for storage



Set Contents

Model **SST12-MEGA4S-130**

- < $\varnothing 12$ shank type accessories>
- Body/ST12-MEGA4S-130 (with MGN4S nuts)
 - Micro Collet/NBC4S-3 and 4 ($\varnothing 3, \varnothing 4$)
 - Mega Wrench/MGR12 ● Exclusive set box

Model **SST16-MEGA8S-160**

- < $\varnothing 16$ shank type accessories>
- Body/ST16-MEGA8S-160 (with MGN8S nuts)
 - Micro Collet/NBC8S-3, 4, 6 and 8 ($\varnothing 3, \varnothing 4, \varnothing 6, \varnothing 8$)
 - Mega Wrench/MGR18 ● Exclusive set box

Model **SST14-MEGA6S-160**

- < $\varnothing 14$ shank type accessories>
- Body/ST14-MEGA6S-160 (with MGN6S nuts)
 - Micro Collet/NBC6S-3, 4, 5 and 6 ($\varnothing 3, \varnothing 4, \varnothing 5, \varnothing 6$)
 - Mega Wrench/MGR14 ● Exclusive set box

Standard Accessory	Optional Accessories			
<p>MEGA NUT</p> <p>For Spares </p>	<p>Mega Wrench</p> <p></p>	<p>Micro Collet</p> <p></p>	<p>Mega Micro Seal Nut (for 6S and 8S) Mega Micro Coolant Nut (for 6S)</p> <p></p>	<p>Collet Case</p> <p></p>

For versatile high-precision machining including molds and automotive components.

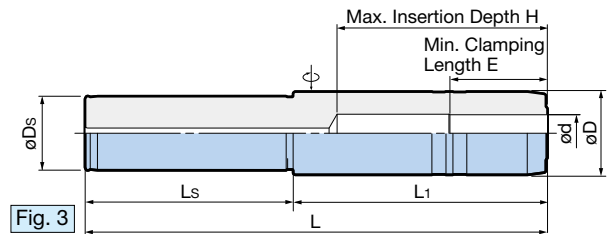
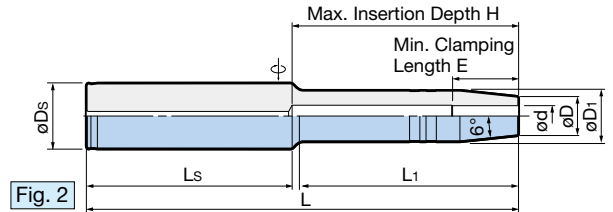
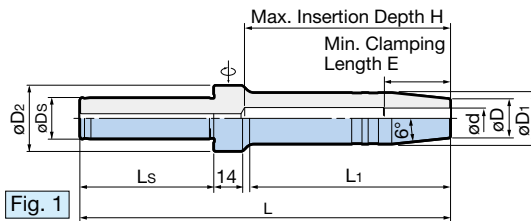


- Cylindrical shank type that prevents interference with workpieces.



● Model Description

- ST20** - **HDC** **4** **S** - **180**
- L dimension
 - SUPER SLIM Type
 - Clamping diameter
 - HYDRAULIC CHUCK
 - Cylindrical shank diameter



Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_1	ϕD_2	ϕD_s	L	L ₁	L _s	H	E	Weight (kg)
ST20-HDC 4S-180	1	4	14	18	32	20	180	94	65	101	19	0.40
-HDC 6S-180		6		20				25			0.43	
-HDC 8S-180		8		23				31			0.50	
-HDC10S-180		10		25				33		0.54		
-HDC12S-180		12		28				36		0.61		
ST32-HDC10S-210	2	10	19	25	-	32	210	106	100	110	33	0.98
-HDC12S-210		12	28	109				36		1.06		
-HDC16 -200	3	16	36	-	-	32	200	110	90	91	43	1.27
-HDC20 -200		20	38							90		1.28

1. Adjusting Screw cannot be used.

- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck.

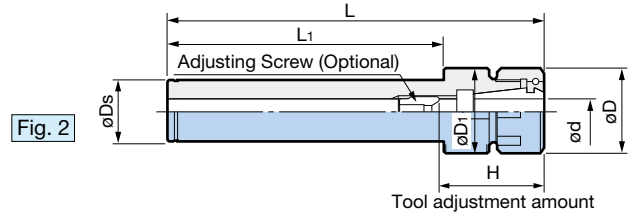
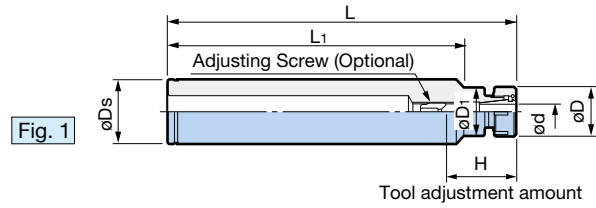
Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

Handles interference issues flexibly when combined with the NEW Hi-POWER MILLING CHUCK.



- Enables easy tool layout for horizontal machining center prone to interference with workpieces and jigs.



● Model Description

ST20 - **NBS** **6** - **100**

- L1 dimension ※
- Maximum clamping diameter
- NEW BABY CHUCK System
- Cylindrical shank diameter

※ Note that the 3rd digit in the model number does not correspond to the L dimension (overall length).

Model	Fig.	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_s$	L	L ₁	H	Collet Model	Weight (kg)
ST20-NBS 6-100	1	0.25 - 6	20	19.5	20	124	100	20 - 40	NBC 6-□	0.27
-150						174	150			0.39
-250						274	250			0.64
-NBS 8-100	2	0.5 - 8	25	24.5	20	126	100	23 - 42	NBC 8-□	0.29
-150						176	150			0.41
-250						276	250			0.66
-NBS10-100	2	1.5 - 10	30	29.5	20	128	100	35 - 45	NBC10-□	0.32
-150						178	150			0.44
-250						278	250			0.69
-350						378	350			0.93
ST25-NBS 6-150	1	0.25 - 6	20	19.5	25	174	150	20 - 40	NBC 6-□	0.60
-200						224	200			0.79
-250						274	250			0.98
-NBS 8-150	1	0.5 - 8	25	24.5	25	176	150	23 - 42	NBC 8-□	0.62
-200						226	200			0.81
-250						276	250			1.00
-NBS10-150	2	1.5 - 10	30	29.5	25	178	150	35 - 45	NBC10-□	0.65
-200						228	200			0.84
-250						278	250			1.03
-NBS13-150	2	2.5 - 13	35	34.5	25	184	150	41 - 60	NBC13-□	0.67
-200						234	200			0.86
-250						284	250			1.05

- The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
- Weight includes the nut but not the collet.

- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).

- BIG** ST LOCK is available for mounting and removing tools. H4

Standard Accessory	Optional Accessories				
<p>New Baby Nut</p> <p>For Spares </p>	<p>New Baby Wrench</p> <p></p>	<p>Collet</p> <p></p>	<p>BABY PERFECT SEAL</p> <p></p>	<p>Adjusting Screw</p> <p></p>	<p>Tap Adjusting Screw</p> <p></p>

Clamping diameter: $\varnothing 0.25 - \varnothing 20$


Collet Chuck System
NEW BABY CHUCK PAT.

Cylindrical
ST
SHANK

※ Note that the 3rd digit in the model number does not correspond to the L dimension (overall length).

Model	Fig.	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_s$	L	L ₁	H	Collet Model	Weight (kg)				
ST32-NBS 6-150	1	0.25 - 6	20	19.5	32	174	150	20 - 40	NBC 6- □	0.96				
-200						224	200			1.28				
-NBS 8-150						176	150	23 - 42	NBC 8- □	0.99				
-200		226	200	1.30										
-NBS10-150		1	0.5 - 8	25		24.5	32	178	150	35 - 45	NBC10- □	1.02		
-200								228	200			1.33		
-250								278	250			35 - 45	NBC10- □	1.64
-350			378	350		1.95								
-NBS13-150			2	1.5 - 10		30		29.5	32	184	150	41 - 60	NBC13- □	1.04
-200										234	200			1.35
-250	284	250			41 - 60		NBC13- □			1.67				
-300				334		300		2.30						
-NBS16-150	2	2.5 - 13		35	34.5	32	184	150		45 - 65	NBC16- □	1.05		
-200							234	200				1.37		
-300			334				300	2.00						
-NBS20-150		2	2.5 - 16	42	41.5		32	184	150	48 - 65	NBC20- □	1.05		
-200								234	200			1.37		
-300								334	300			2.00		
-NBS20-150	2	2.5 - 20	46	45.5	32	184		150	48 - 65	NBC20- □	1.05			
-200						234		200			1.37			
-300						334		300			2.00			

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Weight includes the nut but not the collet.

3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).
4. **BIG** ST LOCK is available for mounting and removing tools. 

NEW BABY CHUCK

Clamping diameter: $\varnothing 6 - \varnothing 10$

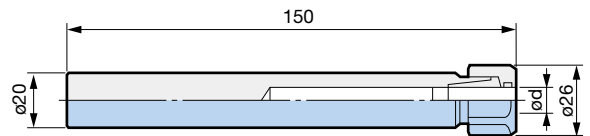
Collet Chuck System
BABY CHUCK

Straight
ST
SHANK

- Small-diameter endmill holder that prevents interference.



- Model Description
MB 20 - 6
 - Clamping diameter
 - Shank diameter
 - BABY CHUCK



Model	Standard Accessory (collet with nut)	
	Model	$\varnothing d$
MB20- 6	BC- 6	6
- 8	- 8	8
-10	-10	10

1. When spare collet is required, order the collet with nut model BC-x.
2. **BIG** ST LOCK is available for mounting and removing tools.

 **ST LOCK H4**

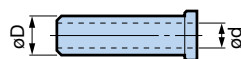
<BABY CHUCK Set>

- Model Description
SMB - 20
 - Shank diameter
 - BABY CHUCK Set

Model	Standard Accessory (Collet with nut)
SMB-20	BC-6, 8, 10

1. The set includes 3 types of collet with nut.

<Straight Collet>



- Model Description
C6 - 3
 - Collet inner diameter
 - Collet outer diameter

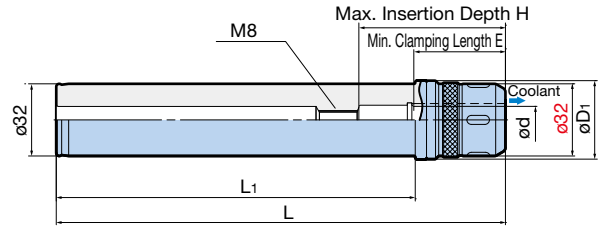
Model	$\varnothing d$	$\varnothing D$	Model	$\varnothing d$	$\varnothing D$
C6-3	3	6	C10-4	4	10
-4	4				
-5	5				

Slim milling chuck with high rigidity.
Nut diameter of $\varnothing 32$ avoids interference.

Center through



Jet Through Coolant



● Model Description

- ST32** - **HMC** **12** **J** - **120**
- L dimension
 - Jet Through Type
 - Chuck bore
 - NEW Hi-POWER MILLING CHUCK
 - Cylindrical shank diameter

Model	Clamping diameter $\varnothing d$	$\varnothing D_1$	L	L ₁	H	E	Wrench Model	Weight (kg)
ST32-HMC12J-120	12	35	120	80	65	43	FK31-33	0.7
-160			160	120				0.9
-200			200	160				1.1

1. Wrench is not included. Please order separately.
2. MEGA WRENCH cannot be used.



D

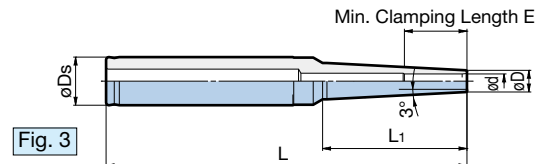
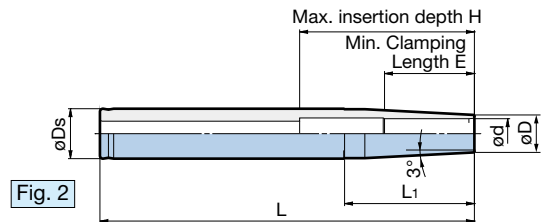
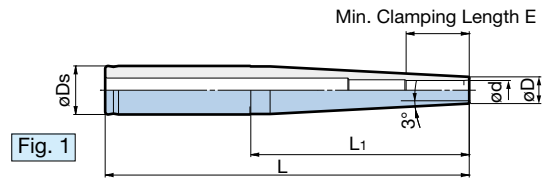
MILLING CHUCK

[SUPER SLIM Type] Clamping diameter: $\phi 4 - \phi 12$

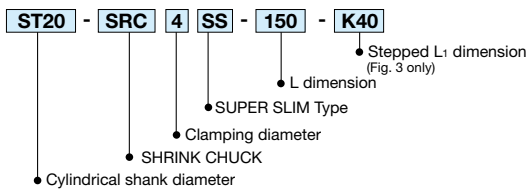
Holder material
 Tool steel

Clamping diameter
 $\phi 4 -$

Center through



● Model Description



Model	Fig.	Clamping diameter ϕd	ϕD	ϕD_s	L	L ₁	H	E	Weight (kg)
ST12-SRC 4SS-120 ※	1	4	7	12	120	51	—	16	0.10
-SRC 6SS-120	2	6	9		32	52	26	0.10	
ST20-SRC 4SS-150-K40 ※	3	4	7	20	150	40	—	16	0.25
-SRC 6SS-150-K60					150	60	—	26	0.25
-200	1	6	9	20	200	110	—	26	0.30
-250					250				0.35
-SRC 8SS-150					150				—
-200	1	8	11	20	200	90	—	26	0.30
-250					250				0.40
-SRC10SS-150					150				—
-200	2	10	13	20	200	71	60	32	0.35
-250					250				0.40
-SRC12SS-150					150				—
-200	2	12	15	20	200	52	70	36	0.35
-250					250				0.45

1. Use a carbide shank cutter within a tolerance of h6.
 For models marked with ※, use a carbide shank with a tolerance within h5.
2. Center through coolant supply is available with tools with oil holes.

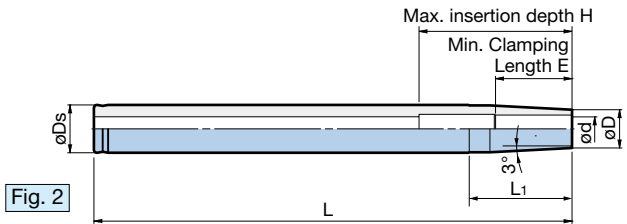
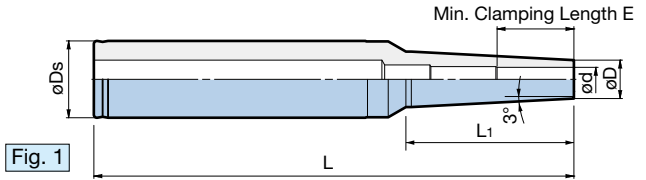
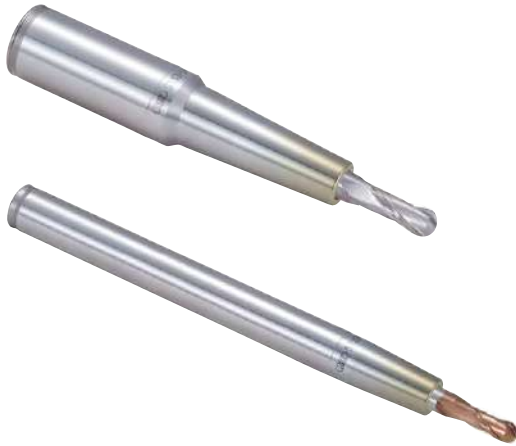
<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

[Slim Type] Clamping diameter: $\phi 12 - \phi 20$

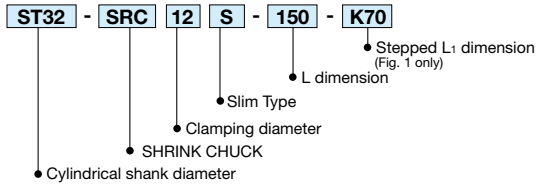
Holder material
Tool steel

Clamping diameter
 $\phi 12 -$

Center through



● Model Description



Model	Fig.	Clamping diameter ϕd	ϕD	ϕDs	L	L ₁	H	E	Weight (kg)
ST32-SRC12S-150-K70	1	12	19	32	150	70	—	36	0.55
-200-K70					200				0.80
-300-K70					300				1.25
-SRC16S-150	2	16	24	32	150	83	70	38	0.60
-200					200		80		0.85
-300					300		1.30		
-SRC20S-150	2	20	28	32	150	50	80	38	0.60
-200					200				0.85
-300					300				1.30

1. Use a carbide shank cutter within a tolerance of h6.

2. Center through coolant supply is available with tools with oil holes.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.



- Long tap holder now available as standard in addition to various tap sizes.

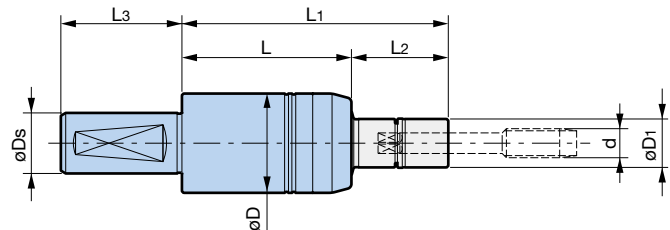
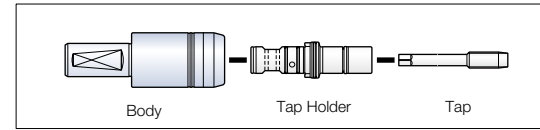


● Model Description (Body)

ST20 - **MGT6** - **65**

● L dimension
● MEGA SYNCHRO No.
● Cylindrical shank No.

For tap holders **A128**.



※ Use the **BIG** Side Lock Holder (TSL). **A123**

Model	Tap Holder Model	Tapping range d	øD	øD ₁	øD _s	L	L ₁	L ₂	L ₃	Weight (kg)
ST20-MGT 6-65	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	20	65	95	30	40	0.5
	- 70						135	70		
	-100						165	100		
ST25-MGT12-70	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20 · 30	25	70	100	30	50	0.8
	- 70						140	70		
	-100						170	100		
ST32-MGT20-90	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	32	90	125	35	55	1.5
	- 85						175	85		
	-115						205	115		

- MGT Set Screw is included.
 - Tap holder is not included. Please order separately. **A128**
- Cannot be used with machining center without synchronized tapping function.

SYNCHRONIZED TAP HOLDER STD52 M39 - M52



A137

Mega Wrench A132

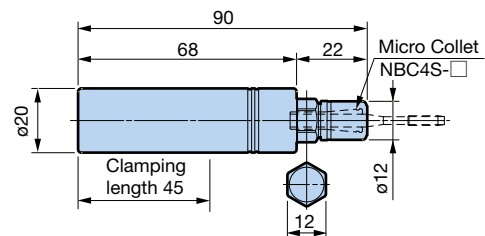
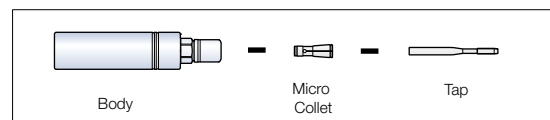
L₂= **150, 200mm** tap holders are also available. For details, see **A128 - A131**

[Small Diameter Tap MGT3 PAT.] M1 - M3



Model **ST20-MGT3-90**

- Nut is included. Wrench and collet must be ordered separately.
 - When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.
- Cannot be used with machining center without synchronized tapping function.
 - Cannot be used with center through.

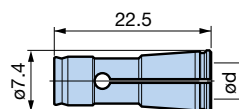


● Mega Wrench

● Micro Collet



Model **MGR12**



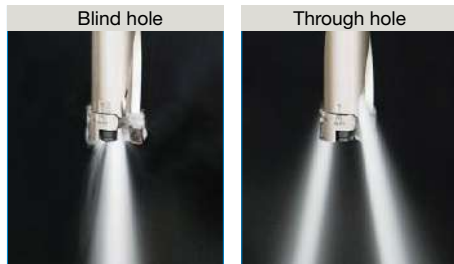
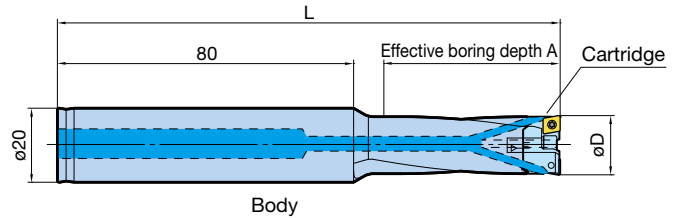
Model	Tapping range		Tap shank diameter ød
	Metric	Unify	
NBC4S - 3.0AA	M1 - M2.6	No.0 - 4	3
NBC4S - 4.0AA	M3	No.5, 6	4

- When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.

MW BORING HEAD PAT. (for roughing)

Achieves high efficiency small diameter rough boring with 2 inserts.

Center through



Threads for plug screws are prepared in the coolant holes to change the coolant directions.

Diameter ϕD	Model	Cartridge Model	L	A	Clamp Bolt Set	Belleville Spring Set	Weight (kg)
16 - 19	ST20-MW1619-45	MW1619E	136	45	MW16SS	MW16BS	0.24
	-60		151	60			0.26
18 - 21	-MW1821-50	MW1821E	141	50			0.26
	-65		156	65			0.28

Cartridge models are a 2-piece set.

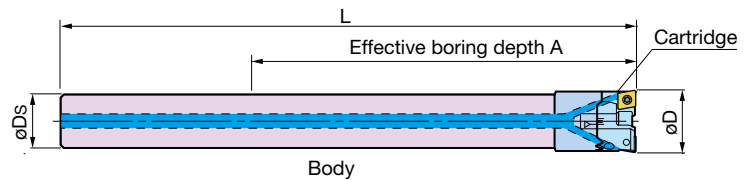
1. Clamp Bolts and Belleville Springs are included with the body. However, cartridges are not included and must be ordered separately.
2. Cartridge includes insert clamping screws and wrench.
3. The weight is that of the body and cartridge combined.
4. Inserts must be ordered separately.

[Carbide shank type]

NEW

- Carbide shank for enhanced deep hole boring performance (for through-hole)

Carbide



is made of carbide.

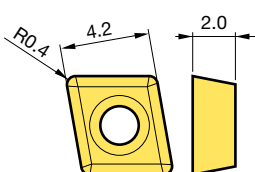


Diameter ϕD	Model	Cartridge Model	ϕD_s	L	A	Clamp Bolt Set	Belleville Spring Set	Weight (kg)
16 - 19	ST14W-MW16-110	MW1619E	14	151	110	MW16SS	MW16BS	0.36
18 - 21	ST16W-MW18-115	MW1821E	16	172	115			0.54

Cartridge models are a 2-piece set.

1. Clamp Bolts and Belleville Springs are included with the body. However, cartridges are not included and must be ordered separately.
2. Cartridge includes insert clamping screws and wrench.
3. The weight is that of the body and cartridge combined.
4. Inserts must be ordered separately.
5. The carbide shank and boring head are integrated and cannot be sold separately.
6. **Exclusive for use with through holes. Do not use it with blind holes.**

- Insert (optional)



Workpiece material	Insert Model	Materials
Steel/Stainless steel	MW0404F Z30P	P30 equivalent carbide substrate TiAlN + AlCrN coating
Cast iron/Ductile	MW0404S Z30K	K20 equivalent carbide substrate TiAlN + AlCrN coating
Non-ferrous metal/Aluminum	MW0404E D15N	K15 equivalent carbide substrate DLC coating

1. Inserts sold in packets of 10 pcs.
Example: MW0404F Z30P... 10 pcs

- Insert Clamping Screw Set (optional)



Set Model	Thread size	Wrench
S1.6S-T6	M1.6 x 4.2	FA-T6

1. The set contains ten screws and a wrench.
※ Wrenches are also sold individually.

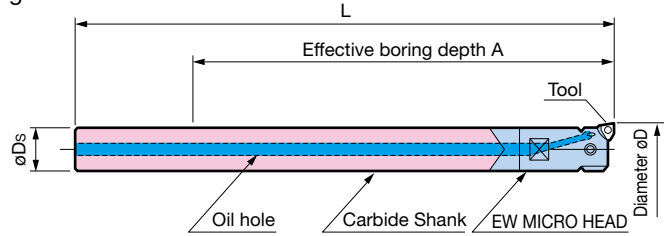
With Carbide Shank

EW MICRO HEAD Diameter: $\phi 15 - \phi 22$

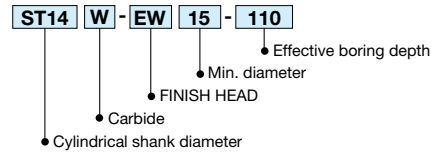


Smaller head while maintaining popular $\phi 0.01\text{mm/div.}$ adjusting mechanism.

- Adjustment with only micro-quill eccentricity preserves high speed capability.
- The solid carbide cylindrical shank allows high-rigidity boring.



● Model Description



Model	ϕD_s	Diameter ϕD	L	A	Tool Model	Insert	Insert Clamping Screw Set	Weight (kg)
ST14W-EW15-110	14	15 - 18	151	110	EN15	WC02	S2S-B	0.10
-140			181	140				0.29
ST16W-EW18-100	16	18 - 22	144	100				0.28
-160			204	160				0.43

Caution - The maximum effective boring depth differs depending on the workpiece material.

1. The carbide shank and micro head are integrated and cannot be sold separately.
2. Inserts must be ordered separately.



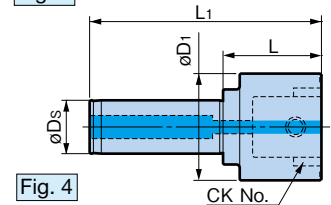
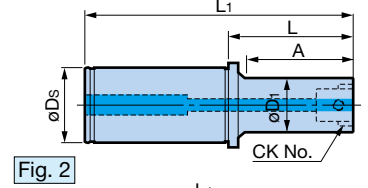
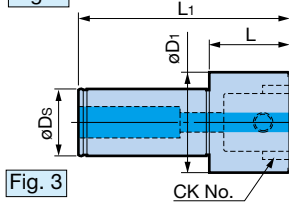
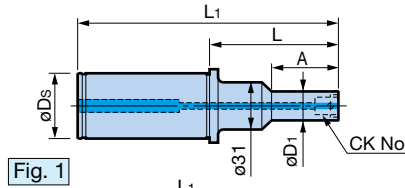
CK Cylindrical Shank



Model Description

ST32 - **CKB1** - **77**

- CK No.
- L dimension
- Cylindrical shank No.



Center through

D

CK BORING SYSTEM



For chucking

When using a cylindrical shank tool, we recommend

BIG NEW Hi-POWER
MILLING CHUCK
for its high accuracy and rigidity.

Details **A29**

Model	Fig.	CK No.	øD1	øDs	L	L1	A	Weight (kg)
ST32-CKB1-77	1	CK1	19	32	77	157	41	0.7
-CKB2-73	2	CK2	24		72.5	152.5	64	0.7
-CKB3-69		CK3	31		69	149	63	0.8
-CKB4-58	3	CK4	39		58	138	(53)	0.9
-CKB5-48	4	CK5	50		48	128	(43)	0.9
-CKB6-59		CK6	64		59	139	(54)	1.5
ST42-CKB1-77	1	CK1	19	42	77	157	40	1.0
-CKB2-73	2	CK2	24		72.5	152.5	62	1.0
-CKB3-69		CK3	31		69	149	59	1.1
-CKB4-63	3	CK4	39		63	143	57	1.2
-CKB5-48		CK5	50		48	128	(43)	1.3
-CKB6-59	4	CK6	64		59	139	(54)	1.8

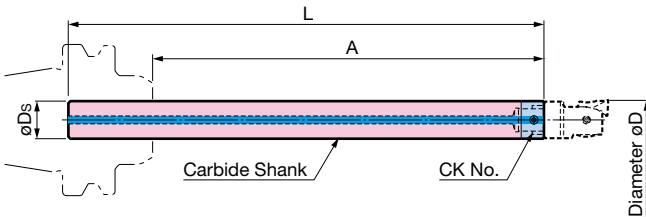
1. Head and insert must be ordered separately.

Heads **A39**

CK Carbide

Cylindrical Shank Diameter: ø20 - ø60

The solid carbide bar realizes efficient deep hole boring which was conventionally impossible.



Model Description

ST19 **W** - **CKB1** - **140**

- CK No.
- L dimension
- Carbide
- Cylindrical shank diameter

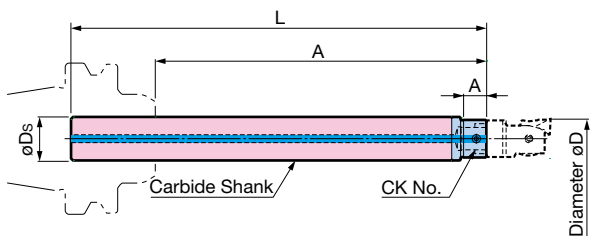
Carbide

Center through

Model	CK No.	øDs	Diameter øD	L	A	Weight (kg)
ST19W-CKB1-140	CK1	19	20 - 36	140	97	0.5
-190				190	147	0.7
-240				240	197	0.9
ST24W-CKB2-160	CK2	24	25 - 47	160	114	0.9
-220				220	174	1.3
-290				290	244	1.7
ST31W-CKB3-200	CK3	31	32 - 60	200	144	1.8
-280				280	224	2.6
-350				350	294	3.3

1. The A dimension in the table is the reference value when used with Hydraulic Chuck.
2. Head and inserts are not included.

Stepped type



is made of carbide.

Model	CK No.	øDs	Diameter øD	L	A	Weight (kg)
ST22W-CKB1-210	CK1	22	20 - 22	210	12	1.1
			22 - 36		167	
ST28W-CKB2-245	CK2	28	25 - 28	245	19	1.9
			28 - 47		199	

1. The A dimension in the table is the reference value when used with Hydraulic Chuck.
2. Head and inserts are not included.

Heads **A39**

Caution -
The maximum boring depth differs depending on the workpiece material.

MILLTURN TOOLING

BBT/HSK-T/BIG CAPTO Shank



E

Revolutionary modular system for turning

45° (Tilt Type) S Type



Tilting the "B" axis 45° minimizes the cutting forces transmitted to the machine spindle.



E
MILLTURN TOOLING

90° (Right Angle Type) F Type



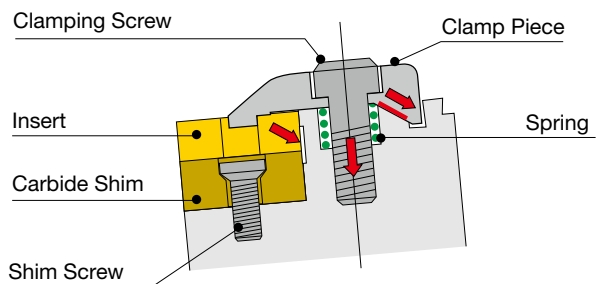
Basic holder can be used with both right- and left-hand cartridges.



DOUBLE-CLAMPING SYSTEM

Double-clamping system that utilizes a "Push and Draw" mechanism to fix inserts securely

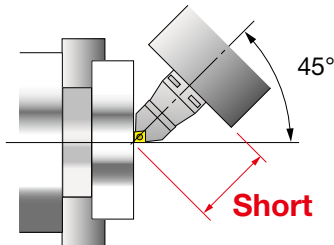
Secure insert clamping has been realized through the double-clamping system, which pushes the insert downwards while at the same time generating drawing force on the insert contact surface.



The issue of a valuable holder breakage caused by problems such as chipping has been eliminated through the use of a “modular system”, resulting in enhanced efficiency and economy.

45° incline avoids interference with the chuck

Tool length can be minimized.

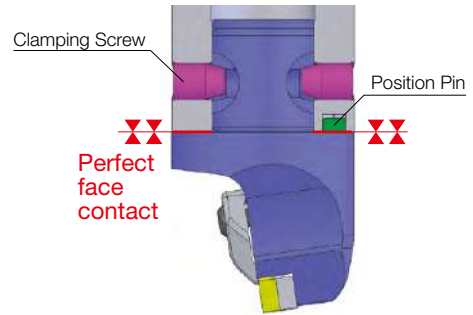


A total of 15 types of cartridges are available to support various applications



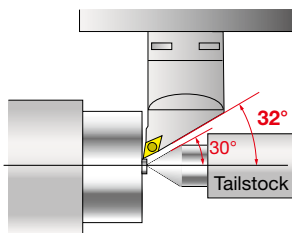
Strong clamping system

The two shallow-tapered clamping screws securely maintain contact between the cartridge and the basic holder flange face.



Comprehensive interference countermeasures

A series of “near-center” type cartridges are available, eliminating interference with the tailstock.

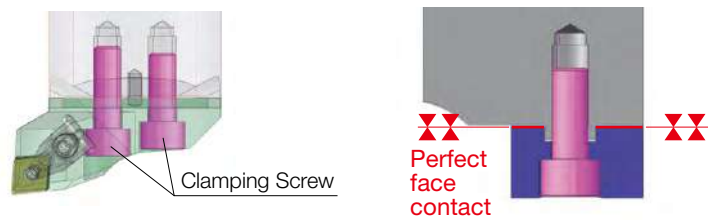


11 types of cartridges are available to support various applications

Both right hand and left hand are available.

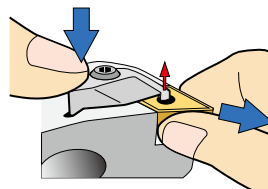
Strong clamping system

In the F Type clamping system, cartridges are fixed using the two front clamping screws. The interlocking drive slot receives the cutting torque firmly.



Easy attachment and removal of inserts

Insert attachment and removal can be performed easily by the built-in spring. Loosen the clamping screw one full rotation, lightly press the clamp piece with a finger, and its tip will pop up.



Turning Tool System Chart

(Note) Contact us, as interference may occur depending on the machine model.

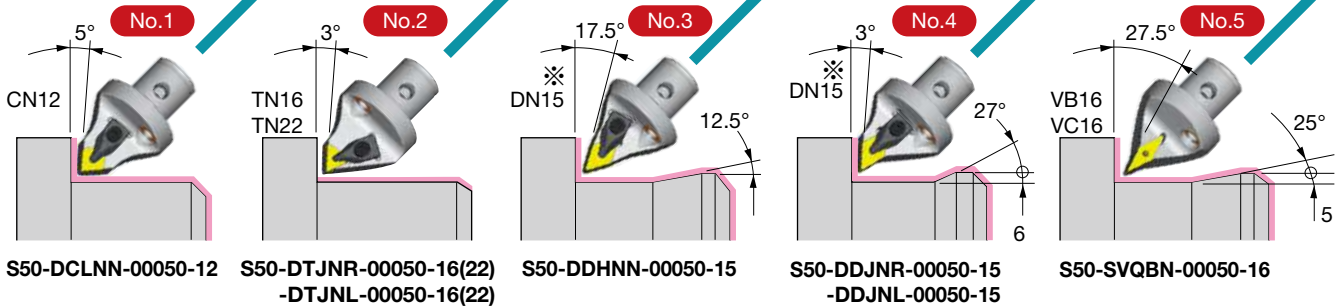
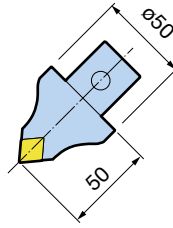
45°

S Type Basic Holder E10

	L
BBT40M-S50- 75	75
BBT50M-S50-120	120



S Type (Tilt Type) Cartridge E7



S50-DCLNN-00050-12 S50-DTJNR-00050-16(22)
-DTJNL-00050-16(22) S50-DDHNN-00050-15

S50-DDJNR-00050-15 S50-SVQBN-00050-16
-DDJNL-00050-15

※When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

E

BIG-PLUS BBT

90°

F Type Basic Holder E10

	L	øD
BBT40M-F50- 75	75	50
-105	105	50
BBT50M-F63- 70	70	63
-130	130	63



S Type Basic Holder E10

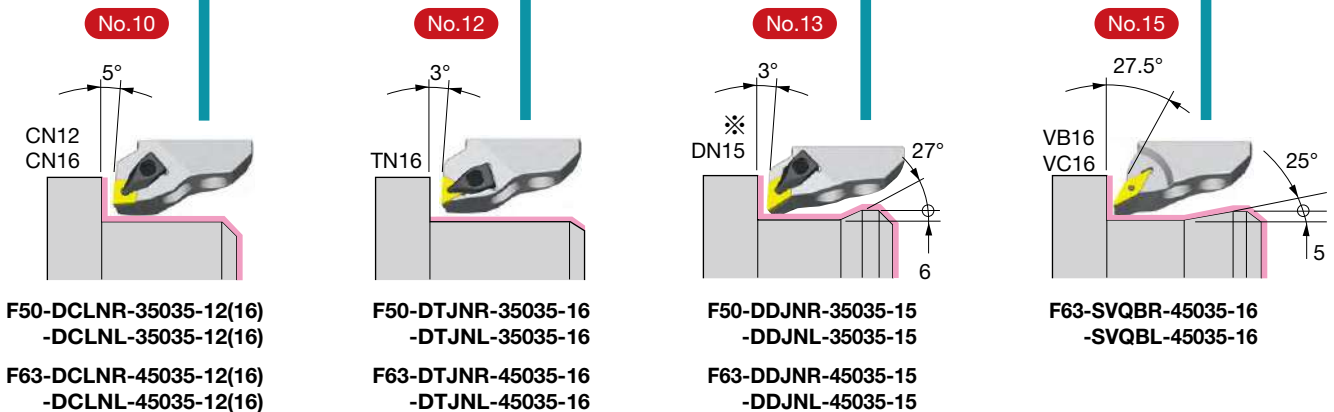
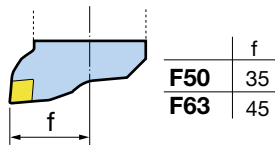


S Type Cartridge E7



- No.1
- No.3
- No.5
- No.8

F Type (Right Angle Type) Cartridge E8



F50-DCLNR-35035-12(16) F50-DTJNR-35035-16
-DCLNL-35035-12(16) -DTJNL-35035-16

F50-DDJNR-35035-15 F63-SVQBR-45035-16
-DDJNL-35035-15 -SVQBL-45035-16

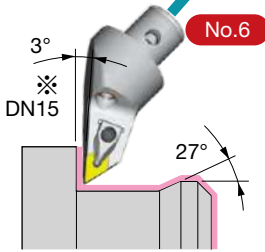
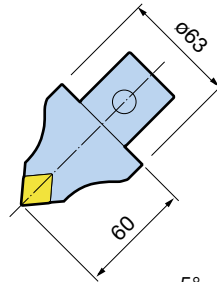
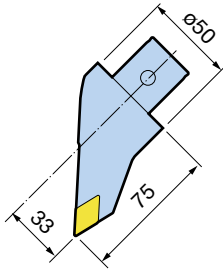
F63-DCLNR-45035-12(16) F63-DTJNR-45035-16
-DCLNL-45035-12(16) -DTJNL-45035-16

F63-DDJNR-45035-15

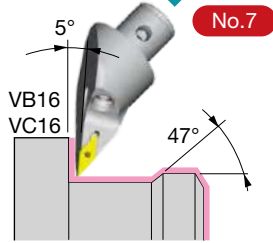
※When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

S Type Basic Holder E10

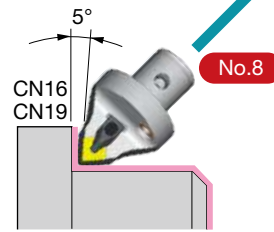
	L
BBT40M-S63- 65	65
BBT50M-S63-110	110



S50-DDJNR-33075-15
-DDJNL-33075-15



S50-SVLBR-33075-16
-SVLBL-33075-16



S63-DCLNN-00060-16
-DCLNN-00060-19

Internal boring bar
Internal threading tool



Side Lock Holder
for Boring Bar

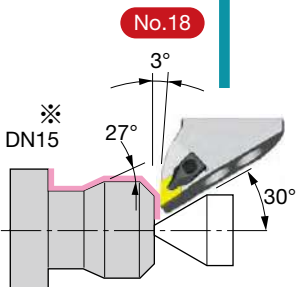
 E12

Square tool



Square Tool Holder

 E11



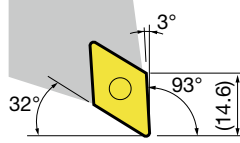
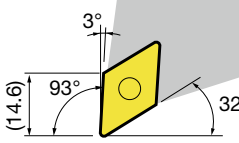
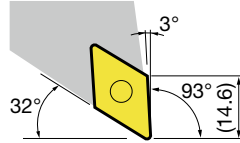
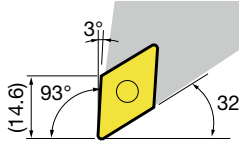
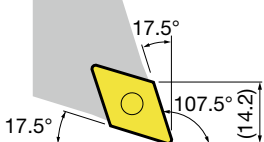
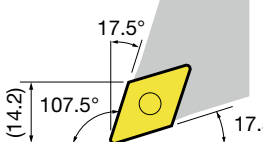
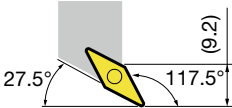
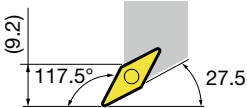
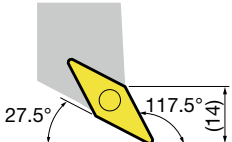
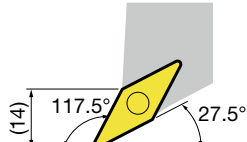
F50-DDJNR-35050-15
-DDJNL-35050-15

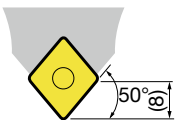
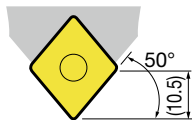
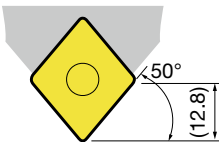
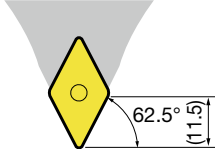
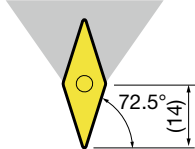
F63-DDJNR-45055-15
-DDJNL-45055-15

◆ Selection Guide Table

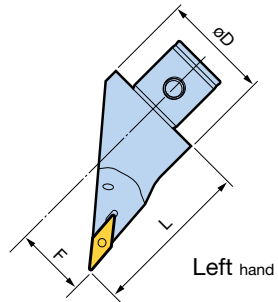
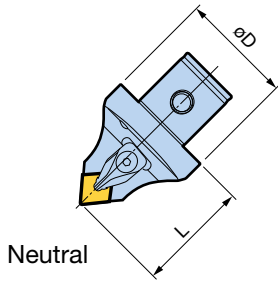
Entering angle	Insert	Cartridge or Mono-block		Right hand	Left hand
		S Type	F Type		
95°	CN0903 (CN0904)		No.19		
	CN1204	No.1	No.10-1		
	CN1606	No.8-1	No.10-2		
	CN1906	No.8-2			
	VB1604 VC1604	No.7			
	TN1604	No.2-1	No.12		
93°	TN2204	No.2-2			
	DN1104		No.20		

E
BIG-PLUS BBT

Entering angle	Insert	Cartridge or Mono-block		Right hand	Left hand
		S Type	F Type		
93°	DN1504 (DN1506)	No.4	No.13		
	DN1504 (DN1506)	No.6	No.18		
107.5°	DN1504 (DN1506)	No.3			
117.5°	VB1103 VC1103		No.21		
	VB1604 VC1604	No.5	No.15		

Neutral				
Insert				
CN12	CN16	CN19	DN1504 (DN1506)	VB1604 / VC1604
No.1	No.8-1	No.8-2	No.3	No.5
				

Cartridge



Type	Entering angle	No.	Hand	Model	Insert	L	F	øD	Clamp Piece
S50	95°	No.1	N	S50-DCLNN-00050-12	CN1204 Rhombic 80°	50	0	50	CP2
		No.2-1	R	-DTJNR-00050-16	TN1604 Triangle 60°	50	0	50	CP1
	L		-DTJNL-00050-16	CP2					
	93°	No.2-2	R	-DTJNR-00050-22	TN2204 Triangle 60°	50	0	50	CP2
			L	-DTJNL-00050-22					
	93°	No.4	R	-DDJNR-00050-15	DN1504 ^{※1} (DN1506) Rhombic 55°	50	0	50	CP2
			L	-DDJNL-00050-15					
		No.6	R	-DDJNR-33075-15		75	33		
			L	-DDJNL-33075-15					
	107.5°	No.3	N	-DDHNN-00050-15		50	0		
95°	No.7	R	-SVLBR-33075-16	VB1604 ^{※2} VC1604 Rhombic 35°	75	33	50	M3.5 ^{※3}	
		L	-SVLBL-33075-16						
117.5°	No.5	N	-SVQBN-00050-16		50	0			
S63	95°	No.8-1	N	S63-DCLNN-00060-16	CN1606 Rhombic 80°	60	0	63	CP3
		No.8-2	N	-00060-19	CN1906 Rhombic 80°				CP5

1. Wrench is not included.
2. Insert is not included.

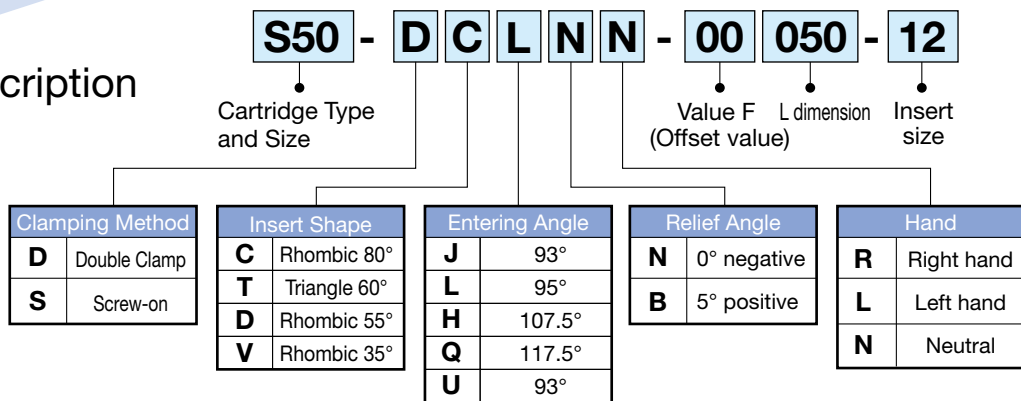
Spare parts **E9**

※1 A carbide shim for DN1504 (thickness: 4.76mm) is included. When using a DN1506 insert (thickness: 6.35mm), replace with the DNS1506 carbide shim (optional).

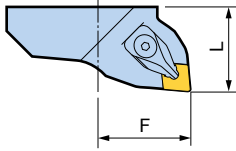
※2 Either VB1604 or VC1604 insert can be mounted. ※3 M3.5 is a screw-on type.

Right hand Left hand Neutral

Cartridge Model Description



Cartridge



Above figure shows right hand



F50 Type

Entering angle	No.	Hand	Model	Insert	F	L	Clamp Piece
95°	No.10-1	R	F50-DCLNR-35035-12	CN1204 Rhombic 80°	35	35	CP2
		L	-DCLNL-35035-12				
	No.10-2	R	F50-DCLNR-35035-16	CN1606 Rhombic 80°	35	35	CP3
		L	-DCLNL-35035-16				
93°	No.12	R	F50-DTJNR-35035-16	TN1604 Triangle 60°	35	35	CP1
		L	-DTJNL-35035-16				
	No.13	R	F50-DDJNR-35035-15	DN1504 ※1 (DN1506) Rhombic 55°	35	35	CP2
		L	-DDJNL-35035-15				
	No.18	R	F50-DDJNR-35050-15		35	50	CP2
		L	-DDJNL-35050-15				

1. Wrench is not included.
2. Insert is not included.

Spare parts **E9**

※1 A carbide shim for DN1504 (thickness: 4.76mm) is included.
When using a DN1506 insert (thickness: 6.35mm), replace with the DNS1506 carbide shim (optional).

F63 Type

Entering angle	No.	Hand	Model	Insert	F	L	Clamp Piece
95°	No.10-1	R	F63-DCLNR-45035-12	CN1204 Rhombic 80°	45	35	CP2
		L	-DCLNL-45035-12				
	No.10-2	R	F63-DCLNR-45035-16	CN1606 Rhombic 80°	45	35	CP3
		L	-DCLNL-45035-16				
93°	No.12	R	F63-DTJNR-45035-16	TN1604 Triangle 60°	45	35	CP1
		L	-DTJNL-45035-16				
	No.13	R	F63-DDJNR-45035-15	DN1504 ※1 (DN1506) Rhombic 55°	45	35	CP2
		L	-DDJNL-45035-15				
	No.18	R	F63-DDJNR-45055-15		45	55	CP2
		L	-DDJNL-45055-15				
117.5°	No.15	R	F63-SVQBR-45035-16	VB1604 ※2 VC1604 Rhombic 35°	45	35	M3.5 ※3
		L	-SVQBL-45035-16				

1. Wrench is not included.
2. Insert is not included.

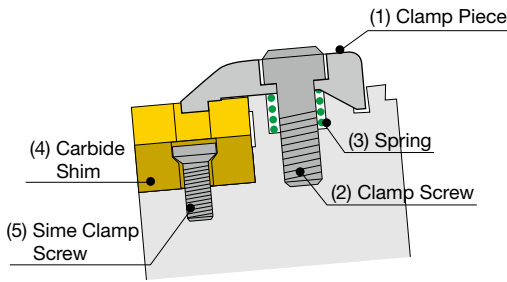
Spare parts **E9**

※1 A carbide shim for DN1504 (thickness: 4.76mm) is included.
When using a DN1506 insert (thickness: 6.35mm), replace with the DNS1506 carbide shim (optional).

※2 Either VB1604 or VC1604 insert can be mounted.

※3 M3.5 is a screw-on type.

Double Clamp Type



Clamp Piece Set

Set Model	(1) Clamp Piece	(2) Clamp Screw	(3) Spring	Compatible Insert
SCP1	CP1	M5 x 20	ø8 x 10	TN1604
SCP2	CP2			CN1204, TN2204 DN1504, DN1506
SCP3	CP3			CN1606
SCP5	CP5			CN1906
SCP7	CP7			CN0903, CN0904 DN1104

- 1 pce. each of the clamp piece, clamp screw and spring are included in the set.
- The tightening wrench is a 4mm hex wrench. T-type hex wrench is sold as Model T-4.

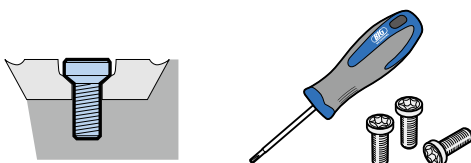
Carbide Shim Set

Compatible Insert	Set Model	(4) Carbide Shim	(5) Sime Clamp Screw	Torx, Torx Plus Size
CN0903	SCNS0903C	CNS0903C	M3 x 7	10IP
CN0904	SCNS0904C	CNS0904C	M3 x 7	10IP
CN1204	SCNS1204	CNS1204	M4 x 8	T15
CN1606	SCNS1606	CNS1606	M5 x 12	T20
CN1906	SCNS1906	CNS1906	M5 x 12	T20

Compatible Insert	Set Model	(4) Carbide Shim	(5) Sime Clamp Screw	Torx, Torx Plus Size
TN1604	STNS1604	TNS1604	M3 x 7	T10
TN2204	STNS2204	TNS2204	M4 x 8	T15
DN1104	SDNS1104C	DNS1104C	M3 x 7	10IP
DN1504	SDNS1504	DNS1504	M4 x 8	T15
DN1506	SDNS1506	DNS1506	M4 x 8	T15

- The set contains one each of a carbide sheet and one screw.
- The type of tightening wrench varies depending on the set. T \circ \circ includes a Torx wrench, \circ \circ IP includes a Torx plus wrench.

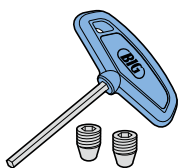
Insert Clamp Screw for
VB11, VC11, VB16 and VC16 Inserts



Compatible Insert	Set Model	Screw	Wrench Model
VB1103 VC1103	S2.5S-7IP	M2.5x6.5	FS-7IP
VB1604 VC1604	S3508DS	M3.5x8	DA-T15

- The set contains 1 wrench and 10 screws.

For Type S Basic Holder
Clamping Screw Set

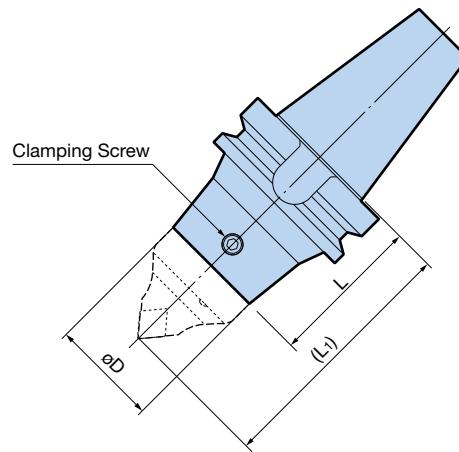


Type	Set Model	Screw (2 pcs)	T-type Wrench (1 pc)
S50	CK5S	M10 x P1.0	CK-T5
S63	CK6S	M12 x P1.0	CK-T6

45° TYPE S (Tilt Type)

DUAL CONTACT
BBT
SHANK

Basic Holder



DUAL CONTACT



BIG-PLUS®

Center through

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

Type	Model	øD	L	(L ₁)	Clamping Screw	Weight (kg)
S50	BBT40M-S50- 75	50	75	125	CK5S	1.7
S63	-S63- 65	63	65	125	CK6S	1.6
S50	BBT50M-S50-120	50	120	170	CK5S	5.4
S63	-S63-110	63	110	170	CK6S	5.4

1. Clamping screw is included with the basic holder.

Spare parts **E9**

Cartridges **E7**

E

BIG-PLUS BBT

90° TYPE F (Right Angle Type)

DUAL CONTACT
BBT
SHANK

Basic Holder

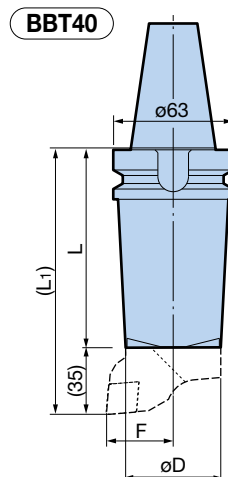


Fig. 1

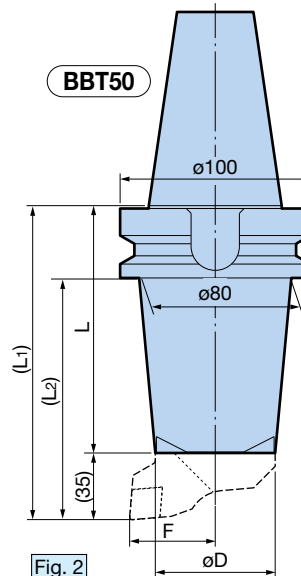


Fig. 2

DUAL CONTACT



BIG-PLUS®

Center through

Above figure shows a left-handed cartridge mounted.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

Type	Model	Fig.	øD	L	(L ₁)	(L ₂)	F	Weight (kg)
F50	BBT40M-F50- 75	1	50	75	110	—	35	1.7
	-105			105	140	—		2.3
F63	BBT50M-F63- 70	2	63	70	105	67	45	4.5
	-130			130	165	127		6.4

1. Both M10×22L and M10×25L bolts to clamp a Cartridge are included with the basic holder.

2. Hex wrench is not included.

3. The nozzle holes contain internal threads.

Plugging one allows for ejection from the other nozzle only.

Spare parts **E9**

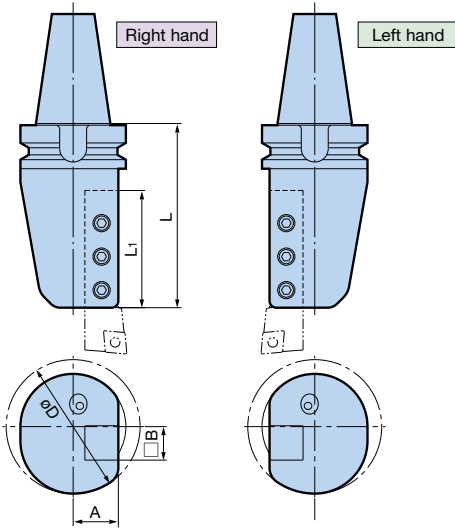
Cartridges **E8**

BIG E10

180° Type



Center through



• Color coding in table

Right hand Left hand

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

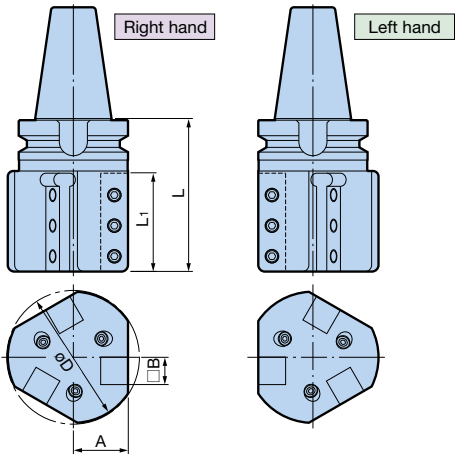
Hand	Model	□ B	L	L ₁	A	øD	Weight (kg)
R	BBT40M-180-BH20R-110	20	110	70	27	80	2.8
L	-BH20L-110						
R	-180-BH25R-130	25	130	90	31.5	90	3.4
L	-BH25L-130						
R	BBT50M-180-BH25R-140	25	140	90	50	120	7.6
L	-BH25L-140						

E

180° Multi Type



Center through



• Color coding in table

Right hand Left hand

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

Hand	Model	□ B	L	L ₁	A	øD	Weight (kg)
R	BBT40M-180-3BH20R-110	20	110	70	35	90	3.4
L	-3BH20L-110						
R	BBT50M-180-3BH25R-140	25	140	90	50	120	9.5
L	-3BH25L-140						



Caution

• 60° indexing capability is required for the machine spindle.

Clamping diameter: $\varnothing 8 - \varnothing 50$

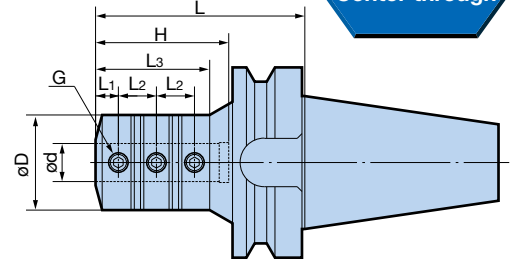
Side Lock Holder for Boring Bar

DUAL CONTACT
BBT
SHANK

Holder for internal boring and threading.



Center through



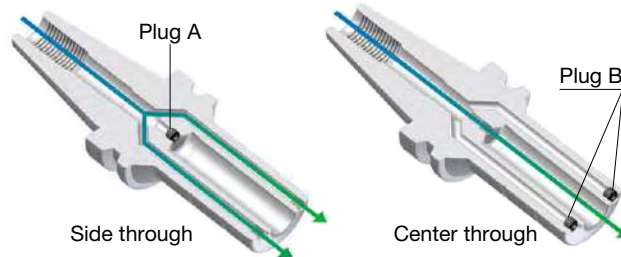
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Model	$\varnothing d$	$\varnothing D$	L	L ₁	L ₂	L ₃	H	Clamp Screw G	Plug A	Plug B	Weight (kg)
BBT40M-BSL 8- 75	8	25	75	6	10	40	40	M 6 P1.0	M6 x 5L	M4 x 4L	1.2
-BSL10- 80	10	29	80	8	12	45	50	M 8 P1.0	M6 x 5L	M5 x 5L	1.3
-BSL12- 90	12	34	90	8	16	53	55	M 8 P1.0	M6 x 5L	M6 x 5L	1.4
-BSL16-100	16	40	100	10	21	65	68	M10 P1.25	M6 x 5L	M6 x 5L	1.6
-BSL20-100	20	50	100	12	20	67	70	M10 P1.25	M6 x 5L	M6 x 5L	1.9
-BSL25-110	25	55	110	14	23	83	74	M12 P1.5	M8 x 8L	M6 x 5L	2.2
-BSL32-125	32	64	125	16	26	—	83	M12 P1.5	M8 x 8L	M6 x 5L	2.8
-BSL40-150	40	80	150	18	32	—	98	M16 P1.5	M10 x 10L	M6 x 5L	4.5
BBT50M-BSL16-105	16	40	105	10	21	61	68	M10 P1.25	M6 x 5L	M6 x 5L	4.1
-BSL20-110	20	50	110	12	20	60	70	M10 P1.25	M6 x 5L	M6 x 5L	4.5
-BSL25-120	25	55	120	14	23	70	74	M12 P1.5	M8 x 8L	M6 x 5L	4.8
-BSL32-125	32	64	125	16	26	80	83	M12 P1.5	M8 x 8L	M6 x 5L	5.2
-BSL40-135	40	80	135	18	32	91	98	M16 P1.5	M10 x 10L	M6 x 5L	6.4
-BSL50-145	50	90	145	18	36	102	115	M16 P1.5	M10 x 10L	M6 x 5L	7.1

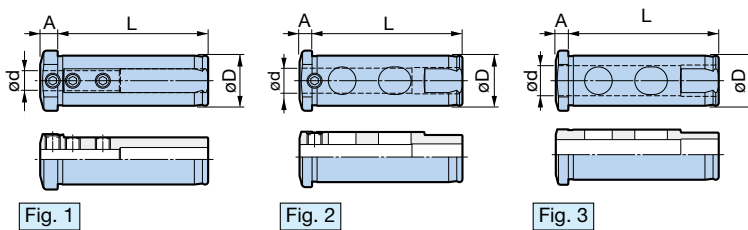
- Switchable coolant flow between side through and center through with plug screws.

Adjustable for right or left hand operation.

※ Plugs AB are included.



For BSL SIDE LOCK HOLDER
BSL Sleeve



Model	Fig.	$\varnothing d$	$\varnothing D$	L	A
BSLA20- 6	1	6	20	60	5
		8			7
- 10	2	10	32	75	5
-12	3	12			5
-16		16			5
BSLA32-10	1	10			40
-12	2	12	9		
-16		16	6		
-20		20	6		
BSLA40-16	1	16	40	94	6
-20	3	20			
-25		25			
-32		32			

Turning Tool System Chart

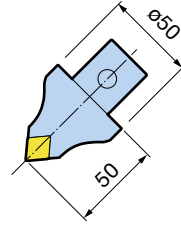
(Note) Contact us, as interference may occur depending on the machine model.

45°

S Type

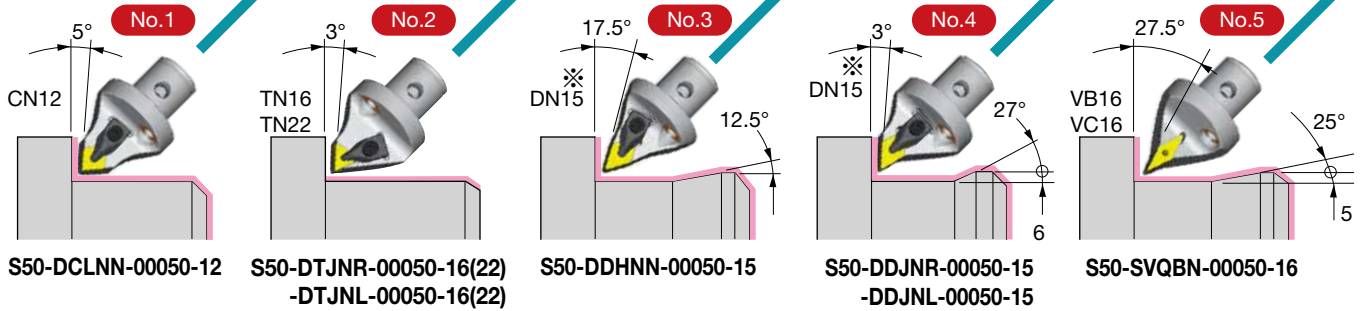
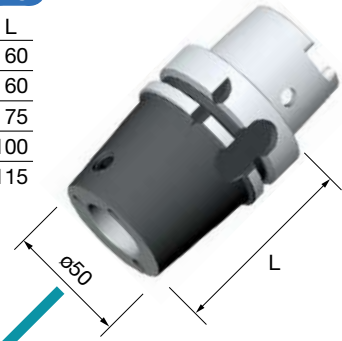
**S Type (Tilt Type)
Cartridge**

E7



**S Type
Basic Holder** **E15**

	L
HSK-T 50-S50- 60	60
-T 63-S50- 60	60
- 75	75
-100	100
-T100-S50-115	115



S50-DCLNN-00050-12

S50-DTJNR-00050-16(22)
-DTJNL-00050-16(22)

S50-DDHNN-00050-15

S50-DDJNR-00050-15
-DDJNL-00050-15

S50-SVQBN-00050-16

※When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

E

HSK-T Type

**F Type
Basic Holder**

E16

	L
HSK-T 63-F63- 50	50
- 75	75
-100	100
-130	130
-170	170
-T100-F63-100	100
-150	150



**S Type
Basic Holder**

E15

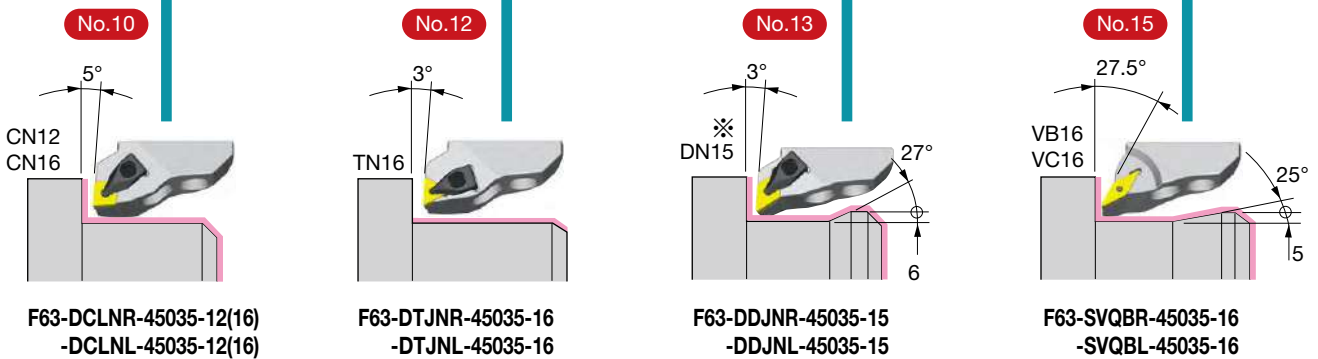
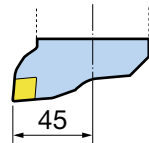
**S Type
Cartridge**

E7

- No.1
- No.3
- No.5
- No.8

**F Type (Right Angle Type)
Cartridge**

E8



F63-DCLNR-45035-12(16)
-DCLNL-45035-12(16)

F63-DTJNR-45035-16
-DTJNL-45035-16

F63-DDJNR-45035-15
-DDJNL-45035-15

F63-SVQBR-45035-16
-SVQBL-45035-16

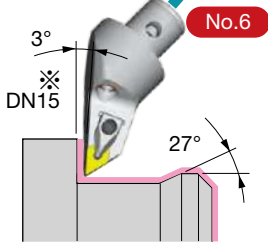
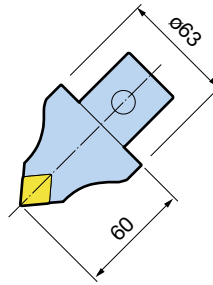
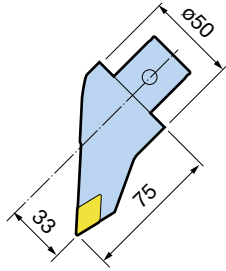
※When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

Turning Tool System Chart

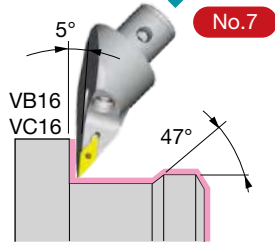
DUAL CONTACT
HSK-T
SHANK

S Type Basic Holder E15

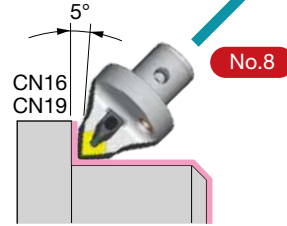
	L
HSK-T 63-S63- 70	70
- 90	90
-T100-S63-105	105



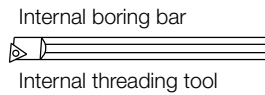
S50-DDJNR-33075-15
-DDJNL-33075-15



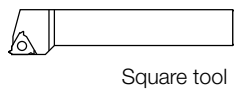
S50-SVLBR-33075-16
-SVLBL-33075-16



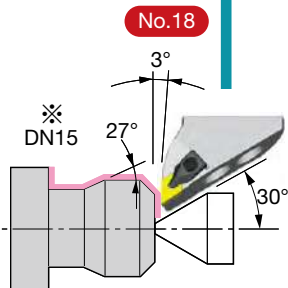
S63-DCLNN-00060-16
-DCLNN-00060-19



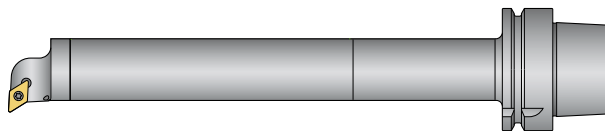
Side Lock Holder
for Boring Bar
 E19



Square
Tool Holder
 E17



F63-DDJNR-45055-15
-DDJNL-45055-15

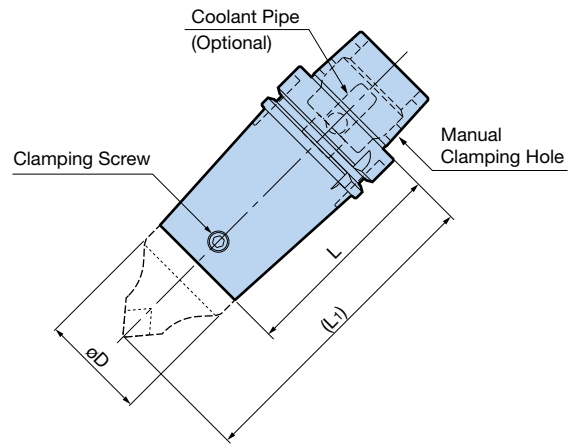


SMART DAMPER
Turning Adapter/
Turning Adapter
 E20

E
HSK-T Type



Basic Holder



Type	Model	ϕD	L	(L-1)	Clamping Screw	Weight (kg)
S50	HSK-T50-S50- 60	50	60	110	CK5S	0.8
S50	HSK-T63-S50- 60	50	60	110	CK5S	1.1
	- 75		75	125		1.4
	-100		100	150		1.8
S63	-S63- 70	63	70	130	CK6S	1.4
	- 90		90	150		1.9
S50	HSK-T100-S50-115	50	115	165	CK5S	3.7
S63	-S63-105	63	105	165	CK6S	4.0

1. Clamping screw is included with the basic holder.
2. Coolant pipe is not included.



HSK-T Type

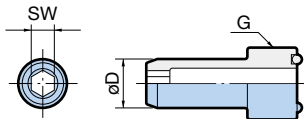
E

<Coolant Pipe>

Caution
 For machines capable of supplying coolant through the spindle, the Coolant Pipe should be fitted to all the holders to protect against accidental selection of coolant.

● Mono Block Type

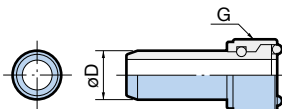
- Some machine tool builders may recommend the Mono Block Type. Check with the machine when selecting Mono Block or 1° Swing Type.



Model	ϕD	G	SW
HSK 50-CP	10	M16 x P1	5
HSK 63-CP	12	M18 x P1	6
HSK100-CP	16	M24 x P1.5	8

● 1° Swing Type

- The DIN standards require movement range of $\pm 1^\circ$. An exclusive wrench (optional) is required when attaching the 1° Swing Type.



Model	ϕD	G	Wrench Model (Optional)
HSK 50-CPM	10	M16 x P1	CPW 50
HSK 63-CPM	12	M18 x P1	CPW 63
HSK100-CPM	16	M24 x P1.5	CPW100



Basic Holder

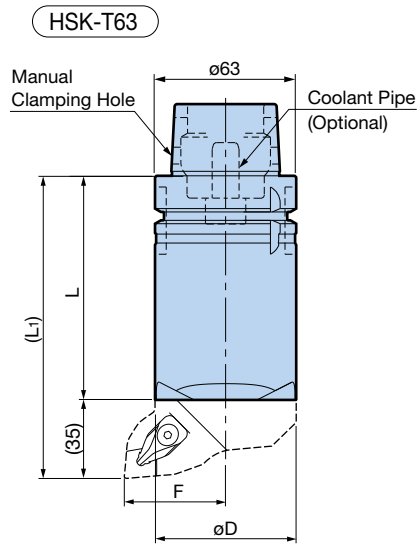


Fig. 1

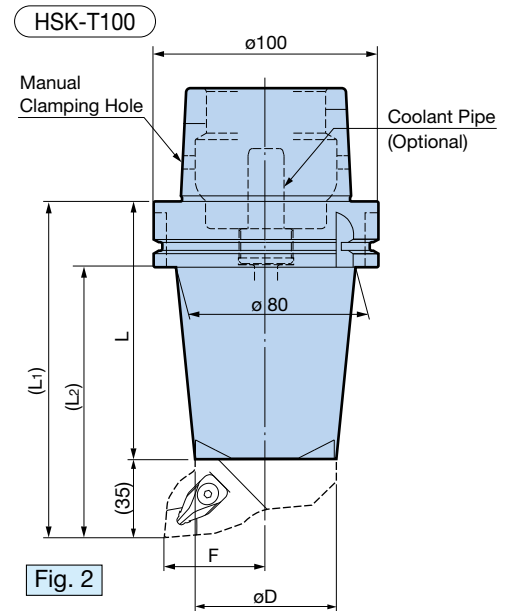


Fig. 2

Type	Model	Fig.	øD	L	(L ₁)	(L ₂)	F	Weight (kg)
F63	HSK-T 63-F63- 50	1	63	50	85	—	45	1.2
	- 75			75	110			1.8
	-100			100	135			2.4
	-130			130	165			3.1
	-170			170	205			4.1
F63	HSK-T100-F63-100	2	63	100	135	105	45	4.2
	-150			150	185	155		6.1

- Both M10×22L and M10×25L bolts to clamp a Cartridge are included with the basic holder.
- Hex wrench is not included.
- Coolant pipe is not included.
- The nozzle holes contain internal threads.
Plugging one allows for ejection from the other nozzle only.

Coolant pipes **E15**

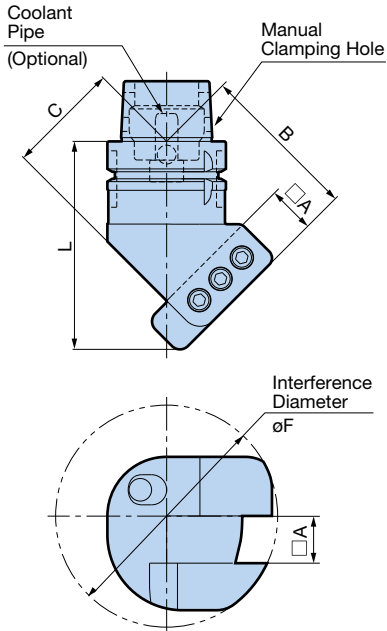
Spare parts **E9**

Cartridges **E8**



For various operations including external turning, grooving and threading.

45° Type

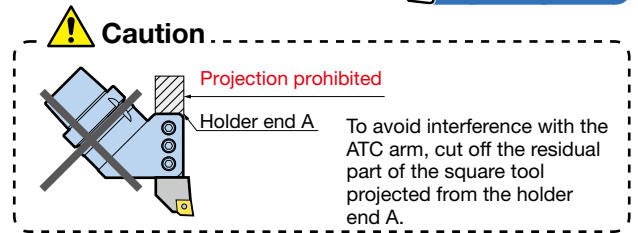


• Color coding in table

 Right hand Left hand

Hand	Model	□A	B	C	L	øF	Weight (kg)
R	HSK-T63-45-BH25R-110	25	85	60	110	118	2.7
L	-BH25L-110						

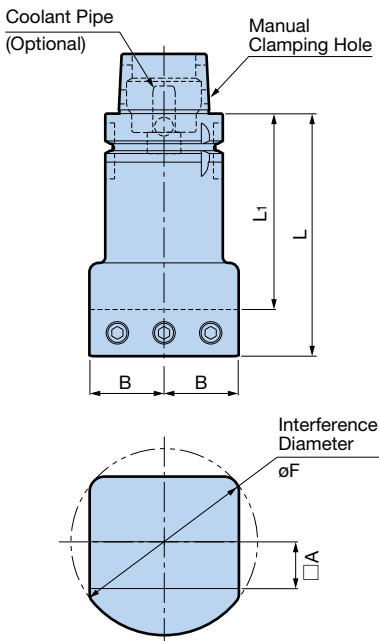
Coolant pipes **E15**



E

HSK-T Type

90° Type



• Color coding in table

 Right/left universal

Hand	Model	□A	B	L	L ₁	øF	Weight (kg)
N	HSK-T63-90-BH20N- 85	20	32	85	65	80	2.2
	-BH25N-100	25	40	100	75	100	3.3
	-BH25N-130			130	105		4.0
	HSK-T100-90-BH25N-150	25	55	150	125	128	6.7

1. The nozzle holes contain internal threads.
Plugging one allows for ejection from the other nozzle only.

Coolant pipes **E15**

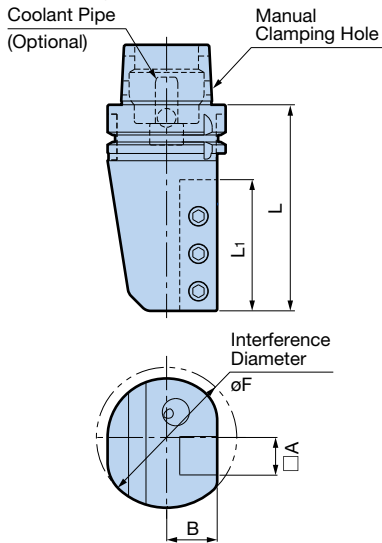


SQUARE TOOL HOLDER

DUAL CONTACT
HSK-T
SHANK

Center through

180° Type



• Color coding in table

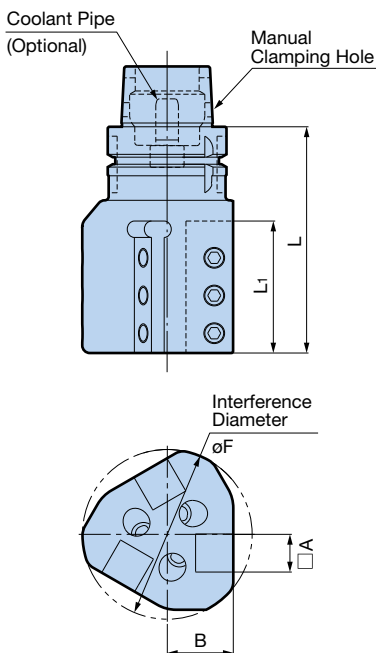
Right hand Left hand

Hand	Model	A	B	L	L ₁	øF	Weight (kg)
R	HSK-T 63-180-BH20R-120	20	27	120	70	75	2.7
L	-BH20L-120						
R	HSK-T 63-180-BH25R-125	25	29.5	127	80	90	3.2
L	-BH25L-125						
R	HSK-T100-180-BH25R-140	25	50	140	90	120	7.5
L	-BH25L-140						
R	HSK-T100-180-BH25R-180	25	50	180	90	120	9.7
L	-BH25L-180						

Coolant pipes E15

180° Multi Type

Mounting 3 tools minimizes ATC time.



• Color coding in table

Right hand Left hand

Hand	Model	A	B	L	L ₁	øF	Weight (kg)
R	HSK-T63-180-3BH20R-120	20	35	120	70	90	3.3
L	-3BH20L-120						
R	HSK-T63-180-3BH25R-125	25	45	127	80	110	5.0
L	-3BH25L-125						

Coolant pipes E15

Caution

• 60° indexing capability is required for the machine spindle.

E

HSK-T Type

Center through

Center through

Holder for internal boring and threading.

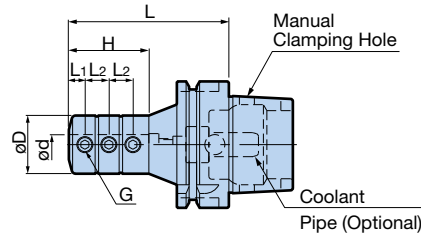


Fig. 1

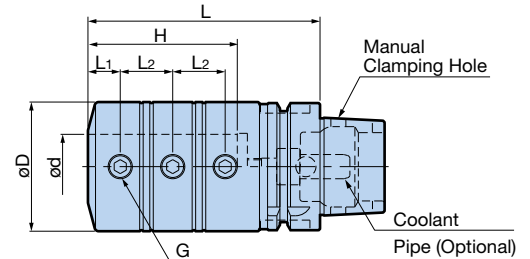


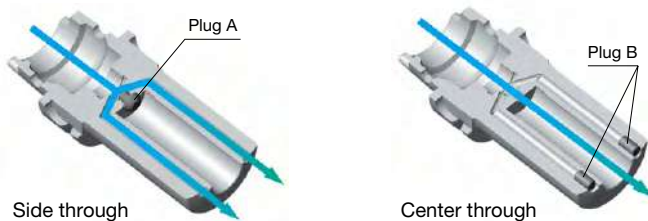
Fig. 2

Model	Fig.	ϕd	ϕD	L	L ₁	L ₂	H	Clamp Screw G	Plug A	Plug B	Weight (kg)	
HSK-T 63-BSL 6- 70	1	6	23	70	5	8	24	M 5 P0.8	M5 P0.8	M4 P0.7	0.9	
-BSL 8- 75		8	25	75	6	10	32	M 6 P1.0	M6 P1.0	M5 P0.8	0.9	
-BSL10- 80		10	29	80	8	12	40	M 8 P1.0		M6 P1.0	M6 P1.0	1.1
-BSL12- 85		12	34	85		16	45					
-BSL16- 80 ○		16	40	80	10	21	41	M10 P1.25	*M6 P1.0	M6 P1.0	1.1	
-100				100								60
-BSL20- 80 ○ △		2	20	80	12	20	41	M12 P1.5	*M6 P1.0	M6 P1.0	1.4	
-100				100								60
-BSL25- 85 ○			25	55	85	14	23	47	M16 P1.5	*M8 P1.25	M6 P1.0	1.5
-110					110							
-BSL32- 90 ○ △	32		64	90	16	26	49	M16 P1.5	*M8 P1.25	M6 P1.0	1.9	
-125				125								74
-BSL40-105 ○	40		80	105	18	32	61	M16 P1.5	*M8 P1.25	M6 P1.0	2.9	
-145				145								91
-BSL50-145	50		90	145	30	88					4.6	
HSK-T100-BSL16-105	1		16	40	105	10	21	60	M10 P1.25	M6 P1.0	M6 P1.0	2.7
-BSL20-110		20	50	110	12	20	60	M12 P1.5	*M8 P1.25	3.2		
-BSL25-120		25	55	120	14	23	67					3.5
-BSL32-125		32	64	125	16	26	74		4.0			
-BSL40-135		40	80	135	18	32	90		5.2			
-BSL50-145	2	50	90	145	18	34	96			6.1		

- Models marked with ○ come with two clamp screws.
- △ marked models cannot be used with BSL Sleeve.
- Plugs AB are standard accessory. * indicates a button head bolt.

Coolant pipes **E15**

- Switchable coolant flow between side through and center through with plug screws.



Side through

Center through

Adjustable for right or left hand operation.

For BSL SIDE LOCK HOLDER
BSL Sleeve

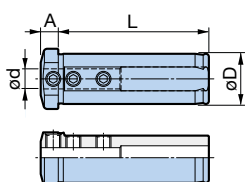


Fig. 1

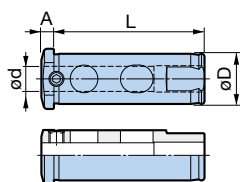


Fig. 2

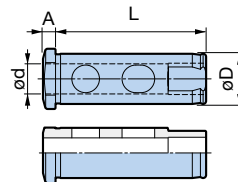


Fig. 3

Model	Fig.	ϕd	ϕD	L	A
BSLA20- 6	1	6	20	60	5
- 8		8			7
-10	2	10	32	75	5
-12	3	12			5
-16		16			5
BSLA32-10	1	10	40	94	9
-12	12	9			
-16	2	16			6
-20	3	20			6
BSLA40-16	1	16	40	94	6
-20	3	20			
-25		25			
-32		32			

Turning Adapter for internal turning

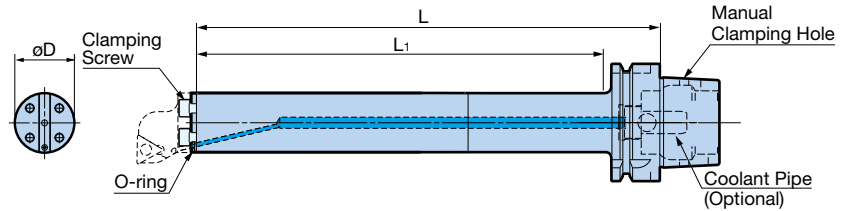
DUAL CONTACT
HSK-T
SHANK

DUAL CONTACT integrated turning adapter.
Cartridges can be exchanged according to the machining application.

SMART DAMPER Turning Adapter

Center through

● Unique dynamic damper eliminates chatter!



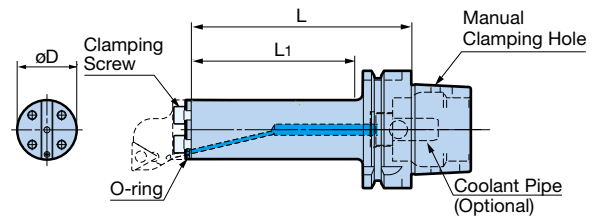
Model	Cartridge	øD	Min. Diameter	L	L ₁	Spare clamping screw (1)	Spare O-ring set (2 pcs)	Weight (kg)
HSK-T63-SDB40DP-185	B32-...	32	40	185	154	C0510(M5×10L)	SDB20 OR-2P	1.9
				250	219			2.3
-SDB50DP-235	B40-...	40	50	235	204	C0610(M6×10L)		3.3
				315	284			4.0

1. Clamping screws (3 pcs) and O-rings (2 pcs) are included.
2. Cartridges are not included. Please order separately.
3. Inserts are not included. Please order separately.
4. Coolant through is standard for all models.
5. Coolant pipe is not included.

Coolant pipes **E15**

Turning Adapter

Center through



Model	Cartridge	øD	Min. Diameter	L	L ₁	Spare clamping screw (1)	Spare O-ring set (2 pcs)	Weight (kg)
HSK-T63-TAD40-125	B32-...	32	40	125	94	C0510(M5×10L)	SDB20 OR-2P	1.2
-TAD50-155	B40-...	40	50	155	124	C0610(M6×10L)		1.8

1. Clamping screws (3 pcs) and O-rings (2 pcs) are included.
2. Cartridges are not included. Please order separately.
3. Inserts are not included. Please order separately.
4. Coolant through is standard for all models.
5. Coolant pipe is not included.

Coolant pipes **E15**

Cartridge For details, see **F13 / F14**

Application	Inner flange face machining	Copy machining		Blind hole machining	
	80° rhombic	55° rhombic	35° rhombic	Triangular	
Screw-on type (for positive insert)	CC1204 	DC11T3 	VB1604 	TP1604 	TC1102
	Double clamp type (for negative insert)	CN1204 	DN1104 DN1504 DN1506 	—	—

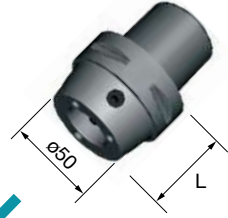
Turning Tool System Chart

(Note) Contact us, as interference may occur depending on the machine model.

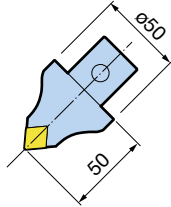
45°

S50 S Type Basic Holder

	L
C5-S50- 40	40
- 55	55
- 75	75
C6-S50- 45	45
- 75	75
-100	100
C8-S50-135	135



S Type Cartridge



No.1

S50-DCLNN-00050-12
• Cartridge mono-block holders are also available.

No.2

S50-DTJNR-00050-16
-DTJNL-00050-16
S50-DTJNR-00050-22
-DTJNL-00050-22

No.3

S50-DDHNN-00050-15
• Cartridge mono-block holders are also available.
※ When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

No.4

S50-DDJNR-00050-15
-DDJNL-00050-15

No.5

S50-SVQBN-00050-16
• Cartridge mono-block holders are also available.

90°

F50 F Type Basic Holder

	L
C5-F50- 25	25
- 50	50
- 85	85
-125	125

F63 F Type Basic Holder

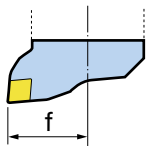
	L
C6-F63- 30	30
- 75	75
-100	100
-130	130
-170	170
C8-F63- 45	45
-100	100
-130	130
-170	170

Mono-block Type (C3/C4)



- No.19**
- No.10-1**
- No.20**
- No.18**
- No.21**
- No.15**

F Type Cartridge



	f
F50	35
F63	45

No.10

F50-DCLNR-35035-12(16)
-DCLNL-35035-12(16)
F63-DCLNR-45035-12(16)
-DCLNL-45035-12(16)

No.12

F50-DTJNR-35035-16
-DTJNL-35035-16
F63-DTJNR-45035-16
-DTJNL-45035-16

No.13

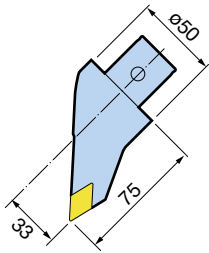
F50-DDJNR-35035-15
-DDJNL-35035-15
F63-DDJNR-45035-15
-DDJNL-45035-15

No.15

F63-SVQBR-45035-16
-SVQBL-45035-16

※ When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

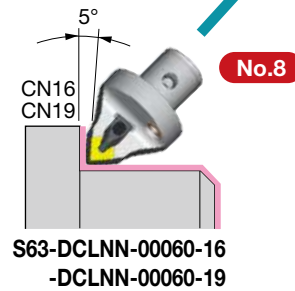
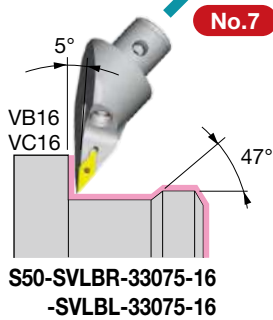
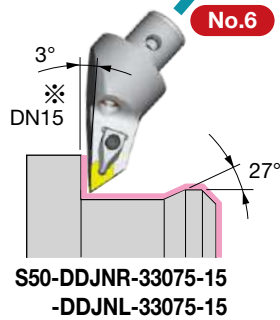
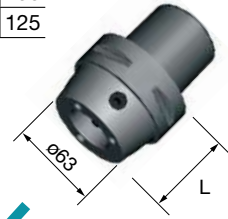
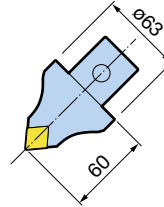
Mono-block Type (C5/C6/C8) **E23**



- No.1
- No.8-1
- No.3
- No.5

S63 **E23**
S Type Basic Holder

	L
C6-S63- 90	90
C8-S63-125	125



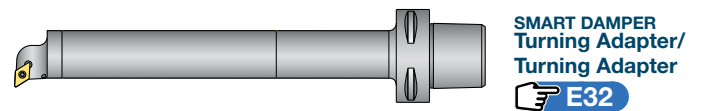
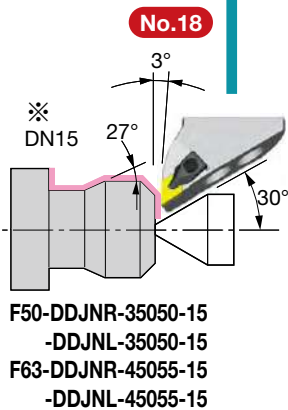
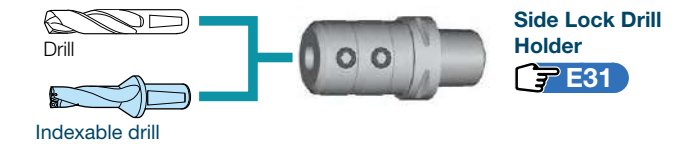
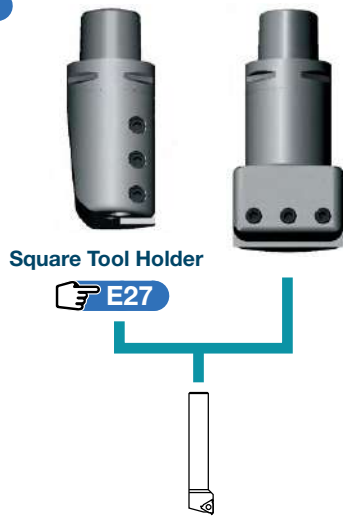
• Cartridge mono-block holders are also available.

S50/S63 **E23**
S Type Basic Holder



S Type Cartridge **E7**

- No.1
- No.3
- No.5
- No.8



Extension **E53** Reduction **E53**

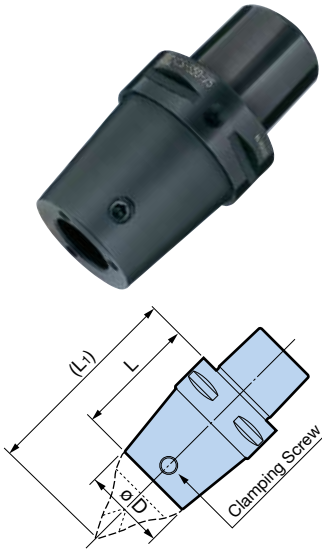
For extending tool length.

For reducing body diameter to avoid interference.



Basic Holder

Center through



C5/C6/C8

Type	Model	øD	L	(L _i)	Clamping Screw	Weight (kg)
S50	C5-S50- 40	50	40	90	CK5S	0.6
	- 55		55	105		0.8
	- 75		75	125		1.1
S50	C6-S50- 45	50	45	95	CK5S	1.0
	- 75		75	125		1.5
	-100		100	150		2.0
S63	-S63- 90	63	90	150	CK6S	2.1
S50	C8-S50-135	50	135	185	CK5S	4.0
S63	-S63-125	63	125	185	CK6S	4.2

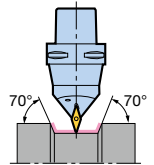
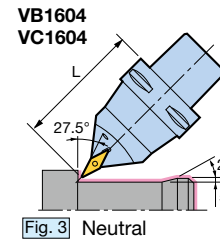
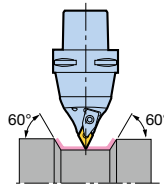
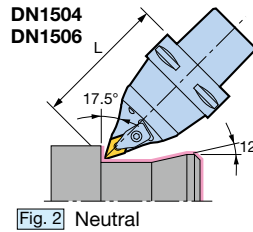
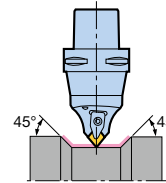
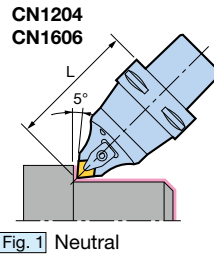
1. Clamping screw is included with the basic holder.

Spare parts **E9**

Cartridges **E7**

Mono-block Holder

Center through



C5/C6/C8

Entering angle	No.	Hand	Model	Fig.	L	Insert	Clamp Piece
95°	No.1	N	C5-DCLNN-00105-12	1	105	CN1204 Rhombic 80°	CP2
	No.8-1		-DCLNN-00105-16			CN1606 Rhombic 80°	CP3
107.5°	No.3		-DDHNN-00105-15	2		DN1504 ^{※1} (DN1506) Rhombic 55°	CP2
117.5°	No.5		-SVQBN-00105-16	3		VB1604 ^{※2} (VC1604) Rhombic 35°	M3.5 ^{※3}
95°	No.1	N	C6-DCLNN-00115-12	1	115	CN1204 Rhombic 80°	CP2
	No.8-1		-DCLNN-00115-16			CN1606 Rhombic 80°	CP3
107.5°	No.3		-DDHNN-00115-15	2		DN1504 ^{※1} (DN1506) Rhombic 55°	CP2
117.5°	No.5		-SVQBN-00115-16	3		VB1604 ^{※2} (VC1604) Rhombic 35°	M3.5 ^{※3}
95°	No.1	N	C8-DCLNN-00150-12	1	150	CN1204 Rhombic 80°	CP2
	No.8-1		-DCLNN-00150-16			CN1606 Rhombic 80°	CP3

1. Insert is not included.

Spare parts **E9**

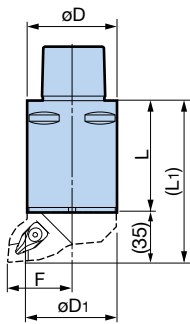
※1 A carbide shim for DN1504 (thickness: 4.76mm) is included. When using a DN1506 insert (thickness: 6.35mm), replace with the DNS1506 carbide shim (optional).

※2 Either VB1604 or VC1604 insert can be mounted. ※3 M3.5 is a screw-on type.

Neutral



Basic Holder



C5/C6/C8

Type	Model	øD	øD ₁	L	(L ₁)	F	Weight (kg)
F50	C5-F50- 25	50	50	25	60	35	0.5
	- 50			50	85		0.9
	- 85			85	120		1.4
	-125			125	160		2.0
F63	C6-F63- 30	63	63	30	65	45	0.9
	- 75			75	110		2.0
	-100			100	135		2.6
	-130			130	165		3.3
	-170			170	205		4.2
F63	C8-F63- 45	80	63	45	80	45	2.1
	-100			100	135		3.7
	-130			130	165		4.5
	-170			170	205		5.6

- Both M10×22L and M10×25L bolts to clamp a Cartridge are included with the basic holder.
- Hex wrench is not included.
- The nozzle holes contain internal threads.
Plugging one allows for ejection from the other nozzle only.

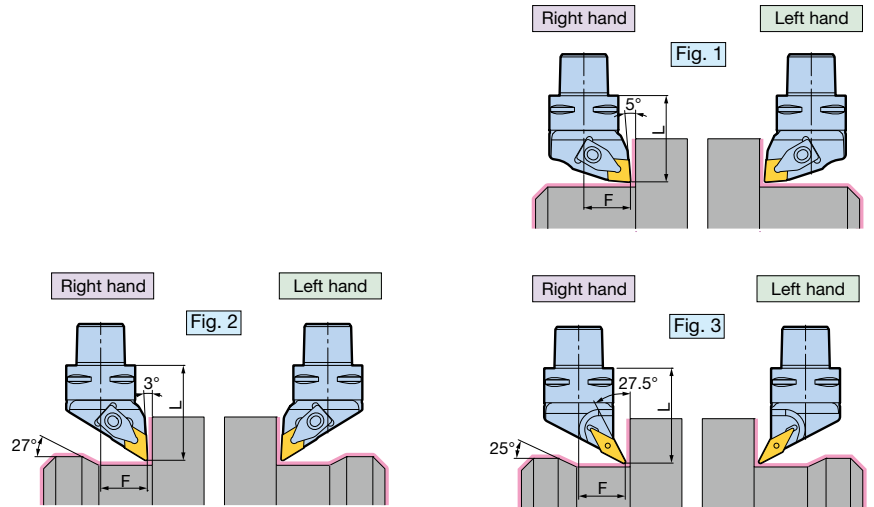
Spare parts **E9**

Cartridges **E8**



Mono-block Holder (C3/C4)

Tough and reliable insert clamp enables highly efficient cutting.



C3/C4

Entering angle	No.	Hand	Model	Fig.	L	F	Insert	Clamp Piece	Weight (kg)
95°	No.19	R	C3-DCLNR-22038-09	1	38	22	CN0903*1 Rhombic Type 80°	CP7	0.20
		L	-DCLNL-22038-09						
93°	No.20	R	-DDJNR-22045-11	2	45	22	DN1104 Rhombic Type 55°	CP7	0.20
		L	-DDJNL-22045-11						
117.5°	No.21	R	-SVQBR-22038-11	3	38	22	VB1103*2 Rhombic Type 35°	M2.5*5	0.16
		L	-SVQBL-22038-11						
95°	No.10-1	R	C4-DCLNR-27050-12	1	50	27	CN1204 Rhombic Type 80°	CP2	0.45
		L	-DCLNL-27050-12						
93°	No.18	R	-DDJNR-27055-15	2	55	27	DN1504*3 Rhombic Type 55°	CP2	0.42
		L	-DDJNL-27055-15						
117.5°	No.15	R	-SVQBR-27055-16	3	55	27	VB1604*4 Rhombic Type 35°	M3.5*5	0.40
		L	-SVQBL-27055-16						

1. Wrench is not included with the holder.
2. Insert is not included.

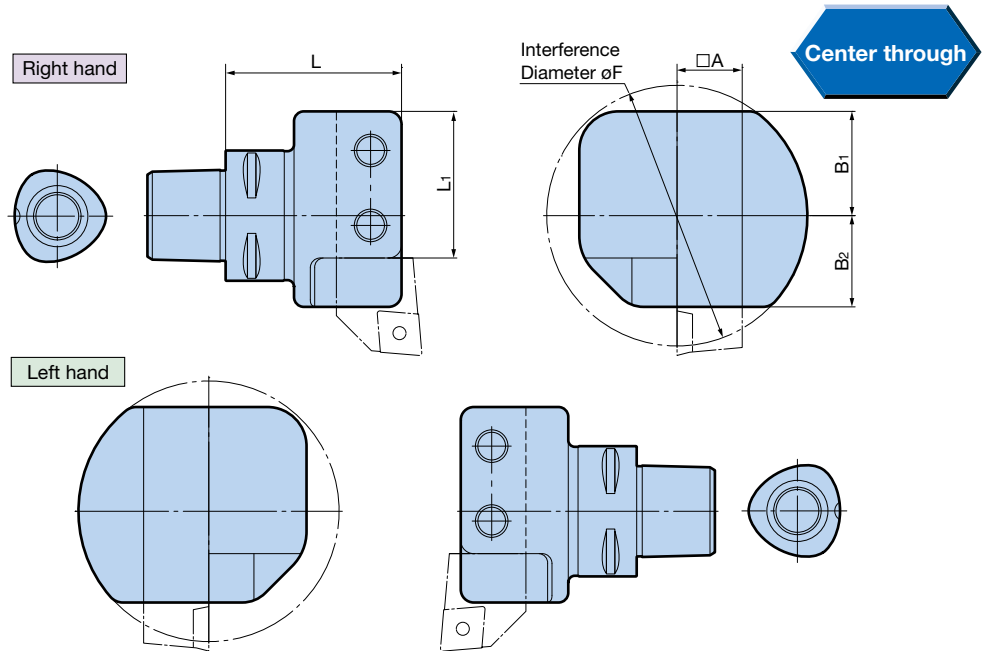
※1 A carbide shim for CN0903 (thickness: 3.18mm) is included. When using a CN0904 Insert (thickness: 4.76mm), replace the standard carbide shim with the CNS0904C (optional).
 ※2 Either VB1103 or VC1103 insert can be mounted.
 ※3 A carbide shim for DN1504 (thickness: 4.76mm) is included. When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).
 ※4 Either VB1604 or VC1604 insert can be mounted.
 ※5 M2.5 and M3.5 is a screw-on type.



SQUARE TOOL HOLDER

BIG CAPTO SHANK

90° Type (C3/C4)

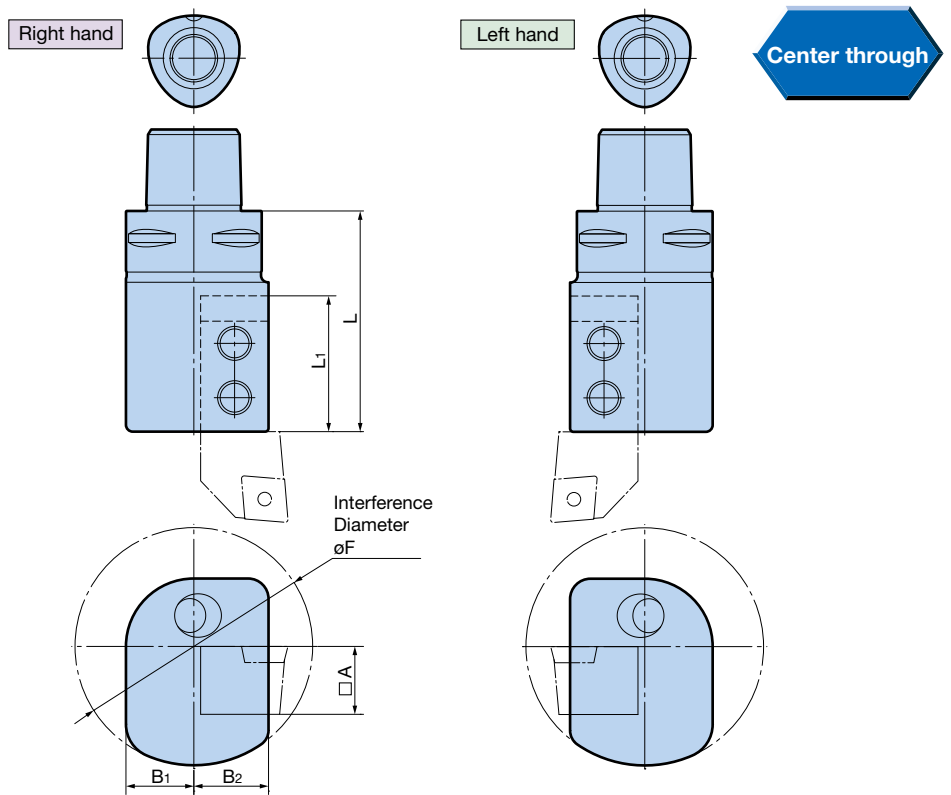


C3/C4

Hand	Model	□A	B ₁	B ₂	L	L ₁	øF	Weight (kg)
R	C3-90-BH16R-2547	16	27	25	47	40	70	0.61
L	-BH16L-2547							
R	C4-90-BH20R-2854	20	32	28	54	45	80	0.96
L	-BH20L-2854							

Right hand Left hand

180° Type (C3/C4)



C3/C4

Hand	Model	□A	B ₁	B ₂	L	L ₁	øF	Weight (kg)
R	C3-180-BH16R-2058	16	18.5	20	58	37	65	0.60
L	-BH16L-2058							
R	C4-180-BH20R-2265	20	20	22	65	40	70	0.84
L	-BH20L-2265							

Right hand Left hand

E

BIG CAPTO SHANK

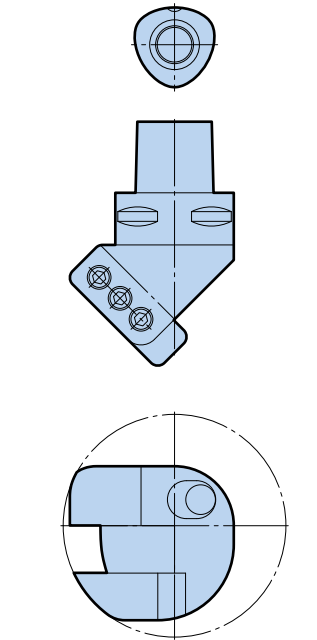
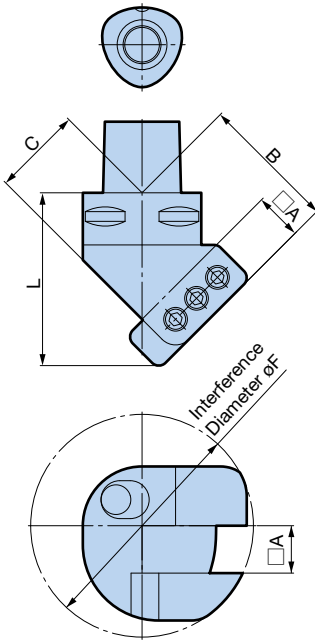
45° Type

Center through

For various operations including external turning, grooving and threading.

Right hand

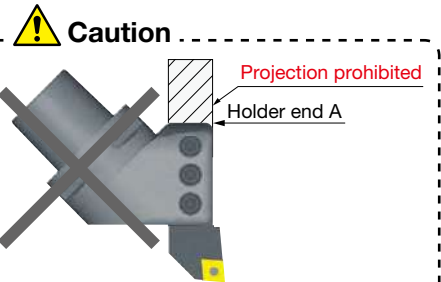
Left hand



C5/C6/C8

Hand	Model	□ A	B	C	L	øF	Weight (kg)
R	C5-45-BH20R- 5838	20	58	38	73	94	1.2
L	-BH20L- 5838						
R	C6-45-BH25R- 7752	25	77	52	100	118	2.5
L	-BH25L- 7752						
R	C8-45-BH32R-85109	32	85	109	145	135	7.3
L	-BH32L-85109						

Right hand Left hand

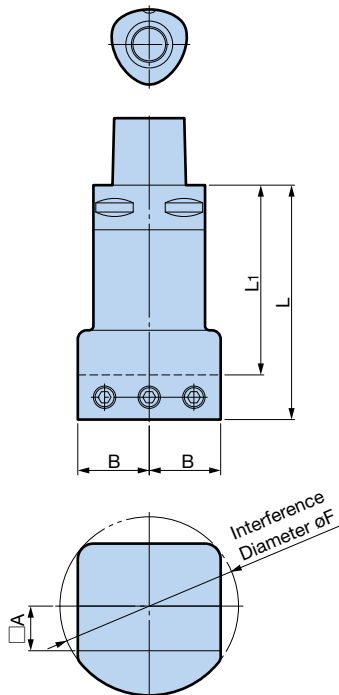


To avoid interference with the ATC arm, cut off the residual part of the square tool projected from the holder end A.

90° Type

Center through

Neutral



C5/C6/C8

Hand	Model	□ A	B	L	L ₁	øF	Weight (kg)
N	C5-90-BH20N-32058	20	32	58	38	80	0.9
	-32105			105	85		2.2
N	C6-90-BH20N-32060	20	32	60	40	80	2.4
	-32115			115	95		3.4
N	-BH25N-40071	25	40	71	46	100	3.3
	-40130			130	105		4.2
N	C8-90-BH32N-51085	32	51	85	53	128	6.0
	-51165			165	133		8.7

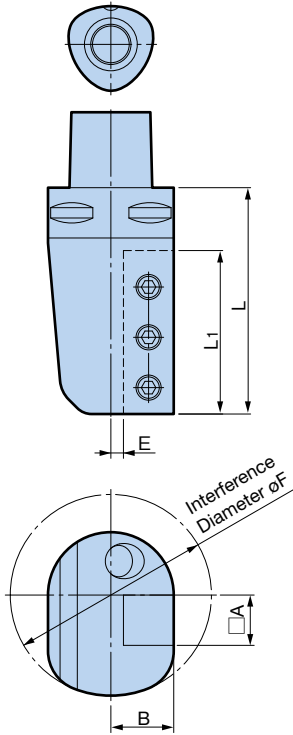
1. Plug one of the two coolant nozzles with a countersunk head screw (M3.5 or M5) when only one nozzle is required.

Neutral

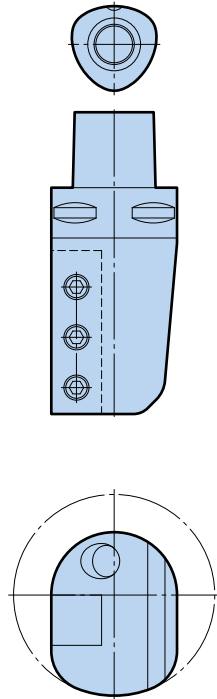


180° Type

Right hand



Left hand



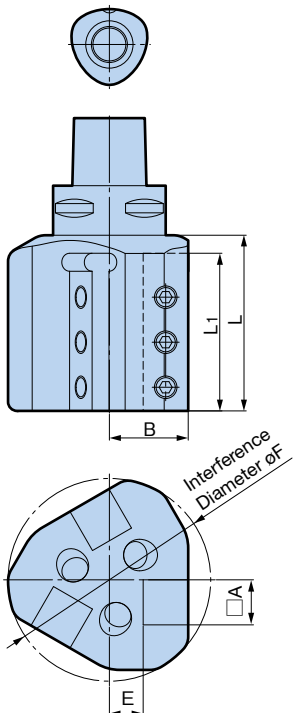
C5/C6/C8

Hand	Model	A	B	L	L ₁	E	øF	Weight (kg)
R	C5-180-BH20R- 2590	20	25	90	65	5	80	1.6
L	-BH20L- 2590							
R	C6-180-BH20R-32100	20	31.5	100	65	11.5	80	2.6
L	-BH20L-32100							
R	-BH25R-32120S	25	29.5	120	80	4.5	90	3.1
L	-BH25L-32120S							
R	C8-180-BH32R-40125	32	40	125	85	8	128	6.0
L	-BH32L-40125							

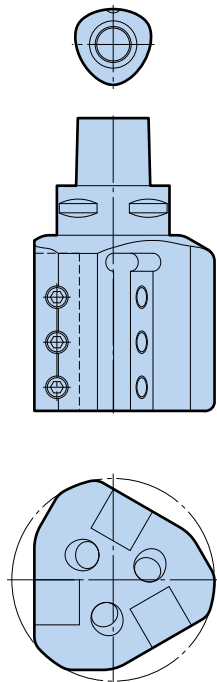
Right hand Left hand

180° Multi Type

Right hand



Left hand



C5/C6/C8

Hand	Model	A	B	L	L ₁	E	øF	Weight (kg)
R	C5-180-3BH20R-100	20	35	100	70	15	90	2.6
L	-3BH20L-100							
R	C6-180-3BH20R-110	20	35	110	70	15	90	3.3
L	-3BH20L-110							
R	-3BH25R-125	25	45	125	80	20	110	5.0
L	-3BH25L-125							
R	C8-180-3BH25R-130	25	45	130	90	20	110	6.1
L	-3BH25L-130							

Right hand Left hand

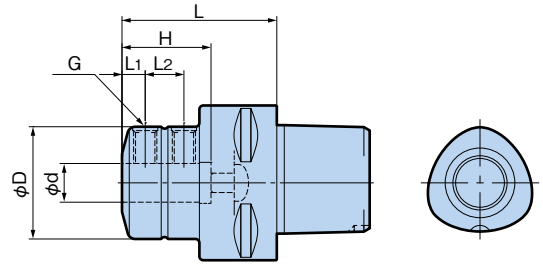


Caution

• 60° indexing capability is required for the machine spindle.



Internal boring and threading tool holder.

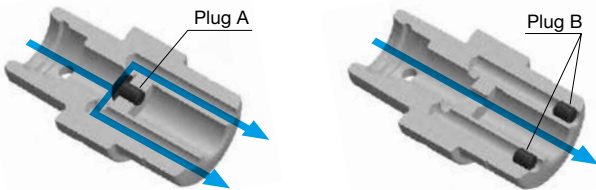


C3/C4

Model	ϕd	ϕD	L	L ₁	L ₂	H	Clamp Screw G	Plug A	Plug B	Weight (kg)	
C3-BSL 6-35	6	23	35	5	9	22	M 5 P0.8	M5 P0.8	M4 P0.7	0.17	
-BSL 8-35	8	25		6	10		M 6 P1.0			0.18	
-BSL10-35	10	29		8	12		M 8 P1.0			0.20	
-BSL12-40	12	34	40	8	12	27	M 8 P1.0			0.26	
C4-BSL 6-40	6	23	40	5	9	23	M 5 P0.8	M5 P0.8	M4 P0.7	0.32	
-BSL 8-40	8	25		6	10		M 6 P1.0			0.33	
-BSL10-40	10	29		8	12		M 8 P1.0			0.34	
-BSL12-45	12	34	45	8	12	28	M 8 P1.0			0.40	
-BSL16-50	16	40	50	10	14	33	M10 P1.25			M6 P1.0	0.48
-BSL20-60	20	50	60	12	15	43					0.71

1. BSL Sleeve cannot be used.
2. Plugs AB are included. Plug A is a button head bolt.

● Switchable coolant flow between side through and center through with plug screws.



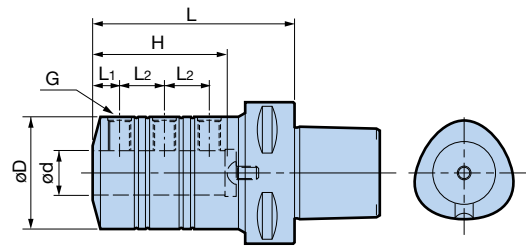
Side through

Center through

Adjustable for right or left hand operation.

BIG CAPTO SHANK

Holder for internal boring and threading tool.

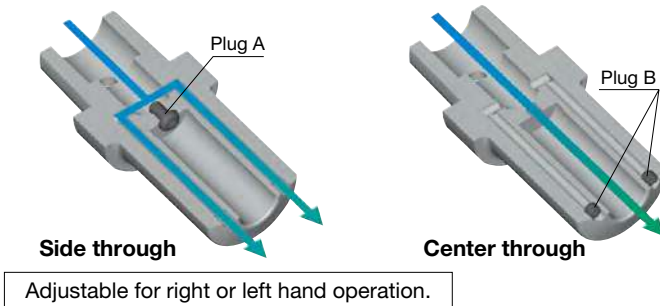


C5/C6/C8

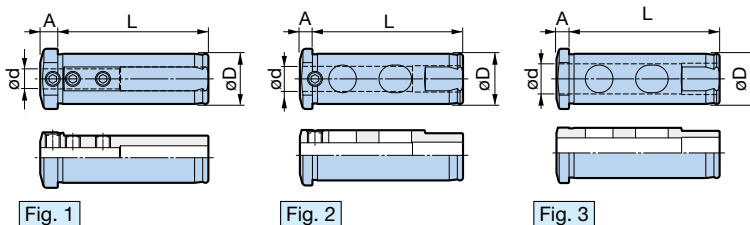
Model	ϕd	ϕD	L	L ₁	L ₂	H	Clamp Screw G	Plug A	Plug B	Weight (kg)
C5-BSL 6- 70	6	23	70	5	8	41	M 5 P0.8	M 8 P1.25	M4 P0.7	0.6
-BSL 8- 70	8	25		6	10		M 6 P1.0	M10 P1.5		
-BSL10- 70	10	29		8	12	M 8 P1.0	M12 P1.5	M5 P0.8		
-BSL12- 80	12	34	80	16	53	M10 P1.25	M14 P1.5		M6 P1.0	0.8
-BSL16- 90	16	40					90	10		21
-BSL20- 90	20	50	12	20	60	1.3				
-BSL25-100	25	55	14	23	70	M12 P1.5		1.6		
-BSL32-110	32	64	110	16	26	78	*M 8 P1.25	2.1		
-BSL40-130	40	80	130	18	32	93		M16 P1.5	3.7	
C6-BSL 6- 70	6	23	70	5	8	41	M 5 P0.8	M 8 P1.25	M4 P0.7	1.4
-BSL 8- 70	8	25		6	10		M 6 P1.0	M10 P1.5		
-BSL10- 70	10	29		8	12	42	M 8 P1.0	M12 P1.5	M5 P0.8	
-BSL12- 80	12	34	80	16	53	M10 P1.25	M14 P1.5	M6 P1.0		1.5
-BSL16- 90	16	40					90		10	21
-BSL20- 90	20	50	12	22	60	*M 6 P1.0			2.0	
-BSL25-100	25	55	14	23	70	M12 P1.5			2.3	
-BSL32-110	32	64	110	16	26	78	*M 8 P1.25		2.8	
-BSL40-130	40	80	130	18	32	93		M16 P1.5	4.3	
-BSL50-135	50	90	135	30	88			4.5		
C8-BSL16- 90	16	40	90	10	21	65	M10 P1.25	M18 P1.5	M6 P1.0	2.9
-BSL20-100	20	50	100	12	22	70		*M 6 P1.0		3.3
-BSL25-110	25	55	110	14	26	80	M12 P1.5	*M 8 P1.25		3.6
-BSL32-120	32	64	120	16	30	88		M16 P1.5		4.1
-BSL40-130	40	80	130	18	32	93	M16 P1.5	*M 8 P1.25		5.3
-BSL50-140	50	90	140	36	105			M10 P1.5	5.4	

1. Plugs AB are included. * indicates a button head bolt.

- Switchable coolant flow between side through and center through with plug screws.



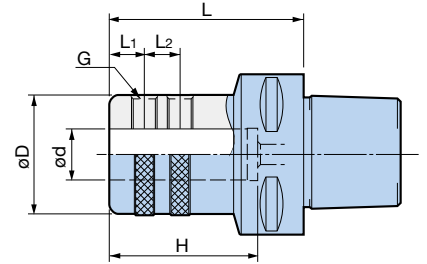
For BSL SIDE LOCK HOLDER
BSL Sleeve



Model	Fig.	ϕd	ϕD	L	A
BSLA20- 6	1	6	20	60	5
- 8		8			7
-10	2	10			5
-12	3	12			5
		16			5
BSLA32-10	1	10			32
-12	12	9			
-16	2	16	6		
-20	3	20	6		
BSLA40-16	1	16	40	94	6
-20	20				
-25	3	25			
-32	32				

Basic holder for indexable insert drills.

Center through



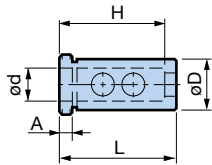
C5/C6/C8

Model	$\varnothing d$	$\varnothing D$	L	L ₁	L ₂	H	Clamp Screw G	Weight (kg)
C5-TSL16-60	16	48	60	14	14	48	M10 P1.25	0.8
-TSL20-60	20					50		
-TSL25-75	25					56		
-TSL32-85	32	63	85	15	20	60	M16 P1.5	1.6
C6-TSL16-70	16	48	70	14	14	48	M10 P1.25	1.7
-TSL20-70	20					50		
-TSL25-70	25					56		
-TSL32-75	32	63	75	15	20	60	M16 P1.5	2.0
-TSL40-85	40	68	85		25	70		2.2
C8-TSL16-80	16	48	80	14	14	48	M10 P1.25	3.1
-TSL20-80	20					50		
-TSL25-85	25					56		
-TSL32-90	32	63	90	15	20	60	M16 P1.5	3.5
-TSL40-95	40	68	95		25	70		3.5

1. Center through coolant supply is available.

BIG CAPTO SHANK

For SIDE LOCK DRILL HOLDER SL Sleeve



Model	$\varnothing d$	$\varnothing D$	L	A	H
OSL25-16	16	25	62	5.5	48
-20	20				50
OSL32-16	16	32	66	5.5	48
-20	20				50
-25	25				56
OSL40-16	16	40	76	5.5	48
-20	20				50
-25	25				56
-32	32				60

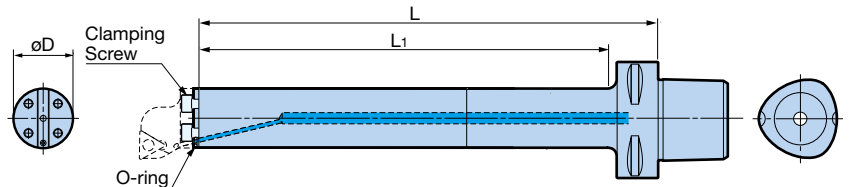
Turning Adapter for internal turning

DUAL CONTACT integrated turning adapter.
Cartridges can be exchanged according to the machining application.

SMART DAMPER Turning Adapter

Center through

● Unique dynamic damper eliminates chatter!

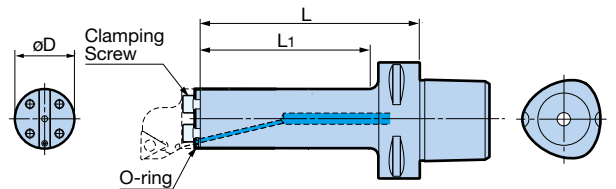


Model	Cartridge	øD	Min. Diameter	L	L ₁	Spare clamping screw (1)	Spare O-ring set (2 pcs)	Weight (kg)
C6-SDB40DP-180	B32-...	32	40	180	153	C0510(M5×10L)	SDB20 OR-2P	2.0
-245				245	218			2.4
C6-SDB50DP-230	B40-...	40	50	230	203	C0610(M6×10L)		3.4
-310				310	283			4.1

1. Clamping screws (3 pcs) and O-rings (2 pcs) are included.
2. Cartridges are not included. Please order separately.
3. Inserts are not included. Please order separately.
4. Coolant through is standard for all models.

Turning Adapter

Center through



Model	Cartridge	øD	Min. Diameter	L	L ₁	Spare clamping screw (1)	Spare O-ring set (2 pcs)	Weight (kg)
C6-TAD40-120	B32-...	32	40	120	93	C0510(M5×10L)	SDB20 OR-2P	1.3
-TAD50-150	B40-...	40	50	150	123	C0610(M6×10L)		1.9

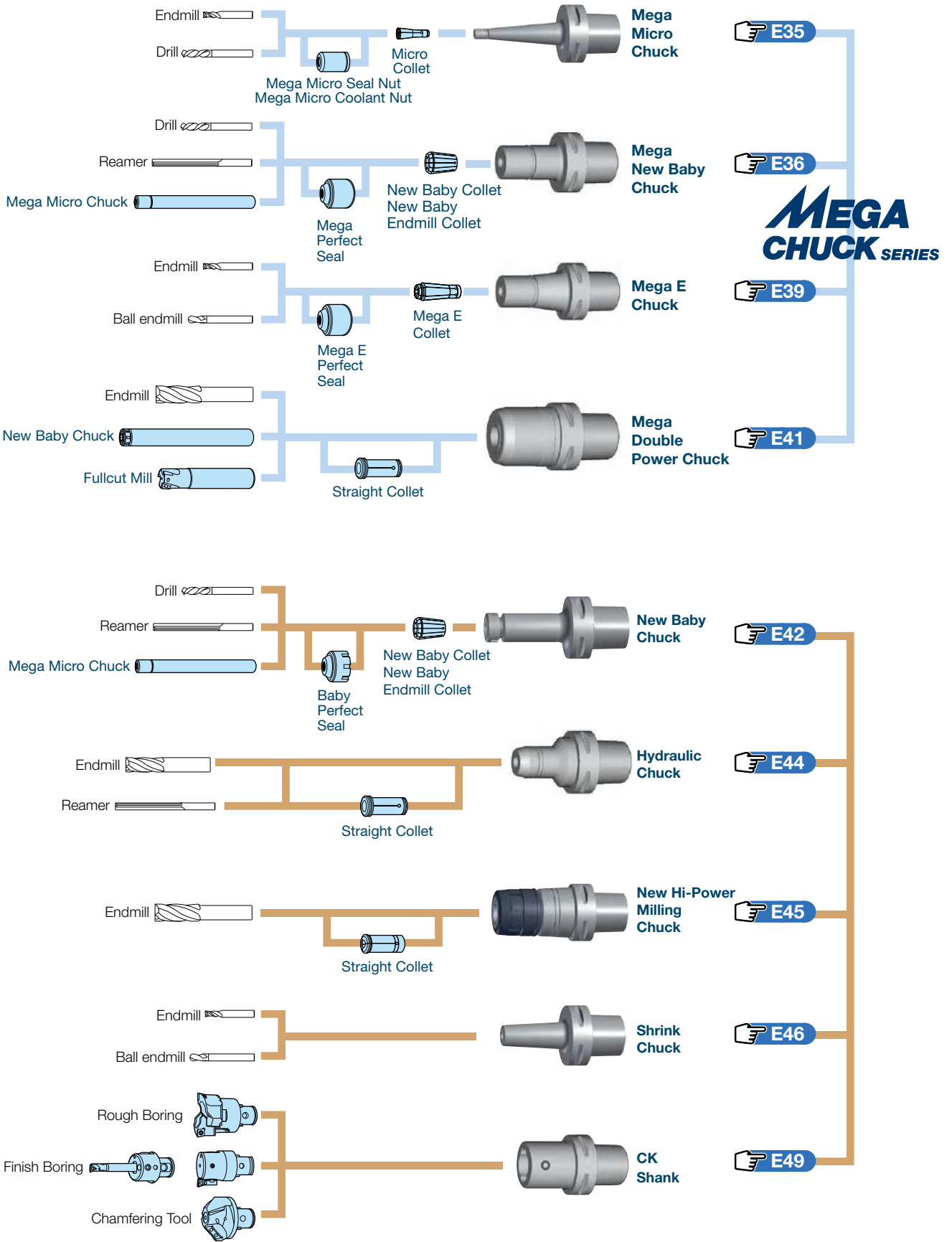
1. Clamping screws (3 pcs) and O-rings (2 pcs) are included.
2. Cartridges are not included. Please order separately.
3. Inserts are not included. Please order separately.
4. Coolant through is standard for all models.

Cartridge

For details, see **F13 / F14**

Application	Inner flange face machining	Copy machining		Blind hole machining	
	80° rhombic	55° rhombic	35° rhombic	Triangular	
Screw-on type (for positive insert)	CC1204 	DC11T3 	VB1604 	TP1604 	TC1102
Double clamp type (for negative insert)	CN1204 	DN1104 DN1504 DN1506 	—	—	—

Rotating Tool System Chart

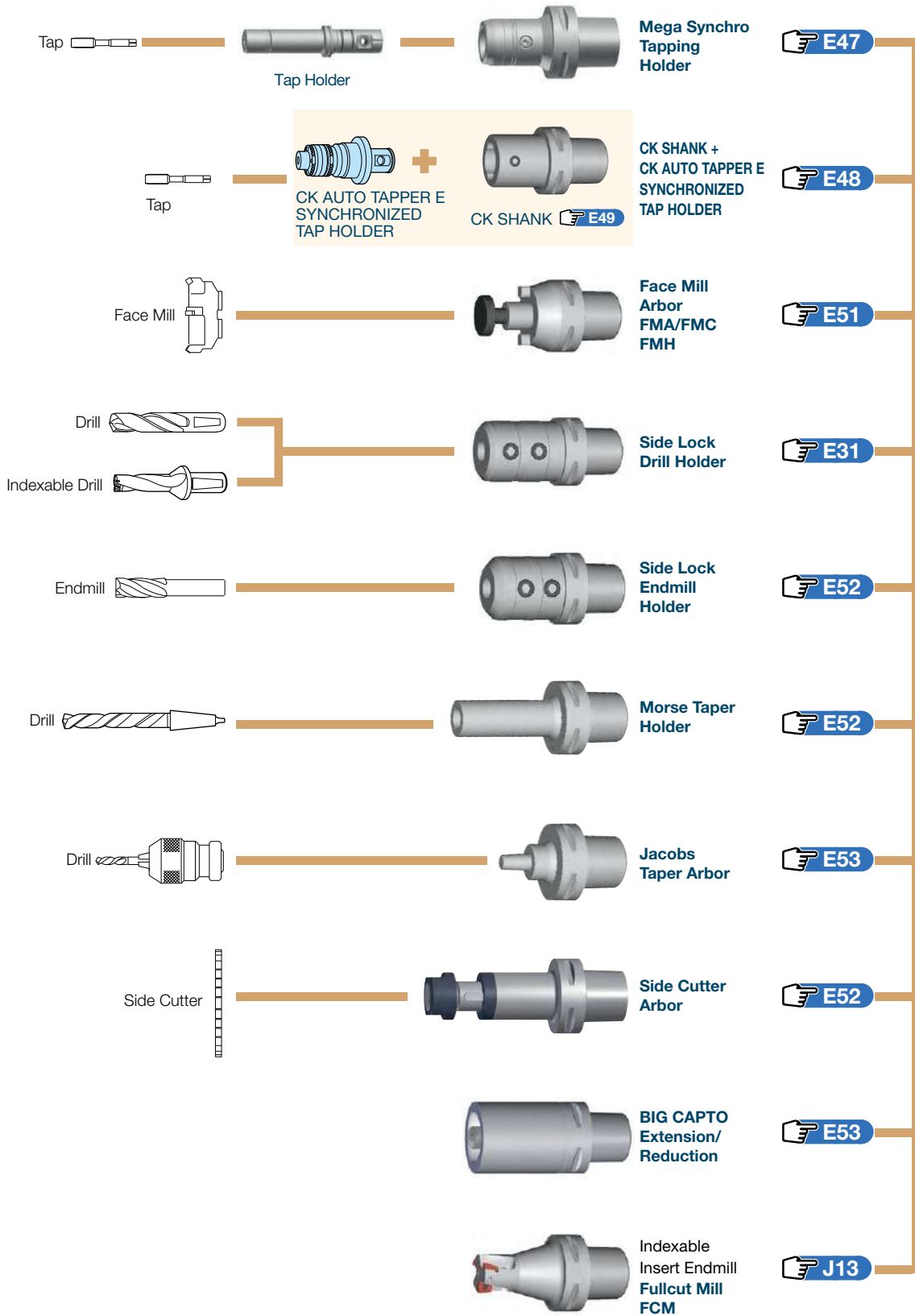


E

BIG CAPTO SHANK

Rotating Tool System Chart

BIG CAPTO
SHANK

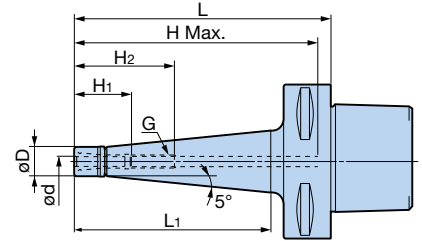
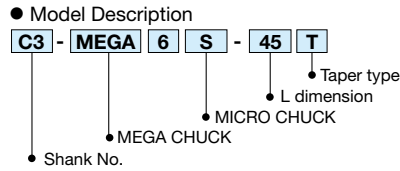


E
BIG CAPTO SHANK



Ultra-slim design with $\varnothing 10\text{mm}$ nut outer diameter.
High speed collet chuck with minimized interference.

[High Rigidity Taper Type]

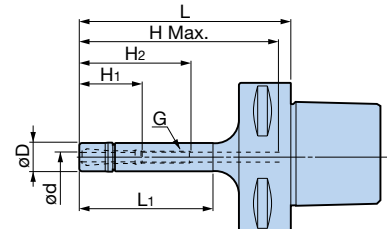
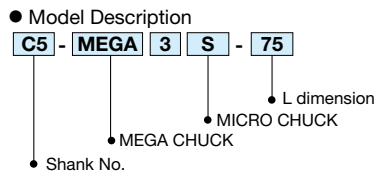


C3/C4/C5/C6

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H ₁	H ₂	H Max.	G	Collet Model	Weight (kg)
C3-MEGA6S- 45T <small>NEW</small>	0.45 - 6.05	14	45	27	28	—	39	—	NBC6S-□	0.15
C4-MEGA3S- 60T	0.45 - 3.25	10	60	35	22	38	54	M4 P0.7	NBC3S-□	0.3
-MEGA6S- 60T	0.45 - 6.05	14	60	35	28	47	54	M7 P0.75	NBC6S-□	0.3
- 90T			90	65						48
C5-MEGA3S-105T	0.45 - 3.25	10	105	79	22.5	38.5	98	M4 P0.7	NBC3S-□	0.5
-MEGA4S-105T	0.45 - 4.05	12	105	79	26.5	47	98	M5 P0.8	NBC4S-□	0.5
-120T			120	94						113
-MEGA6S-105T	0.45 - 6.05	14	105	79	28.5	49	98	M7 P0.75	NBC6S-□	0.6
-120T			120	94						113
C6-MEGA3S-120T	0.45 - 3.25	10	120	92	22.5	38.5	111	M4 P0.7	NBC3S-□	1.3
-MEGA4S-120T	0.45 - 4.05	12	120	92	26.5	47	111	M5 P0.8	NBC4S-□	1.3
-135T			135	107						126
-MEGA6S-120T	0.45 - 6.05	14	120	92	28.5	49	111	M7 P0.75	NBC6S-□	1.3
-135T			135	107						126

- Nut is included. Collet and wrench must be ordered separately.
- Weight includes the nut but not the collet.

[Straight Type]

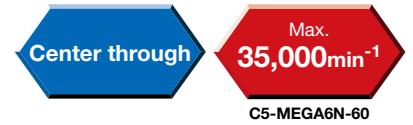


C5/C6

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H ₁	H ₂	H Max.	G	Collet Model	Weight (kg)
C5-MEGA3S-75	0.45 - 3.25	10	75	49	22.5	38	68	M4 P0.7	NBC3S-□	0.4
-MEGA4S-75	0.45 - 4.05	12		50	26.5	47		M5 P0.8	NBC4S-□	0.4
-MEGA6S-75	0.45 - 6.05	14		50	28.5	49		M7 P0.75	NBC6S-□	0.4
C6-MEGA3S-90	0.45 - 3.25	10	90	50	22.5	38	81	M4 P0.7	NBC3S-□	1.1
-MEGA4S-90	0.45 - 4.05	12		58	26.5	47		M5 P0.8	NBC4S-□	1.2
-MEGA6S-90	0.45 - 6.05	14		58	28.5	49		M7 P0.75	NBC6S-□	1.2

- Nut is included. Collet and wrench must be ordered separately.
- Weight includes the nut but not the collet.

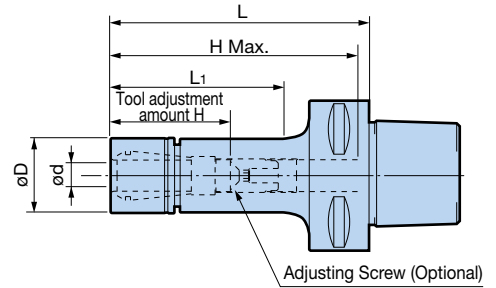
Standard Accessory	Optional Accessories			
<p>MEGA NUT</p> <p>For Spares G3</p>	<p>Mega Wrench</p> <p>G26</p>	<p>Micro Collet</p> <p>G2</p>	<p>Mega Micro Seal Nut (For 6S) Mega Micro Coolant Nut (For 6S)</p> <p>G3</p>	<p>Collet Case</p> <p>G4</p>



High speed and reliable machining are achieved with the exceptional tool balance and high precision collet chuck system.



- Model Description
- C3** - **MEGA** **6** **N** - **45**
- L dimension
- NEW BABY CHUCK
- Maximum clamping diameter
- MEGA CHUCK
- Shank No.



C3/C4/C5

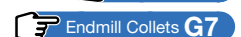
Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	H Max.	Collet Model	Weight (kg)
C3 - MEGA 6N- 45 ※	0.25 - 6	20	45	28	23	23	NBC 6-□	0.17
-MEGA 8N- 45 ※	0.5 - 8	25	45	28	26	26	NBC 8-□	0.21
-MEGA10N- 50 ※	1.5 - 10	30	50	34	38	38	NBC10-□	0.24
-MEGA13N- 50 ※	2.5 - 13	35	50	35	44	44	NBC13-□	0.27
-MEGA16N- 55 ※	2.5 - 16	42	55	—	49	49	NBC16-□	0.34
C4 - MEGA 6N- 75	0.25 - 6	20	75	48	23 - 43	69	NBC 6-□	0.4
-MEGA 8N- 75	0.5 - 8	25	75	49	26 - 45	69	NBC 8-□	0.5
-MEGA10N- 50 ※	1.5 - 10	30	50	28	44	44	NBC10-□	0.5
- 75 ※			75	52	38 - 48	69	NBC10-□	0.6
-MEGA13N- 50 ※	2.5 - 13	35	50	29	44	44	NBC13-□	0.5
- 75 ※			75	54	64	64	NBC13-□	0.7
-MEGA16N- 55 ※	2.5 - 16	42	55	—	48	48	NBC16-□	0.7
-MEGA20N- 60 ※	2.5 - 20	46	60	—	53	53	NBC20-□	0.8
C5 - MEGA 6N- 60	0.25 - 6	20	60	34	23 - 36	53	NBC 6-□	0.5
- 75			75	49		68		0.5
- 90			90	62		83		0.5
-105			105	77		98		0.6
-120			120	90		113		0.6
-MEGA 8N- 60			60	33		26 - 36		53
- 75	75	49	26 - 45	68	0.6			
- 90	90	64	83	0.6				
-105	105	77	98	0.7				
-120	120	92	113	0.7				
-MEGA10N- 55 ※	55	31	48	48	NBC10-□	0.5		
- 75	75	49	68	0.6				
- 90	90	64	83	0.7				
-105	105	79	98	0.8				
-120	120	92	113	0.9				
-MEGA13N- 55 ※	55	31	48	48		NBC13-□	0.6	
- 75	75	49	44 - 48	68	0.7			
- 90	90	64	83	0.8				
-105	105	79	44 - 63	98	0.9			
-120	120	94	113	1.0				
-MEGA16N- 60 ※	60	38	53	53	NBC16-□		0.7	
- 75 ※	75	53	68	68		0.9		
- 90	90	69	48 - 63	83		1.0		
-105	105	84	98	1.1				
-120	120	99	48 - 68	111		1.3		
-MEGA20N- 60 ※	60	39	51	51		NBC20-□	0.8	
- 75 ※	75	54	66	66	1.0			
- 90	90	69	51 - 60	83	1.1			
-105	105	84	98	1.3				
-120	120	99	51 - 68	111	1.4			

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.

2. Weight includes the nut but not the collet.

3. Center through coolant supply is available.

4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

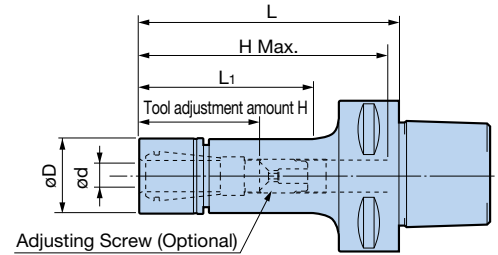




High speed and reliable machining are achieved with the exceptional tool balance and high precision collet chuck system.



- Model Description
- C6** - **MEGA** **6** **N** - **60**
- Shank No.
- MEGA CHUCK
- Maximum clamping diameter
- NEW BABY CHUCK
- L dimension



C6

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	H Max.	Collet Model	Weight (kg)
C6 -MEGA 6N- 60	0.25 - 6	20	60	30	23 - 33	51	NBC 6-□	1.2
- 75			75	43				1.2
- 90			90	58				1.2
-105			105	73				1.3
-120			120	88				1.3
-135			135	103				1.3
-165			165	128				1.4
-200			200	163				1.5
-MEGA 8N- 60	0.5 - 8	25	60	29	26 - 31	51	NBC 8-□	1.3
- 75			75	43				1.3
- 90			90	58				1.3
-105			105	73				1.4
-120			120	88				1.4
-135			135	103				1.5
-165			165	133				1.6
-200			200	163				1.7
-MEGA10N- 60 ※	1.5 - 10	30	60	32	38 - 45	51	NBC10-□	1.3
- 75			75	43				1.4
- 90			90	58				1.4
-105			105	73				1.5
-120			120	88				1.6
-135			135	103				1.6
-165			165	133				1.8
-200			200	168				2.0
-MEGA13N- 60 ※	2.5 - 13	35	60	32	44 - 55	51	NBC13-□	1.3
- 75			75	45				1.4
- 90			90	60				1.5
-105			105	73				1.6
-120			120	90				1.7
-135			135	103				1.8
-165			165	133				2.0
-200			200	168				2.2
-MEGA16N- 65 ※	2.5 - 16	42	65	37	48 - 57	56	NBC16-□	1.5
- 75			75	47				1.6
- 90			90	60				1.7
-105			105	75				1.8
-120			120	90				2.0
-135			135	105				2.1
-165			165	135				2.4
-200			200	170				2.7
-MEGA20N- 65 ※	2.5 - 20	46	65	37	51 - 56	51	NBC20-□	1.5
- 75			75	47				1.6
- 90			90	62				1.8
-105			105	77				2.0
-120			120	92				2.1
-135			135	107				2.3
-165			165	137				2.6
-200			200	172				2.9

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

Clamping diameter: $\varnothing 0.25 - \varnothing 20$

MEGA NEW BABY CHUCK PAT.

C8

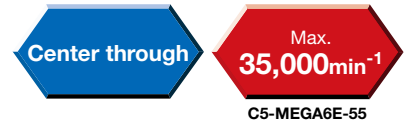
Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	H Max.	Collet Model	Weight (kg)
C8 -MEGA 6N- 90	0.25 - 6	20	90	45	23 - 43	90	NBC 6-□	2.4
-120			120	75		120		2.6
-165			165	120		165		2.7
-MEGA 8N- 90	0.5 - 8	25	90	46	26 - 45	90	NBC 8-□	2.6
-120			120	75		120		2.7
-165			165	120		165		2.8
-MEGA10N- 90	1.5 - 10	30	90	45	38 - 48	90	NBC10-□	2.7
-120			120	75		120		2.8
-165			165	120		165		3.0
-MEGA13N- 90	2.5 - 13	35	90	50	44 - 63	90	NBC13-□	2.8
-120			120	80		120		2.9
-165			165	120		165		3.2
-200			200	155		200		3.5
-MEGA16N- 90	2.5 - 16	42	90	50	48 - 66	90	NBC16-□	2.9
-120			120	80	48 - 68	120		3.2
-165			165	125	165	3.6		
-MEGA20N- 90	2.5 - 20	46	90	50	51 - 68	83	NBC20-□	3.0
-120			120	80		113		3.3
-165			165	125		113		3.8
-200			200	160		113		4.1

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.

Standard Accessory		Optional Accessories				
MEGA NUT  For Spares  G10	O-ring  For Spares  G10	MEGA NUT Flat Type   G10	Mega Wrench   G26	Collet   G5	MEGA PERFECT SEAL   G11	Adjusting Screw   G10

E

BIG CAPTO SHANK



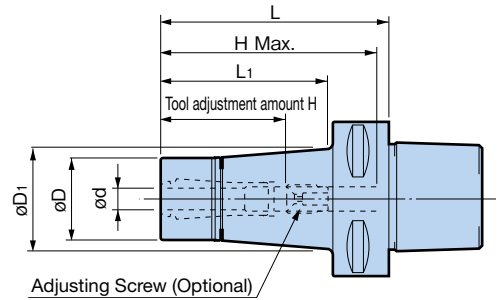
New collet chuck designed for endmilling.
Powerful gripping force and substantial body design with high bending rigidity provide optimum endmilling performance.



● Model Description

C4 - **MEGA** **6** **E** - **50**

- L dimension
- E CHUCK
- Maximum clamping diameter
- MEGA CHUCK
- Shank No.



C4/C5

Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H	H Max.	Collet Model	Weight (kg)
C4 -MEGA 6E- 50 ※	3 - 6	25	26	50	25	44	44	MEC 6-□	0.4
-MEGA 8E- 50 ※	3 - 8	30	31	50	28	44	44	MEC 8-□	0.5
-MEGA10E- 55 ※	3 - 10	35	37	55	34	49	49	MEC10-□	0.5
-MEGA13E- 60 ※	3 - 12	42	—	60	—	50	50	MEC13-□	0.6
C5 -MEGA 6E- 55 ※	3 - 6	25	26.5	55	29	37 - 45	48	MEC 6-□	0.5
- 90			32.5	90	64		83		0.7
-105			35.5	105	81		98		0.8
-120			38	120	97		113		0.9
-MEGA 8E- 55 ※			31.5	55	31		48		48
- 90	37.5	90	67	42 - 51	83	0.8			
-105	40.5	105	82		98	1.0			
-120	43	120	98		113	1.1			
-MEGA10E- 60 ※	37.5	60	37		53	53	MEC10-□	0.6	
- 90	43	90	69		48 - 58	83		0.9	
-105	45.5	105	84	98		1.1			
-120	45.5	120	99	113		1.3			
-MEGA13E- 60 ※	44.5	60	39	50		50		MEC13-□	0.8
- 75 ※	45	75	54	68		68	0.9		
- 90	45	90	69	50 - 60	83	1.1			
-105	46	105	84		98	1.3			
-120	46	120	99		113	1.4			

Refer to the remarks on the next page.

C6/C8

Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H	H Max.	Collet Model	Weight (kg)	
C6 -MEGA 6E- 60 ✱	3 - 6	25	28	60	33	37 - 45	51	MEC 6-□	1.2	
- 75			29.5	75	48				66	1.3
- 90			32.5	90	63				81	1.4
-105			35	105	78				96	1.5
-120			37.5	120	93				111	1.6
-135			40	135	108				126	1.8
-165			45.5	165	138				156	2.1
-MEGA 8E- 60 ✱			3 - 8	30	33				60	33
- 75	34.5	75			48	66	1.4			
- 90	37	90			63	81	1.5			
-105	39.5	105			78	96	1.7			
-120	42.5	120			93	111	1.8			
-135	45	135			108	126	1.9			
-165	50.5	165			140	156	2.4			
-MEGA10E- 65 ✱	3 - 10	35			38.5	65	38	48 - 58	56	MEC10-□
- 75 ✱			39.5	75	48	66	1.5			
- 90			42	90	63	81	1.6			
-105			44.5	105	78	96	1.8			
-120			47	120	93	111	2.0			
-135			50	135	110	126	2.2			
-165			55.5	165	141	156	2.7			
-MEGA13E- 65 ✱			3 - 12	42	45.5	65	39			
- 75 ✱	46	75			49	66	1.6			
- 90	49	90			66	81	1.8			
-105	51.5	105			80	96	2.1			
-120	54.5	120			96	111	2.3			
-135	57	135			112	126	2.6			
-165	62.5	165			141	156	3.2			
C8 -MEGA 6E- 90	3 - 6	25			31	90	55	37 - 45	90	MEC 6-□
-135			38.5	135	100	135	3.0			
-MEGA 8E- 90	3 - 8	30	35.5	90	55	42 - 51	90	MEC 8-□	2.7	
-135			43.5	135	100				135	3.2
-MEGA10E- 90	3 - 10	35	40.5	90	55	48 - 58	90	MEC10-□	2.8	
-120			46	120	85				120	3.2
-135			48.5	135	100				135	3.4
-MEGA13E- 90	3 - 12	42	47	90	55	50 - 60	90	MEC13-□	3.0	
-120			52.5	120	85				120	3.4
-135			55	135	100				135	3.7
-165			60.5	165	130				165	4.3

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.

2. Weight includes the nut but not the collet.

3. Center through coolant supply is available.

4. ✱ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

Standard Accessory		Optional Accessories			
<p>MEGA E Nut</p>  <p>For Spares </p>	<p>O-ring</p>  <p>For Spares </p>	<p>Mega Wrench</p>  <p></p>	<p>MEGA E Collet</p>  <p></p>	<p>MEGA E PERFECT SEAL</p>  <p></p>	<p>Adjusting Screw</p>  <p></p>

Note that suitable Mega Wrench models differ between the Mega E Chuck and Mega New Baby Chuck even for the same body size series, i.e. MEGA6E and MEGA6N require different wrenches from each other.

E
BIG CAPTO SHANK

Complete contact with the nut and body.
High rigidity holder for large endmills equal to integration with the machine spindle.



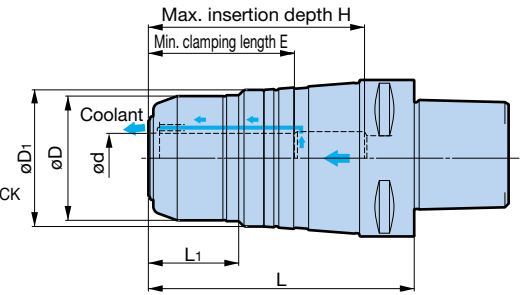
[Jet Through Type] For Jet Through



● Model Description

C4 - **MEGA** **16** **DS** - **70**

- DOUBLE POWER CHUCK Jet Through Type
- Clamping diameter
- MEGA CHUCK
- Shank No.






C4/C5/C6/C8

Model	Clamping diameter ϕd	ϕD	ϕD_1	L	L_1	H	E	Mega Wrench Model	Weight (kg)
C4 -MEGA16DS- 70	16	46	47	72.5	—	66	48	MGR46L	0.8
-MEGA20DS- 65	20	50	51	67.5	—	61	50	MGR50L	0.8
C5 -MEGA16DS- 65A	16	42	53	67	27	60	48	MGR42L	0.8
- 90A				92		73			1.3
-MEGA20DS- 75A	20	50	55	77	36	70	50	MGR50L	1.1
- 90A				92		85			1.4
-MEGA25DS- 75A※	25	62	63	77	41	70	56	MGR62L	1.4
- 90A				92		85			1.7
C6 -MEGA16DS- 70A	16	42	53	72	27	63	48	MGR42L	1.6
- 90A				92		83			2.0
-105A○				107		73			2.3
-135A○				137		73			2.9
-MEGA20DS- 75A	20	50	55	77	36	68	50	MGR50L	1.9
- 90A				92		83			2.1
-105A				107		87			2.4
-135A△				137		71 - 81			3.0
-MEGA25DS- 75A※	25	62	63	77	41	68	56	MGR62L	2.1
- 90A				92		83			2.4
-105A				107		87			2.8
-135A△				137		73 - 83			3.3
-MEGA32DS- 90A	32	70	71	92	35	83	60	MGR70L	2.5
-105A				107		92			2.9
-135A△				137		81 - 91			3.4
C8 -MEGA16DS- 70	16	46	55	72.5	26	73	48	MGR46L	2.8
-105○				107.5					3.6
-135○				137.5					4.1
-MEGA20DS- 75	20	60	69	77.5	28	77	50	MGR60L	3.3
-135△				137.5		71 - 81			5.0
-165△				167.5		5.9			
-MEGA25DS- 75	25	70	77	77.5	34	77	56	MGR70L	3.4
-135△				137.5		78 - 88			5.4
-165△				167.5		6.4			
-MEGA32DS- 90	32	80	86	92.5	42	92	60	MGR80L	4.3
-105				107.5		102			4.8
-135				137.5		107			6.0
-165△				167.5		80 - 97			7.3

- Wrench must be ordered separately.
 - Jet-through type provides coolant from the chuck nose, thus tools with oil holes cannot be used.
 - Models marked with \triangle can be used with optional axial adjusting screws. Models marked with \circ require the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications. **Adjusting screws cannot be used with models without the symbols above.**
 - H dimension is the max. tool shank length that can be inserted into the holder. Models marked with \triangle show the adjustment amount when using an optional axial adjusting screw.
- ※ marked models are not compatible with some Straight Collets. Compatibility Table [G23](#)

Optional Accessories

<p>STRAIGHT COLLET</p>  <ul style="list-style-type: none"> PJC Collet G19 PSC Collet G20 C Collet G22 	<p>Mega Wrench</p>  <p>G26</p>	<p>Axial Adjusting Screw</p>  <p>G25</p>
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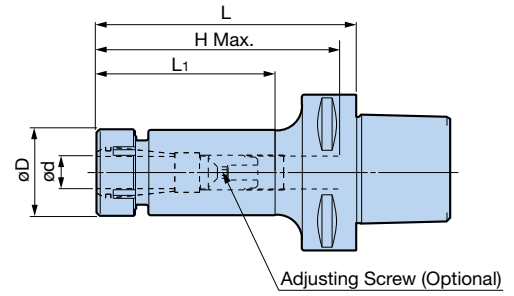
Clamping diameter: $\varnothing 0.25 - \varnothing 20$ **NEW BABY CHUCK** PAT.

Center through

High-precision collet chuck system with a 1 micron runout accuracy at nose.
Applicable to various machining needs as a reliable general-purpose holder.



● Model Description
C6 - **NBS** **6** - **75**
 ● L dimension
 ● Maximum clamping diameter
 ● NEW BABY CHUCK
 ● Shank No.






**C6**

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H Max.	Collet Model	Weight (kg)
C6-NBS 6- 75	0.25 - 6	20	75	43	66	NBC 6-□	0.9
-105			105	73	96		1.0
-135			135	103	126		1.0
-165			165	133	156		1.0
-200			200	168	191		1.1
-NBS 8- 75	0.5 - 8	25	75	43	66	NBC 8-□	1.0
-105			105	73	96		1.0
-135			135	103	126		1.1
-165			165	133	156		1.2
-200			200	168	191		1.3
-NBS10- 75	1.5 - 10	30	75	43	66	NBC10-□	1.0
-105			105	73	96		1.1
-135			135	103	126		1.3
-165			165	133	156		1.4
-200			200	168	191		1.6
-NBS13- 75	2.5 - 13	35	75	45	66	NBC13-□	1.1
-105			105	73	96		1.2
-135			135	103	126		1.4
-165			165	133	156		1.6
-200			200	168	191		1.8
-NBS16- 75*	2.5 - 16	42	75	47	66	NBC16-□	1.2
-105			105	75	96		1.4
-135			135	105	108		1.7
-165			165	135			2.0
-200			200	170	2.3		
-NBS20- 75*	2.5 - 20	46	75	47	65	NBC20-□	1.2
-105			105	77	88		1.5
-135			135	107	108		1.8
-165			165	137			2.2
-200			200	172			2.6

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.

2. Center through coolant supply is available.

3. Models marked with * cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

Standard Accessory	Optional Accessories				
New Baby Nut  For Spares 	New Baby Wrench  	Collet  	BABY PERFECT SEAL  	Adjusting Screw  	Tap Adjusting Screw  

E

BIG CAPTO SHANK

Assembling the accessory plug allows jet through to be switched to center through.

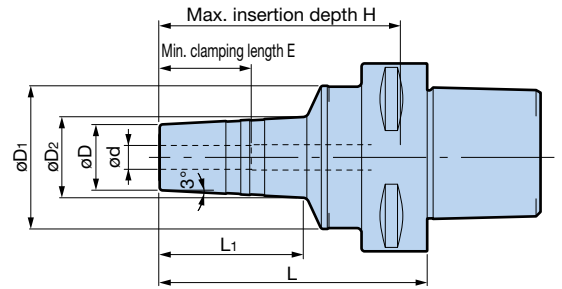
[Jet Through Type PAT.]



Runout accuracy
 ϕD
3 μ m
or less



- Model Description
- C5** - **HDC** **4** **J** - **90**
- L dimension
 - Jet Through Type
 - Clamping diameter
 - HYDRAULIC CHUCK
 - Shank No.



C5/C6

Model	Clamping diameter ϕd	ϕD	ϕD_1	ϕD_2	L	L_1	E	H	Weight (kg)				
C5-HDC 4J- 90	4	20	42	26	90	51	19	83	0.72				
-HDC 6J- 90	6						25		0.71				
-HDC 8J- 90	8						31		0.72				
-HDC10J- 90	10						33		0.75				
-HDC12J- 90	12						36		0.78				
C6-HDC 4J- 90	4	20	48	26	90	47	19	81	1.1				
-HDC 6J- 90	6						25		1.1				
-120	6						28	120	74	25	111	1.3	
-HDC 8J- 90	8						22	28	90	48	31	81	1.1
-120									120	75		111	1.3
-HDC10J- 90	10						24	30	90	48	33	81	1.1
-120									120	75		111	1.3
-HDC12J- 90									90	49		81	1.2
-120	12						26	34	120	76	36	111	1.3

1. Adjusting Screw cannot be used.
 2. HDC4J to 12J models allow jet through to be switched to center through by assembling the accessory plug.
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. **G25**

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

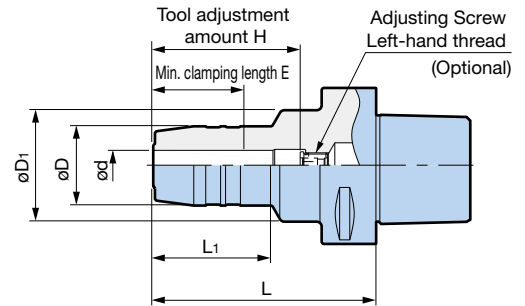
Center through

Secure chucking with just one wrench. Ideal for various high precision machining requirements.

[Standard Type]

Runout accuracy
4D
3 μ m
or less

● Model Description
C5 - **HDC** **14** - **90**
 ● L dimension
 ● Clamping diameter
 ● HYDRAULIC CHUCK
 ● Shank No.

**C5/C6**

Model	Clamping diameter $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	E	H	Adjusting Screw (Optional)	Weight (kg)
C5-HDC14- 90	14	34	45	90	48	38	53 - 60	HDA12-10010O	1.1
-HDC16- 75 ※	16	38	50	75	35	43	68	—	1.1
- 90 ※			48	90	48		83	—	1.2
-HDC18- 90 ※	18	40	48	90	48	43	83	—	1.2
-HDC20- 75 ※	20	42	52	75	35	43	68	—	1.1
- 90 ※			50	90	48		83	—	1.2
-HDC25- 90 ※	25	55	63	90	48	52	83	—	1.7
C6-HDC14- 90	14	34	45	90	48	38	48 - 60	HDA10-08015	1.6
-120			120	48	38 - 60		HDA10-08032	1.9	
-HDC16- 75 ※	16	38	50	75	35	43	66	—	1.6
- 90 ※			47	90	48		81	—	1.7
-120			48	120	48		43 - 70	HDA16-12037	2.0
-HDC18- 90 ※	18	40	48	90	48	43	66	—	1.7
-120			49	120	48		43 - 70	HDA16-12037	2.0
-HDC20- 75 ※	20	42	53	75	33	43	66	—	1.7
- 90 ※			50	90	48		72	—	1.8
-120			50	120	48		43 - 70	HDA16-12037	2.1
-HDC25- 90 ※	25	55	63	90	46	52	80	—	2.2
-120			120	51	67 - 79		HDA20-16015	2.8	
-HDC32- 90 ※	32	75	63	90	43	56	81	—	2.8
-120		63	—	120	—		66 - 78	HDA20-16015	3.0

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
2. Models marked with ※ cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
3. Adjusting Screw with hexagon sockets on both sides is also available, allowing adjustment from the shank side as well.
Add the letter "W" at the end of the model number when ordering. (Example: **HDA10-0815W**)
4. The above type is not available for the **HDA12-10010** marked with ○.

- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. **G25**

 Straight Collets **G19**
Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

E

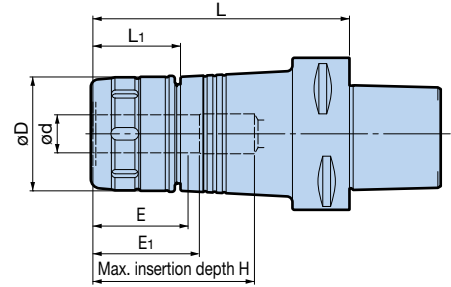
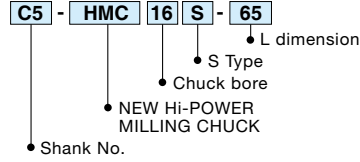
BIG CAPTO SHANK

Center through

The BIG original slit mechanism supports high power and high-precision endmilling from heavy cuts to fine cuts.



● Model Description







C5/C6/C8

Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	H	Min. clamping length		FK Wrench Model	MEGA WRENCH Model	Weight (kg)
						E	E ₁			
C5-HMC16S- 65	16	43	65	44	58	48	55	FK45-50L	MGR43L	0.8
-HMC20S- 75	20	50	75	44	68	50	56		MGR50L	1.0
-105			105		85				1.4	
-HMC25S- 75 ※	25	55	75	47	68	56	57	FK52-55	MGR55L	1.3
-105			105		87					1.7
-HMC32S- 85 ※	32	62	85	56	78	60	58	FK58-62L	MGR62L	1.6
C6-HMC16S- 70	16	43	70	44	61	48	55	FK45-50L	MGR43L	1.5
-HMC20S- 75	20	50	75	44	66	50	56		MGR50L	1.7
-105			105		85					2.3
-120 △			120		69 - 79				2.5	
-HMC25S- 75 ※	25	59	75	45	66	56	57	FK58-62L	MGR59L	2.0
-105			105		87					2.5
-135 △			135		73 - 83				3.1	
-HMC32S- 90	32	68	90	54	81	60	64	FK68-75L	MGR68L	2.4
-105			105		90					2.7
-135 △			135		79 - 89					3.3
C8-HMC20- 80	20	60	80	46	80	50	56	FK58-62	MGR60L	3.3
-135 △			135		69 - 79					4.7
-HMC25- 85	25	62	85	55	85	56	65		MGR62L	3.5
-135 △			135		76 - 86			4.7		
-HMC32- 95	32	80	95	63	95	60	71	FK80-90	MGR80L	4.5
-135			135		105					5.8

1. Wrench must be ordered separately.
2. Models with △ indication can be used with optional axial adjusting screws.
Adjusting screws cannot be used with models without the symbols above.
3. H dimension is the max. tool shank length that can be inserted into the holder.
△ marked models show the adjustment amount when using an optional axial adjusting screw.
4. When using center through coolant, insert a tool shank into E₁ or more.

- ※ marked models are not compatible with some Straight Collets. Compatibility Table [G23](#)
- MEGA WRENCH can also be used to tighten/remove tools.

Optional Accessories

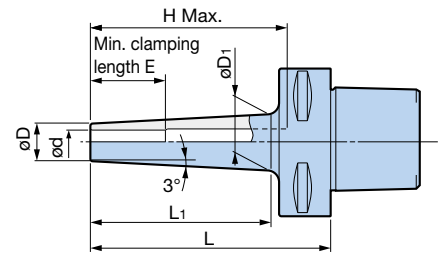
Straight Collet	Wrench	Mega Wrench	Axial Adjusting Screw
 <ul style="list-style-type: none"> PJC Collet G19 PSC Collet G20 OCA Collet G21 C Collet G22 	 G25	 G26	 G25

Clamping diameter: $\phi 6 - \phi 20$ **SHRINK CHUCK SRC type**Holder material
Tool steel

Center through

[Slim Type]

- Model Description
- C6** - **SRC** **6** **S** - **120**
- Clamping diameter
 - Slim Type
 - SHRINK CHUCK
 - Shank No.
 - L dimension

**C6**

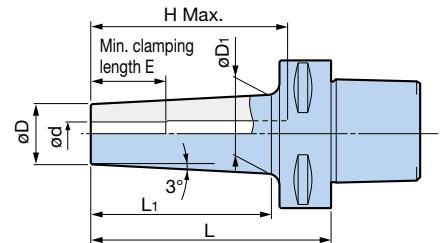
Model	Clamping diameter ϕd	ϕD	ϕD_1	L	L_1	E	H Max.	Weight (kg)
C6-SRC 6S-120	6	10	19.5	120	92	26	111	1.2
-165			24	165	133		156	1.4
-SRC 8S-120	8	13	22.5	120	92	26	111	1.3
-165			27	165	133		156	1.5
-SRC10S-120	10	16	25.5	120	92	32	111	1.3
-165			30.5	165	135		156	1.5
-SRC12S-120	12	19	28.5	120	92	36	111	1.4
-165			33	165	135		156	1.6

1. Use a carbide shank cutter within a tolerance of h6. HSS tools cannot be used.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

[Standard Type]

- Model Description
- C6** - **SRC** **6** - **90**
- Clamping diameter
 - SHRINK CHUCK
 - Shank No.
 - L dimension

**C6**

Model	Clamping diameter ϕd	ϕD	ϕD_1	L	L_1	E	H Max.	Weight (kg)
C6-SRC 6- 90	6	14	20.5	90	63	26	81	1.2
-SRC 8- 90	8	18	24.5			32		1.3
-SRC10- 90	10	22	28.5			36		1.4
-SRC12- 90	12	24	30.5			38		2.1
-SRC16- 90	16	28	34.5	165	138	38	80	2.1
-165			42.5	165	138			1.5
-SRC20- 90	20	34	40.5	90	63	42	100	1.5
-165			48.5	165	138			2.5

1. Use a carbide shank cutter within a tolerance of h6. HSS tools cannot be used.

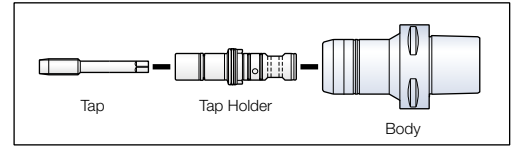
<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

E

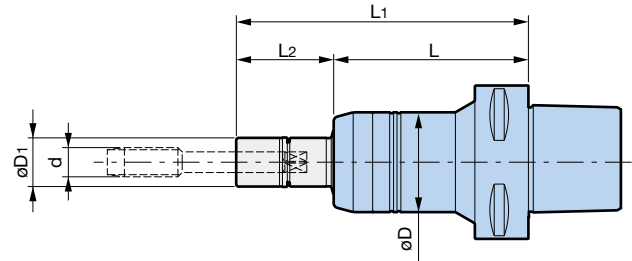
BIG CAPTO SHANK



Absorbs and corrects machine synchronization errors for improved tap life.



- Model Description (Body)
- C5** - **MGT6** - **75**
- L dimension
- MEGA SYNCHRO No.
- Shank No.



C5/C6/C8

Model	Tap Holder Model	Tapping range d	ϕD	ϕD_1	L	L_1	L_2	Weight (kg)
C5-MGT 6- 75	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	75	105	30	0.8
	- 70					145	70	
	-100					175	100	
-MGT12- 75	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	75	105	30	0.9
	- 70					145	70	
	-100					175	100	
-MGT20-100	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	100	135	35	1.4
	- 85					185	85	
	-115					215	115	
C6-MGT 6- 80	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	80	110	30	1.1
	- 70					150	70	
	-100					180	100	
-MGT12- 80	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	80	110	30	1.2
	- 70					150	70	
	-100					180	100	
-MGT20-100	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	100	135	35	1.8
	- 85					185	85	
	-115					215	115	
C8-MGT 6- 80	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	80	110	30	2.1
	- 70					150	70	
	-100					180	100	
-MGT12- 80	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	80	110	30	2.2
	- 70					150	70	
	-100					180	100	
-MGT20- 95	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	95	130	35	2.6
	- 85					180	85	
	-115					210	115	

1. MGT Set Screw is included.
 2. Tap holder is not included. Please order separately.
 Cannot be used with machining center without synchronized tapping function.

$L_2=150, 200$ mm tap holders are also available. For details, see **A128 - A131**

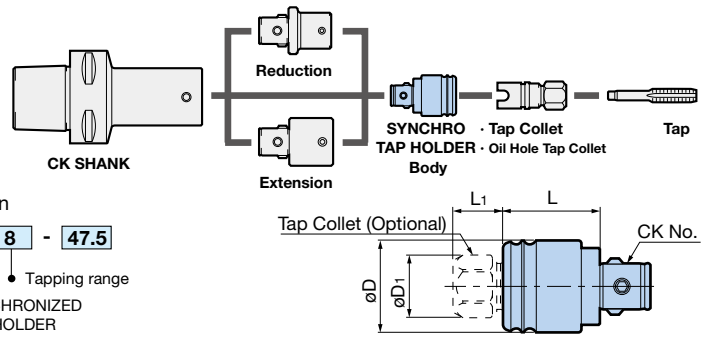
Tap holders A128
Mega Wrench A132

BIG CAPTO SHANK

SYNCHRONIZED TAP HOLDER

SYNCHRONIZED TAP HOLDER (STC)

- Tap Collet type enables quick tap change.
- Flexible tool layout in combination with the CK Shanks.



● Model Description
CKB2 - **STC** **8** - **47.5**
 ● CK No. ● TAPPING RANGE
 ● SYNCHRONIZED TAP HOLDER

Model	Tapping capacity	CK No.	øD	øD ₁	L	L ₁	Body weight (kg)	Tap Collet
CKB2-STC 8-47.5	M 2 - M 4	CK2	25.5	15.8	30.5	17	0.10	TC 8-d
	M 5 - M 8			19				
CKB3-STC12-66	M 3 - M12	CK3	32	22	36	30	0.18	TC12-d
CKB4-STC20-72	M 7 - M12	CK4	44	22	47	25	0.42	TC20-d
	M14 - M20			31				
CKB5-STC30-92	M20 - M30	CK5	55	41	54	38	0.72	TC30-d

1. Tap collet must be ordered separately.
2. Cannot be used with machining center without synchronized tapping function.
3. The L₁ dimension is 5mm longer with oil hole tap collets.

Holders **E49**

Tap Collet TC Type (optional accessory)



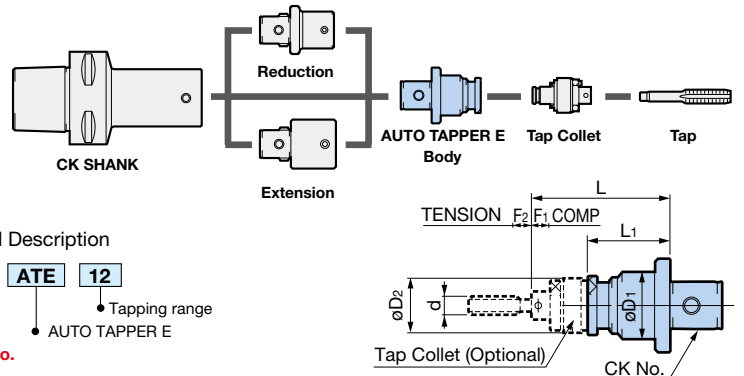
Tap Collets **A141**

Oil Hole Tap Collet **A142**

E
BIG CAPTO SHANK

CK AUTO TAPPER E

- Axial float function and built-in torque limiter.
- Convenient for combination with CK shanks.



● Model Description
CK6 - **ATE** **12**
 ● CK No. ● TAPPING RANGE
 ● AUTO TAPPER E

Model	Tapping range	CK No.	øD ₁	øD ₂	L	L ₁	F ₁	F ₂	Weight (kg)	Tap Collet
CK6-ATE12	M3 - M12	CK6	47	38.5	90	50	5	10	0.9	TCE12-d
CK6-ATE24	M9 - M24		64	58.5	135	80	7	15	1.8	TCE24-d

1. Torque limiter is built into the tap collet.
2. The extension can be used to allow tapping inside deep holes.
3. Tap collet must be ordered separately.

Shanks **E49**

Tap Collet TCE Type (optional accessory)



Tap Collets **A144**

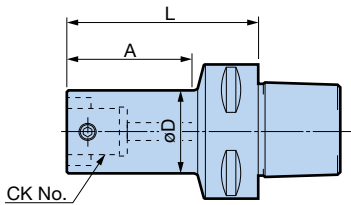
Basic holder for rough and finish boring heads of the proven **BIG** +KAISER Boring System.



C4/C5/C6/C8



● Model Description
C4 - **CKB1** - **48**
 ● Shank No. ● CK No. ● L dimension



Model	CK No.	øD	L	A	Weight (kg)
C4-CKB1- 48	CK1	19	47.5	22	0.4
-CKB2- 45	CK2	24	44.5	19	0.4
-CKB3- 40	CK3	31	40	17	0.5
-CKB4- 33	CK4	39	33	15	0.5
C5-CKB1- 73	CK1	19	72.5	47	0.5
-CKB2- 85	CK2	24	84.5	60	0.6
-CKB3- 55	CK3	31	55	30	0.6
-CKB4- 48	CK4	39	48	24	0.6
-CKB5- 50	CK5	50	50	(30)	0.6
-CKB6- 50	CK6	64	50	(30)	1.0
C6-CKB1- 78	CK1	19	77.5	50	1.2
-CKB2- 90	CK2	24	89.5	62	1.3
-CKB3- 65	CK3	31	65	38	1.3
-100			100	73	1.5
-CKB4- 58	CK4	39	58	31	1.3
- 93			93	66	1.7
-CKB5- 48	CK5	50	48	22	1.3
- 83			83	57	1.7
-CKB6- 59	CK6	64	59	(37)	1.6
- 94			94	(72)	2.3
C8-CKB4-118	CK4	39	118	83	2.4
-178			178	143	3.0
-CKB5-108	CK5	50	108	73	2.7
-183			183	148	3.8
-CKB6- 74	CK6	64	74	39	2.5
-169			169	135	4.8
-CKB7- 73	CK7	90	73	(43)	3.1
-123			123	(93)	5.6

1. Center through coolant supply is available.

For boring heads, refer to the Roughing and Finishing pages.

BIG CAPTO SHANK

Modular boring system with secure and accurate connection mechanism

CK BORING SYSTEM
CK BORING SYSTEM

Supports various boring applications with abundant heads and accessories.





FACE MILL ARBOR TYPE H

Face mill arbor capable of securely supplying coolant/air to cutting edges through oil holes of cutters.

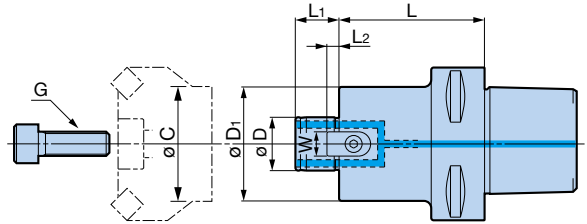
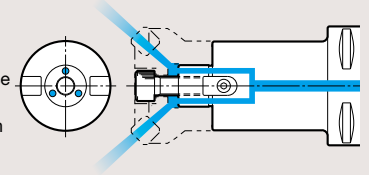


- Model Description
- C5** - **FMH** **22** - **47** - **60**
- L dimension
 - Body diameter
 - Spigot diameter
 - FACE MILL ARBOR TYPE H
 - Shank No.

Securely supplies coolant/air to the cutting edge.

What is FMH?

New standard of the arbors with coolant holes, which major Japanese carbide insert manufacturers established jointly, ideal for the high efficiency radius milling cutters and plunge milling cutters.

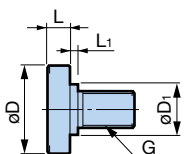


C5/C6/C8

Model	øD (h6)	øD ₁	L	L ₁	Drive Key		G	Weight (kg)	Minimum flange diameter (øC)
					L ₂	W			
C5-FMH22- 47- 60	22	47	60	18	5	10	M10	1.2	36
- 90			90						
-FMH22- 60- 60	22	60	60	18	5	10	M10	1.4	38
-FMH27- 60- 60			27						
C6-FMH22- 47- 45	22	47	45	18	5	10	M10	1.5	38
- 60			60					1.8	
- 90			90					2.2	
-150			150					3.0	
-FMH22- 60- 45	22	60	45	18	5	10	M10	1.8	38
- 60			60					2.1	
- 90			90					2.8	
-FMH27- 60- 45	27	60	45	20	6	12	M12	1.9	46
- 60			60					2.2	
- 90			90					2.8	
-150			150					4.2	
C8-FMH22- 47- 60	22	47	60	18	5	10	M10	2.9	36
-105			105					3.5	
-150			150					4.1	
-200			200					4.8	
-FMH22- 60- 60	22	60	60	18	5	10	M10	3.2	38
-105			105					4.2	
-150			150					5.2	
-FMH27- 60- 60	27	60	60	20	6	12	M12	3.3	46
-105			105					4.3	
-150			150					5.3	
-200			200					6.4	
-FMH32- 96- 75	32	96	75	22	7	14	M16	4.9	58
-105			105					6.1	
-150			150					7.8	

1. Cutter clamp screw (hex socket head screw) is included. If the cutter requires a clamping bolt with larger clamping head diameter, please order the suitable model from the table below.

<Clamping Screws>



Model	øD	øD ₁	L	L ₁	G
MBA-M12	33	23	10	2	12
-M12H		—		—	
-M16	40	23	10	6	16
-M16H		—		—	

FACE MILL ARBOR TYPE A



- Model Description
C4 - **FMA** **25.4** - **40**
- L dimension
 - Spigot diameter
 - FACE MILL ARBOR TYPE A
 - Shank No.

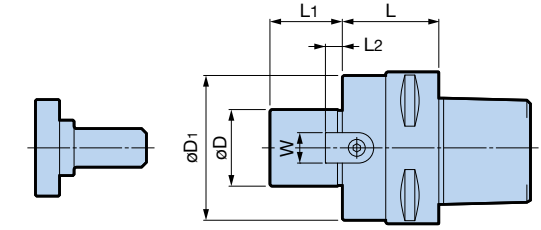


Fig. 1

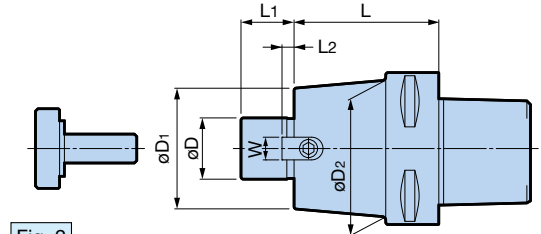


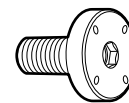
Fig. 2

C4/C5/C6/C8

Model	Fig.	øD (h6)	øD ₁	øD ₂	L	L ₁	Drive Key		Clamping Screw	Weight (kg)
							L ₂	W		
C4-FMA25.4 - 40	1	25.4	50	—	40	22	5	9.5	MBA-M12	0.7
C5-FMA25.4 - 40	1	25.4	50	—	40	22	5	9.5	MBA-M12	0.9
- 75					75					1.2
C6-FMA25.4 - 40	2	25.4	50	54	40	22	5	9.5	MBA-M12	1.4
- 60				57	60					1.8
- 90				60	90					2.4
-FMA31.75- 40	1	31.75	60	—	40	30	7	12.7	MBA-M16	1.6
- 90					90					2.6
-FMA38.1 - 45	1	38.1	80	—	45	34	9	15.9	MBA-M20	2.2
C8-FMA25.4 - 40	2	25.4	50	53	40	22	5	9.5	MBA-M12	2.7
- 75				60	75					3.2
-105				105	3.8					
-FMA31.75- 40	2	31.75	60	62	40	30	7	12.7	MBA-M16	2.7
- 90				70	90					4.0
-FMA38.1 - 45	1	38.1	80	—	45	34	9	15.9	MBA-M20	3.2

- Cutter clamp screw is included.
- Depending on the cutter, a hex socket head screw may be required for clamping.
- A clamp screw with oil hole must be ordered separately for use with center through coolant/air.

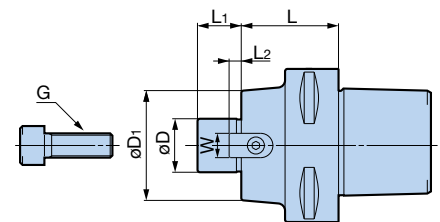
■ Clamping screw with oil hole



Model
TMBA-M12
-M16
-M20
-M24

FACE MILL ARBOR TYPE C

- Model Description
C6 - **FMC** **16** - **40**
- L dimension
 - Spigot diameter
 - FACE MILL ARBOR TYPE C
 - Shank No.



C6

Model	øD	øD ₁	L	L ₁	Drive Key		G	Weight (kg)
					L ₂	W		
C6-FMC16-40	16	32	40	16	5	8	M 8	1.3
-FMC22-40	22	45	40	18	5	10	M10	1.4

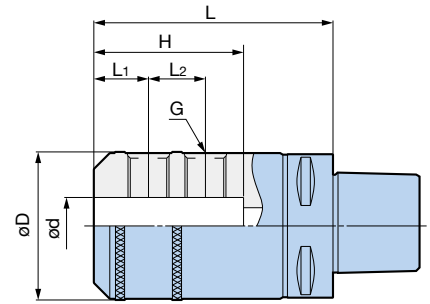
- Cutter clamp screw is included.

Center through

SIDE LOCK ENDMILL HOLDER



● Model Description
C6 - **ISL** **16** - **80**
 ● L dimension
 ● Clamping diameter
 ● SIDE LOCK ENDMILL HOLDER
 ● Shank No.



C6 Endmill holder in accordance with ISO5414

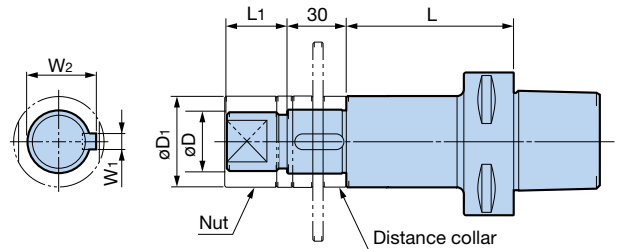
Model	ød	øD	L	L ₁	L ₂	H	G	Weight (kg)
C6-ISL16- 80	16	48	80	24	-	52	M14	1.8
-ISL20- 80	20	52	80	25		55	M16	1.9
-ISL25-105	25	65	105	24	25	60	M18 P2.0	2.9
-ISL32-115	32	72	115	24	28	90	M20 P2.0	3.5

1. Center through coolant supply is available.

SIDE CUTTER ARBOR A



● Model Description
C6 - **SCA** **25.4** - **75**
 ● L dimension
 ● Spigot diameter
 ● SIDE CUTTER ARBOR A
 ● Shank No.



C6/C8

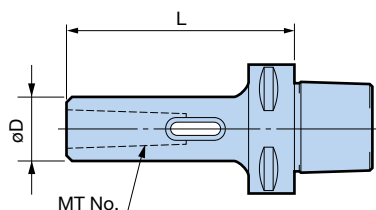
Model	øD (h6)	øD ₁	L	L ₁	W ₁	W ₂	Weight (kg)
C6-SCA25.4 - 75	25.4	40	75	25	6.35	27.78	2.0
-120			120				2.4
-SCA31.75- 75	31.75	46	75	30	7.92	34.92	2.4
C8-SCA25.4 - 90	25.4	40	90	25	6.35	27.78	3.3
-SCA31.75- 90	31.75	46	90	30	7.92	34.92	3.7

- Nut is included.
- One collar each of thickness 5, 8, 10 and 12 is included.
- The model, dimensions and accuracy conform to TMT standards.

MORSE TAPER HOLDER



● Model Description
C5 - **MTA** **1** - **95**
 ● L dimension
 ● MT No.
 ● MORSE TAPER HOLDER TYPE A
 ● Shank No.



C5/C6/C8

Model	MT No.	øD	L	Weight (kg)
C5-MTA1- 95	1	25	95	0.6
-MTA2-110	2	32	110	0.8
-MTA3-130	3	40	130	1.2
C6-MTA1- 95	1	25	95	1.3
-MTA2-110	2	32	110	1.5
-MTA3-130	3	40	130	1.9
C8-MTA1-105	1	25	105	2.6
-MTA2-120	2	32	120	2.8
-MTA3-140	3	40	140	3.2

1. The model, dimensions and accuracy conform to TMT standards.

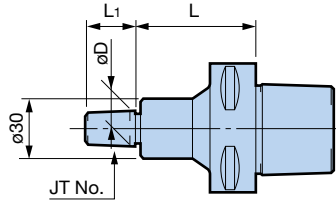
JACOBS TAPER ARBOR



● Model Description

C5 - **JTA** **6** - **40**

- L dimension
- JT No.
- JACOBS TAPER ARBOR
- Shank No.



C5/C6/C8

Model	JT No.	øD	L	L ₁	Weight (kg)
C5-JTA6-40	6	17.17	40	24	0.5
C6-JTA6-40	6	17.17	40	24	1.2
C8-JTA6-50	6	17.17	50	24	2.5

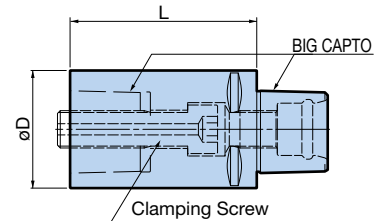
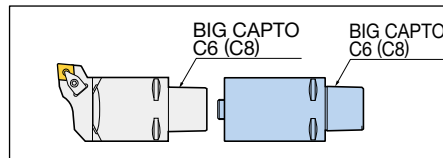
1. The model, dimensions and accuracy conform to TMT standards.

EXTENSION & REDUCTION

E

BIG CAPTO Extension

Extends length of basic holders.

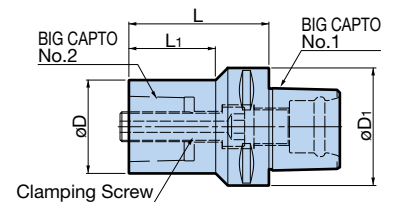
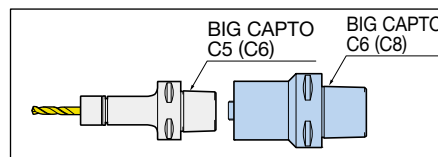


Model	BIG CAPTO	øD	L	Clamping Screw			Weight (kg)
				Thread	Hex	Torque	
C6-C6-100	C6	63	100	M20xP2	14mm	170N·m	1.2
C8-C8-100	C8	80					1.7

1. Clamping screws are included, but hex wrench is not.
2. When used for turning tools, connect by aligning with the phase of the hole on the taper shank.

BIG CAPTO Reduction

Reduces body diameter to avoid interference.



Model	BIG CAPTO No.1	BIG CAPTO No.2	øD	øD ₁	L	L ₁	Clamping Screw			Weight (kg)
							Thread	Hex	Torque	
C6-C5-75	C6	C5	50	63	75	46	M16xP1.5	10mm	95N·m	0.5
C8-C6-85	C8	C6	63	80	85	50	M20xP2	14mm	170N·m	0.8

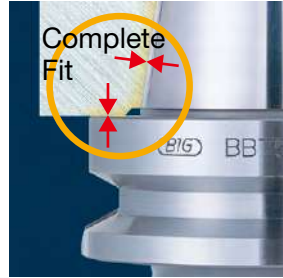
1. Clamping screw is included, but hex wrench is not.
2. When connected with a turning tool, align the holes on the polygon taper.

BIG-PLUS BASIC HOLDER

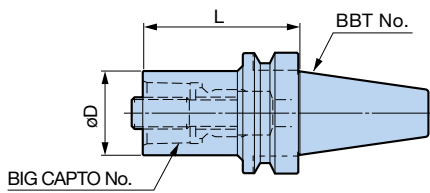
**BIG
CAPTO
SHANK**

Center through

- The ideal basic holder when using BIG CAPTO as a modular system with machining centers. Stable accuracy and rigidity are obtained with the Dual Contact BIG-PLUS spindle system.



- Increased rigidity with extended reference diameter.
- Extended tool life
- Improved surface finish and dimensional accuracy.
- Elimination of Z-axial movement at high speeds.



BIG-PLUS Basic Holder

BIG CAPTO Holders —————

Can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Model	BIG CAPTO No.	øD	L	Clamp Screw			Weight (kg)
				Thread	Hex	Torque	
BBT40-C3-30	C3	32	30	M12×P1.5	8mm	40N·m	1.0
-C4-40	C4	40	40	M14×P1.5		50N·m	1.1
-C5-50	C5	50	50	M16×P1.5	10mm	95N·m	1.2
-C6-75	C6	63	75	M20×P2		170N·m	1.7
BBT50-C3-40	C3	32	40	M12×P1.5	8mm	40N·m	3.6
-C4-40	C4	40		M14×P1.5		50N·m	
-C5-40	C5	50		M16×P1.5	10mm	95N·m	
-C6-50	C6	63	50	M20×P2	14mm	170N·m	3.5
-C8-70	C8	80	70				4.0

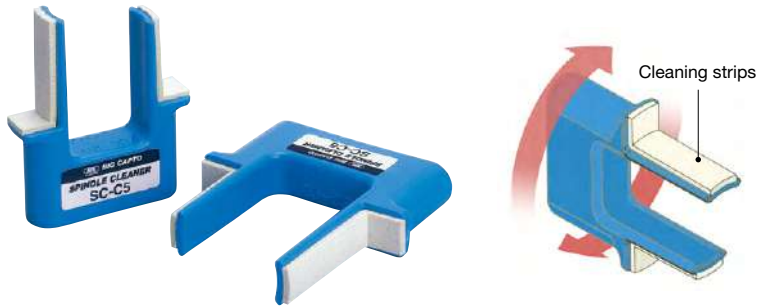
1. Center through coolant supply is available.

E

BIG CAPTO SHANK

BIG CAPTO SPINDLE CLEANER

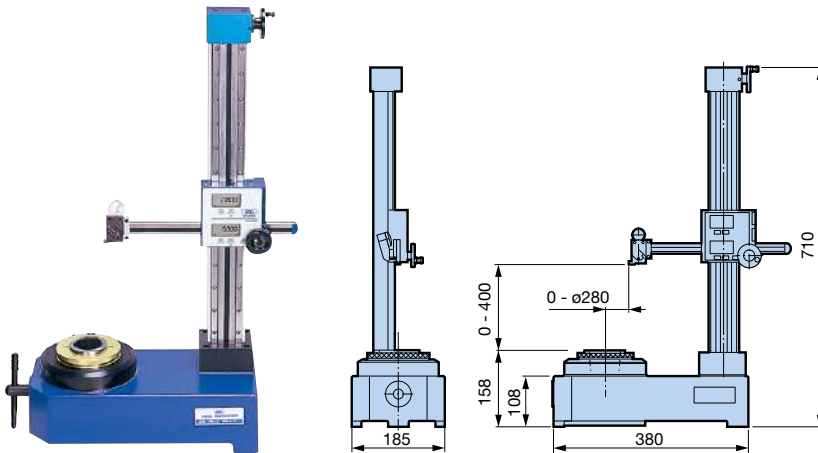
- Cleans both internal taper and flange face of the machine spindle simultaneously with simple inserting and rotating motions.



Model
SC-C3
-C4
-C5
-C6
-C8

TOOL PRESETTER TPS

- A simple and compact presetter featuring a digital scale.



For tool length/tool diameter measurement

C5/C6/C8

Model	Size	Min. scale	Measuring capacity	Operating temperature	Weight (kg)
TPS-C5N	BIG CAPTO C5	0.01mm	X = 0 - ø280 Z = 0 - 400	+5°C - +40°C	41.0
TPS-C6N	BIG CAPTO C6				42.0
TPS-C8N	BIG CAPTO C8				

1. Origin can be set with the spindle itself.
2. Test bar is an optional product.
3. Battery: Uses two 3V lithium batteries (CR2032)

E

BIG CAPTO SHANK

N/C LATHE TOOLING

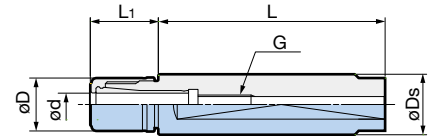
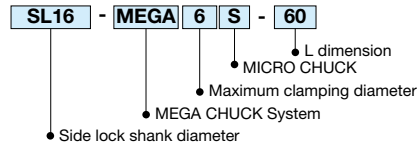


F

The ultra-slim nut enables installation from the back of the tool post even in small lathes with limited space.



● Model Description



Model	$\varnothing d$	$\varnothing D_s$	$\varnothing D$	L	L ₁	G	Collet	Weight (kg)
SL16 -MEGA6S- 60	0.45 - 6.05	16	14	60	18	M7 P0.75	NBC6S-□	0.11
SL20 -MEGA6S- 40	0.45 - 6.05	20	14	40	18	M7 P0.75	NBC6S-□	0.10
- 80				80				0.17
-MEGA8S- 40	2.95 - 8.05	20	18	40	19	M9 P0.75	NBC8S-□	0.11
- 80				80				0.18
SL15.875-MEGA6S- 60	0.45 - 6.05	15.875	14	60	18	M7 P0.75	NBC6S-□	0.09
SL19.05 -MEGA6S- 40	0.45 - 6.05	19.05	14	40	18	M7 P0.75	NBC6S-□	0.10
- 80				80				0.17
-MEGA8S- 40	2.95 - 8.05	19.05	18	40	19	M9 P0.75	NBC8S-□	0.10
- 80				80				0.16

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.

F

N/C LATHE TOOLING

Standard Accessory	Optional Accessories			
<p>MEGA NUT</p> <p>For Spares G3</p>	<p>Mega Wrench</p> <p> G26</p>	<p>Micro Collet</p> <p> G2</p>	<p>Mega Micro Seal Nut Mega Micro Coolant Nut</p> <p> G3</p>	<p>Collet Case</p> <p> G4</p>

Clamping diameter: $\varnothing 2.5 - \varnothing 20$

NEW BABY CHUCK PAT.

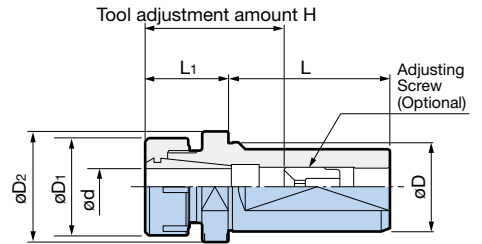
Flange acts as a stopper and reduces time for preset off the machine significantly.
Designed to be directly mounted into the oil hole drill holder on the turret.



[With Stopper]



- Model Description
- SLS25** - **NBS** **13** - **30**
- L1 dimension
- Maximum clamping diameter
- NEW BABY CHUCK System
- Side lock shank diameter



Model	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H
SLS25-NBS13- 30	2.5 - 13	25	35	32	54	30	41 - 60
- 60						60	
SLS32-NBS13- 30	2.5 - 13	32	35	39.5	58	30	41 - 60
- 60						60	
-100						100	
-NBS20- 30	2.5 - 20	40	46	45.5	68	30	48 - 65
- 60						60	
-100						100	
SLS40-NBS13- 30	2.5 - 13	40	35	49.5	68	30	41 - 60
- 60						60	
-100						100	
-NBS20- 30	2.5 - 20	40	46	49.5	68	30	48 - 65
- 60						60	
-100						100	

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

Standard Accessory	Optional Accessories				
New Baby Nut For Spares	New Baby Wrench 	Collet 	BABY PERFECT SEAL 	Adjusting Screw 	Tap Adjusting Screw

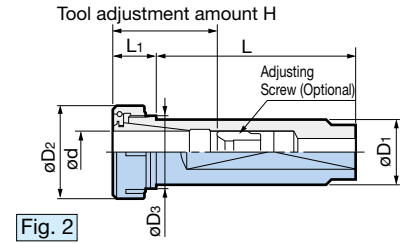
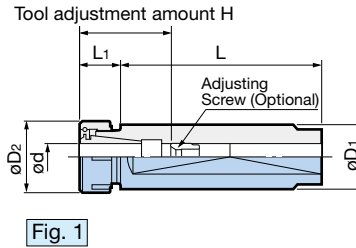
F
N/C LATHE TOOLING

Ideal as a basic holder for drills, taps and reamers on lathes!

[Standard]



- Model Description
- SL16** - **NBS** **6** - **40**
- Side lock shank diameter
- NEW BABY CHUCK System
- Maximum clamping diameter
- L dimension



Model	Fig.	$\varnothing d$	$\varnothing D_1$	$\varnothing D_2$	$\varnothing D_3$	L	L ₁	H	
SL16 -NBS 6- 40 - 80	1	0.25 - 6	16	20	-	40	15	20 - 40	
				80					
		0.5 - 8		25		40	16.5	23 - 42	
				80					
-NBS10- 40 - 80	2	1.5 - 10	20	30	21	40	37	35 - 45	
				80					
		2.5 - 13		35		26	40	43	41 - 60
				80					
SL20 -NBS 6- 40 - 80 -NBS 8- 40 - 80 -NBS10- 40 - 80 -NBS13- 40 - 80	1	0.25 - 6	20	20	-	40	15	20 - 40	
				80					
		0.5 - 8		25		16.5	23 - 42		
				80					
		1.5 - 10		30		18	35 - 45		
				80					
	2.5 - 13	35	21.5	41 - 47					
		80		41 - 60					
	SL22 -NBS 6- 40 - 80 -NBS 8- 40 - 80 -NBS10- 40 - 80 -NBS13- 40 - 80	1	0.25 - 6	22	20	-	40	15	20 - 40
					80				
			0.5 - 8		25		16.5	23 - 42	
					80				
1.5 - 10			30		18		35 - 45		
			80						
2.5 - 13		35	21.5	41 - 47					
		80		41 - 60					
SL25 -NBS 6- 80 -120 -NBS 8- 80 -120 -NBS10- 80 -120 -NBS13- 80 -120 -NBS16- 80 -120		1	0.25 - 6	25	20	-	80	15	20 - 40
					120				
			0.5 - 8		25		16.5	23 - 42	
					80				
	1.5 - 10		30		18		35 - 45		
			120						
	2.5 - 13	35	21.5	41 - 60					
		120		41 - 60					
	2.5 - 16	2	2.5 - 16	25	42	32	80	48	45 - 65
					120				

1. Nut is included. Adjusting screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

F
N/C LATHE TOOLING

Clamping diameter: $\varnothing 0.25 - \varnothing 20$ **NEW BABY CHUCK** PAT.

Model	Fig.	$\varnothing d$	$\varnothing D_1$	$\varnothing D_2$	$\varnothing D_3$	L	L ₁	H
SL25.4-NBS 6- 80	1	0.25 - 6	25.4	20	-	80	15	20 - 40
-120						120		
-NBS 8- 80		0.5 - 8		25		80	16.5	23 - 42
-120						120		
-NBS10- 80		1.5 - 10		30		80	18	35 - 45
-120						120		
-NBS13- 80	2	2.5 - 13	35	26	80	21.5	41 - 50	
-120					120			
-NBS16- 80		2.5 - 16		42	32	80	48	45 - 65
-120						120		
SL32 -NBS13-100	1	2.5 - 13	32	-	100	21.5	41 - 60	
-150					150			
-NBS16-100		2.5 - 16			42		100	45 - 65
-150							150	
-NBS20-100	2	2.5 - 20	46	36	100	48 - 65		
-150					150			

1. Nut is included. Adjusting screw, collet and wrench must be ordered separately.

2. Center through coolant supply is available.

3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

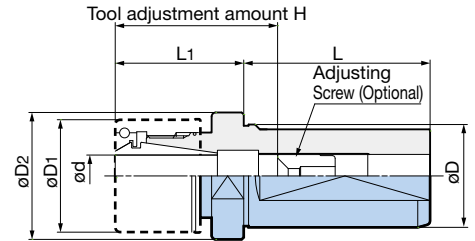
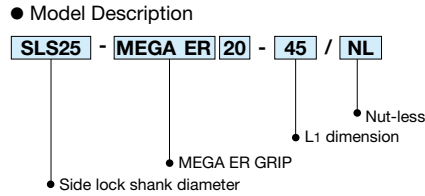
Standard Accessory	Optional Accessories				
New Baby Nut  For Spares 	New Baby Wrench  	Collet  	BABY PERFECT SEAL  	Adjusting Screw  	Tap Adjusting Screw  

Popular 8° (single angle) taper ER collet.
Achieves stable machining with highly accurate chucking repeatability.



● Flat is provided on the shank to be mounted in the tool post of the NC lathe directly.

[With Stopper]



Model	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H	Adjusting Screw
SLS25-MEGA ER20-45/NL	2.75 - 13	25	35	32	54	45	42 - 62	NBA13B
-75/NL						75		
SLS32-MEGA ER20-45/NL	2.75 - 13	32	35	39.5	58	45	42 - 62	NBA13B
-75/NL						75		
-MEGA ER32-45/NL	2.75 - 20	40	50	50	68	45	47 - 68	NBA20B
-75/NL						75		
SLS40-MEGA ER20-45/NL	2.75 - 13	40	35	49.5	68	45	42 - 62	NBA13B
-75/NL						75		
-MEGA ER32-45/NL	2.75 - 20	40	50	50	68	45	50 - 68	NBA20B
-75/NL						75		

1. Collet, nut, Adjusting Screw and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
4. MEGA ER GRIP is not able to use DIN6499 Form-A Collet and ESX collets.

Optional Accessories

<p>MEGA ER NUT G17</p>	<p>MEGA ER SOLID NUT G17</p>	<p>ER Collet G16</p>	<p>ER PERFECT SEAL G18</p>	<p>Mega Wrench G26</p>	<p>ER NUT G17</p>	<p>New Baby Wrench G17</p>	<p>Adjusting Screw G17</p>
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Collet and nut must be ordered separately.

● Example

MEGA ER PERFECT SEAL Model
MERPS20-030035



MEGA ER NUT Model
MERN20



MEGA ER SOLID NUT Model
MER20SN



ER NUT Model
ERN20

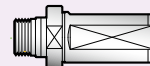


+



MEGA ER Collet
ERC20-3AA

+



MEGA ER GRIP
SLS25-MEGA ER20-45/NL

Clamping diameter: $\varnothing 1.9 - \varnothing 16$

MEGA ER GRIP



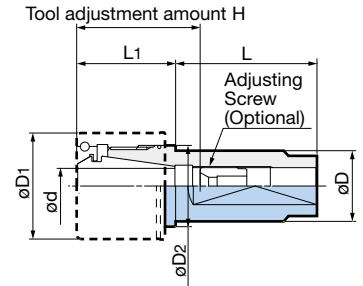
[Standard]



● Model Description

SL16 - **MEGA ER 11** - **40** / **NL**

- Side lock shank diameter
- MEGA ER GRIP
- L dimension
- Nut less



Model	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H	Adjusting Screw
SL16-MEGA ER11- 40/NL - 80/NL	2.75 - 6	16	19	—	40	19	23 - 40	NBA 6B
					80			
SL20-MEGA ER11- 40/NL - 80/NL	2.75 - 6	20	19	—	40	19	23 - 40	NBA 6B
					80			
-MEGA ER16- 40/NL - 80/NL	1.9 - 10	20	30	23	40	28	35 - 47	NBA10B
					80			
SL25-MEGA ER11- 60/NL -100/NL	2.75 - 6	25	19	—	60	19	23 - 40	NBA 6B
					100			
-MEGA ER16- 60/NL -100/NL	1.9 - 10	25	30	—	60	28	35 - 47	NBA10B
					100			
-MEGA ER20- 60/NL -100/NL	2.75 - 13	25	35	27	60	30	42 - 62	NBA13B
					100			
-MEGA ER25- 60/NL -100/NL	2.75 - 16	25	42	33.5	60	48	44 - 67	NBA16B
					100			
SL19.05-MEGA ER11- 40/NL - 80/NL	2.75 - 6	19.05	19	—	40	19	23 - 40	NBA 6B
					80			
-MEGA ER16- 40/NL - 80/NL	1.9 - 10	19.05	30	23	40	28	35 - 47	NBA10B
					80			

1. Collet, nut, Adjusting Screw and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
4. For MEGA ER11 models, only the ER NUT (hook wrench type) is available.
5. MEGA ER GRIP is not able to use DIN6499 Form-A Collet and ESX collets.

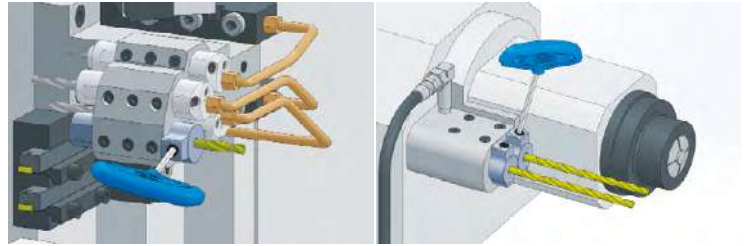
Optional Accessories

<p>MEGA ER NUT</p> <p>G17</p>	<p>MEGA ER SOLID NUT</p> <p>G17</p>	<p>ER Collet</p> <p>G16</p>	<p>ER PERFECT SEAL</p> <p>G18</p>	<p>Mega Wrench</p> <p>G26</p>	<p>ER NUT</p> <p>G17</p>	<p>New Baby Wrench</p> <p>G17</p>	<p>Adjusting Screw</p> <p>G17</p>
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F
N/C LATHE TOOLING

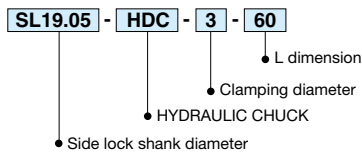
- Most popular design available for various tool posts.
- Rc(PT)1/8 piping thread preparation for coolant through tool.
- Adjusting Screw can be used with some models.

[Front-side Clamping Type]

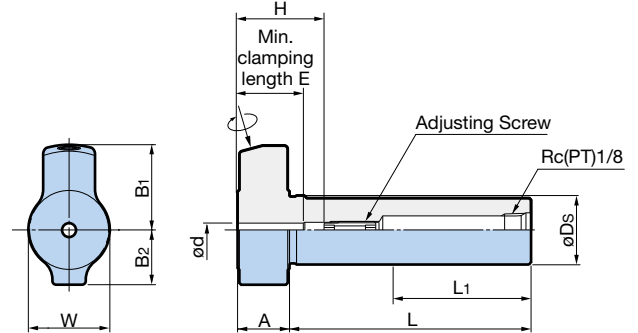


Extensive product lineup!

● Model Description



Tool adjustment amount



Model	Clamping diameter $\varnothing d$	$\varnothing D_s$	L	L ₁	A	B ₁	B ₂	W	H	E	Adjusting Screw (Optional)	Weight (kg)
SL19.05-HDC 3-60 ※	3	19.05	60	20	15	24.5	15.8	22	20 - 32	16	HDA4-05015W	0.18
-HDC3.175-60 ※	3.175											0.18
-HDC 4-60	4											0.18
-HDC 6-60	6											0.18
-HDC 8-60 ▲	8											0.17
SL20 -HDC 3-70 ※	3	20	70	30	15	24.5	15.8	23	20 - 32	16	HDA4-05015W	0.22
-HDC 4-70	4											0.22
-HDC 6-70	6											0.22
-HDC 8-70 ▲	8											0.21
SL22 -HDC 3-70 ※	3	22	70	30	15	24.5	15.8	25	20 - 32	16	HDA4-05015W	0.26
-HDC 4-70	4											0.26
-HDC 6-70 ▲	6											0.26
-HDC 8-70 ▲	8											0.25
-HDC10-70 ▲	10											0.24
SL25 -HDC 3-65 ※	3	25	65	25	15	23	14	28	20 - 32	16	HDA4-05015W	0.31
-HDC 4-65	4											0.31
-HDC 6-65	6											0.31
-HDC 8-65 ▲	8											0.31
-HDC10-65 ▲	10											0.29
-HDC12-65 ▲	12											0.28
SL25.4 -HDC 3-80 ※	3	25.4	80	40	15	23	14	28	20 - 32	16	HDA4-05015W	0.37
-HDC 4-80	4											0.37
-HDC 6-80	6											0.37
-HDC 8-80 ▲	8											0.37
-HDC10-80 ▲	10											0.35
-HDC12-80 ▲	12											0.33

- L₁ is the longest possible cutoff position.
- Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
Models marked with ▲ cannot be used with Adjusting Screw. The "H" dimension is the max. insertion depth.
- Adjusting screw can be adjusted from the shank side as well.
For HDC8 alone, the adjusting screw cannot be used.
- Tool adjustment amount "H" indicates the adjustment length with an adjusting screw.
For HDC8 it shows the max. tool shank length that can be inserted into the holder.
- When using coolant with models marked with ※, some coolant may leak from the inner diameter slits.

● It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

Caution

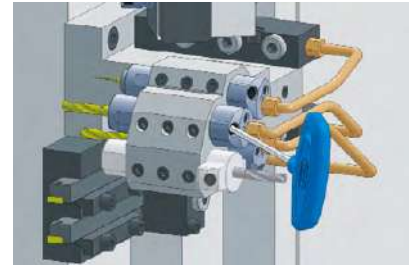
- Use only cutting tools that have a shank diameter within h6.
- Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank).
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

Clamping diameter: $\phi 3 - \phi 10$

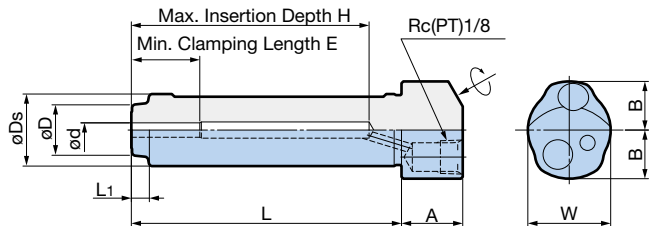
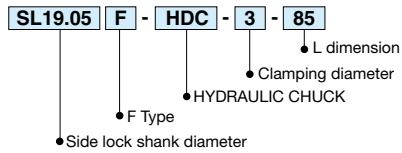
HYDRAULIC CHUCK

- Tighten from the opposite side of the cutting tool.
Ideal for use on the Tool-Post 1.
- Rc(PT)1/8 piping thread preparation for coolant through tool.
- Slim design avoids interference with adjacent tools.

[Back-side Clamping Type PAT.P] Registered Design **NEW**



● Model Description



Model	Clamping diameter ϕd	ϕD	ϕD_s	L	L_1	A	B	W	H	E	Weight (kg)
SL19.05F-HDC 3 - 85 *	3	14	19.05	85	5	17	13.5	22	76	16	0.24
-HDC 3.175 - 85 *	3.175									19	
-HDC 4 - 85	4									25	
-HDC 6 - 80	6	—	—	80	—	—	—	71	31	0.22	
-HDC 8 - 80	8								25		
SL20F -HDC 3 - 75 *	3	14	20	75	5	17	13.5	23	66	16	0.24
-HDC 4 - 75	4			75							
-HDC 6 - 70	6	—	—	70	—	—	—	61	25	0.22	
-HDC 8 - 70	8			31							
SL22F -HDC 3 - 75 *	3	14	22	75	5	17	13.5	25	66	16	0.28
-HDC 4 - 75	4			75							
-HDC 6 - 70	6	—	—	70	—	—	—	61	25	0.26	
-HDC 8 - 70	8			31							
-HDC10 - 70	10	—	—	70	—	—	—	61	33	0.22	

1. When using coolant with models marked with *, some coolant may leak from the inner diameter slits.
2. Adjusting Screw cannot be used.

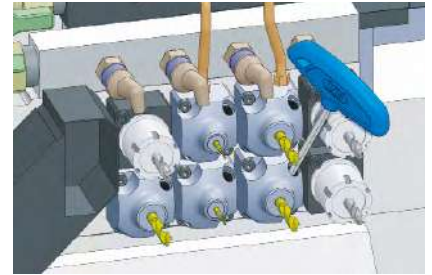
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

Caution

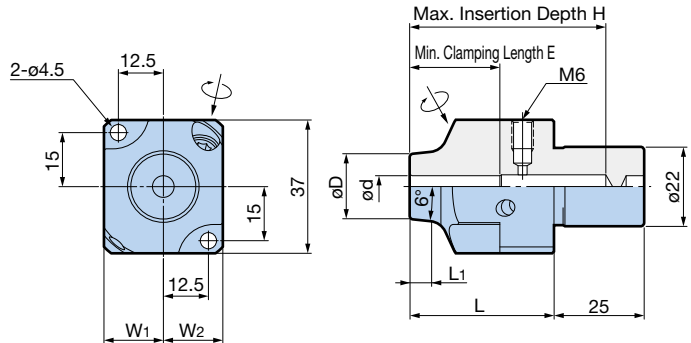
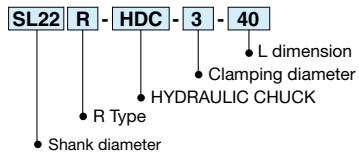
- Use only cutting tools that have a shank diameter within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank).
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

- Tool change with a single wrench avoiding adjacent tools and coolant pipes.
- Easy tool setup even at the lower tool post.
- M6 piping thread preparation for coolant through tool available in upper tool post.

[Rear-post Type] Registered Design **NEW**



● Model Description



Model	Clamping diameter $\varnothing d$	$\varnothing D$	L	L ₁	W ₁	W ₂	H	E	Weight (kg)
SL22R-HDC 3- 40 ※	3	14	40	7	16.5	16.5	35	16	0.34
-HDC 4- 40	4			9			42	19	0.33
-HDC 6- 40	6			5			55	25	0.36
-HDC 8- 40	8			6			54	31	0.36
-HDC10- 40	10			17.5				33	0.35

1. When using coolant with models marked with ※, some coolant may leak from the inner diameter slits.
2. Adjusting Screw cannot be used.

● It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck. G25

Caution

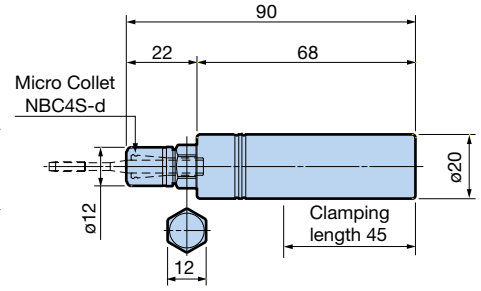
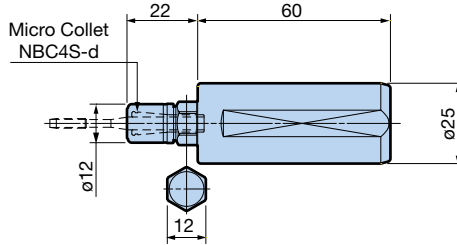
- Use only cutting tools that have a shank diameter within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank).
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.



[Small Diameter Tap MGT3 PAT.]

· Cannot be used with machines without a synchronized tapping function.



● Model Description

SLS25 - **MGT3** - **22**

- Side lock shank diameter
- MEGA SYNCHRO TAPPING HOLDER
- Tip length

Model	SLS25-MGT3-22
-------	----------------------

1. Nut is included (MGN4S). Collet and wrench must be ordered separately.
2. When attaching or detaching the tap, use Mega Wrench and a commercially available flat wrench (12mm).

Model	ST20-MGT3-90
-------	---------------------

1. Nut is included (MGN4S). Collet and wrench must be ordered separately.
2. There is no flat on the shank part.
3. When attaching or detaching the tap, use Mega Wrench and a commercially available flat wrench (12mm).

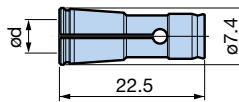
Mega Wrench



Model	MGR12
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1. When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.

Micro Collet

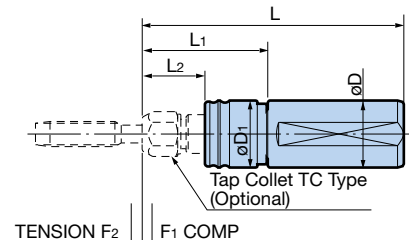


Model	Tapping range		Tap shank diameter ød
	Metric	Unify	
NBC4S - 3.0AA	M1 - M2.6	No.0 - 4	3
NBC4S - 4.0AA	M3	No.5, 6	4

● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within 1 μm	Within 3 μm

- Built-in radial float mechanism absorbs misalignment with the spindle center. Excellent for rigid tapping with NC Lathes.
- Small axial float absorbs synchronization errors occurring when changing over the rotation from forward to reverse, reducing loads to the tap.



Radial float = ±0.5mm/ø

● Model Description

SLS32 - **ATS** - **12** - **R** - **60**

- Side lock shank diameter
- SYNCHRONIZED TAP HOLDER R
- Radial float mechanism
- Tapping range
- L1 dimension

Model	Tapping range	øD	øD ₁	L	L ₁	L ₂	F ₁	F ₂	Compatible Tap Collet
SLS32-ATS12R- 60	M3 - M12	32	32	125	60	30	0.5	0.5	TC12-d
SLS40-ATS12R- 60		40	32	125	60	25	0.5	0.5	
-ATS20R- 70	M8 - M20	40	44	145	70	25	0.5	0.5	TC20-d

1. Tap Collet is not included. TC Tap Collet must be ordered separately.

F₁: Compression amount
F₂: Tension amount

· Cannot be used with machines without a synchronized tapping function. Tap Collets **A141**

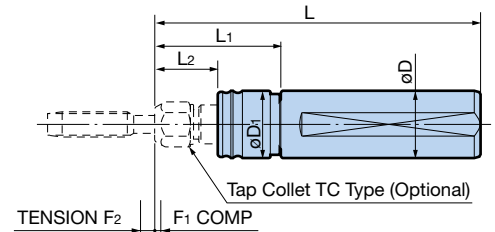
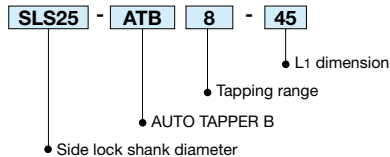
AUTO TAPPER B M3 - M20

- Auto depth control eliminates variation in the tapping depth. Ideal for blind-hole or pipe tapping.
- Minimized projection length avoids interference on turret lathes.

Automatic
depth control



● Model Description



Model	Tapping range	øD	øD ₁	L	L ₁	L ₂	F ₁	F ₂	Compatible Tap Collet
SLS25-ATB 8- 45	M3 - M 8	25	25.5	130	45	17	0.5	3	TC 8-d
SLS32-ATB12- 60	M3 - M12	32	32	155	60	30		4	TC12-d
SLS40-ATB12- 60		32	32	155	60	25		4	
-ATB20- 70	M7 - M20	40	44	180	70	25		5	TC20-d

1. Tap Collet is not included. TC Tap Collet must be ordered separately.
2. Cannot be used for left-hand thread machining.
3. F₂ dimension in the table is the tension amount until it reaches neutral.

F₁: Compression amount
F₂: Tension amount

Tap Collets **A141**

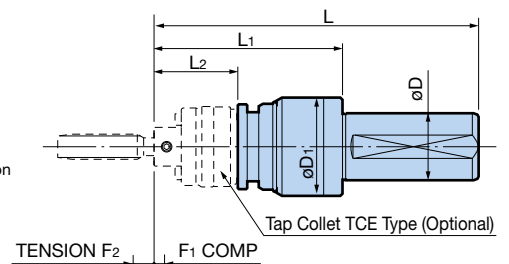
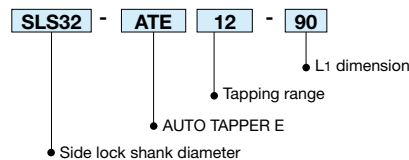
AUTO TAPPER E M3 - M24

- Easy-to-use built-in torque limiter.
- Extended axial float allows stable and reliable use.

Torque limiter



● Model Description



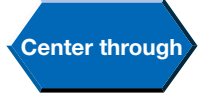
Model	Tapping range	øD	øD ₁	L	L ₁	L ₂	F ₁	F ₂	Compatible Tap Collet
SLS32-ATE12- 90	M3 - M12	32	47	155	90	40	5	10	TCE12-d
SLS40-ATE12- 90		47	47	165	90	40	5	10	
-ATE24-135	M9 - M24	40	64	210	135	55	7	15	TCE24-d

1. Tap Collet is not included. TCE Tap Collet must be ordered separately.
2. Cannot be used for left-hand thread machining.

F₁: Compression amount
F₂: Tension amount

Tap Collets **A144**

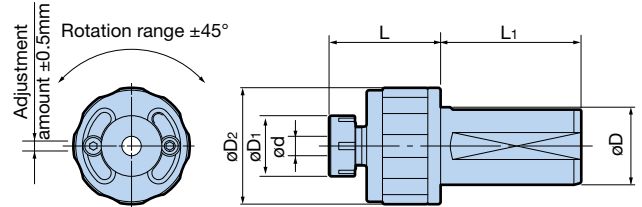
Easy and reliable centering adjustment for turret lathe sleeve holder.



Polar coordinate system realizing intuitive adjustment

The rotation center of the workpiece and the center of the turret pot may be misaligned not only in the center height direction, but also in the X-axis direction.

In order to easily correct the deviation of both directions at the same time, a polar coordinate system combining rotary and linear movement is used. Single 2-way adjusting bolt completes adjustment of center height both up and down.



Model	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	Weight (kg)
SLS32-NBS 8CH-45	0.5 - 8	32	25	48	46	58	1.6
SLS40-NBS20CH-60	2.5 - 20	40	46	74	60	68	2.5

- 1. Nut is included. Collet and wrench must be ordered separately.
- 2. Center through coolant supply is available.

- 3. Adjusting Screw cannot be used.

Standard Accessory	Optional Accessories		
Nut For Spares	Wrench 	Collet 	BABY PERFECT SEAL

SMART DAMPER BORING BAR

The heaviest damper in the Smart Damper series instantly absorbs chatter in both rough and finish operations.



With coolant hole

Body

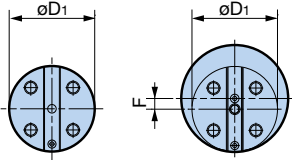
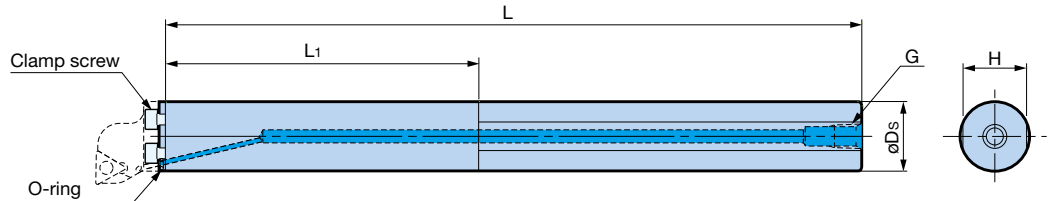


Fig. 1

Fig. 2



Model	Fig.	Cartridge Model	øDs	øD1	Min. Diameter	L	L1	H	G	F	Spare clamping screw (1)	Spare O-ring set (2 pcs)	Weight (kg)
ST32-SDB40DP-320	1	B32-...	32	32	40	320	144	30	Rc(PT)1/4	—	C0510(M5×10L)	SDB20 OR-2P	2.3
ST40-SDB50DP-410	1	B40-...	40	40	50	410	170	37	Rc(PT)3/8	—	C0610(M6×10L)	SDB20 OR-2P	4.5
ST50-SDB60DP-520 NEW	2		60		520	190	47	5		8.9			

1. Clamp screws (3 pcs) and O-rings (2 pcs) are included.
2. Cartridges must be ordered separately.
3. Coolant through is standard for all models.
4. Do not clamp the L1 dimension, where the damper is built-in.
5. ST50 shank tip cartridge is common with the ST40 shank.

Cartridge

● Screw Type (for positive insert)

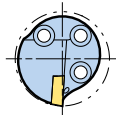


Figure shows right hand

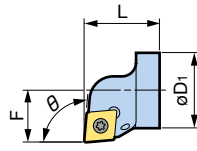


Fig. 1

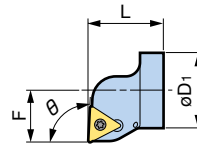


Fig. 2

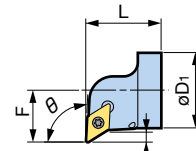


Fig. 3

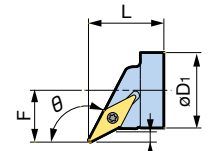


Fig. 4

Model	Fig.	Insert	Hand	øD1	F	L	Tmax.	θ	Insert Clamping Screw Set (optional)	Weight (kg)
B32-SCLCR-22032-12	1	CC1204	Right hand	32	22	32	—	95°	S5 S-20IP	0.1
-STUCR-22032-11	2	TC1102						93°	S2.5S- 7IP	
-STUPR-22032-16		TP1604						S4 S-15IP		
-SDUCR-22032-11	3	DC11T3	Right hand	40	27	32	—	117.5°	S3.5S-15IP	0.2
-SVPBR-22032-16 NEW	4	VB1604						95°	S5 S-20IP	
B40-SCLCR-27032-12	1	CC1204						93°	S2.5S- 7IP	
-STUCR-27032-11	2	TC1102	Right hand	40	27	32	—	93°	S4 S-15IP	0.2
-STUPR-27032-16		TP1604						S4 S-15IP		
-SDUCR-27032-11	3	DC11T3	Right hand	40	27	32	—	117.5°	S3.5S-15IP	0.2
-SVPBR-27032-16 NEW	4	VB1604						117.5°	S3.5S-15IP	

1. A wrench and screw are included but inserts are not.
2. The insert clamping screw set (optional) contains 10 screws and 1 wrench.

● Insert Clamping Screw Set

Set Model	Screw	Wrench Model
S2.5S- 7IP	M2.5× 6.5	FS- 7IP
S3.5S-15IP	M3.5× 8	FS-15IP
S4 S-15IP	M4 × 8	FS-15IP
S5 S-20IP	M5 ×12	FS-20IP

1. Wrench is also available separately. Please order the wrench model.

● Double Clamp Type (for negative insert)

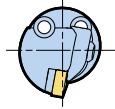


Figure shows right hand

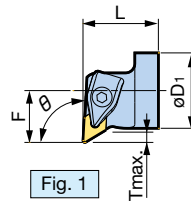


Fig. 1

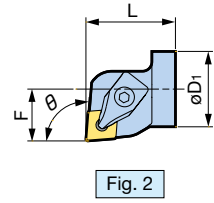
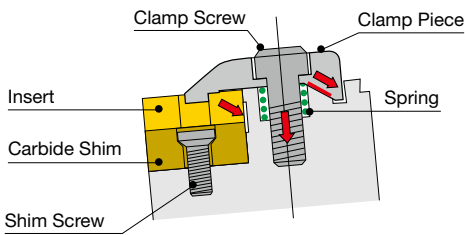


Fig. 2

Model	Fig.	Insert	Hand	øD1	F	L	Tmax.	θ	Clamp Piece	Carbide Shim	Weight (kg)
B32-DDUNR-22032-11	1	DN1104	Right hand	32	22	32	4	93°	CP7	DNS1104C	0.1
DCLNR-22038-12	2	CN1204				38	—	95°	CP2	CNS1204C	
B40-DDUNR-27032-15	1	DN1506※ (DN1504)	Right hand	40	27	32	6	93°	CP2	DNS1506C (DNS1504C)	0.2
DCLNR-27038-12	2	CN1204				38	—	95°	CP2	CNS1204C	

1. A carbide shim screw and wrench are included, but a clamp piece tightening wrench is not.
2. Inserts are not included.

※ A carbide shim for DN1506 (thickness: 6.35mm) is included.
When using a DN1504 insert (thickness: 4.76mm), replace the standard carbide shim with the DNS1504C (optional).



● Clamp Piece Set

Set Model	Clamp Piece	Clamp Screw	Spring	Compatible Insert
SCP2	CP2	M5×20	ø8×10	CN1504, DN1506 CN1204
SCP7	CP7			DN1104

1. 1 pce. each of the clamp piece, clamp screw and spring are included in the set.
2. The tightening wrench is a 4mm hex wrench. T-type hex wrench is sold as Model T-4.

● Carbide Shim Set

Compatible Insert	Set Model	Carbide Shim	Shim Screw	Torx Plus Size
DN1104	SDNS1104C	DNS1104C	M3×7	10IP
DN1504	SDNS1504C	DNS1504C	M4×8	15IP
DN1506	SDNS1506C	DNS1506C	M4×8	15IP
CN1204	SCNS1204C	CNS1204C	M4×8	15IP

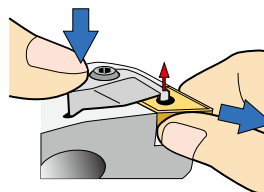
1. 1 pce. each of the carbide shim and shim clamp screw are included in the set.
2. The tightening wrench is a Torx plus wrench.

● Torx Plus Wrench (optional)

Set Model	Torx Plus Size
FS-10IP	10IP
FS-15IP	15IP

A double-clamping system that utilizes a "Push and Draw" mechanism to fix inserts securely

Secure insert clamping has been realized through the double-clamping system, which pushes the insert downwards while at the same time generating drawing force on the insert contact surface.



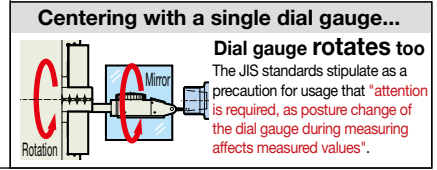
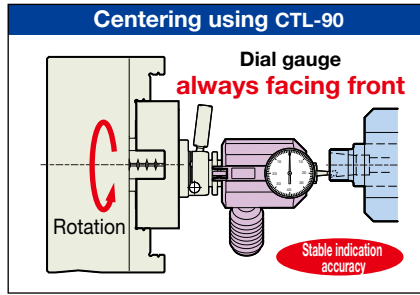
Easy attachment and removal of inserts

Insert attachment and removal can be performed easily thanks to the built-in spring. Loosen the clamp screw one full rotation, lightly press the clamp piece with a finger, and its tip will pop up.

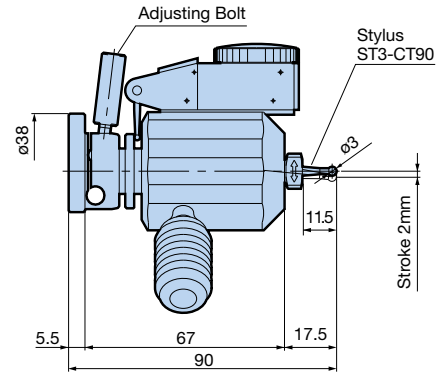
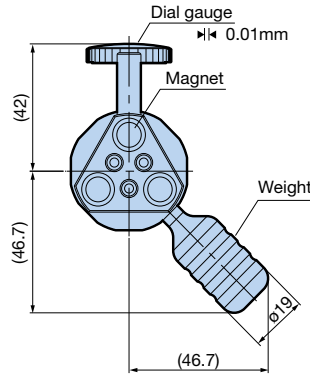
Dial gauge always stays in front of the operator.

Unique centering tool for lathes with superior visibility.

- Fine adjustment mechanism aids easy centering (2mm adjustment amount).
- Unrestricted mounting positions with a magnet base.
- Compact design of 90mm total length, ideal for small lathes.



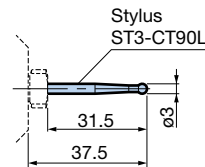
Model **CTL-90**



Main Specifications

Min. scale	0.01mm
Max. operating spindle speed	50min ⁻¹
Stroke amount	2mm
Weight	0.4kg
Standard accessory	Stylus: ST3-CT90 (tip ruby)

<Long stylus> Optional Accessory for CTL-90

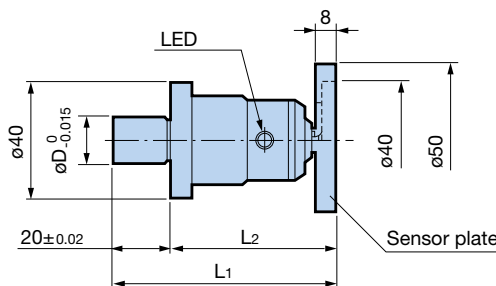


Model **ST3-CT90L**

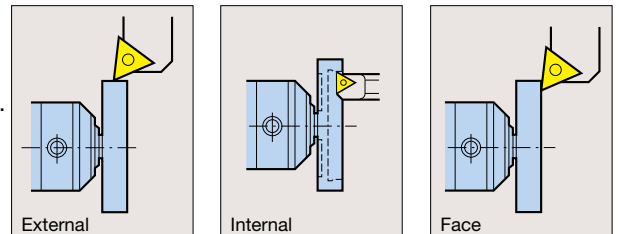
Tip: Ruby

Quick detection of the cutting edge position.

- Effective in reducing setup time for NC Lathes.
- Detectable with various tool bits for external, internal and face turning.



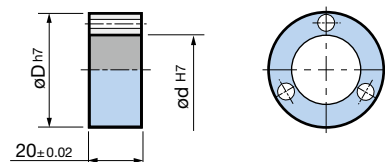
Model	øD	L ₁	L ₂	Repeatability	Battery
LM-15	15	75	55	±2 μ	BR425
LM-30	30	65	45		SR44 x 2



Clamp the øD section of LATHE MASTER with chuck jaws. LED illuminates when the tip of the tool touches the sensor plate.

Collar Set <Optional>

If the chuck jaw diameter does not fit, an optional collar set is available.



Model	Inner diameter ød	Outer diameter øD
LM15CS	15	20, 25, 30 (1 pc each)
LM30CS	30	35, 40, 45, 50 (1 pc each)

Caution

Machine and tools must be electro-conductive for measurement.

ACCESSORIES



G

ACCESSORIES

Chuck Accessories List

MEGA MICRO CHUCK



- Micro Collet
 - Micro Collet Set
 - Mega Micro Nut
 - Mega Micro Seal Nut
 - Mega Micro Coolant Nut
 - α Taper Cleaner
- G2

- Mega Wrench
 - Mega Torque Wrench
- G26

MEGA NEW BABY CHUCK



- NBC New Baby Collet
 - Collet Set/Collet Case
 - New Baby Endmill Collet
 - FONBC Coolant Collet
- G5

- Collet Ejector
 - Collet Remover
 - α Taper Cleaner
- G9

- Adjusting Screw
- G10

- Mega New Baby Nut
- G10

- Mega Perfect Seal
- G11

- Mega Wrench
 - Mega Torque Wrench
- G26

MEGA E CHUCK



- Mega E Collet
 - Mega E Nut
 - α Taper Cleaner
 - Adjusting Screw
- G13

- Mega E Perfect Seal
- G15

- Mega Wrench
 - Mega Torque Wrench
- G26

MEGA DOUBLE POWER CHUCK



- PJC Straight Collet
 - PSC Straight Collet
- G19

- Axial Adjusting Screw
- G25

- Mega Wrench
- G26

HYDRAULIC CHUCK



- PJC Straight Collet
 - PSC Straight Collet
- G19

- Grip Bar for confirming gripping force
- G25

NEW Hi-POWER MILLING CHUCK



- PJC Straight Collet
 - PSC Straight Collet
 - C Straight Collet
 - OCA Straight Collet
- G5

- Face Mill Arbor
 - Jacobs Taper Arbor
 - Morse Taper Holder
- G24

- Axial Adjusting Screw
- G25

- Wrench
- G25

NEW BABY CHUCK



- NBC New Baby Collet
 - Collet Set/Collet Case
 - New Baby Endmill Collet
 - FONBC Coolant Collet
- G5

- Tap Collet
- G31

- Collet Ejector
 - Collet Remover
 - α Taper Cleaner
- G9

- Baby Perfect Seal
- G28

- New Baby Nut
- G30

- Adjusting Screw
- G10

- Tap Adjusting Screw
- G30

- New Baby Wrench
 - Torque Wrench
- G31

MEGA ER GRIP for N/C Lathes



- ERC Mega ER Collet
 - Mega ER Nut
 - Mega ER Perfect Seal
 - Mega Wrench
 - New Baby Wrench
 - α Taper Cleaner
- G16
G17
G18
G26
G17
H6

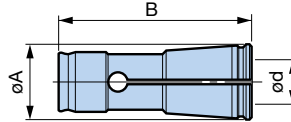
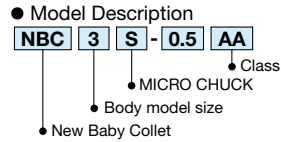
ACCESSORIES

ACCESSORIES

Micro Collet (for MEGA MICRO CHUCK) Clamping diameter: $\varnothing 0.45$ - $\varnothing 8.05$

- Select a clamping diameter in 0.1mm increments between $\varnothing 0.45$ and $\varnothing 8.05$ for the perfect fit.
- Small yet with outstanding gripping force, realizing precision small-diameter machining.

● Collet accuracy



Collet class	Runout accuracy	
	Nose	4D
AA	Within 1 μm	Within 3 μm

MEGA3S

Model	Clamping diameter $\varnothing d$
NBC3S-0.5 AA	0.45 - 0.55
-0.6 AA	0.55 - 0.65
-0.7 AA	0.65 - 0.75
-0.8 AA	0.75 - 0.85
-0.9 AA	0.85 - 0.95
-1.0 AA	0.95 - 1.05
-1.1 AA	1.05 - 1.15
-1.2 AA	1.15 - 1.25
-1.3 AA	1.25 - 1.35
-1.4 AA	1.35 - 1.45
-1.5 AA	1.45 - 1.55
-1.6 AA	1.55 - 1.65
-1.7 AA	1.65 - 1.75
-1.8 AA	1.75 - 1.85
-1.9 AA	1.85 - 1.95
-2.0 AA	1.95 - 2.05
-2.1 AA	2.05 - 2.15
-2.2 AA	2.15 - 2.25
-2.3 AA	2.25 - 2.35
-2.4 AA	2.35 - 2.45
-2.5 AA	2.45 - 2.55
-2.6 AA	2.55 - 2.65
-2.7 AA	2.65 - 2.75
-2.8 AA	2.75 - 2.85
-2.9 AA	2.85 - 2.95
-3.0 AA	2.95 - 3.05
-3.1 AA	3.05 - 3.15
-3.175AA	3.125 - 3.225
-3.2 AA	3.15 - 3.25

$\varnothing A = 6.06$, $B = 18.8$

MEGA4S

Model	Clamping diameter $\varnothing d$
NBC4S-0.5 AA	0.45 - 0.55
-0.6 AA	0.55 - 0.65
-0.7 AA	0.65 - 0.75
-0.8 AA	0.75 - 0.85
-0.9 AA	0.85 - 0.95
-1.0 AA	0.95 - 1.05
-1.1 AA	1.05 - 1.15
-1.2 AA	1.15 - 1.25
-1.3 AA	1.25 - 1.35
-1.4 AA	1.35 - 1.45
-1.5 AA	1.45 - 1.55
-1.6 AA	1.55 - 1.65
-1.7 AA	1.65 - 1.75
-1.8 AA	1.75 - 1.85
-1.9 AA	1.85 - 1.95
-2.0 AA	1.95 - 2.05
-2.1 AA	2.05 - 2.15
-2.2 AA	2.15 - 2.25
-2.3 AA	2.25 - 2.35
-2.4 AA	2.35 - 2.45
-2.5 AA	2.45 - 2.55
-2.6 AA	2.55 - 2.65
-2.7 AA	2.65 - 2.75
-2.8 AA	2.75 - 2.85
-2.9 AA	2.85 - 2.95
-3.0 AA	2.95 - 3.05
-3.1 AA	3.05 - 3.15
-3.175AA	3.125 - 3.225
-3.2 AA	3.15 - 3.25
-3.3 AA	3.25 - 3.35
-3.4 AA	3.35 - 3.45
-3.5 AA	3.45 - 3.55
-3.6 AA	3.55 - 3.65
-3.7 AA	3.65 - 3.75
-3.8 AA	3.75 - 3.85
-3.9 AA	3.85 - 3.95
-4.0 AA	3.95 - 4.05

$\varnothing A = 7.4$, $B = 22.5$

MEGA6S

Model	Clamping diameter $\varnothing d$	Model	Clamping diameter $\varnothing d$
NBC6S-0.5 AA	0.45 - 0.55	NBC6S-4.1 AA	4.05 - 4.15
-0.6 AA	0.55 - 0.65	-4.2 AA	4.15 - 4.25
-0.7 AA	0.65 - 0.75	-4.3 AA	4.25 - 4.35
-0.8 AA	0.75 - 0.85	-4.4 AA	4.35 - 4.45
-0.9 AA	0.85 - 0.95	-4.5 AA	4.45 - 4.55
-1.0 AA	0.95 - 1.05	-4.6 AA	4.55 - 4.65
-1.1 AA	1.05 - 1.15	-4.7 AA	4.65 - 4.75
-1.2 AA	1.15 - 1.25	-4.7625AA	4.7125 - 4.8125
-1.3 AA	1.25 - 1.35	-4.8 AA	4.75 - 4.85
-1.4 AA	1.35 - 1.45	-4.9 AA	4.85 - 4.95
-1.5 AA	1.45 - 1.55	-5.0 AA	4.95 - 5.05
-1.6 AA	1.55 - 1.65	-5.1 AA	5.05 - 5.15
-1.7 AA	1.65 - 1.75	-5.2 AA	5.15 - 5.25
-1.8 AA	1.75 - 1.85	-5.3 AA	5.25 - 5.35
-1.9 AA	1.85 - 1.95	-5.4 AA	5.35 - 5.45
-2.0 AA	1.95 - 2.05	-5.5 AA	5.45 - 5.55
-2.1 AA	2.05 - 2.15	-5.6 AA	5.55 - 5.65
-2.2 AA	2.15 - 2.25	-5.7 AA	5.65 - 5.75
-2.3 AA	2.25 - 2.35	-5.8 AA	5.75 - 5.85
-2.4 AA	2.35 - 2.45	-5.9 AA	5.85 - 5.95
-2.5 AA	2.45 - 2.55	-6.0 AA	5.95 - 6.05
-2.6 AA	2.55 - 2.65		
-2.7 AA	2.65 - 2.75		
-2.8 AA	2.75 - 2.85		
-2.9 AA	2.85 - 2.95		
-3.0 AA	2.95 - 3.05		
-3.1 AA	3.05 - 3.15		
-3.175AA	3.125 - 3.225		
-3.2 AA	3.15 - 3.25		
-3.3 AA	3.25 - 3.35		
-3.4 AA	3.35 - 3.45		
-3.5 AA	3.45 - 3.55		
-3.6 AA	3.55 - 3.65		
-3.7 AA	3.65 - 3.75		
-3.8 AA	3.75 - 3.85		
-3.9 AA	3.85 - 3.95		
-4.0 AA	3.95 - 4.05		

$\varnothing A = 9.4$, $B = 24.5$

MEGA8S

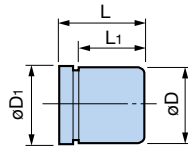
Collet Model	Clamping diameter $\varnothing d$	Collet Model	Clamping diameter $\varnothing d$	Collet Model	Clamping diameter $\varnothing d$	Collet Model	Clamping diameter $\varnothing d$
NBC8S-3.0 AA	2.95 - 3.05	NBC8S-4.3 AA	4.25 - 4.35	NBC8S-5.7 AA	5.65 - 5.75	NBC8S-7.1 AA	7.05 - 7.15
-3.1 AA	3.05 - 3.15	-4.4 AA	4.35 - 4.45	-5.8 AA	5.75 - 5.85	-7.2 AA	7.15 - 7.25
-3.175 AA	3.125 - 3.225	-4.5 AA	4.45 - 4.55	-5.9 AA	5.85 - 5.95	-7.3 AA	7.25 - 7.35
-3.2 AA	3.15 - 3.25	-4.6 AA	4.55 - 4.65	-6.0 AA	5.95 - 6.05	-7.4 AA	7.35 - 7.45
-3.3 AA	3.25 - 3.35	-4.7 AA	4.65 - 4.75	-6.1 AA	6.05 - 6.15	-7.5 AA	7.45 - 7.55
-3.4 AA	3.35 - 3.45	-4.8 AA	4.75 - 4.85	-6.2 AA	6.15 - 6.25	-7.6 AA	7.55 - 7.65
-3.5 AA	3.45 - 3.55	-4.9 AA	4.85 - 4.95	-6.3 AA	6.25 - 6.35	-7.7 AA	7.65 - 7.75
-3.6 AA	3.55 - 3.65	-5.0 AA	4.95 - 5.05	-6.4 AA	6.35 - 6.45	-7.8 AA	7.75 - 7.85
-3.7 AA	3.65 - 3.75	-5.1 AA	5.05 - 5.15	-6.5 AA	6.45 - 6.55	-7.9 AA	7.85 - 7.95
-3.8 AA	3.75 - 3.85	-5.2 AA	5.15 - 5.25	-6.6 AA	6.55 - 6.65	-8.0 AA	7.95 - 8.05
-3.9 AA	3.85 - 3.95	-5.3 AA	5.25 - 5.35	-6.7 AA	6.65 - 6.75		
-4.0 AA	3.95 - 4.05	-5.4 AA	5.35 - 5.45	-6.8 AA	6.75 - 6.85		
-4.1 AA	4.05 - 4.15	-5.5 AA	5.45 - 5.55	-6.9 AA	6.85 - 6.95		
-4.2 AA	4.15 - 4.25	-5.6 AA	5.55 - 5.65	-7.0 AA	6.95 - 7.05		

$\varnothing A = 12$, $B = 27$

ACCESSORIES

Micro Nut PAT. (for MEGA MICRO CHUCK)

- High-precision nut without a groove for wrench application, effectively preventing vibration and coolant scattering.
- Eliminates whistling noise during high-speed rotation.

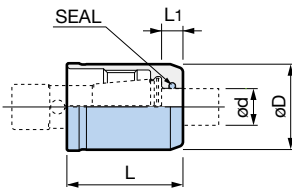


● Model Description
MGN **3** **S**
 ● MICRO CHUCK
 ● Body model size
 ● MEGA NUT

Model	øD	øD ₁	L	L ₁	Body Model
MGN3S	10	10.3	13.0	11.0	MEGA3S
MGN4S	12	12.3	14.5	12.0	MEGA4S
MGN6S	14	14.3	17.0	14.5	MEGA6S
MGN8S	18	18.3	18.5	15.5	MEGA8S

Mega Micro Seal Nut PAT. (for MEGA MICRO CHUCK)

- A sealing nut for drills with oil holes.



Body Model: **MEGA6S**

Model	ød	øD	L	L ₁
MGN6S-PS3	3.0	14	19	3.5
-PS4	4.0			
-PS5	5.0			
-PS6	6.0			

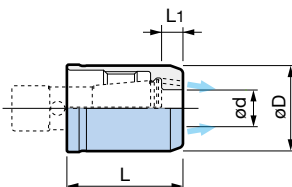
Body Model: **MEGA8S**

Model	ød	øD	L	L ₁
MGN8S-PS3	3.0	18	20.2	3.5
-PS4	4.0			
-PS5	5.0			
-PS6	6.0			
-PS7	7.0			
-PS8	8.0			

Mega Micro Coolant Nut PAT. (for MEGA MICRO CHUCK)

- The unique nozzle shape suppresses coolant scattering and accurately makes contact with the cutting edge.
- Accurately supplies coolant to the cutting edge, even for step shape small diameter tools.

Coolant Pressure
7MPa



Body Model: **MEGA6S**

Model	ød	øD	L	L ₁	Corresponding spindle speed at which coolant comes in contact with the cutting edge with coolant pressure 2MPa (tool projection 4D)
MGN6S-2J	2.0	14	19	3.5	Within 30,000min ⁻¹
-3J	3.0				
-4J	4.0				
-5J	5.0		17	1.5	Within 20,000min ⁻¹
-6J	6.0				

Collet Case (for MEGA MICRO CHUCK)

- Aids clearer collet management. Also ideal for maintaining collet precision.



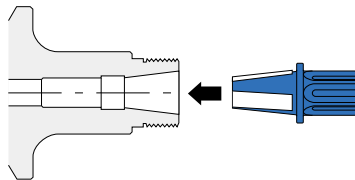
Case: Polypropylene

Model	Compatible Micro Collet	Number of holes	Case Size (Width x Length x Height)
NBB3S	NBC3S	50	200 x 170 x 50
NBB4S	NBC4S		
NBB6S	NBC6S	60	
NBB8S	NBC8S		

1. Case size includes handle.

α Taper Cleaner (for MEGA MICRO CHUCK)

- Removes particles and oil from the chuck bore taper.



Model	Body Model
SC-NBC3S	MEGA3S
SC-NBC4S	MEGA4S
SC-NBC6S	MEGA6S
SC-NBC8S	MEGA8S

1. Refer to H6 for other collet chucks.

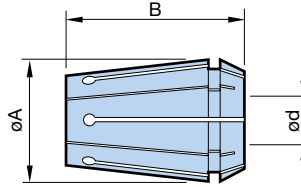
ACCESSORIES

New Baby Collet Clamping diameter: $\varnothing 0.25 - \varnothing 25.4$ (For MEGA NEW BABY CHUCK)
NEW BABY CHUCK

● Within $1\mu\text{m}$ runout accuracy at nose exhibits outstanding performance at ultra-high speeds.



● Model Description
NBC | **6** | - **0.5** | **AA**
 ● Class (AA)
 ● Clamping diameter ($\varnothing d$)
 ● Body model size
 ● Abbreviation of New Baby Collet



● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within $1\mu\text{m}$	Within $3\mu\text{m}$

Collapsibility 0.25/ \varnothing
 Collapsibility 0.5/ \varnothing

MEGA6N/NBS6	
Collet Model	Clamping diameter
NBC6-0.5 AA	0.25 - 0.50
● -0.75AA	0.50 - 0.75
● -1 AA	0.75 - 1.00
● -1.25AA	1.00 - 1.25
● -1.5 AA	1.25 - 1.50
● -1.75AA	1.50 - 1.75
● -2 AA	1.75 - 2.00
● -2.25AA	2.00 - 2.25
● -2.5 AA	2.25 - 2.50
● -2.75AA	2.50 - 2.75
● -3 AA	2.75 - 3.00
-3.175AA	2.925 - 3.175
● -3.25AA	3.00 - 3.25
● -3.5 AA	3.25 - 3.50
● -3.75AA	3.50 - 3.75
● -4 AA	3.75 - 4.00
● -4.25AA	4.00 - 4.25
● -4.5 AA	4.25 - 4.50
● -4.75AA	4.50 - 4.75
● -5 AA	4.75 - 5.00
● -5.25AA	5.00 - 5.25
● -5.5 AA	5.25 - 5.50
● -5.75AA	5.50 - 5.75
● -6 AA	5.75 - 6.00

$\varnothing A = 9.5, B = 14$

MEGA8N/NBS8	
Collet Model	Clamping diameter
● NBC8-0.75AA	0.5 - 0.75
● -1 AA	0.75 - 1.0
● -1.25AA	1.0 - 1.25
● -1.5 AA	1.25 - 1.5
● -1.75AA	1.5 - 1.75
● -2 AA	1.75 - 2.0
● -2.25AA	2.0 - 2.25
● -2.5 AA	2.25 - 2.5
● -2.75AA	2.5 - 2.75
● -3 AA	2.75 - 3.0
-3.175AA	2.675 - 3.175
● -3.5 AA	3.0 - 3.5
● -4 AA	3.5 - 4.0
● -4.5 AA	4.0 - 4.5
● -5 AA	4.5 - 5.0
● -5.25AA	4.75 - 5.25
● -5.5 AA	5.0 - 5.5
● -5.75AA	5.25 - 5.75
● -6 AA	5.5 - 6.0
● -6.5 AA	6.0 - 6.5
● -7 AA	6.5 - 7.0
● -7.5 AA	7.0 - 7.5
● -8 AA	7.5 - 8.0

$\varnothing A = 12.5, B = 18$

MEGA10N/NBS10	
Collet Model	Clamping diameter
● NBC10- 1.75AA	1.5 - 1.75
● - 2 AA	1.75 - 2.0
● - 2.25AA	2.0 - 2.25
● - 2.5 AA	2.25 - 2.5
● - 2.75AA	2.5 - 2.75
● - 3 AA	2.75 - 3.0
- 3.175AA	2.675 - 3.175
● - 3.25AA	2.75 - 3.25
● - 3.5 AA	3.0 - 3.5
● - 3.75AA	3.25 - 3.75
● - 4 AA	3.5 - 4.0
● - 4.25AA	3.75 - 4.25
● - 4.5 AA	4.0 - 4.5
● - 4.75AA	4.25 - 4.75
● - 5 AA	4.5 - 5.0
● - 5.25AA	4.75 - 5.25
● - 5.5 AA	5.0 - 5.5
● - 5.75AA	5.25 - 5.75
● - 6 AA	5.5 - 6.0
● - 6.5 AA	6.0 - 6.5
● - 7 AA	6.5 - 7.0
● - 7.5 AA	7.0 - 7.5
● - 8 AA	7.5 - 8.0
● - 8.5 AA	8.0 - 8.5
● - 9 AA	8.5 - 9.0
● - 9.5 AA	9.0 - 9.5
● -10 AA	9.5 - 10.0

$\varnothing A = 16.5, B = 27$

The ● mark in the table indicates NEW BABY COLLET SET contents.

For NEW BABY COLLET SET, **G7**

ACCESSORIES

Collapsibility 0.5/o

MEGA13N/NBS13	
Collet Model	Clamping diameter
● NBC13- 3 AA	2.5 - 3.0
- 3.175AA	2.675 - 3.175
- 3.25AA	2.75 - 3.25
● - 3.5 AA	3.0 - 3.5
- 3.75AA	3.25 - 3.75
● - 4 AA	3.5 - 4.0
- 4.25AA	3.75 - 4.25
● - 4.5 AA	4.0 - 4.5
- 4.75AA	4.25 - 4.75
● - 5 AA	4.5 - 5.0
- 5.25AA	4.75 - 5.25
● - 5.5 AA	5.0 - 5.5
- 5.75AA	5.25 - 5.75
● - 6 AA	5.5 - 6.0
● - 6.5 AA	6.0 - 6.5
● - 7 AA	6.5 - 7.0
● - 7.5 AA	7.0 - 7.5
● - 8 AA	7.5 - 8.0
● - 8.5 AA	8.0 - 8.5
● - 9 AA	8.5 - 9.0
● - 9.5 AA	9.0 - 9.5
● -10 AA	9.5 - 10.0
● -10.5 AA	10.0 - 10.5
● -11 AA	10.5 - 11.0
● -11.5 AA	11.0 - 11.5
● -12 AA	11.5 - 12.0
● -12.5 AA	12.0 - 12.5
● -13 AA	12.5 - 13.0

øA = 20.5, B = 31

MEGA16N/NBS16	
Collet Model	Clamping diameter
● NBC16- 3 AA	2.5 - 3.0
- 3.25AA	2.75 - 3.25
● - 3.5 AA	3.0 - 3.5
- 3.75AA	3.25 - 3.75
● - 4 AA	3.5 - 4.0
- 4.25AA	3.75 - 4.25
● - 4.5 AA	4.0 - 4.5
- 4.75AA	4.25 - 4.75
● - 5 AA	4.5 - 5.0
- 5.25AA	4.75 - 5.25
● - 5.5 AA	5.0 - 5.5
- 5.75AA	5.25 - 5.75
● - 6 AA	5.5 - 6.0
● - 6.5 AA	6.0 - 6.5
● - 7 AA	6.5 - 7.0
● - 7.5 AA	7.0 - 7.5
● - 8 AA	7.5 - 8.0
● - 8.5 AA	8.0 - 8.5
● - 9 AA	8.5 - 9.0
● - 9.5 AA	9.0 - 9.5
● -10 AA	9.5 - 10.0
● -10.5 AA	10.0 - 10.5
● -11 AA	10.5 - 11.0
● -11.5 AA	11.0 - 11.5
● -12 AA	11.5 - 12.0
● -12.5 AA	12.0 - 12.5
● -13 AA	12.5 - 13.0
● -13.5 AA	13.0 - 13.5
● -14 AA	13.5 - 14.0
● -14.5 AA	14.0 - 14.5
● -15 AA	14.5 - 15.0
● -15.5 AA	15.0 - 15.5
● -16 AA	15.5 - 16.0

øA = 25.5, B = 35

MEGA20N/NBS20	
Collet Model	Clamping diameter
● NBC20- 3 AA	2.5 - 3.0
- 3.25AA	2.75 - 3.25
● - 3.5 AA	3.0 - 3.5
- 3.75AA	3.25 - 3.75
● - 4 AA	3.5 - 4.0
- 4.25AA	3.75 - 4.25
● - 4.5 AA	4.0 - 4.5
- 4.75AA	4.25 - 4.75
● - 5 AA	4.5 - 5.0
- 5.25AA	4.75 - 5.25
● - 5.5 AA	5.0 - 5.5
- 5.75AA	5.25 - 5.75
● - 6 AA	5.5 - 6.0
● - 6.5 AA	6.0 - 6.5
● - 7 AA	6.5 - 7.0
● - 7.5 AA	7.0 - 7.5
● - 8 AA	7.5 - 8.0
● - 8.5 AA	8.0 - 8.5
● - 9 AA	8.5 - 9.0
● - 9.5 AA	9.0 - 9.5
● -10 AA	9.5 - 10.0
● -10.5 AA	10.0 - 10.5
● -11 AA	10.5 - 11.0
● -11.5 AA	11.0 - 11.5
● -12 AA	11.5 - 12.0
● -12.5 AA	12.0 - 12.5
● -13 AA	12.5 - 13.0
● -13.5 AA	13.0 - 13.5
● -14 AA	13.5 - 14.0
● -14.5 AA	14.0 - 14.5
● -15 AA	14.5 - 15.0
● -15.5 AA	15.0 - 15.5
● -16 AA	15.5 - 16.0
● -16.5 AA	16.0 - 16.5
● -17 AA	16.5 - 17.0
● -17.5 AA	17.0 - 17.5
● -18 AA	17.5 - 18.0
● -18.5 AA	18.0 - 18.5
● -19 AA	18.5 - 19.0
● -19.5 AA	19.0 - 19.5
● -20 AA	19.5 - 20.0

øA = 28.5, B = 38

MEGA25N	
Collet Model	Clamping diameter
● NBC25-16 AA	15.5 - 16.0
● -16.5AA	16 - 16.5
● -17 AA	16.5 - 17.0
● -17.5AA	17.0 - 17.5
● -18 AA	17.5 - 18.0
● -18.5AA	18.0 - 18.5
● -19 AA	18.5 - 19.0
● -19.5AA	19.0 - 19.5
● -20 AA	19.5 - 20.0
● -20.5AA	20.0 - 20.5
● -21 AA	20.5 - 21.0
● -21.5AA	21.0 - 21.5
● -22 AA	21.5 - 22.0
● -22.5AA	22.0 - 22.5
● -23 AA	22.5 - 23.0
● -23.5AA	23.0 - 23.5
● -24 AA	23.5 - 24.0
● -24.5AA	24.0 - 24.5
● -25 AA	24.5 - 25.0
● -25.4AA	24.9 - 25.4

øA = 35.5, B = 52

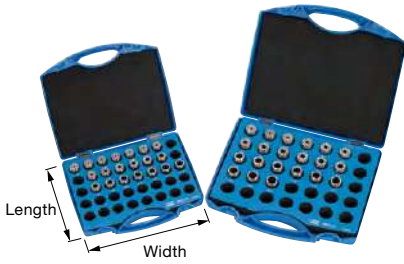
The ● mark in the table indicates NEW BABY COLLET SET contents.

For NEW BABY COLLET SET. **G7**

ACCESSORIES

NEW BABY COLLET SET (For MEGA NEW BABY CHUCK) NEW BABY CHUCK

The contents of each set are marked with ● in the table on the previous page. Refer to it for details.

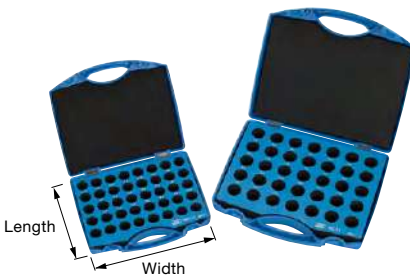


Model	Clamping diameter ød	Number of Collets	Box Size (Width x Length x Height)	Body Model
SNBC 6AA-22	0.5 - 6	22 pcs	200 x 170 x 50	MEGA 6N / NBS 6
SNBC 8AA-20	0.5 - 8	20 pcs	200 x 170 x 50	MEGA 8N / NBS 8
SNBC10AA-20	1.5 - 10	20 pcs	200 x 170 x 50	MEGA10N / NBS10
SNBC13AA-21	2.5 - 13	21 pcs	245 x 210 x 60	MEGA13N / NBS13
SNBC16AA-27	2.5 - 16	27 pcs	275 x 230 x 65	MEGA16N / NBS16
SNBC20AA-35	2.5 - 20	35 pcs	310 x 260 x 75	MEGA20N / NBS20
SNBC25AA-19	15.5 - 25	19 pcs	310 x 260 x 75	MEGA25N

In exclusive plastic case.

Collet Case (For MEGA NEW BABY CHUCK) NEW BABY CHUCK

- This exclusive plastic case is available for clearer collet management.
Ideal for collet storage and maintaining collet precision as well.



Model	Number of holes	Box Size (Width x Length x Height)	Collet Model
NBB 6	60	200 x 170 x 50	NBC 6/ FONBC 6
NBB 8	50	200 x 170 x 50	NBC 8/ FONBC 8
NBB10	40	200 x 170 x 50	NBC10/ FONBC10
NBB13	35	245 x 210 x 60	NBC13/ FONBC13
NBB16	35	275 x 230 x 65	NBC16/ FONBC16
NBB20	45	310 x 260 x 75	NBC20/ FONBC20
NBB25	28	310 x 260 x 75	NBC25/ FONBC25

Cannot be used with NEW BABY ENDMILL COLLET.

(Endmill exclusive) NEW BABY ENDMILL COLLET (For MEGA NEW BABY CHUCK) Clamping diameter: ø3 - ø20

- Ideal for endmilling, with collets that perfectly fit the tool shank size.



MEGA6N / NBS6	
Collet Model	ød
NBC 6-3E AA	3.0
-4E AA	4.0
-5E AA	5.0
-6E AA	6.0

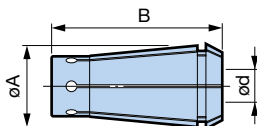
øA = 9.2, B = 17

MEGA8N / NBS8	
Collet Model	ød
NBC 8-3E AA	3.0
-4E AA	4.0
-5E AA	5.0
-6E AA	6.0
-8E AA	8.0

øA = 12, B = 20

MEGA10N / NBS10	
Collet Model	ød
NBC10- 3E AA	3.0
- 4E AA	4.0
- 5E AA	5.0
- 6E AA	6.0
- 8E AA	8.0
-10E AA	10.0

øA = 16, B = 32



- Model Description
- NBC** | **6** | **- 3** | **E** | **AA**
- Class (AA)
 - Endmill exclusive
 - Clamping diameter (ød)
 - Body model size
 - Abbreviation of New Baby Collet

MEGA13N / NBS13	
Collet Model	ød
NBC13- 3E AA	3.0
- 4E AA	4.0
- 5E AA	5.0
- 6E AA	6.0
- 8E AA	8.0
-10E AA	10.0
-12E AA	12.0

øA = 20, B = 38

MEGA16N / NBS16	
Collet Model	ød
NBC16- 3E AA	3.0
- 4E AA	4.0
- 5E AA	5.0
- 6E AA	6.0
- 8E AA	8.0
-10E AA	10.0
-12E AA	12.0
-14E AA	14.0
-16E AA	16.0

øA = 25, B = 42

MEGA20N / NBS20	
Collet Model	ød
NBC20- 3E AA	3.0
- 4E AA	4.0
- 5E AA	5.0
- 6E AA	6.0
- 8E AA	8.0
-10E AA	10.0
-12E AA	12.0
-14E AA	14.0
-16E AA	16.0
-20E AA	20.0

øA = 28, B = 45

- Use cutting tools that have a shank tolerance within h7.

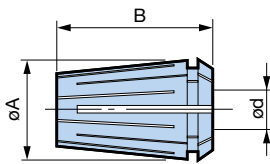
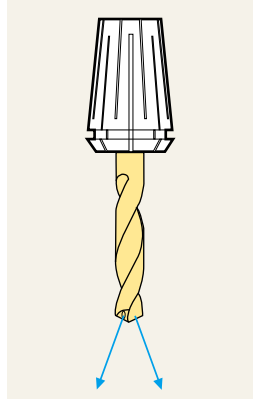


FONBC Coolant Collet (For MEGA NEW BABY CHUCK) NEW BABY CHUCK Clamping diameter: \varnothing 2.9 - \varnothing 25.4



Tools with oil holes

An ideal collet for through-tool use with tools with oil holes such as oil hole drills.



- Model Description
FONBC **6** - **3** **AA**
 ● Class
 ● Collet maximum clamping diameter
 ● Body model size
 ● Abbreviation of Oil Hole type

● For MEGA NEW BABY CHUCK

Use with the standard accessory **MGN** nut.

● For NEW BABY CHUCK

Use with the standard accessory **NBN** nut.

[FONBC Oil Hole Type]

[Caution] Note that collapsibility differs from the NBC collets.

MEGA6N / NBS6	
Collet Model	Clamping diameter
FONBC 6 - 3 AA	※ 3.00
- 3.25AA	3.15 - 3.25
- 3.5 AA	3.40 - 3.50
- 3.75AA	3.65 - 3.75
- 4 AA	3.90 - 4.00
- 4.25AA	4.15 - 4.25
- 4.5 AA	4.40 - 4.50
- 4.75AA	4.65 - 4.75
- 5 AA	4.90 - 5.00
- 5.25AA	5.15 - 5.25
- 5.5 AA	5.40 - 5.50
- 5.75AA	5.65 - 5.75
- 6 AA	5.90 - 6.00

MEGA8N / NBS8	
Collet Model	Clamping diameter
FONBC 8 - 3 AA	2.9 - 3.0
- 3.5AA	3.4 - 3.5
- 4 AA	3.9 - 4.0
- 4.5AA	4.4 - 4.5
- 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0

MEGA10N / NBS10	
Collet Model	Clamping diameter
FONBC10 - 3 AA	2.9 - 3.0
- 3.5AA	3.4 - 3.5
- 4 AA	3.9 - 4.0
- 4.5AA	4.4 - 4.5
- 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0
- 8.5AA	8.4 - 8.5
- 9 AA	8.9 - 9.0
- 9.5AA	9.4 - 9.5
- 10 AA	9.9 - 10.0

\varnothing A = 12.5, B = 18

\varnothing A = 9.5, B = 14
 ※ No collapsibility.

\varnothing A = 16.5, B = 27

MEGA13N / NBS13	
Collet Model	Clamping diameter
FONBC13 - 3 AA	※ 3.0
- 3.5AA	3.4 - 3.5
- 4 AA	3.9 - 4.0
- 4.5AA	4.4 - 4.5
- 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0
- 8.5AA	8.4 - 8.5
- 9 AA	8.9 - 9.0
- 9.5AA	9.4 - 9.5
- 10 AA	9.9 - 10.0
- 10.5AA	10.4 - 10.5
- 11 AA	10.9 - 11.0
- 11.5AA	11.4 - 11.5
- 12 AA	11.9 - 12.0
- 12.5AA	12.4 - 12.5
- 13 AA	12.9 - 13.0

MEGA16N / NBS16	
Collet Model	Clamping diameter
FONBC16 - 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0
- 8.5AA	8.4 - 8.5
- 9 AA	8.9 - 9.0
- 9.5AA	9.4 - 9.5
- 10 AA	9.9 - 10.0
- 10.5AA	10.4 - 10.5
- 11 AA	10.9 - 11.0
- 11.5AA	11.4 - 11.5
- 12 AA	11.9 - 12.0
- 12.5AA	12.4 - 12.5
- 13 AA	12.9 - 13.0
- 13.5AA	13.4 - 13.5
- 14 AA	13.9 - 14.0
- 14.5AA	14.4 - 14.5
- 15 AA	14.9 - 15.0
- 15.5AA	15.4 - 15.5
- 16 AA	15.9 - 16.0

MEGA20N / NBS20	
Collet Model	Clamping diameter
FONBC20 - 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0
- 8.5AA	8.4 - 8.5
- 9 AA	8.9 - 9.0
- 9.5AA	9.4 - 9.5
- 10 AA	9.9 - 10.0
- 10.5AA	10.4 - 10.5
- 11 AA	10.9 - 11.0
- 11.5AA	11.4 - 11.5
- 12 AA	11.9 - 12.0
- 12.5AA	12.4 - 12.5
- 13 AA	12.9 - 13.0
- 13.5AA	13.4 - 13.5
- 14 AA	13.9 - 14.0
- 14.5AA	14.4 - 14.5
- 15 AA	14.9 - 15.0
- 15.5AA	15.4 - 15.5
- 16 AA	15.9 - 16.0
- 16.5AA	16.4 - 16.5
- 17 AA	16.9 - 17.0
- 17.5AA	17.4 - 17.5
- 18 AA	17.9 - 18.0
- 18.5AA	18.4 - 18.5
- 19 AA	18.9 - 19.0
- 19.5AA	19.4 - 19.5
- 20 AA	19.9 - 20.0

\varnothing A = 20.5, B = 31
 ※ No collapsibility.

\varnothing A = 25.5, B = 35

MEGA25N	
Collet Model	Clamping diameter
FONBC25 - 16 AA	15.9 - 16.0
- 17 AA	16.9 - 17.0
- 18 AA	17.9 - 18.0
- 19 AA	18.9 - 19.0
- 20 AA	19.9 - 20.0
- 21 AA	20.9 - 21.0
- 22 AA	21.9 - 22.0
- 23 AA	22.9 - 23.0
- 24 AA	23.9 - 24.0
- 25 AA	24.9 - 25.0
- 25.4AA	25.3 - 25.4

\varnothing A = 35.5, B = 52

\varnothing A = 28.5, B = 38

ACCESSORIES

COLLET EJECTOR (For MEGA NEW BABY CHUCK NEW BABY CHUCK)

- Makes attachment and removal easy, even with the small New Baby Collet.



For New Baby Collet

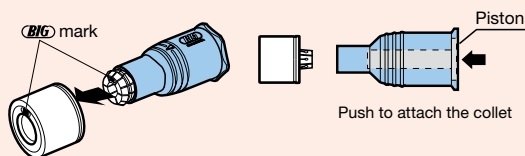
Model	Nut Model	Collet Model
NBC 6-CE	MGN 6/NBN 6	NBC 6/FONBC 6
NBC 8-CE	MGN 8/NBN 8	NBC 8/FONBC 8
NBC10-CE	MGN10/NBN10	NBC10/FONBC10
NBC13-CE	MGN13/NBN13	NBC13/FONBC13

For NEW BABY ENDMILL COLLET (endmill exclusive collet)

Model	Nut Model	Collet Model
NBC 6E- CE	MGN 6/NBN 6	NBC 6E
NBC 8E- CE	MGN 8/NBN 8	NBC 8E
NBC10E- CE	MGN10/NBN10	NBC10E
NBC13E- CE	MGN13/NBN13	NBC13E

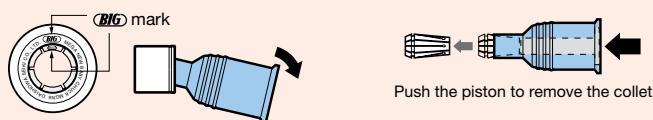
● Mounting Method

Mount the collet on the Collet Ejector, insert so that the **BIG** marks of the nut and collet are aligned, and then just push the piston.



● Removal Method

1. With the **BIG** marks of the nut and collet aligned, tilt the Collet Ejector in the direction of the arrow and remove the collet from the nut.
2. Push the piston and remove the collet.



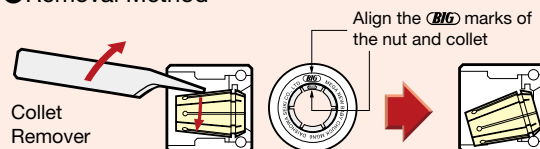
Collet Remover (For MEGA NEW BABY CHUCK NEW BABY CHUCK)

- Collet Remover is also available.



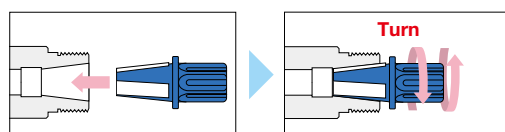
Model **NBJ**

● Removal Method



α Taper Cleaner (For MEGA NEW BABY CHUCK NEW BABY CHUCK)

- Removes particles and oil from the chuck bore taper.

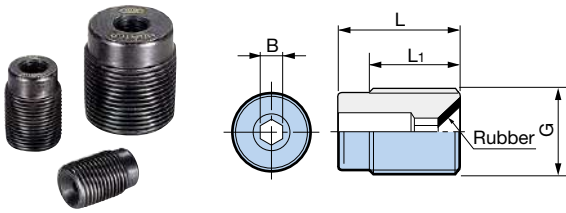


Model	Body Model
SC-NBC 6	MEGA 6N/NBS 6
SC-NBC 8	MEGA 8N/NBS 8
SC-NBC10	MEGA10N/NBS10
SC-NBC13	MEGA13N/NBS13
SC-NBC16	MEGA16N/NBS16
SC-NBC20	MEGA20N/NBS20

1. Refer to H6 for other collet chucks.

Adjusting Screw (MEGA NEW BABY CHUCK MEGA E CHUCK/NEW BABY CHUCK)

● Use when adjusting tool projection length.

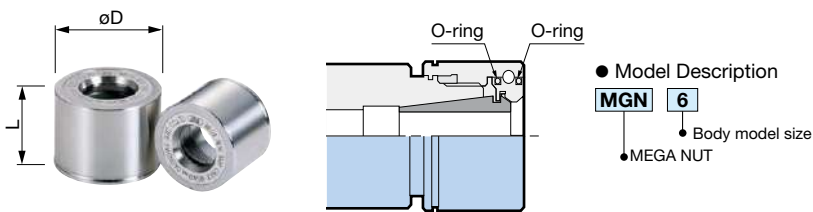


Model	G	L	L ₁	B	Body Model
NBA 6B	M 7	12	10	2	MEGA 6N/MEGA 6E/NBS 6
NBA 8B	M 9	13	10	2.5	MEGA 8N/MEGA 8E/NBS 8
NBA10B	M11	16	12	3	MEGA10N/MEGA10E/NBS10
NBA13B	M14	20	15	4	MEGA13N/MEGA13E/NBS13
NBA16B	M18				MEGA16N/NBS16
NBA20B	M21				MEGA20N/NBS20
NBA25B	M27				MEGA25N

Caution: Note that rubber may peel off when using high-pressure coolant.

MEGA NUT PAT. (for MEGA NEW BABY CHUCK)

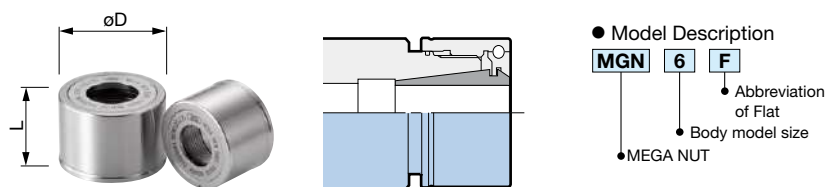
Standard Type



A high-precision nut with excellent sealing properties, preventing the intrusion of coolant.

Model	øD	L	Body Model
MGN 6	20	20.5	MEGA 6N
MGN 8	25	23	MEGA 8N
MGN10	30	24	MEGA10N
MGN13	35	27	MEGA13N
MGN16	42	27	MEGA16N
MGN20	46	27	MEGA20N
MGN25	60	31	MEGA25N

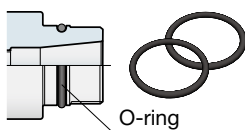
Flat Type



Model	øD	L	Body Model
MGN 6F	20	18	MEGA 6N
MGN 8F	25	20	MEGA 8N
MGN10F	30	21	MEGA10N
MGN13F	35	24	MEGA13N
MGN16F	42	24.5	MEGA16N
MGN20F	46	24.5	MEGA20N

※ If using center through coolant, it is recommended to use MEGA PERFECT SEAL for superior sealing, or a standard type nut.

O-Ring Set (for MEGA NEW BABY CHUCK)



Model	Body Model
MG 6NOR-2P	MEGA 6N
MG 8NOR-2P	MEGA 8N
MG10NOR-2P	MEGA10N
MG13NOR-2P	MEGA13N
MG16NOR-2P	MEGA16N
MG20NOR-2P	MEGA20N
MG25NOR-2P	MEGA25N

1. O-rings are provided as 2-piece sets.

ACCESSORIES

Coolant nut

MEGA PERFECT SEAL PAT. (for MEGA NEW BABY CHUCK) Clamping diameter: $\phi 3 - \phi 20$

Coolant Pressure
7MPa



● Model Description

- MPS** 6 - **03035**
- Clamping diameter: $\phi 3 - \phi 3.5$
- Body model size
- Abbreviation of MEGA PERFECT SEAL

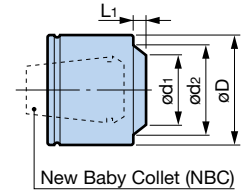
Coolant through tool

Jet Through



With PS Ring

Without PS Ring



New Baby Collet (NBC)

No coolant collet required!

● Unique idea of sealing function.

Higher pressure coolant provides stronger contact of the PS Ring to a tool shank and increases sealing performance.

Model	ϕD	ϕd_1	ϕd_2	L_1	Compatible tool shank diameter	Collet Model	
MPS 6-03035	20	11.2	14.7	2.3	3 - 3.5	NBC 6- 3 - 3.75	
-0304					3 - 4	- 3 - 4.25	
-04045					4 - 4.5	- 4 - 4.75	
-0405		4 - 5			- 4 - 5.25		
-05055		13.2			5 - 5.5	- 5 - 5.75	
-0506					5 - 6	- 5 - 6	
MPS 8-03035	25	12.2	19.2	3.9	3 - 3.5	NBC 8- 3 - 4	
-0304					3 - 4	- 3 - 4.5	
-04045					13.2	4 - 4.5	- 4 - 5
-0405						4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6	
-0506					5 - 6	- 5 - 6.5	
-06065		15.2			6 - 6.5	- 6 - 7	
-0607					6 - 7	- 6 - 7.5	
-07075		16.2			7 - 7.5	- 7 - 8	
-0708					7 - 8	- 7 - 8	
MPS10-03035	30	12.2	23.9	3.9	3 - 3.5	NBC10- 3 - 4	
-0304					3 - 4	- 3 - 4.5	
-04045					13.2	4 - 4.5	- 4 - 5
-0405						4 - 5	- 4 - 5.5
-05055		14.2		5 - 5.5	- 5 - 6		
-0506				5 - 6	- 5 - 6.5		
-06065		15.2		6 - 6.5	- 6 - 7		
-0607				6 - 7	- 6 - 7.5		
-07075		16.2		7 - 7.5	- 7 - 8		
-0708				7 - 8	- 7 - 8.5		
-08085		18.4		8 - 8.5	- 8 - 9		
-0809				8 - 9	- 8 - 9.5		
-09095		19.2		9 - 9.5	- 9 - 10		
-0910				9 - 10	- 9 - 10		

Model	ϕD	ϕd_1	ϕd_2	L_1	Compatible tool shank diameter	Collet Model	
MPS13-03035	35	12.2	28.7	4.3	3 - 3.5	NBC13- 3 - 4	
-0304					3 - 4	- 3 - 4.5	
-04045					13.2	4 - 4.5	- 4 - 5
-0405						4 - 5	- 4 - 5.5
-05055		14.2		5 - 5.5	- 5 - 6		
-0506				5 - 6	- 5 - 6.5		
-06065		15.2		6 - 6.5	- 6 - 7		
-0607				6 - 7	- 6 - 7.5		
-07075		16.2		7 - 7.5	- 7 - 8		
-0708				7 - 8	- 7 - 8.5		
-08085		18.4		8 - 8.5	- 8 - 9		
-0809				8 - 9	- 8 - 9.5		
-09095		19.4		9 - 9.5	- 9 - 10		
-0910				9 - 10	- 9 - 10.5		
-10105		20.3		10 - 10.5	- 10 - 11		
-1011				10 - 11	- 10 - 11.5		
-11115	21.2	11 - 11.5	- 11 - 12				
-1112		11 - 12	- 11 - 12.5				
-12125	22.2	12 - 12.5	- 12 - 13				
-1213		12 - 13	- 12 - 13				

1. One PS Ring is included.

For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

Model	øD	ød ₁	ød ₂	L ₁	Compatible tool shank diameter	Collet Model	Model	øD	ød ₁	ød ₂	L ₁	Compatible tool shank diameter	Collet Model		
MPS16-03035	42	12.2	34.4	4.0	3 - 3.5	NBC16- 3 - 4	MPS20-03035	46	12.2	38.3	4.0	3 - 3.5	NBC20- 3 - 4		
-0304					3 - 4	- 3 - 4.5	-0304					3 - 4	- 3 - 4.5		
-04045					13.2	4 - 4.5	- 4 - 5					-04045	13.2	4 - 4.5	- 4 - 5
-0405						4 - 5	- 4 - 5.5					-0405		4 - 5	- 4 - 5.5
-05055					14.2	5 - 5.5	- 5 - 6					-05055	14.2	5 - 5.5	- 5 - 6
-0506						5 - 6	- 5 - 6.5					-0506		5 - 6	- 5 - 6.5
-06065		15.2	6 - 6.5	- 6 - 7	-06065	15.2	6 - 6.5		- 6 - 7						
-0607			6 - 7	- 6 - 7.5	-0607		6 - 7		- 6 - 7.5						
-07075			16.2	7 - 7.5	- 7 - 8		-07075		16.2	7 - 7.5	- 7 - 8				
-0708		7 - 8		- 7 - 8.5	-0708	7 - 8	- 7 - 8.5								
-08085		18.4	8 - 8.5	- 8 - 9	-08085	18.4	8 - 8.5		- 8 - 9						
-0809			8 - 9	- 8 - 9.5	-0809		8 - 9		- 8 - 9.5						
-09095		19.4	9 - 9.5	- 9 - 10	-09095	19.4	9 - 9.5		- 9 - 10						
-0910			9 - 10	- 9 - 10.5	-0910		9 - 10		- 9 - 10.5						
-10105		20.2	10 - 10.5	- 10 - 11	-10105	20.2	10 - 10.5		- 10 - 11						
-1011			10 - 11	- 10 - 11.5	-1011		10 - 11		- 10 - 11.5						
-11115		21.2	11 - 11.5	- 11 - 12	-11115	21.2	11 - 11.5		- 11 - 12						
-1112			11 - 12	- 11 - 12.5	-1112		11 - 12		- 11 - 12.5						
-12125		22.2	12 - 12.5	- 12 - 13	-12125	22.2	12 - 12.5		- 12 - 13						
-1213			12 - 13	- 12 - 13.5	-1213		12 - 13		- 12 - 13.5						
-1314		24.2	13 - 14	- 13 - 14.5	-1314	24.2	13 - 14		- 13 - 14.5						
-1415		25.2	14 - 15	- 14 - 15.5	-1415	25.2	14 - 15		- 14 - 15.5						
-1516		26.2	15 - 16	- 15 - 16	-1516	26.2	15 - 16		- 15 - 16.5						
						27.2	16 - 17		- 16 - 17.5						
						28.2	17 - 18		- 17 - 18.5						
						29.2	18 - 19		- 18 - 19.5						
					30.2	19 - 20	- 19 - 20								

1. One PS Ring is included.

For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

When ordering a MEGA PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● **Example** Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.



PS Ring



For Through Tools

Specially designed sealant is used inside the PERFECT SEAL.

(The PS Ring must be replaced if damage thereto is causing coolant to leak.)

Model	Body Model	Model	Body Model	Model	Body Model
PS-0304	MPS □ -03035,0304	PS-0809	MPS □ -08085,0809	PS-1314	MPS □ -1314
0405	04045,0405	0910	09095,0910	1415	1415
0506	05055,0506	1011	10105,1011	1516	1516
0607	06065,0607	1112	11115,1112	1617	1617
0708	07075,0708	1213	12125,1213	1718	1718
				1819	1819
				1920	1920

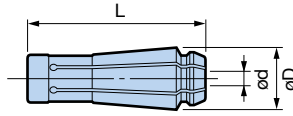
1 bag/5 pcs (same size)

ACCESSORIES

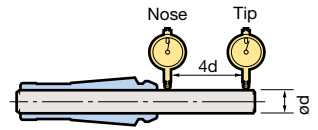
MEGA E Collet (for MEGA E CHUCK)



- Model Description
MEC **6** - **3**
 ● MEGA E Collet
 ● Chuck size
 ● Inner diameter ϕd



- Collet accuracy (Class AA)



Collet class	Runout accuracy	
	Nose	4D
AA	Within 1 μm	Within 3 μm

Body Model/MEGA 6E

Model	ϕd	Min. clamping length
MEC6-3AA	3	19
-4AA	4	22
-5AA	5	25
-6AA	6	27

L = 34.9 ϕD = 11.3
Nut = MEN6

Body Model/MEGA 8E

Model	ϕd	Min. clamping length
MEC8-3AA	3	19
-4AA	4	22
-5AA	5	25
-6AA	6	28
-7AA	7	29
-8AA	8	31

L = 39.4 ϕD = 14.1
Nut = MEN8

Body Model/MEGA 10E

Model	ϕd	Min. clamping length
MEC10- 3AA	3	19
- 4AA	4	22
- 5AA	5	25
- 6AA	6	28
- 7AA	7	29.5
- 8AA	8	31
- 9AA	9	33
-10AA	10	37

L = 45.7 ϕD = 17.1
Nut = MEN10

Body Model/MEGA 13E

Model	ϕd	Min. clamping length
MEC13- 3AA	3	19
- 4AA	4	22
- 5AA	5	25
- 6AA	6	28
- 7AA	7	29.5
- 8AA	8	31
- 9AA	9	33
-10AA	10	35
-11AA	11	37
-12AA	12	39

L = 47.9 ϕD = 20.6
Nut = MEN13

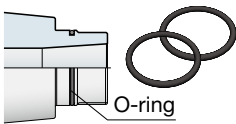
- Use cutting tools that have a shank tolerance within h7.

MEGA E NUT PAT. (for MEGA E CHUCK)



Model	Nut outer diameter	L	Body Model
MEN 6	25	20.5	MEGA 6E
MEN 8	30	22	MEGA 8E
MEN10	35	22.5	MEGA10E
MEN13	42	24.5	MEGA13E

O-Ring Set (for MEGA E CHUCK)

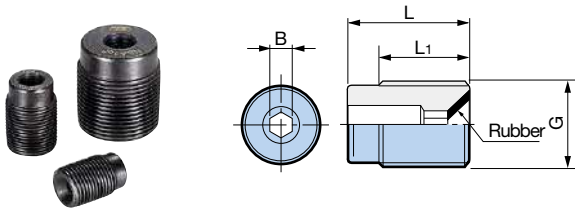


Model	Body Model
MG 6EOR-2P	MEGA 6E
MG 8EOR-2P	MEGA 8E
MG10EOR-2P	MEGA10E
MG13EOR-2P	MEGA13E

- O-rings are provided as 2-piece sets.

Adjusting Screw (for MEGA E CHUCK)

- Use when adjusting cutting tool projection length.

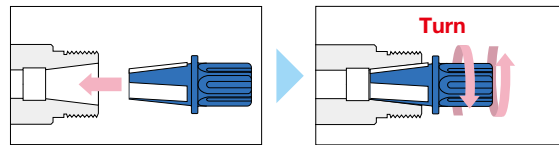


Model	G	L	L ₁	B	Body Model
NBA 6B	M 7	12	10	2	MEGA 6E
NBA 8B	M 9	13	10	2.5	MEGA 8E
NBA10B	M11	16	12	3	MEGA10E
NBA13B	M14	20	15	4	MEGA13E

Caution: Note that rubber may peel off when using high-pressure coolant.

α Taper Cleaner (for MEGA E CHUCK)

- Removes particles and oil from the chuck bore taper.



Model	Body Model
SC-MEC 6	MEGA 6E
SC-MEC 8	MEGA 8E
SC-MEC10	MEGA10E
SC-MEC13	MEGA13E

1. Refer to H6 for other collet chucks.

ACCESSORIES

OIL HOLE SEAL NUT

MEGA E PERFECT SEAL PAT. (for MEGA E CHUCK) Clamping diameter: $\varnothing 3 - \varnothing 12$

Coolant Pressure
7MPa



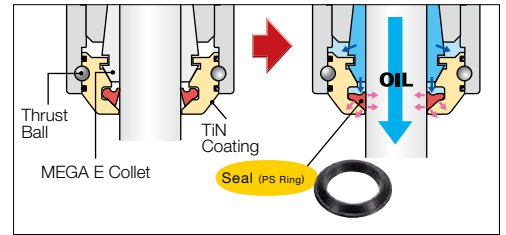
Coolant through tool

Jet Through



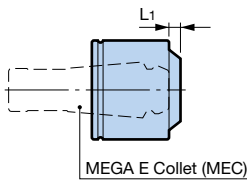
With PS Ring

Without PS Ring



No coolant collet required!

- Unique concept of sealing function. Higher pressure coolant provides stronger contact of the PS Ring to the tool shank and increases sealing performance.



● Model Description

EPS [6] - [03]

- Clamping diameter: $\varnothing 3$
- Body model size
- Abbreviation of MEGA E PERFECT SEAL

The long clamping length makes it ideal for Jet-Through use with burnishing drills/reamers.



Model	L ₁	Compatible tool shank diameter	Collet Model
EPS 6-03	5.6	3	MEC 6- 3
-04		4	- 4
-05		5	- 5
-06		6	- 6
EPS 8-03	6.4	3	MEC 8- 3
-04		4	- 4
-05		5	- 5
-06		6	- 6
-07	5.6	7	- 7
-08		8	- 8
EPS10-03	6.4	3	MEC10- 3
-04		4	- 4
-05		5	- 5
-06		6	- 6
-07	6.3	7	- 7
-08		8	- 8
-09	5.7	9	- 9
-10		10	-10

Model	L ₁	Compatible tool shank diameter	Collet Model
EPS13-03	6.4	3	MEC13- 3
-04		4	- 4
-05		5	- 5
-06	6.0	6	- 6
-07		7	- 7
-08	6.3	8	- 8
-09		9	- 9
-10	6.5	10	-10
-11		11	-11
-12	6.2	12	-12

1. One PS Ring is included.

PS Ring



For Through Tools

Specially designed sealant is used inside the PERFECT SEAL.

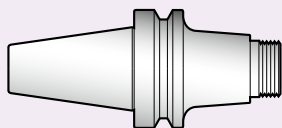
(The PS Ring must be replaced if damage thereto is causing coolant to leak.)

1 bag/5 pcs (same size)

Model	Body Model	Model	Body Model
PS-0304	EPS □ -03	PS-0708	EPS □ -08
	-04	-0809	-09
-0405	-05	-0910	-10
-0506	-06	-1011	-11
-0607	-07	-1112	-12

When ordering a MEGA E PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

- **Example** Attach /NL (Nut less) to the end of the holder model number and order the MEC Collet/MEGA E PERFECT SEAL separately.



MEGA E CHUCK Model + /NL
(Nut not attached)
BBT30-MEGA6E-50/NL

+



MEC Collet
MEC6-3AA

+

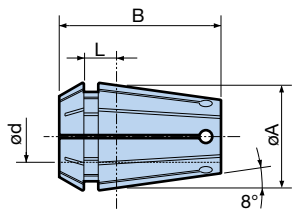


MEGA E PERFECT SEAL Model
EPS6-03

ACCESSORIES

MEGA ER COLLET (for MEGA ER GRIP) Clamping diameter: $\phi 1.9 - \phi 20$

All ERC collets are inspected twice to guarantee high runout accuracy.



Dimension standards:
Compliant with DIN6499 and ISO15488

Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within 1 μm	Within 3 μm

Collapsibility 0.1/ ϕ Collapsibility 0.25/ ϕ Collapsibility 0.5/ ϕ

MEGA ER11	
Collet Model	Clamping diameter ϕd
ERC11-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0

$\phi A = 11, B = 18, L = 3.8$

MEGA ER16	
Collet Model	Clamping diameter ϕd
ERC16-2AA	1.9 - 2.0
-2.1AA	2.0 - 2.1
-2.2AA	2.1 - 2.2
-2.3AA	2.2 - 2.3
-2.4AA	2.3 - 2.4
-2.5AA	2.4 - 2.5
-2.6AA	2.5 - 2.6
-2.7AA	2.6 - 2.7
-2.8AA	2.7 - 2.8
-2.9AA	2.8 - 2.9
-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0
-6.5AA	6.0 - 6.5
-7AA	6.5 - 7.0
-7.5AA	7.0 - 7.5
-8AA	7.5 - 8.0
-8.5AA	8.0 - 8.5
-9AA	8.5 - 9.0
-9.5AA	9.0 - 9.5
-10AA	9.5 - 10.0

$\phi A = 16, B = 27.5, L = 6.26$

MEGA ER20	
Collet Model	Clamping diameter ϕd
ERC20-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0
-6.5AA	6.0 - 6.5
-7AA	6.5 - 7.0
-7.5AA	7.0 - 7.5
-8AA	7.5 - 8.0
-8.5AA	8.0 - 8.5
-9AA	8.5 - 9.0
-9.5AA	9.0 - 9.5
-10AA	9.5 - 10.0
-10.5AA	10.0 - 10.5
-11AA	10.5 - 11.0
-11.5AA	11.0 - 11.5
-12AA	11.5 - 12.0
-12.5AA	12.0 - 12.5
-13AA	12.5 - 13.0

$\phi A = 20, B = 31.5, L = 6.36$

MEGA ER25	
Collet Model	Clamping diameter ϕd
ERC25-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0
-6.5AA	6.0 - 6.5
-7AA	6.5 - 7.0
-7.5AA	7.0 - 7.5
-8AA	7.5 - 8.0
-8.5AA	8.0 - 8.5
-9AA	8.5 - 9.0
-9.5AA	9.0 - 9.5
-10AA	9.5 - 10.0
-10.5AA	10.0 - 10.5
-11AA	10.5 - 11.0
-11.5AA	11.0 - 11.5
-12AA	11.5 - 12.0
-12.5AA	12.0 - 12.5
-13AA	12.5 - 13.0
-13.5AA	13.0 - 13.5
-14AA	13.5 - 14.0
-14.5AA	14.0 - 14.5
-15AA	14.5 - 15.0
-15.5AA	15.0 - 15.5
-16AA	15.5 - 16.0

$\phi A = 25, B = 34, L = 6.66$

MEGA ER32	
Collet Model	Clamping diameter ϕd
ERC32-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0
-6.5AA	6.0 - 6.5
-7AA	6.5 - 7.0
-7.5AA	7.0 - 7.5
-8AA	7.5 - 8.0
-8.5AA	8.0 - 8.5
-9AA	8.5 - 9.0
-9.5AA	9.0 - 9.5
-10AA	9.5 - 10.0
-10.5AA	10.0 - 10.5
-11AA	10.5 - 11.0
-11.5AA	11.0 - 11.5
-12AA	11.5 - 12.0
-12.5AA	12.0 - 12.5
-13AA	12.5 - 13.0
-13.5AA	13.0 - 13.5
-14AA	13.5 - 14.0
-14.5AA	14.0 - 14.5
-15AA	14.5 - 15.0
-15.5AA	15.0 - 15.5
-16AA	15.5 - 16.0
-16.5AA	16.0 - 16.5
-17AA	16.5 - 17.0
-17.5AA	17.0 - 17.5
-18AA	17.5 - 18.0
-18.5AA	18.0 - 18.5
-19AA	18.5 - 19.0
-19.5AA	19.0 - 19.5
-20AA	19.5 - 20.0

$\phi A = 32, B = 40, L = 7.16$

ACCESSORIES

MEGA ER NUT (for MEGA ER GRIP)

- Nut with thrust ball bearing for high precision and high retention force.
- Shows its strength in machining with carbide solid drills or reamers.



Model	øD	L	G	Wrench	Body Model
MERN16	30	25	M22 x P1.5	MGR30L	ER16
MERN20	35	26.5	M25 x P1.5	MGR35L	ER20
MERN25	42	27.5	M32 x P1.5	MGR42L	ER25
MERN32	50	30.2	M40 x P1.5	MGR50L	ER32

MEGA ER SOLID NUT (for MEGA ER GRIP)

- An integrated nut with low coefficient of friction surface treatment and no wrench application groove.



Model	øD	L	G	Wrench	Body Model
MER16SN	30	25	M22 x P1.5	MGR30L	ER16
MER20SN	35	26.5	M25 x P1.5	MGR35L	ER20
MER25SN	42	27.5	M32 x P1.5	MGR42L	ER25
MER32SN	50	30.2	M40 x P1.5	MGR50L	ER32

ER NUT [Hook wrench type] (for MEGA ER GRIP)

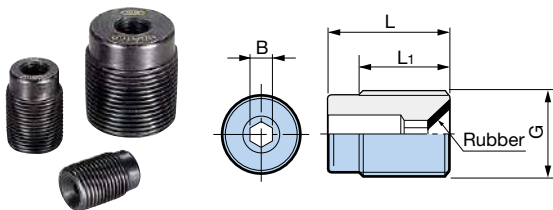
- An integrated nut with low coefficient of friction surface treatment.



Model	øD	L	G	Wrench	Body Model
ERN11	19	12.3	M14 x P0.75	NBK 6	ER11
ERN16	30	19	M22 x P1.5	NBK10	ER16
ERN20	35	20.5	M25 x P1.5	NBK13	ER20
ERN25	42	21.5	M32 x P1.5	NBK16	ER25
ERN32	50	24	M40 x P1.5	FK45-50L	ER32

Adjusting Screw (for MEGA ER GRIP)

- Use when adjusting tool projection length.

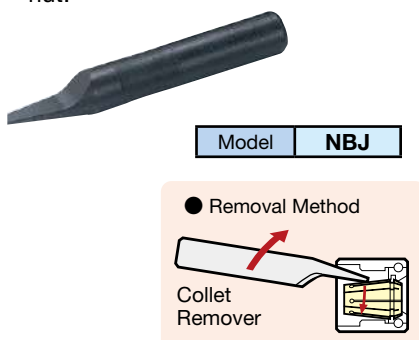


Model	G	L	L ₁	B	Body Model
NBA 6B	M 7	12	10	2	MEGA ER11
NBA10B	M11	16	12	3	MEGA ER16
NBA13B	M14	20	15	4	MEGA ER20
NBA16B	M18				MEGA ER25
NBA20B	M21				MEGA ER32

Caution: Note that rubber may peel off when using high-pressure coolant.

Collet Remover (for MEGA ER GRIP)

- Aids removal of the collet from the nut.



New Baby Wrench (for MEGA ER GRIP)



Model	Nut Model
NBK 6	ERN11
NBK 10	ERN16
NBK 13	ERN20
NBK 16	ERN25
FK45-50L	ERN32

Coolant nut

MEGA ER PERFECT SEAL (for MEGA ER GRIP) Clamping diameter: ø3 - ø20



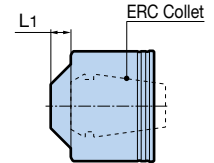
- Model Description
MERPS 16- 030035
- Clamping diameter: ø3 - ø3.5
- Body model size
- Abbreviation of MEGA ER PERFECT SEAL



With PS Ring



Without PS Ring



No coolant collet required!

- Simple replacement of the standard nut achieves secure coolant supply.

Model	L1	Compatible tool shank diameter	Collet Model	
MERPS16-030035	6.4	3 - 3.5	ERC16- 3 - 3.75	
-035040		3.5 - 4	- 3.5 - 4.25	
-040045		4 - 4.5	- 4 - 4.75	
-045050		4.5 - 5	- 4.5 - 5.25	
-050055		5 - 5.5	- 5 - 6	
-055060		5.5 - 6	- 5.5 - 6.5	
-060065		6 - 6.5	- 6 - 7	
-065070		6.8	6.5 - 7	- 6.5 - 7.5
-070075			7 - 7.5	- 7 - 8
-075080			7.5 - 8	- 7.5 - 8.5
-080085		6.1	8 - 8.5	- 8 - 9
-085090			8.5 - 9	- 8.5 - 9.5
-090095	9 - 9.5		- 9 - 10	
-095100	9.5 - 10		- 9.5 - 10	
MERPS20-030035	6.4		3 - 3.5	ERC20- 3 - 3.75
-035040			3.5 - 4	- 3.5 - 4.25
-040045		4 - 4.5	- 4 - 4.75	
-045050		4.5 - 5	- 4.5 - 5.25	
-050055		5 - 5.5	- 5 - 6	
-055060		5.5 - 6	- 5.5 - 6.5	
-060065	6.8	6 - 6.5	- 6 - 7	
-065070		6.5 - 7	- 6.5 - 7.5	
-070075		7 - 7.5	- 7 - 8	
-075080	6.9	7.5 - 8	- 7.5 - 8.5	
-080085		8 - 8.5	- 8 - 9	
-085090		8.5 - 9	- 8.5 - 9.5	
-090095		9 - 9.5	- 9 - 10	
-095100		9.5 - 10	- 9.5 - 10.5	
-100105		6.6	10 - 10.5	- 10 - 11
-105110	10.5 - 11		- 10.5 - 11.5	
-110115	11 - 11.5		- 11 - 12	
-115120	11.5 - 12		- 11.5 - 12.5	
-120125	12 - 12.5		- 12 - 13	
-125130	12.5 - 13		- 12.5 - 13	

1. One PS Ring is included.

For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

Model	L1	Compatible tool shank diameter	Collet Model	
MERPS25-030035	6.3	3 - 3.5	ERC25- 3 - 3.75	
-035040		3.5 - 4	- 3.5 - 4.25	
-040045		4 - 4.5	- 4 - 4.75	
-045050		4.5 - 5	- 4.5 - 5.25	
-050055		5 - 5.5	- 5 - 6	
-055060		5.5 - 6	- 5.5 - 6.5	
-060065		6.7	6 - 6.5	- 6 - 7
-065070			6.5 - 7	- 6.5 - 7.5
-070075			7 - 7.5	- 7 - 8
-075080		6.8	7.5 - 8	- 7.5 - 8.5
-080085			8 - 8.5	- 8 - 9
-085090			8.5 - 9	- 8.5 - 9.5
-090095	9 - 9.5		- 9 - 10	
-095100	9.5 - 10		- 9.5 - 10.5	
-100105	7.3		10 - 10.5	- 10 - 11
-105110		10.5 - 11	- 10.5 - 11.5	
-110115		11 - 11.5	- 11 - 12	
-115120		11.5 - 12	- 11.5 - 12.5	
-120125		12 - 12.5	- 12 - 13	
-125130		12.5 - 13	- 12.5 - 13	
-130140	6.6	13 - 14	- 13 - 14.5	
-140150		14 - 15	- 14 - 15.5	
-150160		15 - 16	- 15 - 16	
MERPS32-030035	6.2	3 - 3.5	ERC32- 3 - 3.75	
-035040		3.5 - 4	- 3.5 - 4.25	
-040045		4 - 4.5	- 4 - 4.75	
-045050		4.5 - 5	- 4.5 - 5.25	
-050055		5 - 5.5	- 5 - 6	
-055060		5.5 - 6	- 5.5 - 6.5	
-060065		6.6	6 - 6.5	- 6 - 7
-065070			6.5 - 7	- 6.5 - 7.5
-070075			7 - 7.5	- 7 - 8
-075080		6.7	7.5 - 8	- 7.5 - 8.5
-080085			8 - 8.5	- 8 - 9
-085090			8.5 - 9	- 8.5 - 9.5
-090095	9 - 9.5		- 9 - 10	
-095100	9.5 - 10		- 9.5 - 10.5	
-100105	7.2		10 - 10.5	- 10 - 11
-105110		10.5 - 11	- 10.5 - 11.5	
-110115		11 - 11.5	- 11 - 12	
-115120		11.5 - 12	- 11.5 - 12.5	
-120125		12 - 12.5	- 12 - 13	
-125130		12.5 - 13	- 12.5 - 13.5	
-130140	7.3	13 - 14	- 13 - 14.5	
-140150		14 - 15	- 14 - 15.5	
-150160		15 - 16	- 15 - 16.5	
-160170	7.8	16 - 17	- 16 - 17.5	
-170180		17 - 18	- 17 - 18.5	
-180190		18 - 19	- 18 - 19.5	
-190200		19 - 20	- 19 - 20	

PS Ring

Specially designed sealant is used inside the PERFECT SEAL.

(The PS Ring must be replaced if damage thereto is causing coolant to leak.)



1 bag/5 pcs (same size)

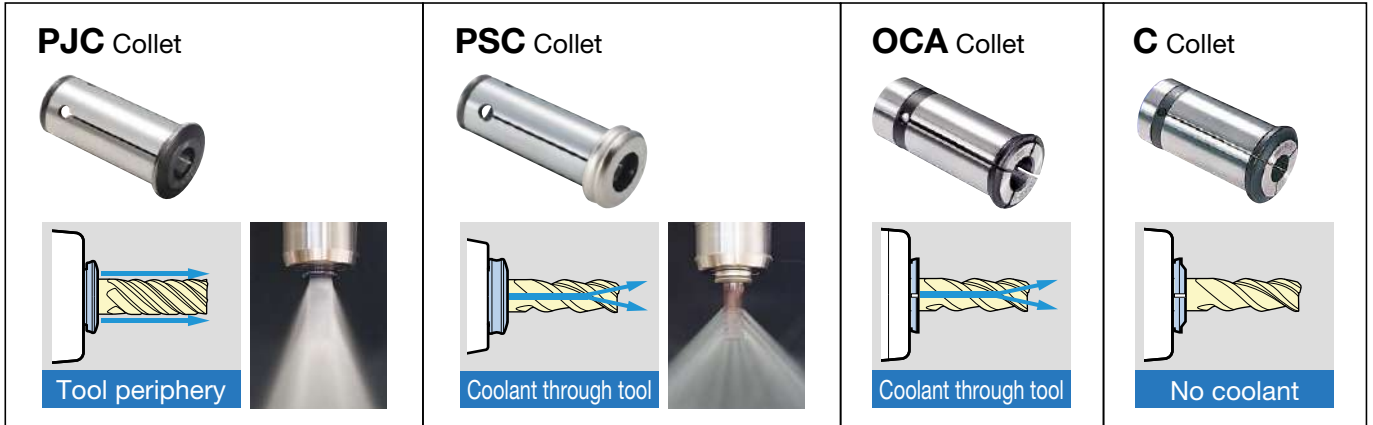
Model	Body Model	Model	Body Model
PS-0304	MERPS□-030035,035040	PS-0809	MERPS□-080085,085090
-0405	-040045,045050	-0910	-090095,095100
-0506	-050055,055060	-1011	-100105,105110
-0607	-060065,065070	-1112	-110115,115120
-0708	-070075,075080	-1213	-120125,125130

Model	Body Model
PS-1314	MERPS□-130140
-1415	-140150
-1516	-150160
-1617	-160170
-1718	-170180
-1819	-180190
-1920	-190200

ACCESSORIES

Straight Collet (for MEGA DOUBLE POWER CHUCK, NEW HI-POWER MILLING CHUCK, HYDRAULIC CHUCK)

Straight Collet lineup



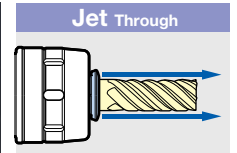
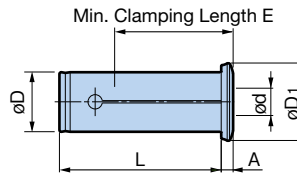
Jet Through
PJC Straight Collet (For MEGA DOUBLE POWER CHUCK, HYDRAULIC CHUCK, NEW HI-POWER MILLING CHUCK)

● For jet through use.



● Model Description

PJC **12** - **6**
 ● Collet inner diameter
 ● Collet outer diameter
 ● PJC Collet



Model	ϕd	ϕD	ϕD_1	A	L	E				
PJC12- 6 ※	6	12	20.4	5.4	40	35				
- 8 ※	8					37				
-10 ※	10					39				
PJC16- 6	6	16	23	6.0	54	39				
- 8	8					40				
-10	10					45				
-12	12					48				
PJC20- 3	3					20	27	5.2	61	31
- 4	4	39								
- 5	5	40								
- 6	6	45								
- 7	7	48								
- 8	8	5.7	61	40						
- 9	9			45						
-10	10			45						
-11	11			45						
-12	12	6.4	61	5.7	61					45
-13	13									45
-14	14									45
-15	15									45
-16	16	7.3	50	50	50	50				

Model	ϕd	ϕD	ϕD_1	A	L	E				
PJC25- 6	6	25	32.5	5	68	39				
- 8	8					40				
-10	10					45				
-12	12					50				
-16	16					53				
-18	18	5.4	55							
-20	20	5.8	55							
-20	20	6.5	56							
PJC32- 6	6	32	39	5	74	39				
- 8	8					40				
-10	10					45				
-12	12					50				
-14	14					53				
-16	16					56				
-20	20					56				
-25	25					5.4	61			
PJC42-16	16					42	50.5	5	83	53
-20	20									56
-25	25	61								
-25	25	61								
-32	32	66								

1. For both MEGA-D/DS and HMC Types, when using the PJC collet, the coolant is jet through.

2. ※PJC12 collets are dedicated for HMC12J and cannot be used with hydraulic chucks.

ACCESSORIES

Through Tool

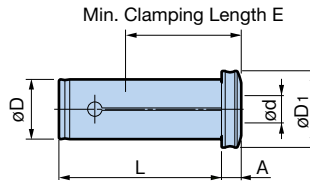
PSC Straight Collet (For MEGA DOUBLE POWER CHUCK, HYDRAULIC CHUCK, NEW HI-POWER MILLING CHUCK)

● For tools with oil holes.

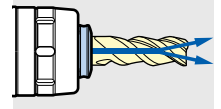


● Model Description

- PSC** **20** - **3**
- Collet inner diameter
 - Collet outer diameter
 - PSC Collet



Coolant through tool



Model	ød	øD	øD ₁	A	L	E
PSC20- 3	3	20	27	7.7	61	31
- 4	4			7.5		
- 5	5			7.5		
- 6	6			8.2		39
- 7	7					40
- 8	8					40
- 9	9					45
-10	10					50
-11	11					
-12	12					
-13	13					
-14	14					
-15	15					8.7
-16	16			28		

※ For both MEGA-D/DS and HMC Types, when using the PSC collet, the coolant is through-tool.

Model	ød	øD	øD ₁	A	L	E	
PSC32- 6	6	32	38	7.5	74	39	
- 7	7			8.2		40	
- 8	8					45	
- 9	9					8.7	50
-10	10			51			
-11	11						53
-12	12			56			
-13	13						59
-14	14						
-15	15			61			
-16	16						9.2
-18	18			9.5			
-19	19						9.5
-20	20			9.5			
-21	21					9.5	
-22	22			9.5			
-23	23					9.5	
-24	24			9.5			
-25	25					9.5	

PS Ring



For Through Tools

Specially designed sealant is used inside the PSC Straight Collet.

(The PS Ring must be replaced if damage thereto is causing coolant to leak.)

Model	Body Model
PS-0304	PSC□-3, 4
-0405	5
-0506	6
-0607	7
-0708	8
-0809	9

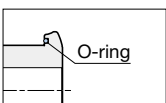
1 bag/5 pcs (same size)

Model	Body Model
PS-0910	PSC□-10
-1011	11
-1112	12
-1213	13
-1314	14
-1415	15
-1516	16

Model	Body Model
PS-1718	PSC32-18
-1819	19
-1920	20
-2021	21
-2223	22,23
-2324	24
-2526	25

O-ring for maintenance (common for PJC, PSC)

2-piece set



Replace if the O-ring is damaged.

Model	Collet Model	Model	Collet Model
PJC16 OR-2P	PJC16	PJC32 OR-2P	PJC32, PSC32
20 OR-2P	PJC20, PSC20	42 OR-2P	PJC42
25 OR-2P	PJC25		

ACCESSORIES

Oil Hole

Straight Collet (For MEGA DOUBLE POWER CHUCK NEW HI-POWER MILLING CHUCK)

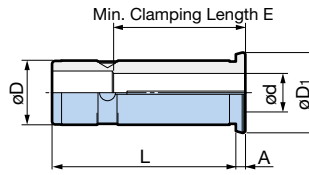
● For tools with oil holes.



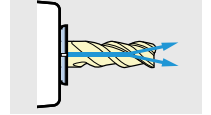
● Model Description

OCA **16** - **6**

- Collet inner diameter
- Collet outer diameter
- Oil Hole Straight Collet



Coolant through tool



Model	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	A	L	E
OCA16- 6	6	16	21	3	55	36
- 8	8					37
-10	10					38
-12	12					42
OCA20- 6	6	20	25	4	58	36
- 8	8					37
-10	10					38
-12	12			3		42
-14	14					52
-16	16					52
OCA25- 6	6	25	30	4.5	68	36
- 8	8					37
-10	10					38
-12	12					3.5
-14	14			52		
-16	16					
-18	18					
-20	20					

1. Capable of supplying coolant through tool. Use with cutting tools with oil holes.

2. For the MEGA DS chuck, use the PJC or PSC Collet.

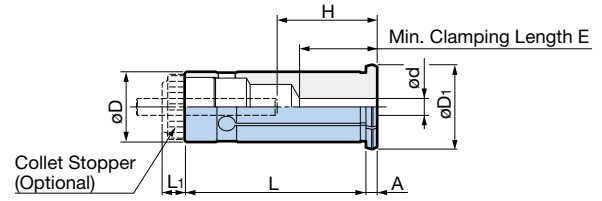
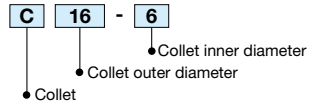
Model	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	A	L	E	
OCA32- 6	6	32	37	4.5	75	36	
- 8	8					37	
-10	10					38	
-12	12					44	
-13	13					46	
-14	14			48			
-15	15			50			
-16	16			3.5		52	
-17	17						
-18	18						
-19	19						
-20	20						
-21	21						
-22	22						
-23	23						
-24	24						
-25	25						
-27	27						
-28	28						
-29	29						
OCA42- 6	6	42	48	4.5	75	36	
- 8	8					37	
-10	10					38	
-12	12					44	
-16	16					3.5	52
-19	19						
-20	20						
-24	24						
-25	25						
-31	31						
-32	32			58			

Straight Collet (For MEGA DOUBLE POWER CHUCK NEW Hi-POWER MILLING CHUCK)

- Reduction sleeve for clamping smaller diameter cylindrical shank tool.



● Model Description



Model	ϕd	ϕD	ϕD_1	A	L	L ₁	E	H		Compatible Collet Stopper (Optional)	
								Min.	Max.		
C16- 6	6	16	21	3	49	6	30	30	30	AC16CS	
- 8	8							32	32		
-10	10							37	37		
-12	12							37	37		
C20- 6	6	20	25	4	56	8	30	30	48	AC20CS	
- 8	8							32			32
-10	10							37			37
-12	12							40			40
-14	14							40			40
-16 ※	16							—			—
AC20-16	16	8	46	48	AC20CS (Optional accessory)						
C20-18 ※	18	3	49	—	50	—	—	—	—		
C25- 6	6	25	30	4	64.5	8	30	30	58	AC25CS	
- 8	8							32			32
-10	10							37			37
-12	12							45			45
-14	14							46			46
-16	16							48			48
-18	18	52	52								
-20	20	52	52								

Model	ϕd	ϕD	ϕD_1	A	L	L ₁	E	H		Compatible Collet Stopper (Optional)					
								Min.	Max.						
C32- 6	6	32	37	5.5	68.5	10	30	30	62	AC32CS					
- 8	8							32			32				
-10	10							37			37				
-12	12							40			40				
-14	14							46			46				
-16	16							50			50				
-17	17							50			50				
-18	18							50			50				
-19	19							52			52				
-20	20							52			52				
-22	22							55			55				
-23	23							55			55				
-24	24	55	55												
-25	25	55	55												
-30 ※	30	3.5	61.5	—	65	—	—	—							
C42- 6	6	42	48	7	82	10	30	30	77	AC42CS					
- 8	8							34			34				
-10	10							40			40				
-12	12							46			46				
-16	16							46			46				
-20	20							52			52				
-25	25							57			57				
-31	31							62			62				
-32	32							62			62				
-40 ※	40							4			75	—	79	—	—


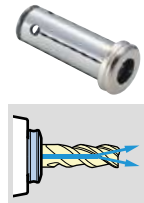
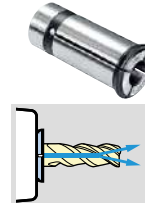
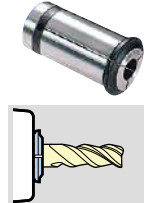
1. H max. are the figures with the collet stopper (optional) mounted.

- ※ indicates that collet stopper (optional) cannot be mounted.
- Collet stopper is included with AC20-16.

ACCESSORIES

Straight Collet Compatibility Table

《MEGA DOUBLE POWER CHUCK/NEW HI-POWER MILLING CHUCK》

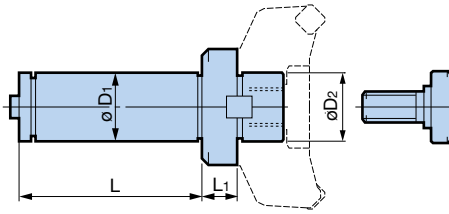
Model					
	Tool periphery	Coolant through tool	Coolant through tool	No coolant	
	PJC Collet	PSC Collet	OCA Collet	C Collet	
				Without collet stopper	With collet stopper
BBT30 -MEGA20D - 65	x	x	○	○	x
BBT30 -MEGA20DS - 65	○	○	x	○	x
HSK-A50 -MEGA20D - 85	○	○	○	○	x
HSK-A100-MEGA25D -105			○		
HSK-A100-MEGA42D -115			x		
HSK-A100-MEGA42DS -115					
C5 -MEGA25DS - 75A	○	○	x	○	x
C6 -MEGA25DS - 75A	x	x			
HSK-A50 -HMC32S -115	x	x	x	○	x
HSK-A100-HMC25S -105	○	○	○		
HSK-A100-HMC42S -115	x	x	○		
C5 -HMC25S - 75	x	x	○	○	x
C5 -HMC32S - 85	○	○			
C6 -HMC25S - 75	x	x	x	○	x
CKB5 -HMC20S	x	x	x	○	x
CKB6 -HMC20					

○=OK x=NG

Adjustable

FACE MILL ARBOR (For NEW Hi-POWER MILLING CHUCK)

● An arbor for mounting JIS Standard B4114 face milling cutters.



● Model Description

AC **32** - **F3**

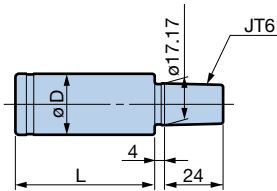
- Face milling diameter inches
- Body model size
- Adjustable collet

Model	ϕD_1	ϕD_2	L	L_1	Cutter diameter
AC32-F3	32	25.4	85	15.5	80 (3")
-F4		31.75		17.5	105 (4")
AC42-F3	42	25.4	105	16	80 (3")
-F4		31.75		18	105 (4")

1. Axial Adjusting Screw is required for axial adjustment. Refer to G25
2. Use JIS B4114 face milling cutters.

JACOBS TAPER ARBOR (For NEW Hi-POWER MILLING CHUCK)

● An arbor for mounting Jacobs taper holders such as keyless chucks.



● Model Description

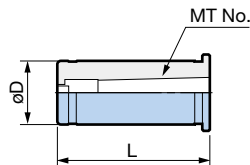
C **20** - **JT6**

- Jacobs Taper No.
- Body model size
- Collet

Model	ϕD	L
C20-JT6	20	52
C25-JT6	25	57
C32-JT6	32	65
C42-JT6	42	79

MORSE TAPER HOLDER (For NEW Hi-POWER MILLING CHUCK)

● A holder for mounting Morse taper shank drills or reamers.



● Model Description

C **20** - **MT1**

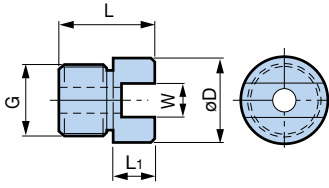
- Morse Taper No.
- Body model size
- Collet

Model	MT No.	ϕD	L
C20-MT1	MT1	20	60
-MT2	MT2		72
C25-MT1	MT1	25	60
-MT2	MT2		72
C32-MT1	MT1	32	59.5
-MT2	MT2		72
-MT3	MT3		90
C42-MT1	MT1	42	59.5
-MT2	MT2		72
-MT3	MT3		90
-MT4	MT4		114

ACCESSORIES

Axial Adjusting Screw (For MEGA DOUBLE POWER CHUCK NEW Hi-POWER MILLING CHUCK)

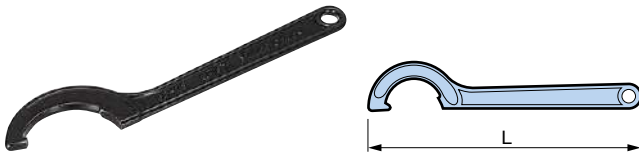
- To be mounted in the chuck body for adjusting cutting tool projection length.



Model	øD	L	L ₁	G	W	Body Model	
						MEGA DOUBLE POWER CHUCK	NEW Hi-POWER MILLING CHUCK
HMA-M16S	19	27	6	M16P1.5	10	MEGA20D(DS) MEGA25D(DS) MEGA32D(DS)(BBT30/40, BDV40)	HMC20S, HMC20 HMC25S, HMC25 HMC32S
HMA-M24	30	36	9.5	M24P1.5	10	MEGA32D(DS)(BBT50, BDV50) MEGA42D(DS)(BBT50, BDV50) MEGA50D(DS)(BBT50)	HMC32, HMC42S HMC42

1. Use hex socket head screws (M8) for NEW Hi-POWER MILLING CHUCK/HMC16S and MEGA DOUBLE POWER CHUCK/MEGA16D(DS).
2. Adjusting screws may not always be usable depending on the body model. Confirm with the body dimensions table.

Wrench (For NEW Hi-POWER MILLING CHUCK Runout Adjustable RA HOLDER)



Model	L	Nut Model Outer diameter ø	Body Model
FK31- 33	153	31 - 33	HMC12J
FK45- 50L	242	43 - 50	HMC16S HMC20S
FK52- 55	220	52 - 55	HMC25S (BT/BBT30)
FK58- 62	240	58 - 62	HMC20 HMC25
FK58- 62L	293		HMC25S HMC32S (BT/BBT30-HSK-A50)
FK68- 75L	319	68 - 75	HMC32S
FK80- 90	280	80 - 90	HMC32
FK80- 90L	390		HMC42S
FK92-100	280	92 - 100	HMC42 HMC50.8

For confirming gripping force Grip Bar (for HYDRAULIC CHUCK)

- Use to periodically confirm the gripping force of the Hydraulic Chuck.

For details of usage, refer to the Hydraulic Chuck operation manual.



Model	Chuck bore	Model	Chuck bore	Model	Chuck bore	Model	Chuck bore	Model	Chuck bore
TSB 3	3	TSB 8	8	TSB13	13	TSB19	19	TSB28	28
3.175	3.175	9	9	14	14	20	20	31	31
4	4	10	10	15	15	22	22	32	32
5	5	11	11	16	16	24	24	42	42
6	6	12	12	18	18	25	25		
7	7								

Mega Wrench (For MEGA CHUCK Series / NEW HI-POWER MILLING CHUCK)

- One-way clutch system applies tightening force to entire nut periphery evenly.
- Prevents wrench slippage for safe and secure tightening operation.



Model	Wrench Diameter ød	Body Model		
		MEGA MICRO	MEGA NEW BABY CHUCK	MEGA E CHUCK
MGR10	10	MEGA3S		
MGR12	12	MEGA4S		
MGR14	14	MEGA6S		
MGR18	18	MEGA8S		
MGR20	20		MEGA 6N	
MGR25	25		MEGA 8N	MEGA 6E
MGR30	30		MEGA10N	MEGA 8E
MGR35	35		MEGA13N	MEGA10E
MGR42	42		MEGA16N	MEGA13E
MGR46	46		MEGA20N	

Model	Wrench Diameter ød	Body Model				
		MEGA NEW BABY CHUCK	MEGA DOUBLE POWER CHUCK	NEW HI-POWER MILLING CHUCK	MEGA PERFECT GRIP	MEGA ER GRIP
MGR 30L	30					MEGAER16
MGR 35L	35					MEGAER20
MGR 42L	42		MEGA16D/DS-□A (BBT40, BDV40, HSK-A63/F63)			MEGAER25
MGR 43L	43			HMC16S		
MGR 46L	46		MEGA16D/DS (BBT30/50, BDV50, HSK-A40/A50/A100/A125)		MEGA16DPG	
MGR 50L	50		MEGA20D/DS-□A (BBT40, BDV40, HSK-A63/F63) MEGA20D/DS (BBT30, HSK-A50)	HMC20S		MEGAER32
MGR 55L	55			HMC25S (BT/BBT30)		
MGR 59L	59			HMC25S		
MGR 60L	60	MEGA25N	MEGA20D/DS (BBT50, BDV50, HSK-A100/A125)	HMC20	MEGA20DPG	
MGR 62L	62		MEGA25D/DS-□A (BBT40, BDV40, HSK-A63/F63)	HMC25 HMC32S (BT/BBT30)		
MGR 68L	68			HMC32S		
MGR 70L	70		MEGA25D/DS (BBT50, BDV50, HSK-A100/A125) MEGA32D/DS-□A (BBT40, BDV40, HSK-A63/F63)		MEGA25DPG	
MGR 80L	80		MEGA32D/DS (BBT50, BDV50, HSK-A100/A125)	HMC32	MEGA32DPG	
MGR 85L	85			HMC42S		
MGR 99L	99		MEGA42D/DS	HMC42		
MGR105L	105		MEGA50D/DS			

MEGA TORQUE WRENCH (for MEGA CHUCK Series)

- Mega Wrench with torque limiter.



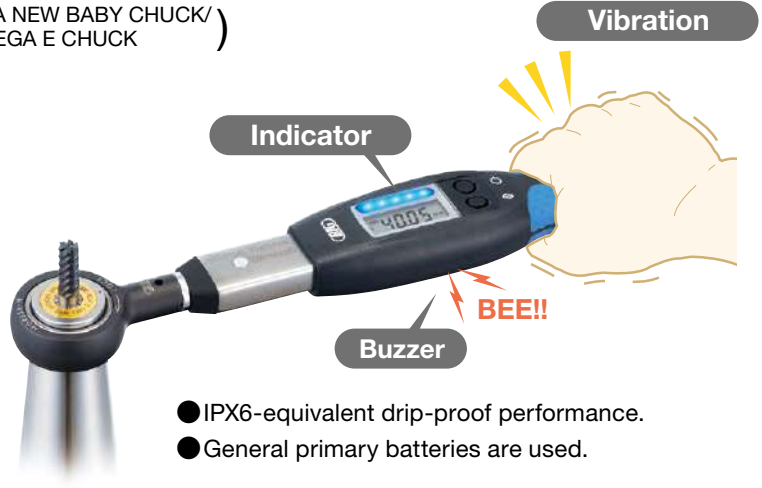
Model	Wrench Diameter ød	Body Model		
		MEGA MICRO	MEGA NEW BABY CHUCK	MEGA E CHUCK
MGR10TL	10	MEGA3S		
MGR12TL	12	MEGA4S		
MGR12TLS ※				
MGR14TL	14	MEGA6S		
MGR14TLS ※				
MGR18TL	18	MEGA8S		
MGR20TL				
MGR20TLS ※	20		MEGA 6N	
MGR25TL				
MGR25TLS ※	25		MEGA 8N	MEGA 6E
MGR30TL				
MGR30TLS ※ NEW	30		MEGA10N	MEGA 8E
MGR35TL				
MGR42TL	42		MEGA16N	MEGA13E
MGR46TL				
	46		MEGA20N	

1. Use TLS models marked with ※ for ø3mm or smaller shank tools.

ACCESSORIES

Digital MEGA TORQUE WRENCH (For MEGA NEW BABY CHUCK/ MEGA E CHUCK)

- Essential for high-precision setup.
- Indicates correct tightening of collet chucks with senses of touch, vision and hearing.



- IPX6-equivalent drip-proof performance.
- General primary batteries are used.

● Digital Bar Graph

Analog-like operations with bar graph display linked to the torque figure.



● Recommended torque values preinstalled

Correct tightening values are preinstalled in the body for secure clamping operations.

(Example) For MEGA NEW BABY CHUCK (MEGA6N)

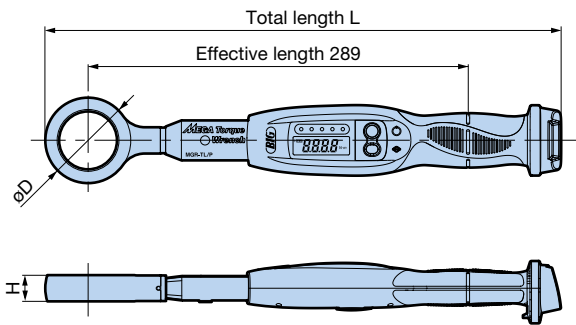


Select the Collet Chuck type



Automatically set to the recommended torque

● MEGA TORQUE WRENCH Body



Model	MGR-TL/P
Torque setting range	5 - 50N·m
Minimum reading	0.01N·m
Display	7-segment LCD4 digit display High precision LED indicator 5-level display
Basic function	Battery residual amount display 3 levels Peak hold function Auto power OFF (1 hour) Tightening complete alarm → Buzzer sound and vibration All LCD display and LED indicators turned off at load of 60 N·m
Power supply	Two AA batteries (alkaline batteries/NiMH rechargeable batteries)
Continuous use time	About 70 hours (NiMH rechargeable batteries/ Tightening condition: 100 times/h)
Use temperature range (Recommended range)	0°C - 40°C (15°C - 30°C)/no condensation
Body weight	520g (Torque wrench body only, MEGA WRENCH ADAPTER, batteries not included)
Standard accessory	User's Manual Two AA alkaline batteries Exclusive storage case

● MEGA WRENCH ADAPTER (Optional)



Model	Part dimensions (mm)			Weight (kg)	Compatible Collet Chuck	
	L (Total length)	øD	H		MEGA NEW BABY CHUCK	MEGA E CHUCK
MGR20A-N	377	36	16	0.13	MEGA 6N	—
MGR25A-N	381	44	20	0.18	MEGA 8N	MEGA 6E
MGR30A-N	384	50	20	0.22	MEGA10N	MEGA 8E
MGR35A-N	386.5	55	20	0.23	MEGA13N	MEGA10E
MGR42A-N	390	62	20	0.25	MEGA16N	MEGA13E
MGR46A-N	392	66	20	0.27	MEGA20N	—

● Set



Model	Set Contents
SMGR-TL/P	· Main body · MEGA WRENCH ADAPTER (MGR20 - 46A-N)6 types

Exclusive storage case

Handy storage case capable of containing the BODY and 6 different MEGA WRENCH ADAPTERS.

Provided with the main body (MGR-TL/P) and sets (SMGR-TL/P)



ACCESSORIES

ACCESSORIES

Coolant nut

BABY PERFECT SEAL PAT. (for NEW BABY CHUCK) Clamping diameter: $\phi 3 - \phi 20$

Coolant Pressure
7MPa



● Model Description

BPS **6** - **03035**

- Clamping diameter: $\phi 3 - \phi 3.5$
- Body model size
- Abbreviation of BABY PERFECT SEAL

Coolant through tool

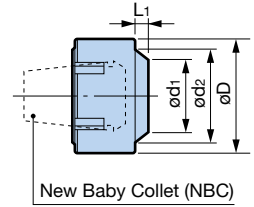


With PS Ring

Jet Through



Without PS Ring



No coolant collet required!

- Unique concept of sealing function.

Higher pressure coolant provides stronger contact of the PS Ring to the tool shank and increases sealing performance.

Model	ϕD	ϕd_1	ϕd_2	L1	Compatible tool shank diameter	Collet Model
BPS 6-03035	20	11.2	14.7	2.3	3 - 3.5	NBC 6- 3 - 3.75
-0304					3 - 4	- 3 - 4.25
-04045					4 - 4.5	- 4 - 4.75
-0405					4 - 5	- 4 - 5.25
-05055					5 - 5.5	- 5 - 5.75
-0506					5 - 6	- 5 - 6
BPS 8-03035	25	12.2	19.2	3.9	3 - 3.5	NBC 8- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045					4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2		5 - 5.5	- 5 - 6	
-0506				5 - 6	- 5 - 6.5	
-06065		15.2		6 - 6.5	- 6 - 7	
-0607				6 - 7	- 6 - 7.5	
-07075		16.2		7 - 7.5	- 7 - 8	
-0708				7 - 8	- 7 - 8	
BPS10-03035	30	12.2	23.9	3.9	3 - 3.5	NBC10- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045					4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2		5 - 5.5	- 5 - 6	
-0506				5 - 6	- 5 - 6.5	
-06065		15.2		6 - 6.5	- 6 - 7	
-0607				6 - 7	- 6 - 7.5	
-07075		16.2		7 - 7.5	- 7 - 8	
-0708				7 - 8	- 7 - 8.5	
-08085		18.4		8 - 8.5	- 8 - 9	
-0809				8 - 9	- 8 - 9.5	
-09095		19.2		9 - 9.5	- 9 - 10	
-0910				9 - 10	- 9 - 10	

Model	ϕD	ϕd_1	ϕd_2	L1	Compatible tool shank diameter	Collet Model
BPS13-03035	35	12.2	28.7	4.3	3 - 3.5	NBC13- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045					4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055					5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		6 - 6.5	- 6 - 7	
-0607				6 - 7	- 6 - 7.5	
-07075		16.2		7 - 7.5	- 7 - 8	
-0708				7 - 8	- 7 - 8.5	
-08085		18.4		8 - 8.5	- 8 - 9	
-0809				8 - 9	- 8 - 9.5	
-09095		19.4		9 - 9.5	- 9 - 10	
-0910				9 - 10	- 9 - 10.5	
-10105	20.3	10 - 10.5	- 10 - 11			
-1011		10 - 11	- 10 - 11.5			
-11115	21.2	11 - 11.5	- 11 - 12			
-1112		11 - 12	- 11 - 12.5			
-12125	22.2	12 - 12.5	- 12 - 13			
-1213		12 - 13	- 12 - 13			

1. One PS Ring is included.

For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

PS Ring



For Through Tools

Specially designed sealant is used inside the PERFECT SEAL.

(The PS Ring must be replaced if damage thereto is causing coolant to leak.)

Model	Body Model	Model	Body Model	Model	Body Model
PS-0304	BPS□-03035,0304	PS-0809	BPS□-08085,0809	PS-1314	BPS□-1314
0405	04045,0405	0910	09095,0910	1415	1415
0506	05055,0506	1011	10105,1011	1516	1516
0607	06065,0607	1112	11115,1112	1617	1617
0708	07075,0708	1213	12125,1213	1718	1718
				1819	1819
				1920	1920

1 bag/5 pcs (same size)

ACCESSORIES

Coolant nut

BABY PERFECT SEAL PAT. (for NEW BABY CHUCK) Clamping diameter: $\varnothing 3 - \varnothing 20$

Coolant Pressure
7MPa



● Model Description

BPS **16** - **03035**

- Clamping diameter: $\varnothing 3 - \varnothing 3.5$
- Body model size
- Abbreviation of BABY PERFECT SEAL

Coolant through tool

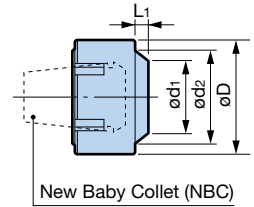


With PS Ring

Jet Through



Without PS Ring



New Baby Collet (NBC)

No coolant collet required!

● Unique concept of sealing function.

Higher pressure coolant provides stronger contact of the PS Ring to the tool shank and increases sealing performance.

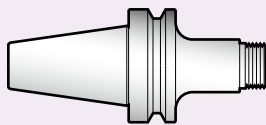
Model	$\varnothing D$	$\varnothing d_1$	$\varnothing d_2$	L ₁	Compatible tool shank diameter	Collet Model
BPS16-03035	42	12.2	34.4	4.0	3 - 3.5	NBC16- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045					4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2	34.4	4.3	5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2	34.4	4.3	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2	34.4	4.3	7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4	34.4	4.6	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.4	34.4	4.6	9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10.5
-10105		20.2	34.4	5.1	10 - 10.5	-10 - 11
-1011					10 - 11	-10 - 11.5
-11115	21.2	34.4	5.1	11 - 11.5	-11 - 12	
-1112				11 - 12	-11 - 12.5	
-12125	22.2	34.4	4.1	12 - 12.5	-12 - 13	
-1213				12 - 13	-12 - 13.5	
-1314	24.2	34.4	4.1	13 - 14	-13 - 14.5	
-1415	25.2	34.4	4.1	14 - 15	-14 - 15.5	
-1516	26.2	34.4	4.1	15 - 16	-15 - 16	

1. One PS Ring is included.

For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

Model	$\varnothing D$	$\varnothing d_1$	$\varnothing d_2$	L ₁	Compatible tool shank diameter	Collet Model
BPS20-03035	46	12.2	38.3	4.0	3 - 3.5	NBC20- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045					4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2	38.3	4.3	5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2	38.3	4.3	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2	38.3	4.3	7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4	38.3	4.6	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.4	38.3	4.6	9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10.5
-10105		20.2	38.3	5.1	10 - 10.5	-10 - 11
-1011					10 - 11	-10 - 11.5
-11115	21.2	38.3	5.1	11 - 11.5	-11 - 12	
-1112				11 - 12	-11 - 12.5	
-12125	22.2	38.3	5.2	12 - 12.5	-12 - 13	
-1213				12 - 13	-12 - 13.5	
-1314	24.2	38.3	5.2	13 - 14	-13 - 14.5	
-1415	25.2	38.3	5.2	14 - 15	-14 - 15.5	
-1516	26.2	38.3	5.2	15 - 16	-15 - 16.5	
-1617	27.2	38.3	4.6	16 - 17	-16 - 17.5	
-1718	28.2	38.3	4.6	17 - 18	-17 - 18.5	
-1819	29.2	38.3	4.6	18 - 19	-18 - 19.5	
-1920	30.2	38.3	4.6	19 - 20	-19 - 20	

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.



NEW BABY CHUCK Model + NL
BT30-NBS6-45/NL

(NL at the end of the model number means nut not attached)

+



NBC Collet
NBC6-3AA

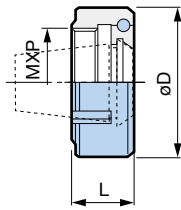
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BABY PERFECT SEAL Model
BPS6-03035

New Baby Nut PAT. (for NEW BABY CHUCK)

- Thrust ball bearings prevent torsion on the collet. Accurate and smooth tightening is achieved.



With mechanism preventing thrust ball projection due to centrifugal force

Model	øD	L	M x P	Body Model
NBN 6	20	9.5	12 x 1	NBS 6
NBN 8	25	11	16 x 1	NBS 8
NBN 10	30	12.5	21 x 1	NBS 10
NBN 13	35	16	26 x 1	NBS 13
NBN 16	42	16	32 x 1	NBS 16
NBN 20	46	16	36 x 1	NBS 20

Tap Adjusting Screw

- For synchronized tapping.

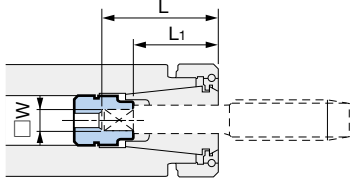


Fig. 1

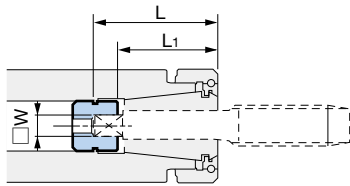
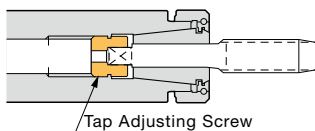


Fig. 2

Mounted in the New Baby Chuck body, the Tap Adjusting Screw holds the square of the tap and receives the tapping torque.



Tap Adjusting Screw

Model	Fig.	Tap size	L	L ₁	□ W	Body Model	
NBA10-M 8	1	M 8	34	26	5	NBS10	
-M10		M 10	36	27	5.5		
NBA13-M 8	1	M 8	36	28	5	NBS13	
-M10		M 10	37	28	5.5		
-M12		M 12	40	28	6.5		
-M14		M 14	40	34	8		
NBA16-M10	1	M 10	40	29	5.5	NBS16	
-M12		M 12	42	29.5	6.5		
-M14		M 14	44	32	8		
-M16		M 16	47	38	10		
NBA20-M12	1	M 12	42	30	6.5	NBS20	
-M14		M 14	45	34	8		
-M16		M 16	49	37	10		
-M18※		2	M 18	53	39		11
-M20※			M 20				12

1. Cannot be used with machines without synchronized tapping function.
2. L and L₁ are dimensions when NBN nut is used.
3. Use a tap with shank length L₁ or more.
4. For ※ models, shrink of the collet causes interference with the Tap Adjusting Screw. Use only nominal size of the collets, i.e. NBC20-14.5AA cannot be used with NBA20-M18 to hold M18 JIS tap, and NBC20-15.5AA cannot be used with NBA20-M20 to hold M20 JIS tap.
5. Cannot be used with NEW BABY ENDMILL COLLET or FONBC Coolant Collet.

ACCESSORIES

New Baby Wrench (for NEW BABY CHUCK)

- To achieve the ideal tightening force for the NEW BABY CHUCK, the length and hook part of this wrench have been specially designed.



Model	Nut Model
NBK 6	NBN 6/BPS 6
NBK 8	NBN 8/BPS 8
NBK 10	NBN10/BPS10
NBK 13	NBN13/BPS13
NBK 16	NBN16/BPS16
NBK 20	NBN20/BPS20

TORQUE WRENCH (for NEW BABY CHUCK)

- Wrench with torque limiter



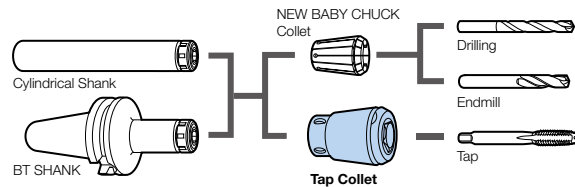
Model	Nut Model
NBK 6TL	NBN 6/BPS 6
NBK 6TLS ※	
NBK 8TL	NBN 8/BPS 8
NBK 8TLS ※	
NBK10TL	NBN10/BPS10
NBK10TLS ※ NEW	
NBK13TL	NBN13/BPS13
NBK16TL	NBN16/BPS16
NBK20TL	NBN20/BPS20

1. Use TLS models marked with ※ for ø3mm or smaller shank tools.

Tap Collet (For NEW BABY CHUCK) M2 - M12

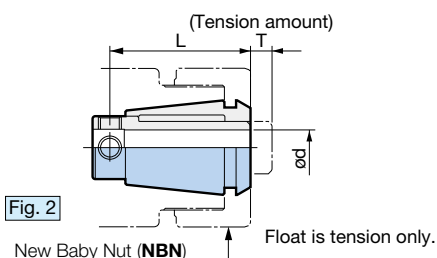
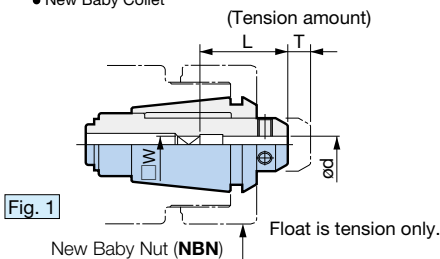
- NEW BABY system offers an abundant variety of bodies that can be used as tappers with float mechanisms.
- Rapid support for ultra-short or long taper requirements with the standard product.

Transform the NEW BABY CHUCK into a TAPPER!!



Model Description

- NBC 10 - M2**
- Body size
 - Tap size
 - New Baby Collet



Model	Fig.	ød	L	□ W	T	Body Model
NBC10-M 2	1	3	15.5	2.6	7	NBS10
-M 3	2	4	24.5	-		
-M 4		5				
-M 5		5.5				
-M 6		6				
NBC13-M 3	1	4	16	3.3	7	NBS13
-M 4	2	5	26.5	-		
-M 5		5.5				
-M 6		6				
-M 8		6.2				
-M10		7				
NBC16-M 5		2			5.5	29
-M 6	6					
-M 8	6.2					
-M10	7					
-M12	8.5					
NBC20-M 5	2	5.5	34	-	10	NBS20
-M 6		6				
-M 8		6.2				
-M10		7				
-M12		8.5				

- Compression is not available, so take care when programming.
- Standard type bodies and nuts can be applied. However, use with Perfect Seal (BPS) is not available.

ACCESSORIES

PULLSTUD BOLT

High-quality, durable PULLSTUD BOLT using highly reliable material.

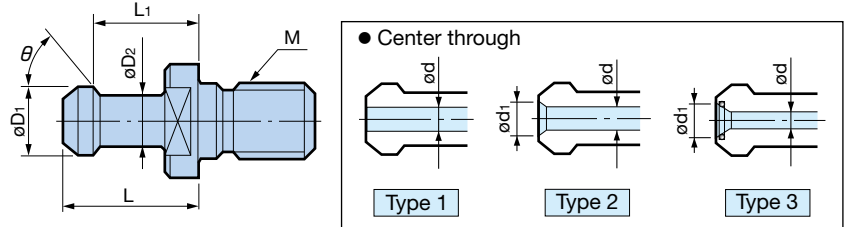


Caution

- Only use pullstud bolts made by BIG.
- Accuracy is not guaranteed if poor-quality pullstud bolts are used.

When Purchasing

Dimensions of pullstud bolts vary depending on models or specifications of the machines. Be sure to confirm them by referring to the machine specification sheet. Machines with coolant-through-spindle capability in particular may have different sealing methods depending on coolant discharge pressure even if they have the same model number, thus different pullstud bolt models may be required. Please attach a copy of the pullstud bolt drawing from the machine specification sheet when ordering.



Taper	Model	Standard	øD ₁	øD ₂	L	L ₁	θ	ød	ød ₁	Center Through Type	Machine manufacturer	Remarks	
BBT30 BT30 (M12)	30PMG	JIS	12	8	23.4	18.4	75	4.0		No hole			
	30PMGH									1			
	30PMGH2									3	YASDA		
	P30T-1MG	MAS-I	11	7	23	18	45	2.5		No hole			
	P30T-1MGH									1			
	P30T-2MG	MAS-II	11	7	23	18	60	2.5		No hole			
	P30T-2MGH									1			
	30P-1MGH									1	FANUC		
	BBT40 BT40 (M16)	P30T-2MGH3	Manufacturer standard	11	7.5	23	18	60	2.5			1	BROTHER
PMO30MG		3										DMG MORI	
40PMG		No hole											
40PMGH		JIS	19	14	29	23	75	7.0	5.0		1	MAKINO	Ground end face
40PMGH2											2	OKUMA	Ground end face
40PMGH7											1	YASDA	With ø3 side hole
40PMGH4A											3	YASDA	
40PMGH11											10.0	YASDA	
40PMGH12											1	MITSUI SEIKI	
P40T-1MG		MAS-I	15	10	35	28	45	3.0	5.5		No hole		
P40T-1MGHA											1		
P40T-1MGH1											2		
P40T-1MGH4											3	OKUMA	
P40T-1MGH7											1	MAKINO	Ground end face
P40T-1MGH8A											3	JTEKT	
P40T-2MG	MAS-II	15	10	35	28	60	3.0	5.5		No hole			
P40T-2MGHA										1			
P40T-2MGH8										2			
P40T-2MGH1										3			
MP40MG										No hole			
POM40MG										1	MITSUI SEIKI		
Manufacturer standard	PMO40MG	2	DMG MORI, SHIZUOKA										
	PMO40MG	3	DMG MORI										
	PYN40MG	1	MAZAK										
		7.0	10.0	3									

1. JIS: In accordance with JIS B6339-3:2011 JJ (except coolant hole).

<Sizes and standards other than the above are also available.>

(Reference) JIS notation

PULLSTUD BOLT	JIS B6339-3
MAS-I	From JD/JF
MAS-II	
JIS	From JJ

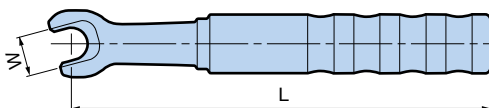


Tool Steel
X40CrMOV51

MEGA PULLSTUD BOLT

MEGA PULLSTUD BOLTS have **MG** in the model. MEGA PULLSTUD BOLTS use tool steel for increased tensile strength. We recommend MEGA PULLSTUD BOLTS for use with Dual Contact BIG-PLUS spindles.

PULLSTUD BOLT Wrench



Taper	Model	W	L	Compatible Pullstud Bolt
BBT30 BT30	PLW30	13	140	JIS, MAS-I, MAS-II 30P-1MGH, P30T-2MGH3, PMO30MG
BBT40 BT40	PLW-40P	19	200	JIS
	PLW-P40T			MAS-I, MAS-II, POM40MG
	PLW-MP40			MP40MG
	PLW-PMO40			PMO40MG
	PLW-PYN40			PYN40MG
BBT50 BT50	PLW-P50T	30	350	MAS-I, MAS-II, POM50, POM50H, POM50H1, POM50H8
PLW-PYN50	PYN50-5			

1. As well as the compatible PULLSTUD BOLT models, those with identical exterior shapes can also be used.

PULLSTUD BOLT

High-quality, durable PULLSTUD BOLT using highly reliable material.

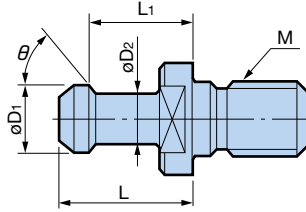


Caution

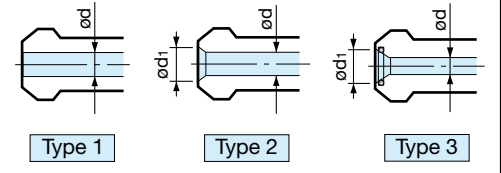
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- Accuracy is not guaranteed if poor-quality pullstud bolts are used.

When Purchasing

Dimensions of pullstud bolts vary depending on models or specifications of the machines. Be sure to confirm them by referring to the machine specification sheet. Machines with coolant-through-spindle capability in particular may have different sealing methods depending on coolant discharge pressure even if they have the same model number, thus different pullstud bolt models may be required. Please attach a copy of the pullstud bolt drawing from the machine specification sheet when ordering.



Center through



Taper	Model	Standard	φD ₁	φD ₂	L	L ₁	θ	φd	φd ₁	Center Through Type	Machine manufacturer	Remarks							
BBT50 BT50 (M24)	50PH	JIS	28	21	34	25	75	10.0		1	MAKINO, KITAMURA	Ground end face							
	50PMGH																		
	50PH2																		
	P50T-1	MAS-I	23	17	45	35	45	6.0	10.4	No hole									
	P50T-1MG																		
	P50T-1H																		
	P50T-1MGH									1								MAKINO	Ground end face
	P50T-1H1																		
	P50T-1H4									3								JTEKT	
	P50T-1H5																		
	P50T-1H8																		
	P50T-1H19									1								DMG MORI	Ground end face
	P50T-2																		
	P50T-2MG									MAS-II	23	17	45	35	60	8.0	11.0	No hole	
	P50T-2H																		
	P50T-2MGH25																		
	P50T-2H4	1																DMG MORI	Ground end face
	P50T-2H14																		
	P50T-2MGH14	2																OKUMA	Ground end face
	P50T-2H11																		
	P50T-2H15																		
	P50T-2H16	3																JTEKT	
	P50T-2H11																		
	MP50	Manufacturer standard	24	18	31	23	90	8.0	11.2									No hole	1
	MP50H1																		
	MP50H3																		
	POM50									1								DMG MORI, OKK, SHIZUOKA	
	POM50H																		
POM50H1	3								DMG MORI										
POM50H8																			
PYN50-5	1									MAZAK	Ground end face								

1. JIS: In accordance with JIS B6339-3:2011 JJ (except coolant hole).

<Sizes and standards other than the above are also available.>

(Reference) JIS notation

PULLSTUD BOLT	JIS B6339-3
MAS-I	From JD/JF
MAS-II	
JIS	From JJ



MEGA PULLSTUD BOLT

MEGA PULLSTUD BOLTS have **MG** in the model. MEGA PULLSTUD BOLTS use tool steel for increased tensile strength. We recommend MEGA PULLSTUD BOLTS for use with Dual Contact BIG-PLUS spindles.

PULLSTUD BOLT

PULLSTUD BOLT

High-quality, durable PULLSTUD BOLT using highly reliable material.



When Purchasing

Dimensions of pullstud bolts vary depending on models or specifications of the machines. Be sure to confirm them by referring to the machine specification sheet.

Machines with coolant-through-spindle capability in particular may have different sealing methods depending on coolant discharge pressure even if they have the same model number, thus different pullstud bolt models may be required. Please attach a copy of the pullstud bolt drawing from the machine specification sheet when ordering.



Caution

- Only use pullstud bolts made by BIG. Accuracy is not guaranteed if poor-quality pullstud bolts are used.

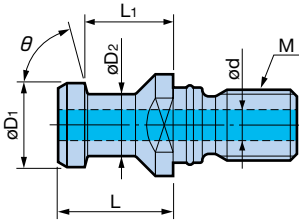


Fig. 1

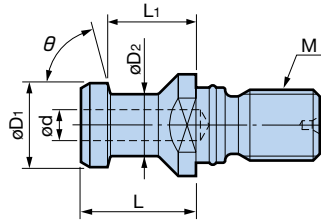


Fig. 2

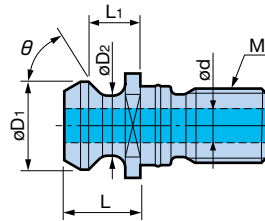


Fig. 3

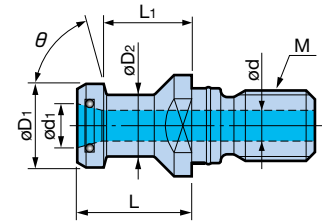


Fig. 4

Taper	Model	Fig.	Standard	ϕD_1	ϕD_2	L	L_1	θ	ϕd	ϕd_1	M	Remarks
#40	PVD40MG	1	DIN FormA ISO FormAD	19	14	26	20	75	7	-	M16	
	PVD40B	2	DIN FormB ISO FormAF	19	14	26	20	75	7	-	M16	Blaind hole
	PVJ40B	3	ISO FormUF	18.95	12.95	16.4	11.15	45	7.35	-	M16	
	PMO40D	4	(DMG MORI)	19	14	26	20	75	7	10	M16	
#50	PVD50	1	DIN FormA ISO FormAD	28	21	34	25	75	11.5	-	M24	
	PVD50B	2	DIN FormB ISO FormAF	28	21	34	25	75	11.5	-	M24	Blaind hole
	PVD50H1	4	(DMG MORI)	28	21	34	25	75	8	11	M24	

1. () is the manufacturer standard.

<Sizes and standards other than the above are also available.>



MEGA PULLSTUD BOLT

MEGA PULLSTUD BOLTS have **MG** in the model.

MEGA PULLSTUD BOLTS use tool steel for increased tensile strength.

We recommend MEGA PULLSTUD BOLTS for use with Dual Contact BIG-PLUS spindles.

ACCESSORIES

Stop Block (for Angle Head)

Setup Information



The **(BIG)** Angle Head utilizes a Locating Pin that engages with the Stop Block, which is mounted on the machine spindle cover to prevent radial movement of the Angle Head during operation. Therefore, it is necessary to use a Stop Block with the proper dimensions to match the Locating Pin of the **(BIG)** Angle Head.
Please contact us if using an existing Stop Block.

Standard setup of the Locating Pin

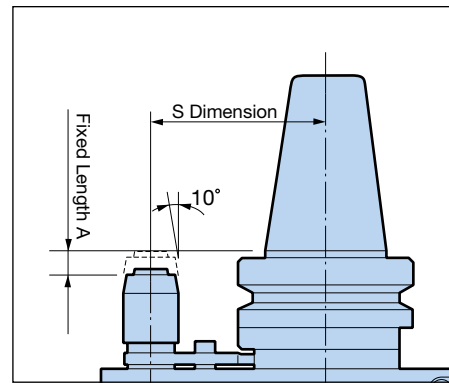
Please note that the "S" dimension and the Fixed Length "A" are not adjustable by the user. If the standard dimensions shown below are not suitable for your machine, please contact us.

<S Dimension>

Distance from center of Angle Head body to center of Locating Pin

<Fixed Length A>

Distance in axial direction from the machine spindle gauge line to the smaller end of the taper of the Locating Pin, when the Locating Pin is properly engaged in the Stop Block.



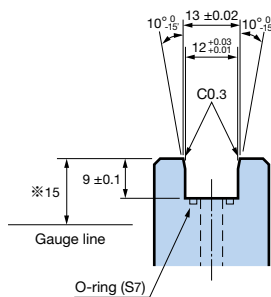
	S Dimension	Fixed Length A
BBT40 / BDV40 / HSK-A63	65	8
BBT50 / BDV50 / HSK-A100	110	6

Stop Block dimensions

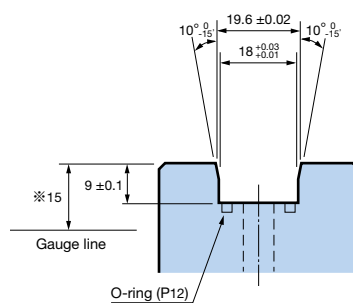


Stop Block

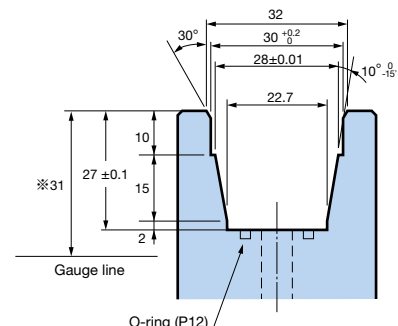
1. When ordering, provide us with the manufacturer, model and specifications of the machine tool, as well as the BIG product model number.
2. Consult us regarding Stop Block and mounting dimensions.
3. Check with the machine tool manufacturer for the shape of the Stop Block, as it will vary for each machine tool model.
4. The dimension from the spindle gauge line to the top of the Stop Block (※) is our default length.



BBT30



BBT40 BBT50 (S = 80)
BDV40 BDV50 (S = 80)
HSK-A63 HSK-A100 (S = 80)



BBT50 (S = 110)
BDV50 (S = 110)
HSK-A100 (S = 110)

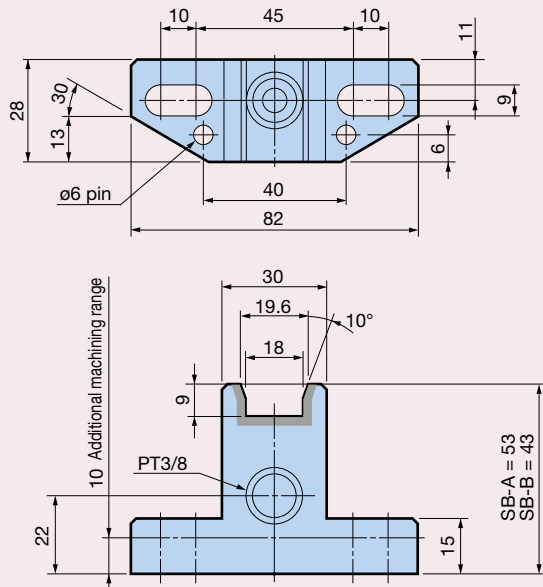
Semi-Finished Stop Block

Semi-Finished Stop Blocks are semi-complete Stop Blocks with groove shapes which mate with a **BIG** Locating Pin. When a Stop Block cannot be purchased from the machine manufacturer, modify the block bottom surface to adjust its height as necessary.

<BBT40/BDV40/HSK-A63>

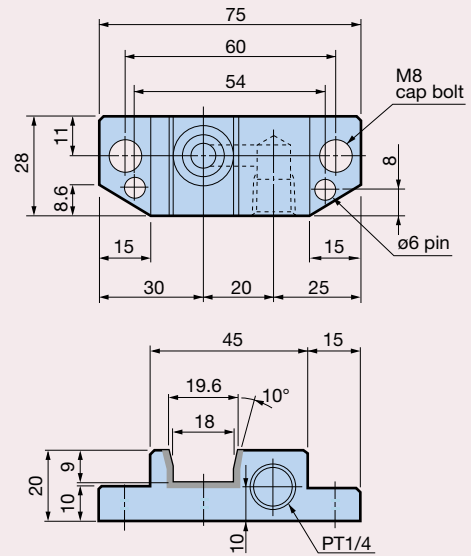
<BBT50/BDV50/HSK-A100> (S=80)

● SB-A Type/SB-B Type



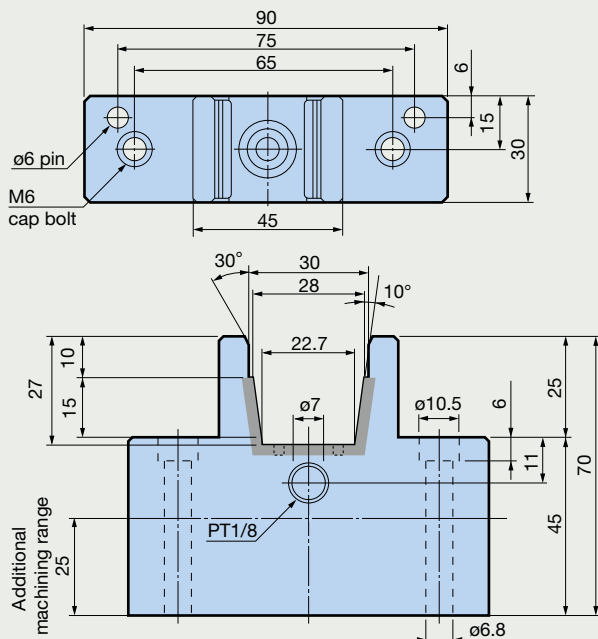
1. Adjust the height of the Stop Block by milling the bottom surface.
2. Press-fit dowel pins ($\phi 6 \times 2$) for fixing.

● SB-F Type



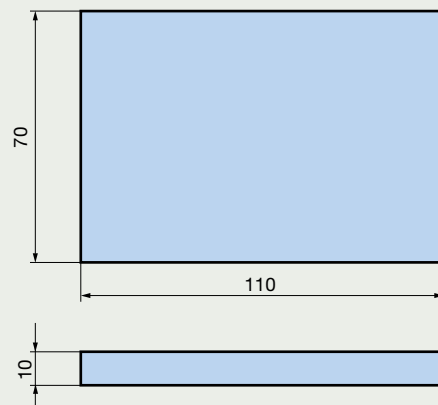
<BBT50/BDV50/HSK-A100> (S = 110)

● SB-G Type



1. Adjust the height of the Stop Block by milling the bottom surface.
2. Press-fit dowel pins ($\phi 6 \times 2$) for fixing.

● SB-E Type



Caution: The part is hardened (HRC45 - 50), but the other parts can be machined.

ACCESSORIES

Stop Block (High Spindle/Hi-Jet Holder)

Setup Information



● Preparing the Locating Pin and Stop Block

The High Spindle and Hi-Jet Holder utilize a Locating Pin that engages with the Stop Block, which is mounted to the machine spindle cover. Please refer to the following instructions to select/adjust the Locating Pin, and to prepare for the Stop Block.

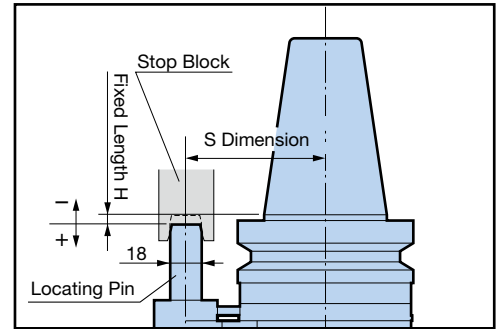
Standard setup of the Locating Pin

<S Dimension>

Distance from center of holder to center of Locating Pin.

Note that you cannot adjust this dimension yourself.

	S Dimension
BDV / DV / BBT40	65
BDV / DV / BBT50	80



<Fixed Length H>

Distance in axial direction from the machine spindle gauge line to the Stop Block groove bottom. You can adjust this dimension yourself.

Three types of Locating Pin models are available for use. LP-A, LP-B, LP-C. As shown in the table below, the different Fixed Length H ranges for each Locating Pin can be adjusted.

When ordering, specify the Fixed Length H. When not specified, the **(BIG)** standard 6 mm setting will be applied.

HIGH SPINDLE

	BDV40	BDV50	BBT40	BBT50
LP-A	-9/ +6	-4/+11	-24 / -9	-9/ +6
LP-B	+6/+21	+11/+26	-9/ +6	+6/+21
LP-C	+21/+36	+26/+41	+6/+21	+21/+36

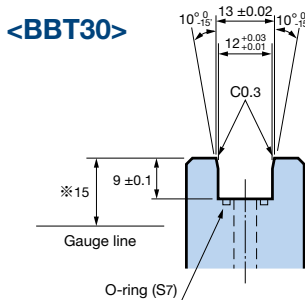
HI-JET HOLDER

	BBT40/DV40		BBT50/DV50	
	MES-40, 50	MES-65	MES50, 65	MES-90
LP-A	-6/ +9	0/+15	-9/ +6	+3/+18
LP-B	+9/+24	+15/+30	+6/+21	+18/+33
LP-C	+24/+39	+30/+45	+21/+36	+33/+48

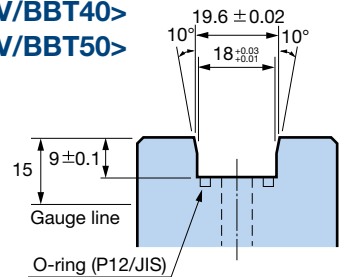
Note: shows adjustment amount for the **(BIG)** standard setup specifications.

Stop Block Dimensions

The figures at right show proper groove dimensions for the Stop Blocks when using the High Spindle or Hi-Jet Holder. When ordering Stop Blocks from machine manufacturers, refer to these dimensions.



<BDV/DV/BBT40> <BDV/DV/BBT50>



Semi-Finished Stop Block

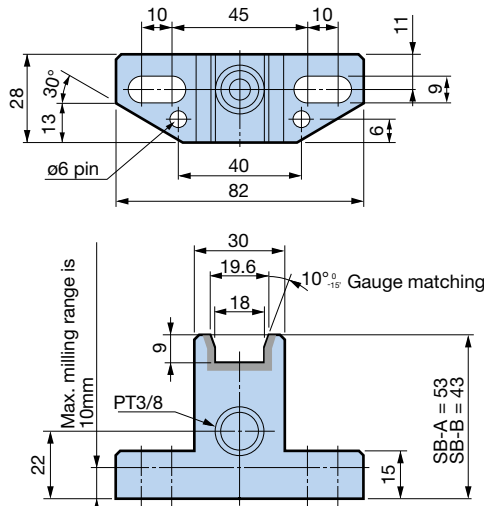
Semi-Finished Stop Blocks have appropriate groove dimensions for use with the High Spindle and Hi-Jet Holder. You can adjust their height as necessary by machining the block bottom surface.

(Caution: The SB-F type cannot be adjusted for height.)

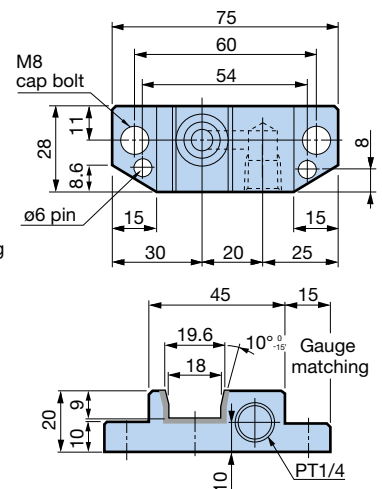
If Stop Blocks are unobtainable from machine manufacturers, a Semi-Finished Stop Block can be used.

Consult with the machine manufacturer for the selection, machining, and mounting of Semi-Finished Stop Blocks.

● SB-A/SB-B Type



● SB-F Type



Caution: The part is hardened (HRC45 - 50), but the other parts can be machined.

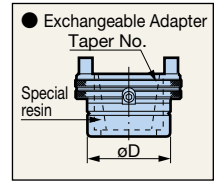
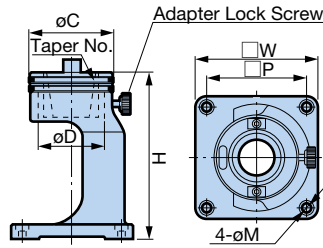
PERIPHERALS



PERIPHERALS

TOOLING MATE

- For mounting and removal of PULLSTUD BOLTS and tools!



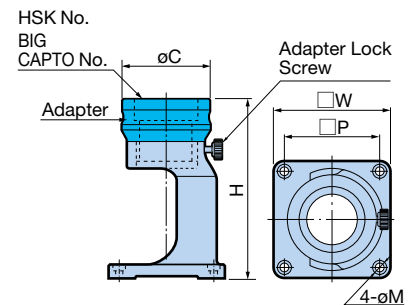
Model	Taper No.	øC	øD	H	W	P	øM	Weight (kg)	Adapter Model
TMS40-30	30	76	60	150	110	90	7 (for M6)	2.6	TMA40-30
-40	40							2.4	-40
TMS50-40	40	105	88	190	160	130	9 (for M8)	7.0	TMA50-40
-50	50							6.0	-50

1. One adapter is included with the body.
2. The weight does not include the adapter.
3. Adapters are also available separately.
4. Adapter Lock Screw is also available separately. (Model RTM0615)
5. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

[For HSK/BIG CAPTO SHANK]

- Unique needle roller clamping method.
The tool is safely fastened without damaging the taper.

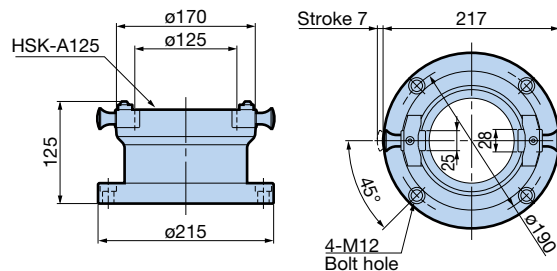


Model	HSK No.	BIG CAPTO No.	øC	H	W	P	øM	Weight (kg)	Adapter Model
TMS40-32R	32	C3※	76	165	110	90	7 (for M6)	3.2	TMA40-32R
-40R	40	C4※	76	165				3.0	-40R
-50R	50	C5※	76	165				2.7	-50R
-63R	63	C6※	87	172				2.7	-63R
TMS50-80R	80	C8※	114	215	160	130	9 (for M8)	7.1	TMA50-80R
-100R	100	—	124	219				6.5	-100R

1. One adapter is included with the body.
2. The weight does not include the adapter.
3. Adapters are also available separately.
4. Adapter Lock Screw is also available separately. (Model: RTM0615)
5. The body (blue component) is compatible with other Tooling Mates as far as the first 2 digits of the model number are identical.
6. Only BIG genuine BIG CAPTO C3 - C8 shanks can be clamped.
7. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

[Exclusive for HSK-A125 Shank]



1. Exclusive for HSK-A125.
2. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

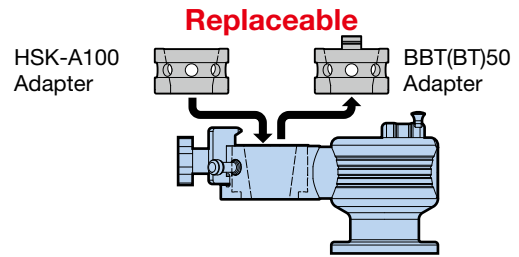
Model	TMS-HSK-A125
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TOOLING MATE UNIVERSAL

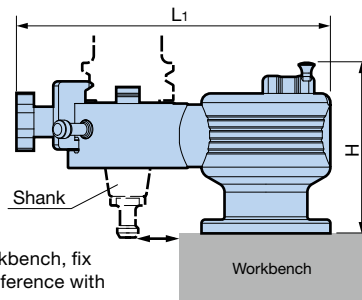
- With flexible positions of vertical, horizontal and diagonal, tool setup time is drastically reduced.



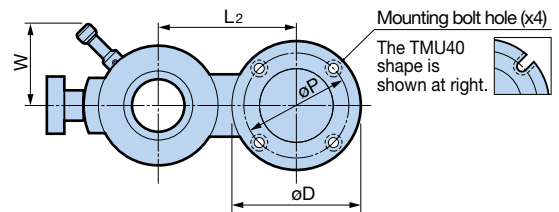
For TMU50 base body



By replacing with another adapter (optional), different shank types become available as long as the base body is compatible with the adapter.



When mounting on a workbench, fix at a location without interference with the pullstud bolt.



Model	Shank	L ₁	L ₂	øD	H	W	Mounting Bolt Hole		Weight (kg)	Adapter Model
							øP	Size		
TMU40-40	BT40 , BBT40	232	105	98	135	69	80	M8	6.9	TMUA40-40
-HSK 63	HSK-A63								6.8	-HSK63
TMU50-50	BT50 , BBT50	340	150	140	185	89	114	M10	19.7	TMUA50-50
-HSK100	HSK-A100								19.1	-HSK100

1. One adapter is included with the body.
2. The weight does not include the adapter.
3. Adapter is also available separately.
4. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.
The max. acceptable length of the bolt is 50mm for TMU50.

Caution: Use after securely bolting to a workbench or surface plate.

±90° tilt

Solidly fixable at every 45°

The holder can be securely fixed at inclinations of every 45°. Work high in loads such as tightening pullstud bolts can be securely performed.

0°

±45°

±90°



360° rotation

Ideal for replacing inserts

Mounting is easy and fast, as inserts can be replaced while rotating the holder 360°. (indexable at every 45°)



PERIPHERALS

Tightening Fixture for Collet Chucks with Torque Indicator

TORQUE FIT

Get your collet chuck tightening right!

- Notification by buzzer near the correct torque value.
- Torque values of all the **BIG** BIG DAIHSHOWA -made collet chucks are preset.



Collet Chuck exclusive

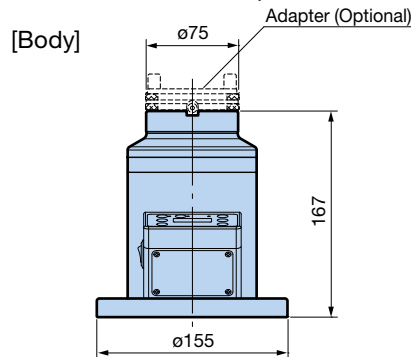


Fig.1

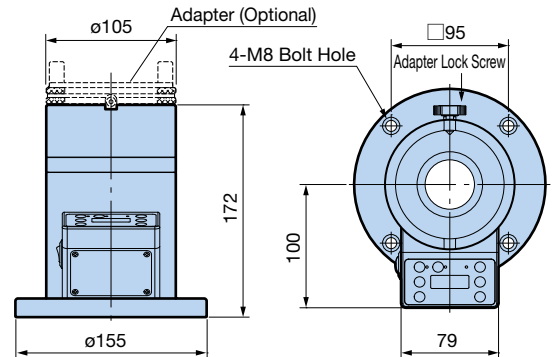


Fig.2

For BBT / BT (adapter sold separately)

Model	Fig.	Taper No.	Compatible adapter model
TF-40	1	30	TMA40-30
		40	-40
TF-50	2	40	TMA50-40
		50	-50

1. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

For HSK / BIG CAPTO (adapter sold separately)

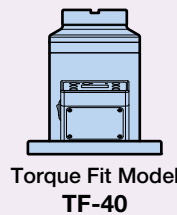
Model	Fig.	HSK No.	BIG CAPTO No.	Compatible adapter model
TF-40	1	32	C3※	TMA40- 32R
		40	C4※	- 40R
		50	C5※	- 50R
		63	C6※	- 63R
TF-50	2	80	C8※	- 80R
		100	-	-100R

1. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

2. BIG genuine BIG CAPTO C3 - C8 shanks only can be clamped.

● Example

Adapter is sold separately.
Please order together with the model.



+



- Use only after turning on the power supply, since use without power can lead to malfunctions.
- Use after securely fixing to a workbench or surface plate.
- **Dedicated for Collet Chuck use, so cannot be used with Milling Chucks, etc.**

Compatible holders are the BIG-made "MEGA MICRO CHUCK", "MEGA NEW BABY CHUCK", "MEGA E CHUCK", "NEW BABY CHUCK" and "MEGA SYNCHRO TAPPING HOLDER".

Main Specifications

Torque setting range		4 - 80N·m
Minimum read value		0.01N·m at 10N·m or less 0.1N·m at 10N·m or more
Display	Setting display screen	Chuck model Chuck size
	Torque value display screen LED	Torque value Setting torque Bar graph Peak hold Buzzer Error
Basic functions		Peak hold Buzzer Error display
Power supply		100 - 240V
Ambient operating temperature		0 - 40° with no condensation
Standard accessory		Adapter Lock Screw AC Adapter
Weight (kg)		8 (For both TF-40 and TF-50)

For HSK/BIG CAPTO SHANK KOMBI GRIP

- A unique clamping method using 2-way clutch needle rollers on the flange periphery. The tool can be safely fastened without damaging the taper.



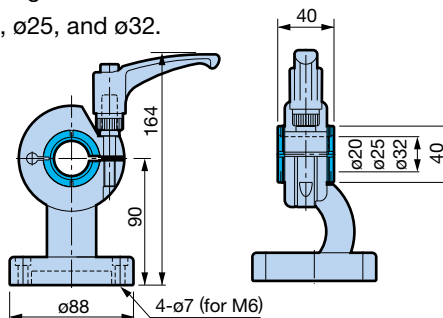
Model	HSK No.	BIG CAPTO No.	ϕC	ϕD	H	ϕP	ϕM
KG 25R	25	—	48	79	65	62	7 (for M6)
32R	32	C3※	55	85		69	
40R	40	C4※	63	93	77		
50R	50	C5※	75	105	70	89	9 (for M8)
63R	63	C6※	88	123.5	75	105.5	
80R	80	C8※	107	142	90	124	
100R	100	—	127	162	100	144	

- BIG genuine BIG CAPTO C3 - C8 shanks only can be clamped.
- Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

For ST SHANK ST LOCK

- Fixes cylindrical shank tools, ideal for tightening nuts.
- Supports cylindrical shank diameters of $\phi 20$, $\phi 25$, and $\phi 32$.



Model **STL40**

Advice

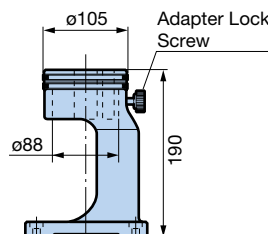
Also available for holders with small size interfaces including HSK-E25 and 32.

- One sleeve each of $\phi 20$, $\phi 25$, and $\phi 32$ is included.
- Do not clamp without a tool.
- Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

Tap Collet fastening jig TC MATE

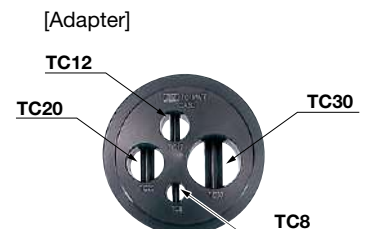
- Easy tap mounting and removal for Tap Collets TC8, TC12, TC20, and TC30!



Model **TCM50**

- One adapter is included with the body.
- Adapter is also available separately.
- Adapter Lock Screw is also available separately. (Model: **RTM0615**)
- The body (blue component) is compatible with other Tooling Mates as long as the first 2 digits of the model number are identical.
- Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.



Model **TCA50**

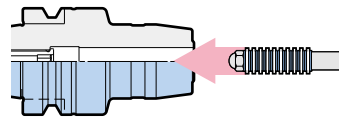
Exchangeable with existing adapter of your TMS50 Tooling Mate.

PERIPHERALS

<For holder bores> Cleaning tool

WIPER CLEANER (for chuck bore: $\varnothing 3 - \varnothing 12$)

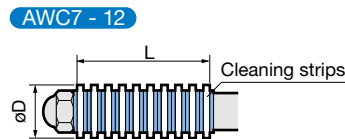
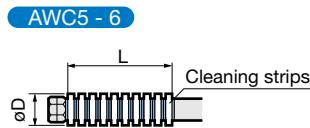
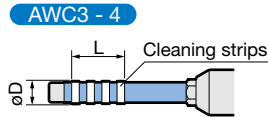
- Developed for cleaning the clamping bores such as hydraulic chucks and shrink fit holders.
- Use a cleaner matching the chuck bore size.



Ideal for small-diameter bores!
Insert and extract the cleaner to remove inner chips, particles and oil.



Inner diameter $\varnothing 3$ and up



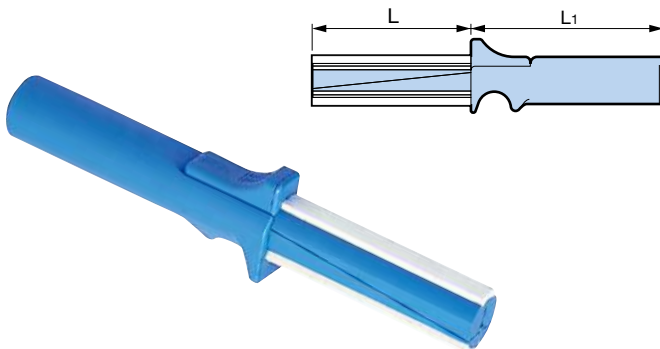
Model	øD	L
AWC 3	3	7
AWC 4	4	
AWC 5	5	20
AWC 6	6	
AWC 7	7	
AWC 8	8	
AWC 9	9	26
AWC10	10	
AWC11	11	31
AWC12	12	

1. øD in table = supported holder bore ød

TK CLEANER (For chuck bores: $\varnothing 13 - \varnothing 42$)

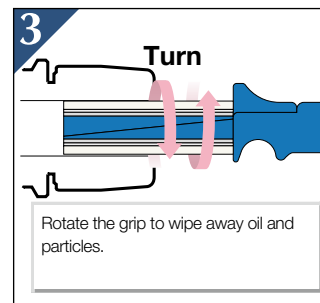
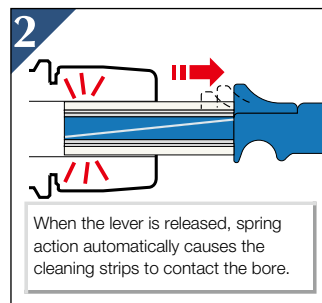
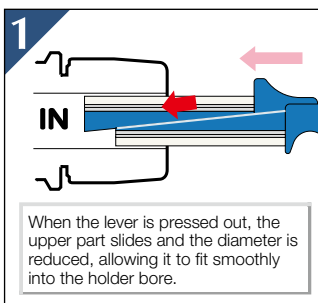
- Wipes off particles and oil in chuck bore and keeps your machining safe and secure.

For MEGA DOUBLE POWER CHUCK/
NEW HI-POWER MILLING CHUCK/HYDRAULIC CHUCK



Model	Supported holder bore ød	L	L ₁	Number of cleaning strips
TKC13	13	60	106	2
14	14			
15	15			
16	16			
18	18	70		
20	20	80	3	
25	25	100		
32	32	105	121	4
40	40			
42	42			

※ Select in accordance with the chuck bore



Automatic cleaning tools, convenient for factory automation.

FLANGE FACE CLEANER



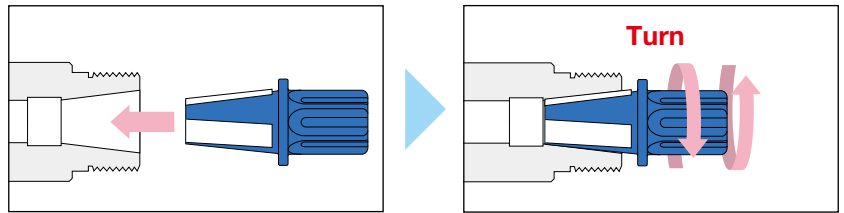
For spindle flange face

Automatically cleans the spindle flange face of BIG-PLUS machines.
Enables stabler DUAL CONTACT machining.

For details, **A177**

<For holder bores> Cleaning tool
α TAPER CLEANER

- Removes oil and particles from the chuck bore taper.



For MEGA MICRO
 CHUCK

Model	Body Model
SC-NBC3S	MEGA3S
SC-NBC4S	MEGA4S
SC-NBC6S	MEGA6S
SC-NBC8S	MEGA8S

For MEGA NEW BABY CHUCK/
 NEW BABY CHUCK

Model	Body Model
SC-NBC 6	MEGA 6N / NBS 6
SC-NBC 8	MEGA 8N / NBS 8
SC-NBC10	MEGA10N / NBS10
SC-NBC13	MEGA13N / NBS13
SC-NBC16	MEGA16N / NBS16
SC-NBC20	MEGA20N / NBS20

For MEGA E CHUCK

Model	Body Model
SC-MEC 6	MEGA 6E
SC-MEC 8	MEGA 8E
SC-MEC10	MEGA10E
SC-MEC13	MEGA13E

For ER CHUCK



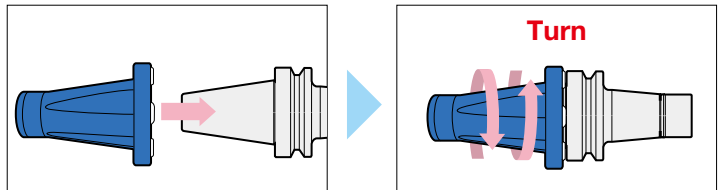
Model	Body Model
SC-MER11	MEGA ER11
SC-MER16	MEGA ER16
SC-MER20	MEGA ER20
SC-MER25	MEGA ER25
SC-MER32	MEGA ER32

PERIPHERALS

<For holder tapers / For jet through> Cleaning tool

α TOOLING CLEANER

- The taper and flange face are cleaned simultaneously.




Model	Shank
SCE-30	BBT30 / BT30
SCE-40	BBT40 / BT40

Automatic cleaning tools, convenient for factory automation.

FLANGE FACE CLEANER



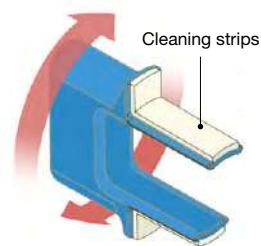
For spindle flange face

Automatically cleans the spindle flange face of BIG-PLUS machines.
Enables stabler DUAL CONTACT machining.  For details, [A177](#)

<For machine spindle and flange face> Cleaning tool

BIG CAPTO SPINDLE CLEANER

- Cleans both internal taper and flange face of the machine spindle simultaneously with simple inserting and rotating motions.



Model
SC-C3
-C4
-C5
-C6
-C8

SPINDLE CLEANER

● Completely removes oil and particles from machine spindle and holder bore!

■ For ISO Taper Spindle



Model	Taper
SC20	BBT/BT20 (NT20)
SC30	BBT/BT30 (NT30)
SC40	BBT/BT40 (NT40)
SC45	BBT/BT45 (NT45)
SC50	BBT/BT50 (NT50)

■ For Morse Taper Spindle



Model	Taper
SC1	MT1
SC2	MT2
SC3	MT3
SC4	MT4
SC5	MT5
SC6	MT6

1. Also available for the bore of Morse taper holders.

■ For HSK Spindle



● A Type

Model	Spindle
SC-HSK 32	HSK-A 32
40	HSK-A 40
50	HSK-A 50
63	HSK-A 63
80	HSK-A 80
100	HSK-A100
125	HSK-A125

● E Type

Model	Spindle
SC-HSK25E	HSK-E 25
32E	HSK-E 32
40E	HSK-E 40
50E	HSK-E 50

● F Type

Model	Spindle
SC-HSK63F	HSK-F 63

PERIPHERALS

T-SLOT CLEAN

Set in the T-slot on machine tables to prevent chips from being packed.

- Flattens surface of the table and aids quick removal of chips.
- Three sizes of groove widths are available to match the machine table. (T-slot widths 14/18/22mm)

Setup time greatly reduced



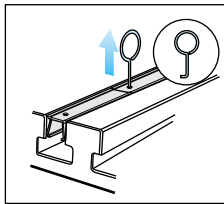
Before use



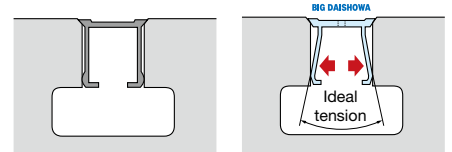
After use



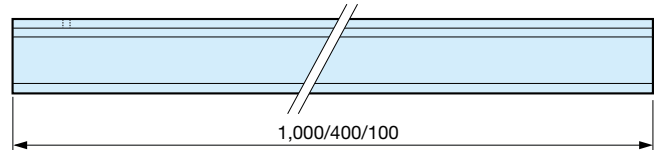
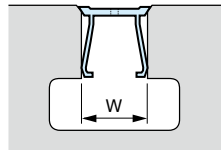
Removal pin included



Other manufacturers



Due to the uniquely angled shape of the table T-slot contact part, slipout is prevented and chips are completely shut out.



※ Cut for use, for dimensions not listed above.

Standard set

Set Model	W	Table groove width tolerance (H12)	Set contents
TS14-S	14	+0.18 0	400mm x 4 pcs 100mm x 4 pcs Removal pin x 1 pc
TS18-S	18		
TS22-S	22	+0.21 0	

400mm set

Set Model	W	Table groove width tolerance (H12)	Set contents
TS14-400L-100P	14	+0.18 0	400mm x 100 pcs Removal pin x 10 pcs
TS18-400L-100P	18		
TS22-400L-100P	22	+0.21 0	

Ideal for T-slots in large machines!

1,000mm set

Set Model	W	Table groove width tolerance (H12)	Set contents
TS18-1000L-10P	18	+0.18 0	1,000mm x 10 pcs Removal pin x 1 pc
TS22-1000L-10P	22	+0.21 0	

Center through

CHIP BLOWER PAT.P

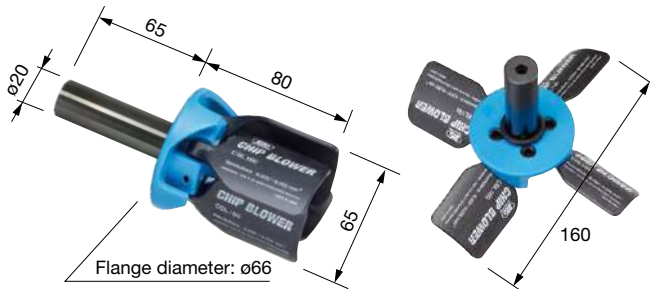
- The wing's wind pressure removes cutting chips and coolant from workpieces, work tables and clamping devices. Removes all materials of chips, such as steel, stainless steel and aluminum.



When using a chip blower...

The cylindrical shank diameter of the chip blower is $\phi 20$.
Use a **NEW BABY CHUCK** **Features P13** or **NEW HI-POWER MILLING CHUCK** **Features P15** for holding.

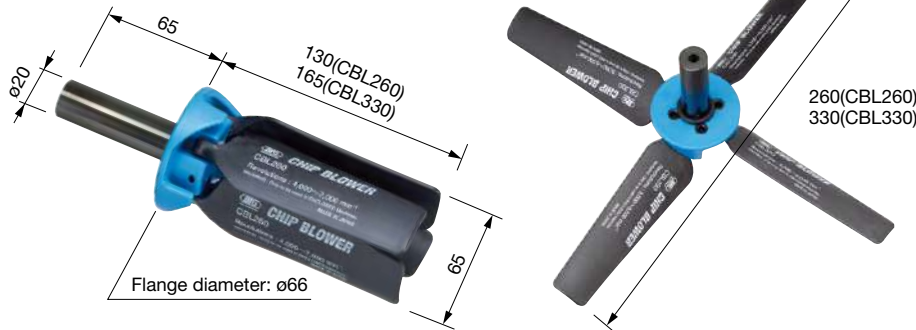
■ $\phi 160$ Type



Model	ST20S-CBL160
Startup Spindle Speed ※1	500min ⁻¹ (0.5sec) → 1,000min ⁻¹ (0.5sec) → 2,000min ⁻¹ (0.5sec) →
Recommended Spindle Speed	Min.6,000 - Max.9,000min ⁻¹
Rotation Direction	Forward
Distance to the Workpiece Surface to be Cleaned (with wing opened to maximum)	100 - 150mm
Recommended Movement Feed	3,000 - 10,000mm/min
Weight	0.27kg

※ The wing may open during ATC when it is used with an ultra-high speed ATC machining center.

■ $\phi 260$ $\phi 330$ Type



Model	ST20S-CBL260	ST20S-CBL330
Startup Spindle Speed ※1	500min ⁻¹ (0.5sec) → 1,000min ⁻¹ (0.5sec) → 2,000min ⁻¹ (0.5sec) →	
Recommended Spindle Speed	Min.4,000 - Max.7,000min ⁻¹	Min.3,000 - Max.6,000min ⁻¹
Rotation Direction	Forward	
Distance to the Workpiece Surface to be Cleaned (with wing opened to maximum)	100 - 150mm	
Recommended Movement Feed	3,000 - 10,000mm/min	
Weight	0.29kg	0.30kg

※ The wing may open during ATC when it is used with an ultra-high speed ATC machining center.



Caution

● Startup Spindle Speed ※1

In recent high-speed machining centers, the machine spindle rotation rise has become faster.

A sudden command for spindle speed may create a strong impact on the wing as it opens; therefore, be sure to rotate it at the startup speed in the table above before raising it to the designated spindle speed.

- The spindle speed and the distance to the workpiece surface in the above table differ depending on the weight of the cutting chips. Be sure to confirm before use.
- The wing may open during ATC when it is used with an ultra-high speed ATC machining center.
- When supplying coolant with center through, be sure to stop the spindle rotation first.
- This product must be used only with a machine with a full cover.**

● Never modify this product in any way.

- The dedicated spring must be replaced after about 20,000 use cycles.** Send back the unit for replacement through your supplier.

- Although the wing is made of high-strength carbon fiber reinforced resin, it may be worn out or damaged due to the collision of cutting chips or impact when opening/closing.

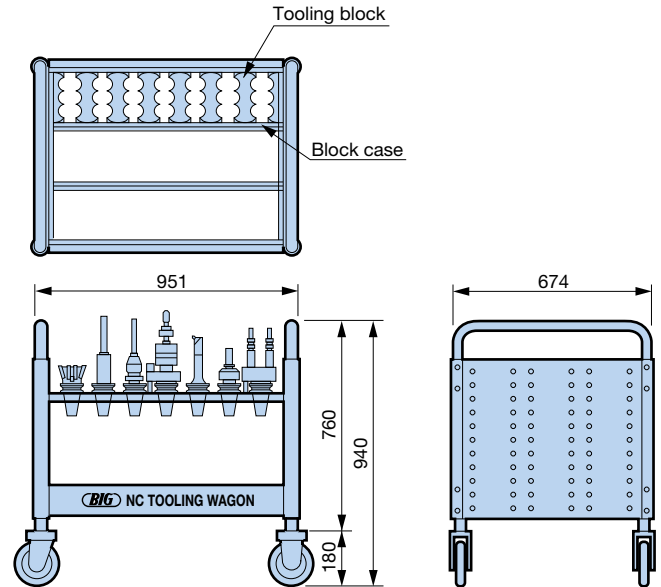
If wear and damage progress, the wing may snap and fly out during use. **Be sure to periodically check the damage of the wing visually and replace it as needed.**

Send back the unit for replacement through your supplier. Individual wings are not available for sale.

PERIPHERALS

TOOLING WAGON

- Tools with various types and sizes of shank can be stored.



Model	Weight (kg)	Remarks
TW-1	43.8	With 3 block case sets (30 tooling blocks)

■ Block case (Optional)

Model	Remarks
TW-B	With 10 tooling blocks

BT	DV	NT	HSK-A	HSK-E	HSK-F	BIG CAPTO	Number of tools storable	
							Per row	Per 3 rows (1 unit)
							TW-B	TW-1
			HSK-A125				5 pcs	15 pcs
			HSK-A100				6 pcs	18 pcs
BT50	DV50	NT50			HSK-F100		7 pcs	21 pcs
BT45	DV45	NT45						
			HSK-A 80			C8	14 pcs	42 pcs
			HSK-A 63		HSK-F 80	C6	16 pcs	48 pcs
BT40	DV40	NT40	HSK-A 50	HSK-E 50	HSK-F 63	C5	18 pcs	54 pcs
BT35	DV35	NT35			HSK-F 50			
BT30	DV30	NT30						
			HSK-A 40	HSK-E 40	HSK-F 40	C4	27 pcs	81 pcs

MEASURING TOOLS

SENSORS



POINT MASTER PRO

The 3-dimensional touch sensor that detects touch-position instantaneously.

PMPC Series

With battery alarm function

- Instantaneously detects reference points even on non-conductive workpieces and machines!
- Notification of touchpoint with LED and beep.



For all workpieces and machine tools



Notifies via LED

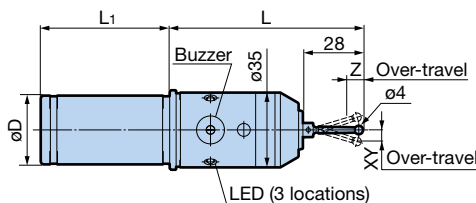


Notifies via buzzer



LED flashes to indicate that battery life is low

Cylindrical Shank Type



Model	øDh7	L	L ₁	Weight (kg)
PMPC-20	20	100	50	0.5
PMPC-32	32	90	60	0.7

1. **ST28-4R** stylus is included.

Stylus replacements | 4

BBT Shank Type (BIG-PLUS)

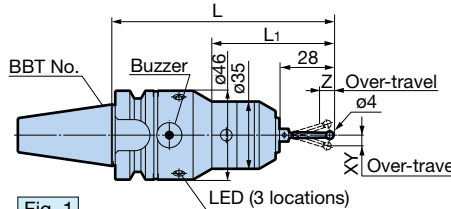


Fig. 1

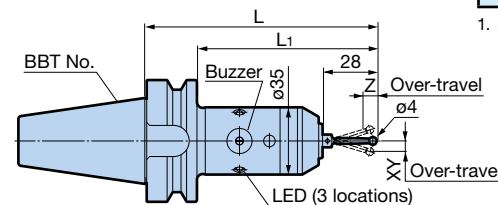


Fig. 2



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

Model	Fig.	L	L ₁	Weight (kg)
BBT30-PMPC-115	1	115	63	0.8
BBT40-PMPC-120	2	120	93	1.3

1. **ST28-4R** stylus is included.

Stylus replacements | 4

Main Specifications

Repeatability	±1μm (2σ)		
Over-travel	XY ±12mm Z 5mm		
Measuring pressure	XY 0.4N Z 1.5N		
Battery	PMPC-20, 32	LR1 x 2P	
	BBT40-PMPC-120		
	BBT30-PMPC-115		

Battery life	PMPC-20, 32	280 continuous hours
	BBT40-PMPC-120	
	BBT30-PMPC-115	

1. The specifications above are values when **ST28-4R** stylus is used.

2. Repeatability is affected by stylus length.

3. There is a delay of approx. 5μm in XY direction and 2μm in Z direction when the stylus contacts the workpiece measuring surface to illuminate the LED.

POINT MASTER PRO

PMP Series

- Instantaneously detects reference points even on non-conductive workpieces and machines!
- Ideal for high-speed machining centers with ceramic bearings.

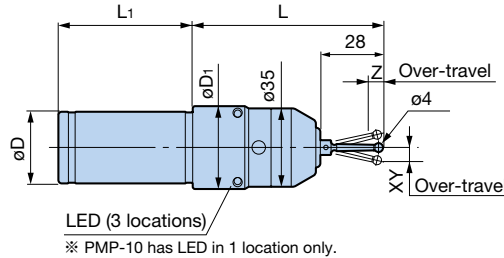


For all workpieces and machine tools



Notifies via LED

Cylindrical Shank Type

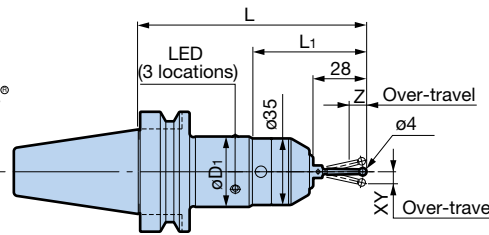


Model	øDh7	øD1	L	L ₁	Weight (kg)
PMP-10	10	35	75	49	0.4
PMP-20	20	37	90	50	0.5
PMP-32	32		80	60	0.6

1. ST28-4R stylus is included.

Stylus replacements **I4**

BBT Shank Type



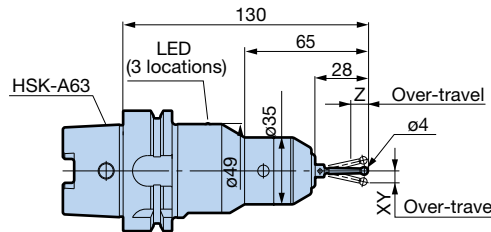
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

Model	øD ₁	L	L ₁	Weight (kg)
BBT30-PMP-115	46	115	63	0.8
BBT40-PMP-120	37	120	60	1.3
BBT50-PMP-150	37	150	60	3.8

1. ST28-4R stylus is included.

Stylus replacements **I4**

HSK-A63 Shank Type (DIN 69893-1) (ISO 12164)

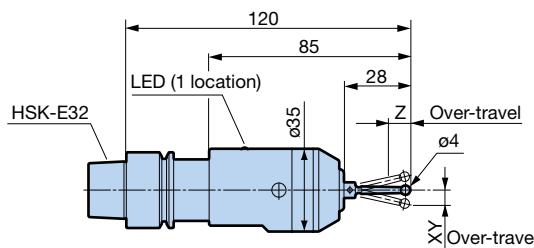


Model	Weight (kg)
HSK-A63-PMP-130	1.3

1. ST28-4R stylus is included.

Stylus replacements **I4**

HSK-E32 Shank Type (DIN 69893-5)



Model	Weight (kg)
HSK-E32-PMP-120	0.5

1. ST28-4R stylus is included.

Stylus replacements **I4**

Main Specifications

Repeatability	±1μm (2σ)	
Over-travel	XY ±12mm Z 5mm	
Measuring pressure	XY 0.4N Z 1.5N	
Battery	PMP-10	Panasonic lithium battery BR435 x 1P
	PMP-20, 32 BBT40-PMP-120	LR1 x 2P
	HSK-A63-PMP-130 BBT30-PMP-115	CR2 x 1
	HSK-E32-PMP-120	SR44 x 2P
	BBT50-PMP-150	LR03 x 2P

Battery life	PMP-10	180 continuous hours
	PMP-20, 32 BBT40-PMP-120	500 continuous hours
	HSK-A63-PMP-130 BBT30-PMP-115	900 continuous hours
	HSK-E32-PMP-120	90 continuous hours
	BBT50-PMP-150	600 continuous hours

- The specifications above are values when ST28-4R stylus is used.
- Repeatability is affected by stylus length.
- There is a delay of approx. 5μm in XY direction and 2μm in Z direction when the stylus contacts the workpiece measuring surface to illuminate the LED.

POINT MASTER

PMC Series

- Instantaneous detection with LED and beep.
- LED flashes to notify low battery life while measuring workpieces.



For use with conductive workpieces and machine tools



Notifies via LED

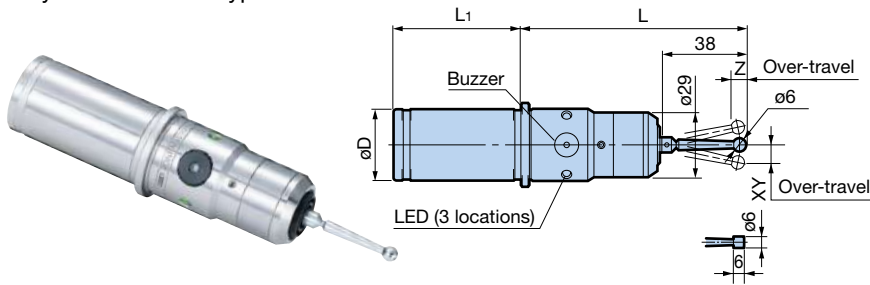


Notifies via buzzer



LED flashes to indicate that battery life is low

Cylindrical Shank Type

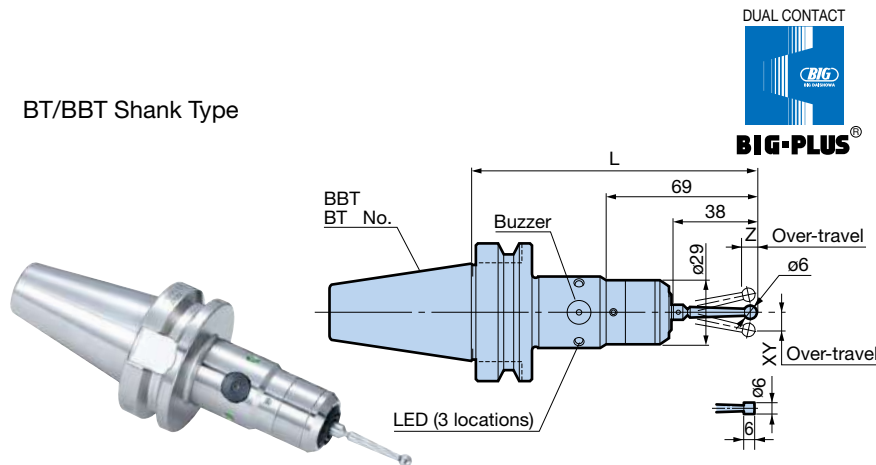


Model	øDh7	L	L ₁	Battery	Weight (kg)
PMC-20	20	110	50	LR1 x 2	0.4
-20S					
-32					
-32S	32	102	58	LR1 x 2	0.6

- ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.
- Cannot be used with non-conductive workpieces and machines with ceramic bearings. Use POINT MASTER PRO.

Replaceable stylus **I4**

BT/BBT Shank Type



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT Shank Type

Model	L	Battery	Weight (kg)
BBT40-PMC-130	130	LR1 x 2	1.2
-PMC-130S			
BBT50-PMC-160	160	LR03 x 2	4.0
-PMC-160S			

- ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.
- Cannot be used with non-conductive workpieces and machines with ceramic bearings. Use POINT MASTER PRO.

Model	L	Battery	Weight (kg)
BT40-PMC-130	130	LR1 x 2	1.2
-PMC-130S			
BT50-PMC-160	160	LR03 x 2	4.0
-PMC-160S			

- ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.

Replaceable stylus **I4**

Caution

Pullstud bolts with a center through hole cannot be used. Contact us if a center-through specification machine requires a PULLSTUD BOLT with a hole due to the coolant nozzle.

Main Specifications

Probe repeatability	±1 μm (2σ)	
Over-travel	XY ±12mm	Z 5mm
Measuring pressure	XY 0.6N	Z 2.7N
Battery life	PMC-20, 20S, 32, 32S	300 continuous hours
	BBT(BT)40-PMC-130, 130S	
	BBT(BT)50-PMC-160, 160S	

1. The specifications above are values when the standard accessory stylus is used.

PMG Series

- Instantaneous detection with LED.

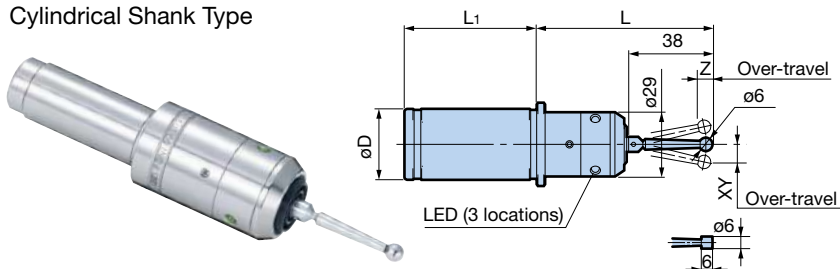


For use with
 conductive
 workpieces and
 machine tools



Notifies
 via LED

Cylindrical Shank Type

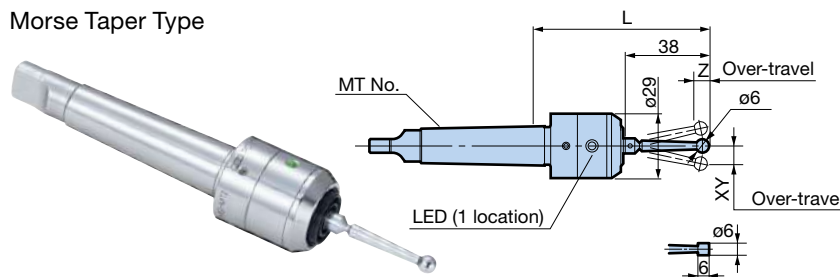


※ PMG-10 and PMG-10S have LED in 1 location only.

Model	øDh7	L	L ₁	Battery	Weight (kg)
PMG-10	10	75	50	Panasonic lithium BR435 x 1	0.2
-10S					
-20	20	90	50	LR1 x 2	0.3
-20S					
-32	32	80	60	LR1 x 2	0.5
-32S					

1. **ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.

Morse Taper Type



Model	MT No.	L	Battery	Weight (kg)
PMG-MT2	MT2	80	Panasonic lithium BR435 x 1	0.2
-MT2S				

1. LED in 1 location only.
 2. **ST38-6P** stylus is included. Model with an S at the end of the model number includes ø6 cylindrical **ST38-6X6** stylus.

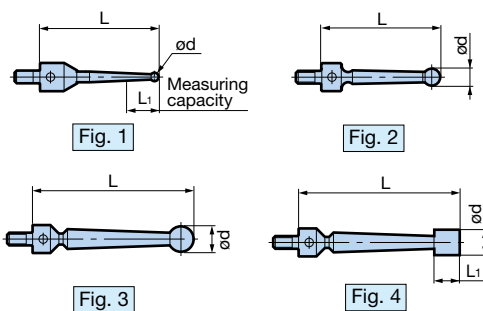
Main Specifications

Probe repeatability	±1 μm (2σ)	
Over-travel	XY ±12mm	Z 5mm
Measuring pressure	XY 0.6N	Z 2.7N
Battery life	PMG-20, 20S, 32, 32S	80 continuous hours
	PMG-10, 10S, MT2, MT2S	150 continuous hours

1. The specifications above are values when the standard accessory stylus is used.

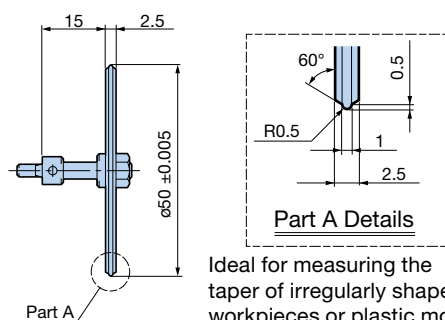
<Replaceable Stylus> Optional Product For PMPC, PMP, PMC, PMG Series

M3 threading has been applied to make the stylus replaceable, allowing replacement if it is damaged or according to the workpiece shape.



Model	Fig.	L	L ₁	ød	Weight (g)	Stylus Tip	Point Master Model
ST28 -1P	1	28	2	1	2.0	Carbide	PMG/PMC PMP/PMPC
-2P			8	2	2.0		
-3P			-	3	2.5		
-4P			-	4	2.9		
ST28 -4R	2			4	2.6	Ruby	PMP/PMPC
ST38 -6P	3	38	-	6	4.8	Steel (SUS)	PMG/PMC
ST38 -6 x 6	4		6	6	4.8		PMG□□S/PMC□□S

※ ST38-6 x 6 stylus is exclusive for PMG □□ S/PMC □□ S models. Mounting on other models will negatively affect the runout accuracy.



Ideal for measuring the taper of irregularly shaped workpieces or plastic molds.

Model	ST15-50K
-------	-----------------

※ Exclusive for PMG/PMC Series.

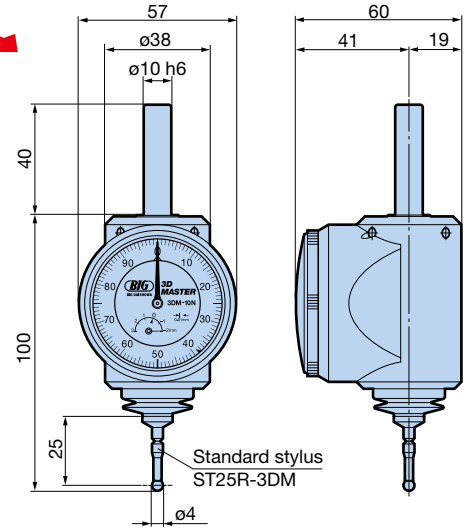
COMPACT SENSOR

3D MASTER RED

- XYZ direction measurement possible with a single tool.
- Can also measure non-conductive workpieces.
- Compact design that prevents interference with workpieces.
- Calculation of the stylus ball radius not required.



For all workpieces and machine tools



Model	3DM-10N
-------	----------------

Main Specifications

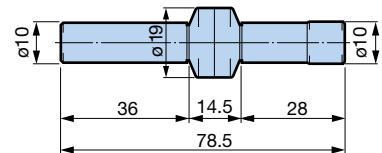
Min. scale	0.01mm
Repeatability	Within 0.01mm
XY Stroke	±4mm
Z Stroke	4mm
Weight	0.6kg
Accessory	Stylus: ST25R-3DM

The specifications above are values when the accessory ST25R-3DM stylus is used.

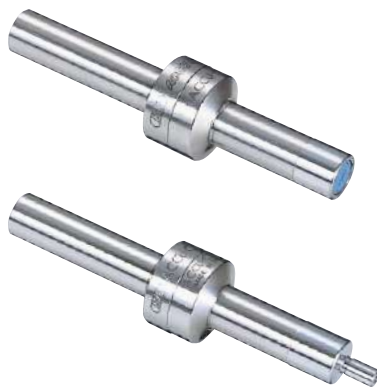
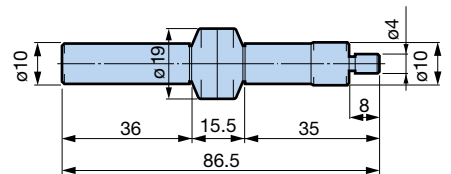
ACCU CENTER

- Simple mechanical design for high-precision positioning!
- Just touch the stylus to the workpiece surface to complete measurement.
- Repeatability within 3μm (when used on vertical machines).
- Hard chrome plated stylus for superior durability.

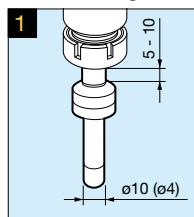
Model	ACCU-C10
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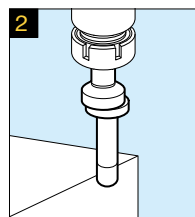
Model	ACCU-C104
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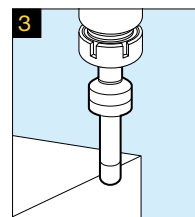
Measuring Method



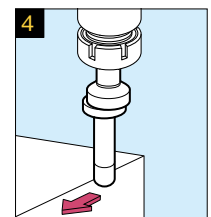
Mount the ø10 straight part to a Milling Chuck or New Baby Chuck.



Press the stylus lightly with fingers to move off center and rotate at 400 - 600min⁻¹.



From the 2 position, touch the stylus to the workpiece; its runout will gradually decrease and it will seem to come to a stop.



From the 3 position, apply finer feed and keep the stylus in contact; it will begin to slide in one direction. Where it begins to slide, compensate the position by radius of the stylus 5mm(2mm) to detect the reference position.



Caution

Not suitable for horizontal type machines.

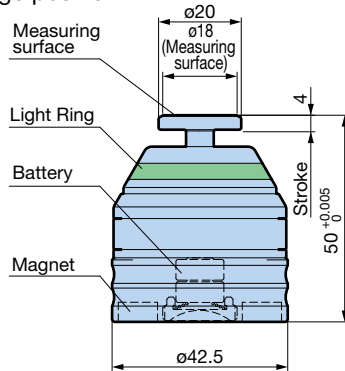
BASE MASTER

[BM-50H] **NEW**

- Electronic detection of cutting edge position.
- Repeatability $\pm 1\mu\text{m}$ (2σ).



Model **BM-50H**



For use with
conductive
cutting tools,
workpieces, and
machine tools



Notifies
using 360°
lighting

Height accuracy	$50^{+0.005}_0$ mm
Repeatability	$\pm 1\mu\text{m}$ (2σ)
Min. tool diameter	$\phi 1\text{mm}$
Measuring pressure	2N
Stroke	4mm
Touch signal	Light ring illuminates (green)
Battery	SR44 x 2
Battery life	8 continuous hours
Weight	250g

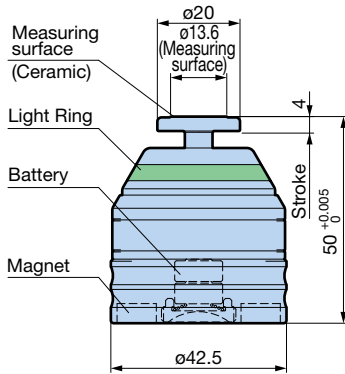
※ Type without magnets is also available. If required, add /N at the end of the model number when ordering.
 (Example: **BM-50H/N**)

[BM-50GH] **NEW**

- Internal contact method compatible with various tools and workpieces.



Model **BM-50GH**



For all cutting
tools, workpieces
and machine
tools



Notifies
using 360°
lighting

Height accuracy	$50^{+0.005}_0$ mm
Repeatability	$\pm 1\mu\text{m}$ (2σ)
Min. tool diameter	$\phi 1\text{mm}$
Measuring pressure	2N
Stroke	4mm
Touch signal	Light ring illuminates (green)
Battery	SR44 x 2
Battery life	8 continuous hours
Weight	240g

※ Type without magnets is also available. If required, add /N at the end of the model number when ordering.
 (Example: **BM-50GH/N**)

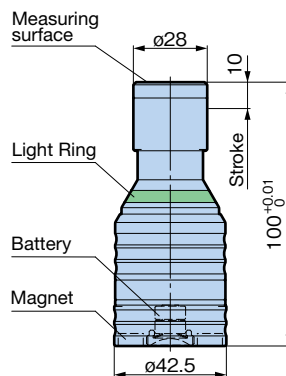
[BM-100GH] **NEW**

- Detects cutting edge position of 100mm from workpiece.

Easily visible
measuring surface
even with large
machines



Model **BM-100GH**



For all cutting
tools, workpieces
and machine
tools



Notifies
using 360°
lighting

Height accuracy	$100^{+0.01}_0$ mm
Repeatability	$\pm 1\mu\text{m}$ (2σ)
Min. tool diameter	$\phi 1\text{mm}$
Measuring pressure	2N
Stroke	10mm
Touch signal	Light ring illuminates (green)
Battery	SR44 x 2
Battery life	8 continuous hours
Weight	380g

※ Type without magnets is also available. If required, add /N at the end of the model number when ordering.
 (Example: **BM-100GH/N**)

※ Do not use in X/Y direction.

COMPACT SENSOR

BASE MASTER

[BM-50MH] (For ultra-small cutting tools)

NEW

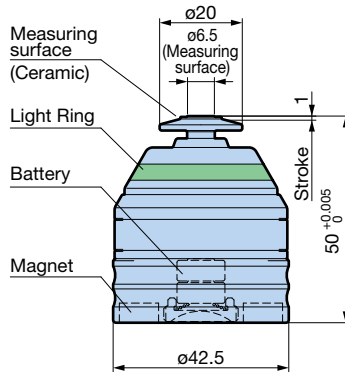
- Cutting edge position detection of $\phi 0.05\text{mm}$ tool.
- Low-contact pressure cushion mechanism realizes measurement of ultra-small tools.



Small-diameter tools supported
Min. measurable tool diameter $\phi 0.05\text{mm}$



Model **BM-50MH**



For all cutting tools, workpieces and machine tools



Notifies using 360° lighting

Height accuracy	$50^{+0.005}_0$ mm
Repeatability	$\pm 1 \mu\text{m}$ (2σ)
Min. tool diameter	$\phi 0.05\text{mm}$
Measuring pressure	0.3N
Stroke	1mm
Touch signal	Light ring illuminates (green)
Battery	SR44 x 2
Battery life	8 continuous hours
Weight	240g

※ Type without magnets is also available. If required, add /N at the end of the model number when ordering.
(Example: **BM-50MH/N**)

BASE MASTER MINI

[BMM-10H]

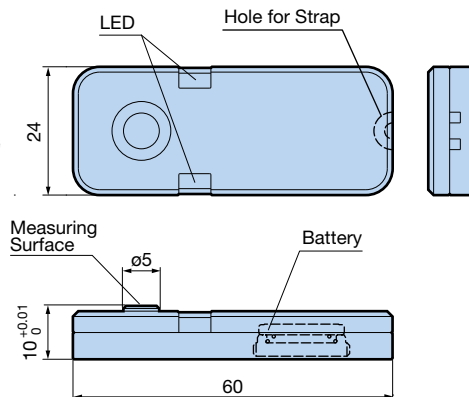
- 10mm reference height tool offset sensor.
- Ultra-compact design to prevent tool interference.
- High-brightness LEDs (green) light up for instantaneous detection of reference points.

Ultra-Thin Type Height 10mm

CE



Model **BMM-10H**



For all cutting tools, workpieces and machine tools



Notifies via LED

Height accuracy	$10^{+0.01}_0$ mm
Repeatability	$\pm 1 \mu\text{m}$ (2σ)
Min. tool diameter	$\phi 0.1\text{mm}$
Measuring pressure	1N
Stroke	1mm
Touch signal	LED illuminates (green)
Battery	CR1620x1
Battery life	10 continuous hours
Weight	80g
Standard accessory	Exclusive strap x1P

※Do not use in X/Y direction.

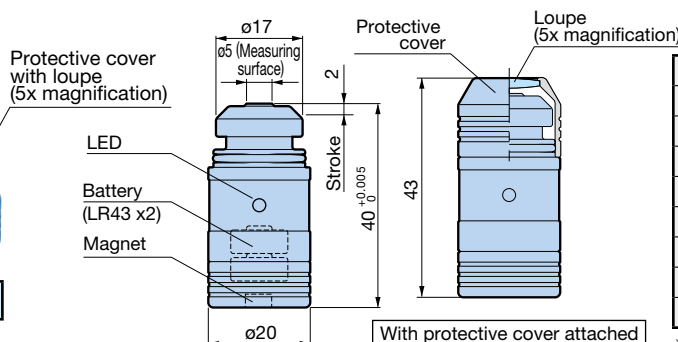
[BMM-20D]

- World's smallest tool offset sensor with a diameter of $\phi 20$.

CE



Model **BMM-20D**



For all cutting tools, workpieces and machine tools



Notifies via LED

Height accuracy	$40^{+0.005}_0$ mm
Repeatability	$\pm 1 \mu\text{m}$ (2σ)
Min. tool diameter	$\phi 0.1\text{mm}$
Measuring pressure	1.8N
Stroke	2mm
Touch signal	LED illuminates (blue)
Battery	LR43 x 2
Battery life	40 continuous hours
Weight	60g

※An exclusive wrench for battery cap is included.
※Do not use in X/Y direction.

COMPACT SENSOR

[BMM-20H] **NEW**

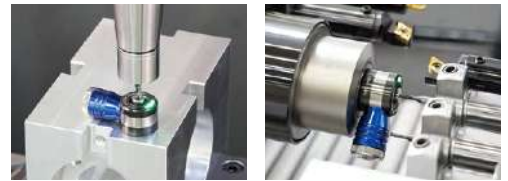
- High precision tool offset sensor with 20mm reference height.
- Wide LED ensures high visibility.
- Low measuring pressure compatible with $\varnothing 0.1$ mm diameter tool.
- Realizes tool position detection in small lathes.



For all cutting tools, workpieces and machine tools

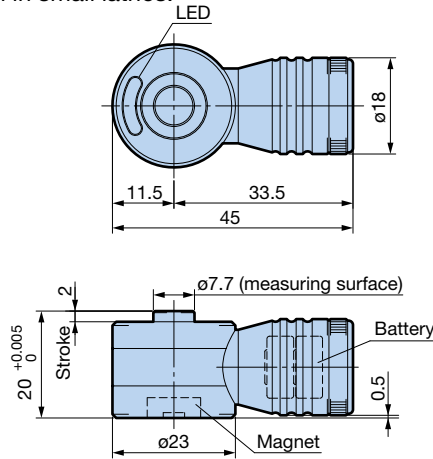


Notifies via LED



Compact/lightweight design

Model **BMM-20H**



Height accuracy	20 ^{+0.005} mm
Repeatability	±1 μm (2σ)
Min. tool diameter	ϕ0.1mm
Measuring pressure	1N
Stroke	2mm
Touch signal	LED illuminates (green)
Battery	SR44×2
Battery life	10 continuous hours
Weight	70g

TOOL MASTER



For all cutting tools, workpieces and machine tools



Notifies via LED

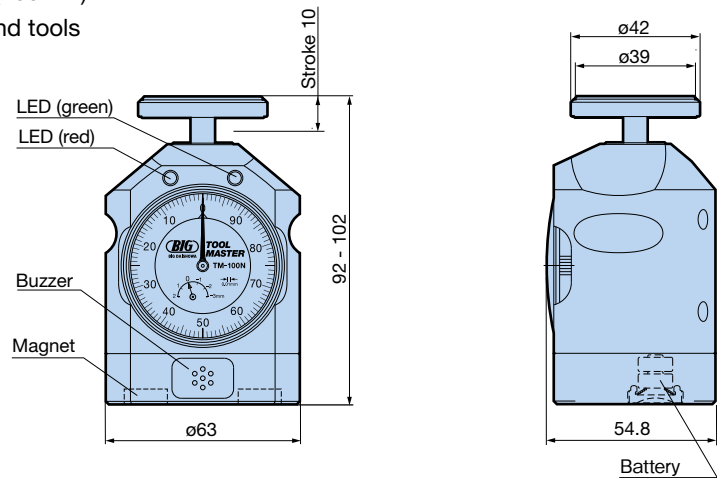


Notifies via buzzer

- Notifies the height with LED and buzzer (new function)
- Large stroke that prevents collision: 10mm
- Reference can be checked with a setting gauge (100mm)
- Can also measure non-conductive workpieces and tools
- Firmly fixed with a magnet.



Model **TM-100N**



Height accuracy	100 ^{+0.02} mm		
Min. tool diameter	ϕ1mm		
Stroke	10mm		
Stroke range	92 - 102mm		
Measuring pressure	3N (at 100mm)		
Notification signal	Around 100.5mm	LED Buzzer	Lit (green) "Beep"
	Around 99.5mm	LED Buzzer	Flashing (green/red) "Beep Beep Beep"
Battery	SR44×2		
Weight	1.0kg		
Standard accessory	Setting gauge: 1P		
Dial Gauge Accuracy	Min. scale	0.01mm	
	Indicator error	±15μm	
	Repeatability	5μm	
	Return error	5μm	

※ Dial gauge accuracy conforms to JIS B7503:1997.

※ Type without magnets is also available.

If required, add /N at the end of the model number when ordering. (Example: **TM-100N/N**)

※ Do not use in X/Y direction.

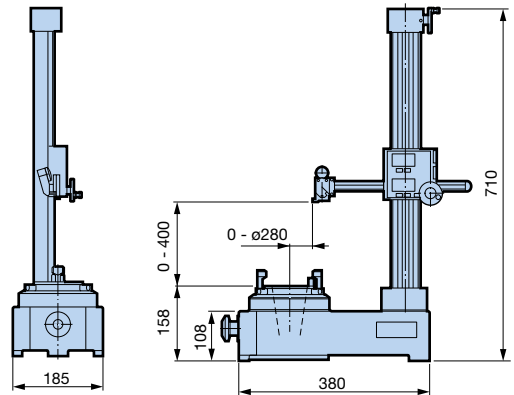
TOOL PRESETTER TPS

2D edge sensor enables simple presetting.

- A simple and compactly designed presetter featuring a digital scale.
- Maintains long-term taper accuracy with a ceramic spindle.



2D edge sensor



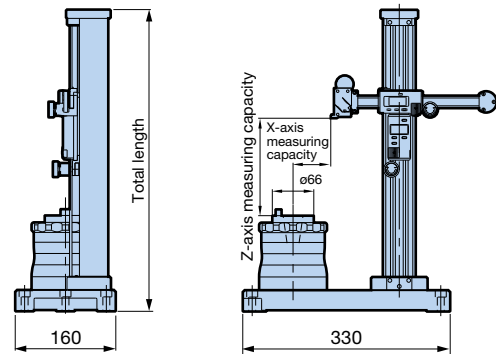
Model	Taper	Measuring capacity (mm)	Min. scale	Power Supply	Operating temperature	Weight (kg)
TPS-40N	BT40	X-axis: 0 - ø280 Z-axis: 0 - 400	0.01mm	3V lithium battery x 2 (CR2032)	+5°C - +40°C	38.5
-50N	BT50					41.0
-HSK 40-N	HSK-A40					41.0
-HSK 50-N	HSK-A50					41.0
-HSK 63-N	HSK-A63					41.0
-HSK100-N	HSK-A100					43.0
-C5N	BIG CAPTO C5					41.0
-C6N	BIG CAPTO C6					41.0
-C8N	BIG CAPTO C8					42.0

1. Origin can be set with the spindle itself.

2. Various adapters and test bars are available as optional products.

3. HSK-E types without Drive Key grooves cannot be mounted.

[Compact Type]



Model	Taper	Total length	Measuring capacity (mm)		Min. scale	Power supply	Operating temperature	Weight (kg)
			X-axis	Z-axis				
TPS-30E	BT30	480	0 - ø180	0 - 250	0.01mm	SR44 Battery x 2	+5°C - +40°C	18.5
-40E	BT40	530		50 - 300				20.0
TPS-HSK40E	HSK-A40		0 - 250	21.0				
-HSK50E	HSK-A50		0 - 235	21.0				
-HSK63E	HSK-A63			21.5				

1. An optional Setting Gauge (SG40-50) is required to set reference values for TPS-40E.

TAPER ADAPTER (Optional)



Model	Taper	L
BT40-30STP	40→30	50
BT50-30STP	50→30	
-40STP	50→40	

BT Front Clamp Adapter (Optional)

With measuring tool clamp mechanism.



Model	Taper	L
BT40-TPA30STP	40→30	60
BT50-TPA30STP	50→30	
-TPA40STP	50→40	

HSK/BIG CAPTO Front Clamp Adapter (Optional)

With the adapter mounted on the presetter, tools can be mounted/demounted using an allen key.



Model	Taper	HSK Type	L
BT40 -TPA / HSK 32- 75STP	BT40	※A32, E32	75
-TPA / HSK 40-100STP		A40, E40	
-TPA / HSK 50-100STP		A50, E50, F63	100
-TPA / HSK 63-100STP		A63, E63	
BT50 -TPA / HSK 32-100STP	BT50	※A32, E32	100
-TPA / HSK 40-100STP		A40, E40	
-TPA / HSK 50-100STP		A50, E50, F63	
-TPA / HSK 63-100STP		A63, E63	
-TPA / HSK100-140STP		A100	

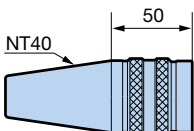
1. Reference edge is provided for zero set.
2. The adapter is designed for the presetter and cannot be used on a machining center.
3. ※A32 can be used without a coolant pipe.

■BIG CAPTO Shank Type

Model	Taper	BIG CAPTO Type	L
BT40 -TPA / C4-100STP	BT40	C4	100
-TPA / C5-100STP		C5	
-TPA / C6-100STP		C6	
BT50 -TPA / C4-100STP	BT50	C4	100
-TPA / C5-100STP		C5	
-TPA / C6-100STP		C6	
-TPA / C8-140STP		C8	

1. Reference edge is provided for zero set.
2. The adapter is designed for the presetter and cannot be used on a machining center.
3. Holders can be mounted with or without a coolant pipe.

Setting Gauge (Optional)



Model
SG40-50

· Used for setting reference values for TPS-40E.

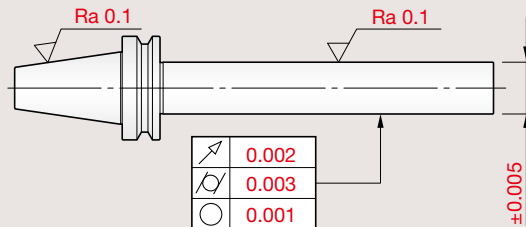
DYNA TEST [For static precision measurement]

A high-precision test bar developed by BIG's precise machining technology.

- Periodic accuracy evaluation eliminates machining defects.

● Precision standard of BIG Test Bars

BIG provides high quality test bars, produced under a strict quality control system.



Runout accuracy	0.002mm
Roundness	0.001mm
Cylindricity	0.003mm
Surface roughness	Ra: 0.1 μm
Outer diameter tolerance	±0.005mm

● Calibration certificate and traceability diagram (with charge)

A calibration certificate and traceability diagram is offered upon request with charge for reliable use of these test bars or for the customers certified with ISO9000.

Traceability is defined under JIS Z8103 as "the establishment of a pathway related to national and international standards in which standard instruments or measuring instruments are continually calibrated according to higher-level measurement standards."



Static accuracy of machining centers is regulated in JIS-B6336 and 6338. We recommend periodic accuracy checks for stable production.

JIS standard machine spindle value

Runout of spindle inner taper

	Horizontal M/C	Vertical M/C
Test bar nose	0.007 ^(mm) or less	0.01 ^(mm) or less
300mm tip	0.015 ^(mm) or less	0.02 ^(mm) or less

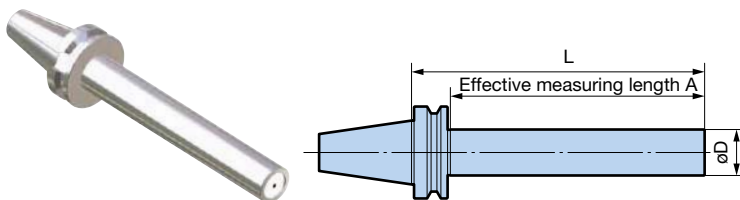
BIG-PLUS Type



Caution
 Only use PULLSTUD BOLTS made by BIG.

■ BBT Shank [MAS403 and JIS B6339]

- The short type is ideal for ATC repeatability inspection.

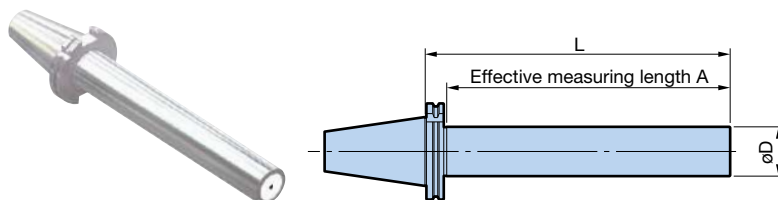


BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	L	A	øD
BBT30-32-L150	150	125	32
-L235	235	210	
BBT40-50-L200	200	170	50
-L350	350	320	
BBT50-50-L200	200	159	50
-L360	360	319	

1. The BBT Shank conforms to JIS-BT standards.

■ BDV Shank [DIN 69871 and ISO 7388-1]

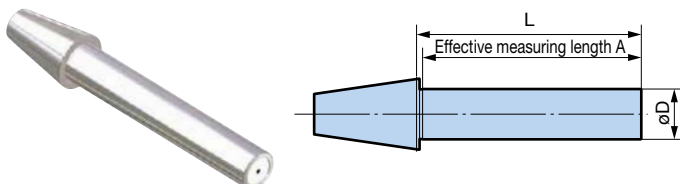


BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	L	A	øD
BDV40-50-L340SD	340	310	50
BDV50-50-L340SD	340	318	50

Basic Type

- Can also be used as a setting gauge for tool presetters.



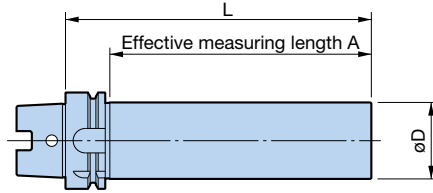
Model	L	A	øD
NT30-32-L150	150	142	32
-L225	225	217	
NT40-50-L200	200	184	50
-L335	335	319	
NT50-50-L200	200	191	50
-L335	335	326	

MEASURING TOOLS

HSK Shank Type



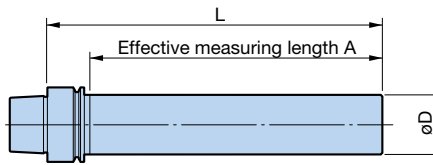
■ HSK-A Type [DIN 69893-1 and ISO 12164-1]



Model	L	A	øD
HSK-A 40-32-L180SD	180	157	32
-A 50-32-L150SD	150	121	
-L240SD	240	211	
-A 63-50-L200SD	200	171	50
-L350SD	350	321	
HSK-A100-50-L200SD	200	168	
-L350SD	350	318	

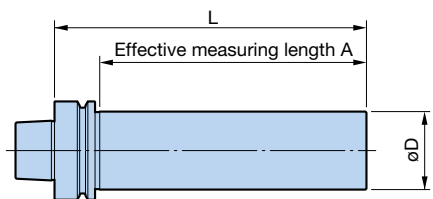
1. As the depth of the drive keys are symmetrical, it can be mounted in 180° inversion.

■ HSK-E Type [DIN 69893-5]



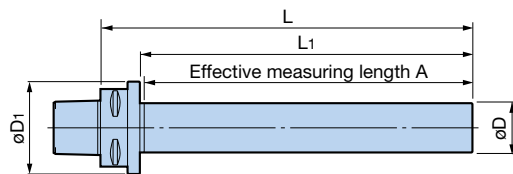
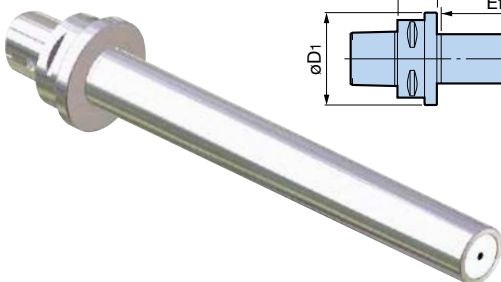
Model	L	A	øD
HSK-E25-20-L175	175	163	20
-E32-20-L180	180	158	
-E40-32-L180		157	32
-E50-32-L240	240	211	

■ HSK-F Type [DIN 69893-6]



Model	L	A	øD
HSK-F63-50-L200	200	171	50
-L350	350	321	

BIG CAPTO SHANK Type



Model	L	L ₁	A	øD	øD ₁
C5-32-L150	180	150	148	32	63
- 215	245	215	213		
-40-L250	280	250	247	40	
C6-40-L150	182	150	147	40	75
-L200	232	200	197		
-L320	352	320	317		
C8-40-L200	240	200	197	40	85
-L320	360	320	317		

DYNA TEST [For dynamic precision measurement]

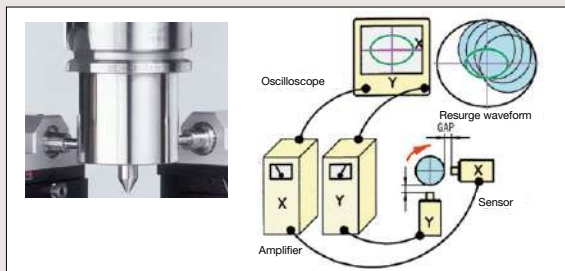
Evaluates the dynamic runout accuracy of the machine spindle by measuring the runout while rotating at practical speeds.

- The dynamic accuracy may differ from static accuracy due to centrifugal force, vibration and heat caused by spindle rotation. Knowing the dynamic accuracy will aid in finding the appropriate cutting parameters for actual machining.

Dynamic runout accuracy

Allows measurement of the runout during actual rotation.

[Example of dynamic runout measuring devices.]



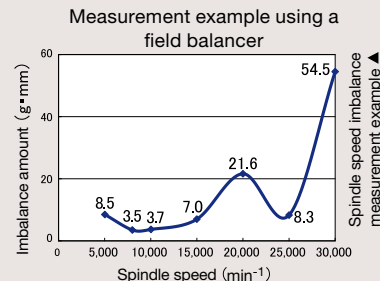
This example uses a static capacitance non-contact displacement meter. X and Y axis displacement can be measured simultaneously, with the resurge waveform displayed on an oscilloscope.

Measurement example of radial direction error at different spindle speeds

Spindle speed (min ⁻¹)	500	10,000	30,000
Resurge waveform			

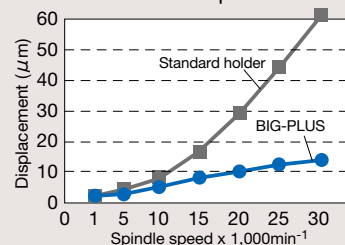
Imbalance

The balance also changes with spindle speed. Tool life and machining accuracy are improved by usage at a spindle speed with good balance performance.



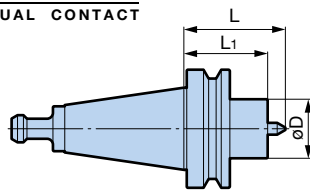
Measurement of Z-axis direction displacement

Z-axis displacement varies depending on the thermal displacement and spindle expansion caused at each spindle speed. The center boss allows measurement with a non-contact displacement meter.



※ Changes due to thermal expansion of the machine spindle are also included.

BIG-PLUS Type



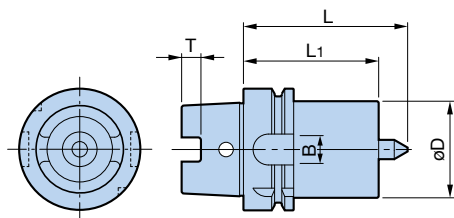
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Model	øD	L	L ₁
BBT30-40-Z62	40	62	50
BBT40-50-Z85	50	85	70
BBT50-50-Z85	50	85	70

1. Specify the pullstud bolt model, as the taper is ground with the pullstud bolt mounted.

HSK Shank Type

HSK-A Type [DIN 69893-1 and ISO 12164-1]

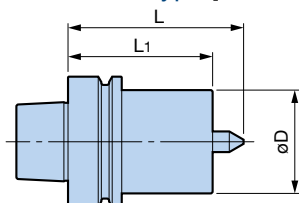


※ HSK-E Type and other shank sizes are also available. Please contact us for details.

Model	L	L ₁	øD	B	T
HSK-A 40-40-Z62AB	62	50	40	11	6
-A 50-40-Z62AB				14	7.5
-A 63-50-Z85AB	85	70	50	18	10
-A100-50-Z85AB				22	15

1. Symmetrically designed HSK shanks for improved balance.

HSK-F Type [DIN 69893-6]

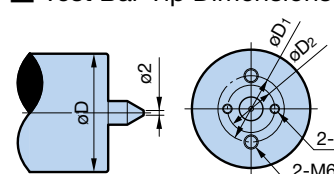


Model	L	L ₁	øD
HSK-F63-50-Z85	85	70	50

1. HSK-E Type (DIN 69893-5) is also available

Common for BBT Shank/HSK Shank

Test Bar Tip Dimensions



øD	øD ₁	øD ₂
ø40 Type	18	16
ø50 Type	28	20

※ M4 and M6 threaded holes are prepared for mounting test weights used for field balance measurement.

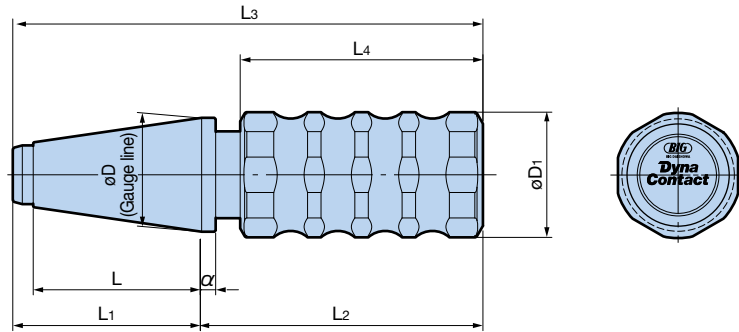
For machine spindle taper inspection.

Ceramic gauge makes the taper contact easily visible.

- Higher hardness than steel for good scratch resistance.
- Made of ceramic (white), it allows even a thin coating of Prussian blue to show up clearly.
- Rustproof, non-magnetizing, no aging deterioration.



Taper angle: $8^{\circ}17'50'' \pm 1''$



Model	Taper No.	oD	oD ₁	L	L ₁	L ₂	L ₃	L ₄	α	Weight (kg)
DC-30P	30	31.75	36	48.4	56.4	106.6	163	93.6	6	0.52
-40P	40	44.45	49	65.4	73.4	110.6	184	95	6	1.22
-50P	50	69.85	49	101.8	111.8	113.2	225	95	8	2.62

1. Can also be used with ANSI/DIN and other international standard spindles.



In aluminum case

DYNA FORCE

DYNA FORCE [Measuring device for pulling force]

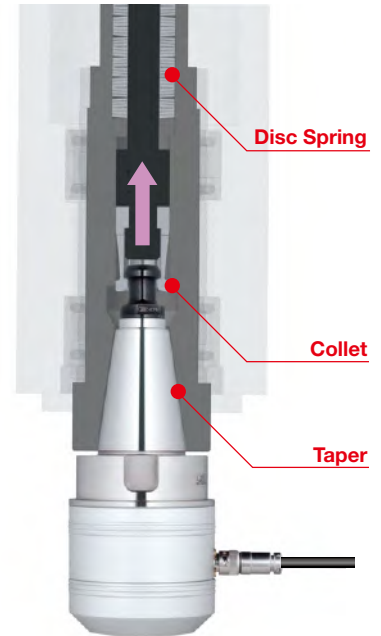
Measures pulling force of machine tool spindles and tool clamp equipment, a vital factor of machine tool performance.

- Prevents machining errors and shortened tool life due to decreased pulling force.
- Measurement values visible at a glance with digital display. (Minimum display unit 0.1kN)
- Lightweight and compact display aids measuring work.

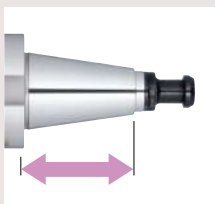


An Essential for Machine Maintenance

The pulling force produced could deteriorate due to degradation of disc springs or wear of the components of the booster, due to many years of punishing use. Decreased pulling force reduces static rigidity, causing chatter, decreased machining accuracy, and shortened tool life. Periodic inspections with DYNA FORCE can prevent problems in advance.



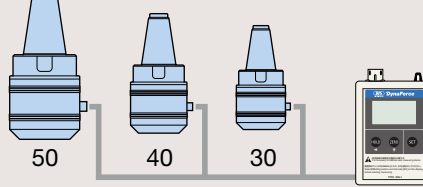
Long taper for increased reliability



The taper is long, with a shape similar to regular tools, enabling highly reliable measurement values.

Supports all taper sizes with a single display

A single display can be used with all taper sizes, reducing costs.



Main Specifications

Conforms to domestic and international standards (JIS, DIN, ANSI).

Measuring tool

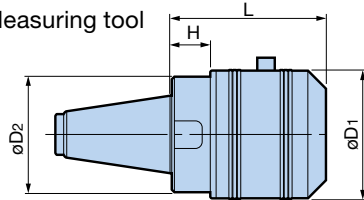


Fig. 1

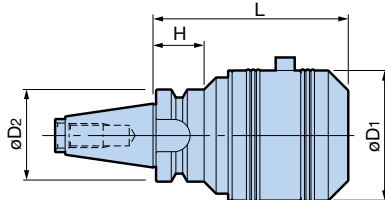


Fig. 2

Display



Cable



Case



Set Model	Set contents			Taper size	Rated capacity	øD ₁	øD ₂	L	H	Weight (kg)
	Measuring tool	Fig.	Display							
SNT30-DF10	NT30-DF10	1	DFA-1 (Includes 2 AA batteries)	DFC-1 (2m)	10kN (980kgf)	65	58	80	20	1.5
SBT30-DF10	BT30-DF10	2					46	98	26	1.6
SNT40-DF30	NT40-DF30	1			30kN (2,940kgf)	73	66	90	24	2.5
SNT50-DF50	NT50-DF50	1			50kN (4,900kgf)	96	90	110	33	6.0
-DF30 ※	-DF30	1			30kN (2,940kgf)	73	70	86	20	3.9

- The items are also sold individually. (Single measuring tool also provided with exclusive case.)
- BT model is a special purpose product for use with machines where manual mounting is impossible.
- BT model can be used on JIS BT and BBT spindle machines only.
- Pullstud bolt must be ordered separately. Note that standard pullstud bolt can be used with the machines that require JIS or MAS standard pullstud bolts, while the exclusive pullstud bolts are required for the machines with other standard spindles such as DIN or CAT.

5. ※ indicates lightweight type.

A calibration certificate and traceability diagram is offered upon request with charge for reliable use of these measuring instruments.

Exclusive pullstud bolts

- DIN/ANSI/CAT standard spindles require exclusive pullstud bolts.
MAS and JIS standards permit the use of standard pullstud bolts.
- These exclusive pullstud bolts cannot be used with the BT and BT Dyna Force models.



Standard number	Shank No.		
	30	40	50
DIN Standard (DIN 69872)	DF-PDV30	DF-PDV40A	DF-PDV50A
ISO Standard (ISO 7388)	Form A	—	—
	Form B	—	—
ANSI Standard (ANSI B5.50)	DF-PAV30	DF-PAV40	DF-PAV50
CAT Standard (ASME B5.50)	DF-PCV30	DF-PCV40	DF-PCV50

ATC ALIGNMENT TOOL

To retain machine tool spindle accuracy!

- Measures misalignment of the spindle center and ATC arm.
- Measures the position of the ATC arm to the center of the machine spindle or magazine pot.



How to use

1. Mount the AL Shank on the machine spindle and AL Flange on the ATC Arm.
2. Insert the AL Plug into the AL Flange.
3. Rotate the AL Plug and find the highest and lowest positions indicated on the dial gauge. This direction is the center misalignment direction, and half the difference is the misalignment amount.
4. Adjust the position of the ATC Arm so that the entire ϕD_2 section of the AL Plug can be fully inserted into the AL Flange.

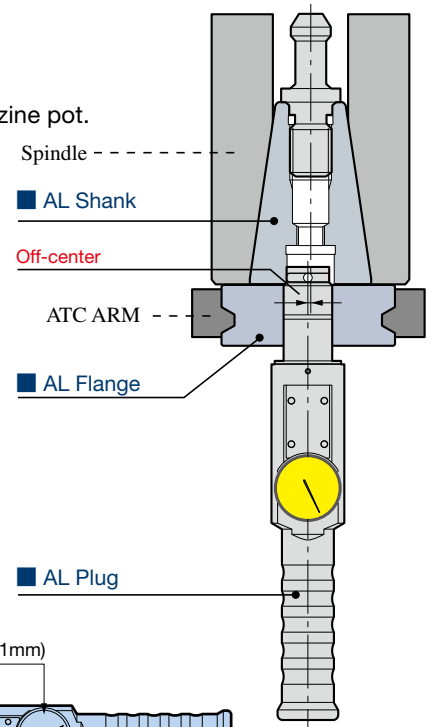
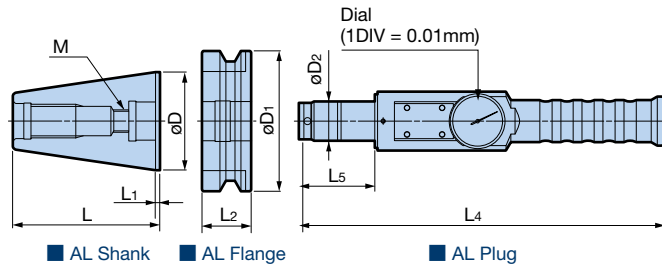
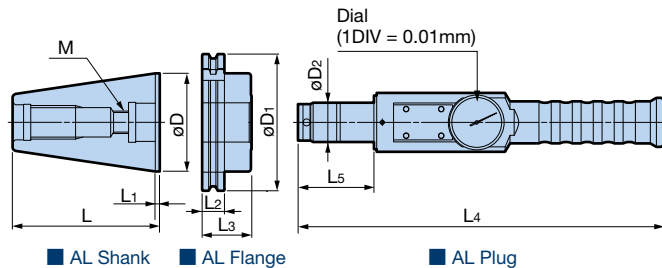


Fig. 1



In exclusive case

Fig. 2



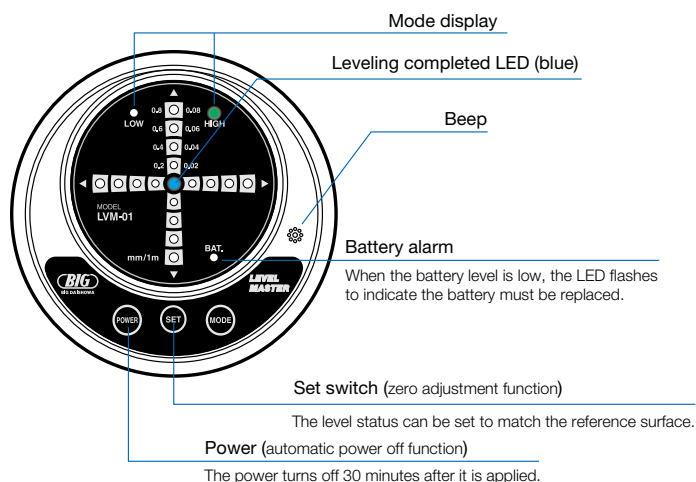
Set Model	Fig.	ϕD	D_1	D_2	L	L_1	L_2	L_3	L_4	L_5	M
BT30-ATC18	1	31.75	46.00	18	50.40	2.0	20.0	-	251	44	12
BT40-ATC20		44.45	63.00	20	67.40	2.0	25.0	-	251	44	12
BT50-ATC28		69.85	100.00	28	104.80	3.0	35.0	-	261	54	16
DV40-ATC20	2	44.45	63.55	20	71.60	3.2	15.9	24.3	251	44	12
DV50-ATC28		69.85	97.50	28	104.95	3.2	15.9	35.3	261	54	16

1. Contact us for CAT Standard 7/24 taper shank versions.
 2. Prior consultation is required for HSK shank versions.

For level management of machine tools/precision assembly devices

- 2-axis simultaneous level detector.
- Notifies leveling completion with LED and beep.
- Uses optical level detection sensor.

High precision of 0.01mm or less per 1m



Instantaneous display of level status with LED

HIGH Mode

- Flashing: Over 0.08mm
- Lit: 0.08mm or less
- Lit: 0.06mm or less
- Lit: 0.04mm or less
- Lit: 0.02mm or less
- Lit: 0.01mm or less

Tilt at 1m distance

LOW Mode

- Flashing: Over 0.8mm
- Lit: 0.8mm or less
- Lit: 0.6mm or less
- Lit: 0.4mm or less
- Lit: 0.2mm or less
- Lit: 0.1mm or less

Tilt at 1m distance

Notifies leveling completion with LED and beep

HIGH Mode

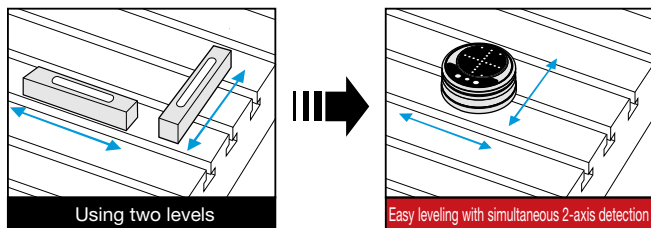
When level is **0.01mm/1m or less**

LOW Mode

When level is **0.1mm/1m or less**

Notification with LED (blue) and beep

2-axis simultaneous detection High precision of 0.01mm or less per 1m



2-axis simultaneous detection makes leveling drastically faster and more economical, compared to the conventional process of using two separate levels.

Main Specifications

Model	LVM-01
Minimum read value	0.01mm/1m
Power	Alkaline dry cell: LR03 (AAA) x 4P
Automatic power off	Power off 30 minutes after application
Operating temperature range	0°C - 40°C (recommended 20°C ±5°C)
Battery life	50 continuous hours
Dimensions	φ109 x H46
Weight	0.99kg

※ For high-precision level adjustment, we recommend confirming the level with a reference surface such as a surface plate before use.

Set Contents

- LEVEL MASTER body
- Exclusive aluminum case
- Battery (Alkaline dry cell: LR03 (AAA) x 4 pcs)
- Operation manual
- Inspection Certificate

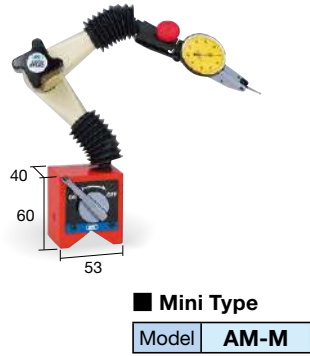
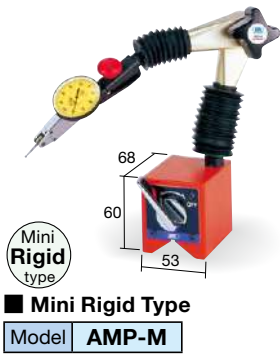
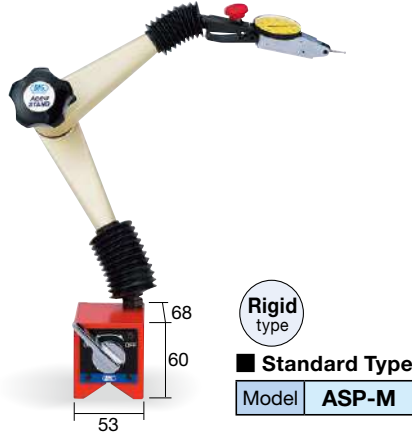


MEASURING TOOLS

Flexible arm stand which locks solidly by the special cam mechanism.

Magnetic Base Type

- Firmly fixed with a powerful magnet.



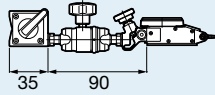
Compact yet tough arm and powerful clamp.
 Mini-Mini Type!



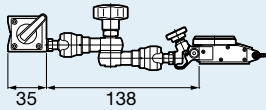
※ Test indicators and dial gauges are not included with any model.

The thread size of the joint between the magnet and arm is M8 x P1.25 for **AMM**, **AML** and **AM** and M10 x P1.5 for **AMP** and **ASP**.

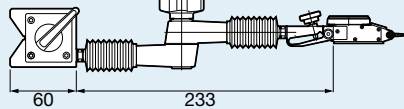
● **AMM-M**



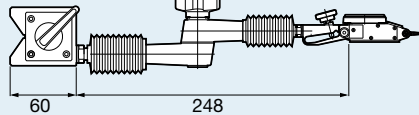
● **AML-M**



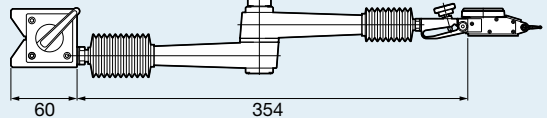
● **AM-M**



● **AMP-M**



● **ASP-M**



Gauge support details **I19**

ACCU STAND

Cast Base Type

- Cast base type ideal for precision measurement on a surface plate

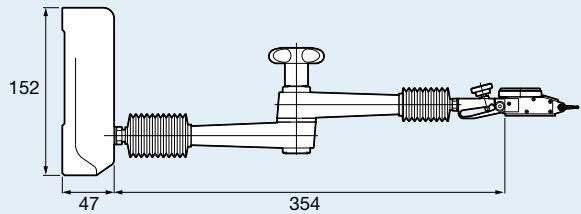


Rigid type

Model **ASP-B**

The base shape is designed for stability, with a precision-ground bottom surface that enables higher-precision measurement. The side is also ground perpendicular to the bottom, allowing measurement while sliding.

- ASP-B



The thread size of the joint between the cast base and arm is M10 x P1.5.

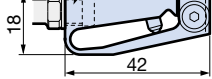
See below for gauge support details

Gauge support details (Test indicators and dial gauges are not included.)

Standard/Mini Type

Fine adjustment knob [P = 0.25] (AS-RED)

M8 x P1.25

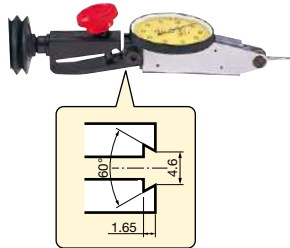


Available for spare supplies

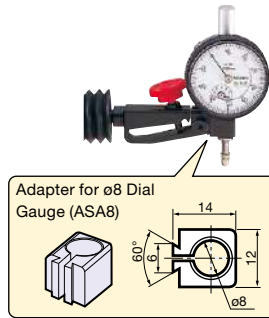
Gauge Support Set

Set Model **DGH-3**

Set Contents: Gauge support/Fine adjustment knob/Adapter for ø8 Dial Gauge



Test indicator mounting groove

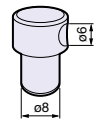


Adapter for ø8 Dial Gauge (ASA8)

Dial Gauge mounting hole

Optional Product

- Clamp Piece for ø6
- Procure when using a ø6 Dial Gauge.

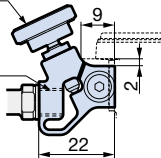


Model **ASA8-6**

Mini-Mini Type

Fine adjustment knob [P = 0.25] (AS-RED)

M8 x P1.25

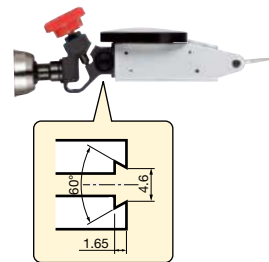


Available for spare supplies

Gauge Support Set

Set Model **DGH-MM**

Set Contents: Gauge support/Fine adjustment knob



Test indicator mounting groove

Optional Products

- Adapter for ø8 Dial Gauge

Model **ASA8**

- Clamp Piece for ø6

Procure when using a ø6 Dial Gauge.

Model **ASA8-6**

Flexible arm stand which locks solidly by the special cam mechanism.

Cylindrical Shank Type

● For workpiece centering.

※ Test indicators and dial gauges are not included with any model.

⚠ Caution Not suitable for horizontal machines.



Rigid type

■ Standard Type

Model	Shank diameter
ASP-32	ø32
ASP-42	ø42



■ Mini Type

Model	Shank diameter
AM-20	ø20
AM-32	ø32



■ Mini-Mini Type PAT. (Short arm)

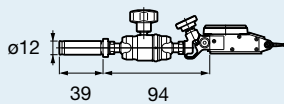
Model	Shank diameter
AMM-12	ø12
AMM-20	ø20



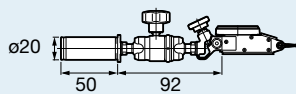
■ Mini-Mini Type (Long arm)

Model	Shank diameter
AML-12	ø12
AML-20	ø20

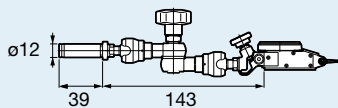
● AMM-12



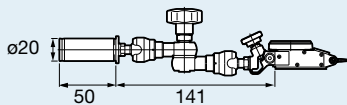
● AMM-20



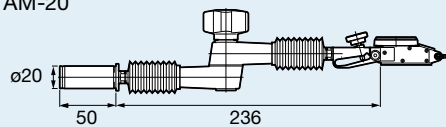
● AML-12



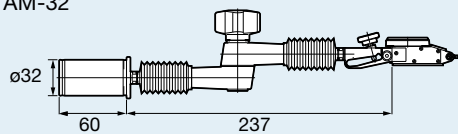
● AML-20



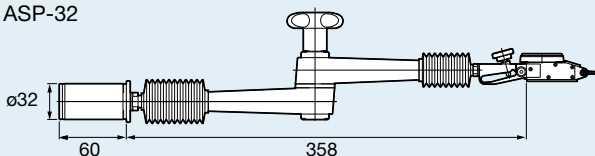
● AM-20



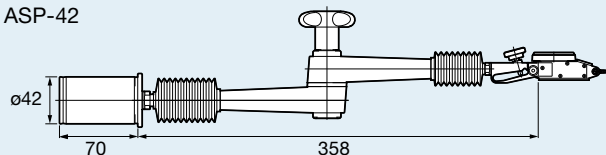
● AM-32



● ASP-32



● ASP-42



The thread size of the joint between the cylindrical shank and arm is M8 x P1.25 for AMM, AML, and AM and M10 x P1.5 for ASP.

👉 Gauge support details **119**

ACCU STAND

HSK Shank Type

- For small machining centers with HSK-E spindles.
- HSK-E Shank type can be directly mounted on spindle.

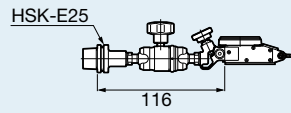


Mini-Mini Type PAT.

Model	Shank No.
HSK-E25-AMM	HSK-E25
HSK-E32-AMM	-E32

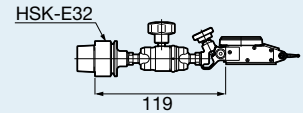
※ Test indicators and dial gauges are not included with any model.

● HSK-E25-AMM



The thread size of the joint between the HSK shank and arm is M8 x P1.25.

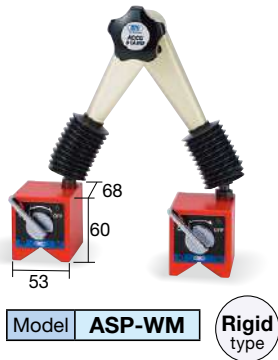
● HSK-E32-AMM



Gauge support details **119**

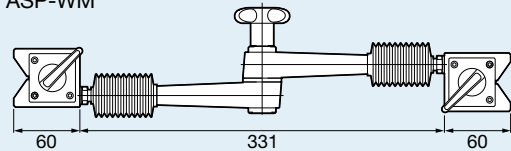
Double Magnetic Base Type

- For workpiece machining and cutting.



Model	ASP-WM	Rigid type
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● ASP-WM



The thread size of the joint between the magnet and arm is M10 x P1.5.

Arm Only Type

- For various applications according to your idea.



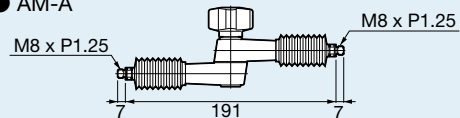
Standard Type

Model	ASP-A	Rigid type
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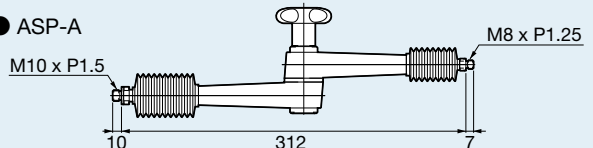
Mini Type

Model	AM-A
-------	-------------

● AM-A



● ASP-A

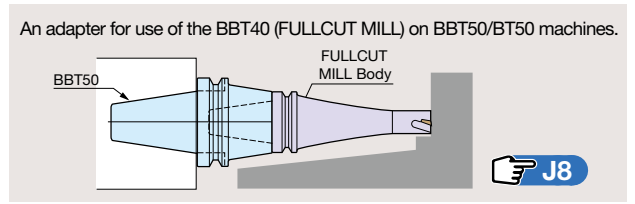


CUTTING TOOLS



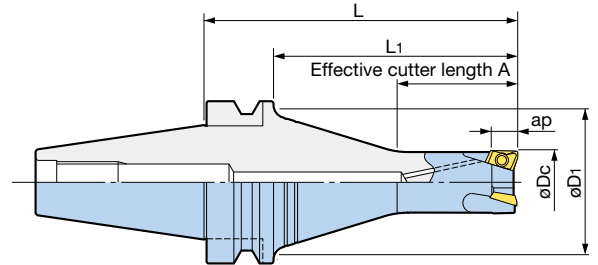
Evolved rigidity realizes both heavy and stable ramping.

- Integral design with a taper shank and dual face contact of BIG-PLUS and HSK provide the highest rigidity.



BBT Integrated Type

[Standard Type]



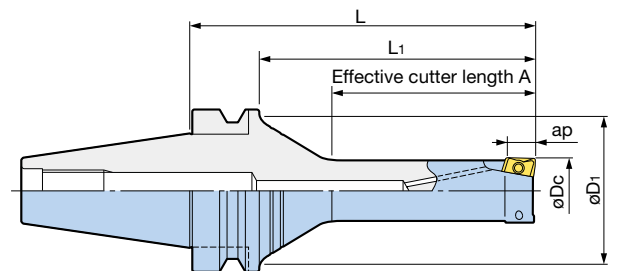
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Cutter diameter ϕD_c	Model	Effective cutting edge length ap	ϕD_1	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	BBT30-FCR16082- 65	8	40	65	43	28	2	BRG1608□□	0.47
20	-FCR20083- 65			65	43	28	3	BRG2008□□	0.49
25	-FCR25083- 65			65	43	33	3	BRG2508□□	0.52
32	-FCR32103- 65	10		65	43	40	3	BRG3210□□	0.56
16	BBT40-FCR16082- 85	8	60	85	58	25	2	BRG1608□□	1.2
	-120			120	93	30			1.5
	-135			135	108	25			1.6
20	-FCR20083- 85	8	60	85	58	35	3	BRG2008□□	1.2
	-120			120	93	30			1.5
	-135			135	108	30			1.6
25	-FCR25083- 85	8	60	85	58	40	3	BRG2508□□	1.2
	-120			120	93	45			1.5
	-135			135	108	35			1.7
32	-FCR32103- 85	10	60	85	58	45	3	BRG3210□□	1.3
	-120			120	93	50			1.6
	-135			135	108	40			1.8

1. Wrench included. Inserts must be ordered separately.

Inserts **J4** Cutting conditions **J5**

[Long Type]



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Cutter diameter ϕD_c	Model	Effective cutting edge length ap	ϕD_1	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	BBT30-FCR16082L- 85	8	40	85	63	45	2	BRG1608□□	0.52
20	-FCR20082L- 85			85	63	50	2	BRG2008□□	0.55
25	-FCR25082L- 85			85	63	50	2	BRG2508□□	0.62
32	-FCR32102L- 85	10		85	63	60	2	BRG3210□□	0.71
16	BBT40-FCR16082L-105	8	60	105	78	45	2	BRG1608□□	1.3
	-120			120	93	45			1.4
20	-FCR20082L-120	8	60	120	93	60	2	BRG2008□□	1.4
	-135			135	108	60			1.5
25	-FCR25082L-135	8	60	135	108	75	2	BRG2508□□	1.5
	-150			150	123	75			1.7
32	-FCR32102L-135	10	60	135	108	80	2	BRG3210□□	1.7
	-150			150	123	90			1.9

1. Wrench included. Inserts must be ordered separately.

Inserts **J4** Cutting conditions **J5**

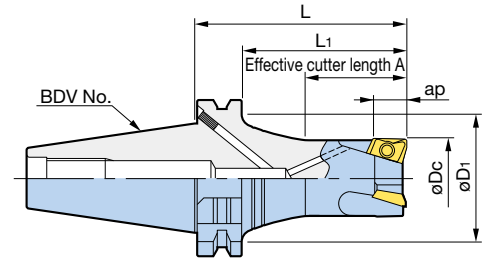
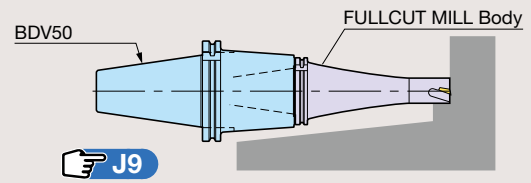
FULLCUT MILL FCR Type

BDV Integrated Type

[Standard Type] Cutter diameter: $\phi 16 - \phi 32$



An adapter for use of the BDV40 (FULLCUT MILL) on BDV50/DV50 machines.



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

Cutter diameter ϕD_c	Model	Effective cutting edge length a_p	ϕD_1	L	L_1	A	Number of inserts	Insert Model	Weight (kg)
16	BDV40-FCR16082- 85	8	52	85	65	25	2	BRG1608□□	1.3
	-120			120	100	30			1.5
	-135			135	115	25			1.6
20	-FCR20083- 85	8	52	85	65	35	3	BRG2008□□	1.2
	-120			120	100	30			1.6
	-135			135	115	30			1.7
25	-FCR25083- 85	8	52	85	65	40	3	BRG2508□□	1.3
	-120			120	100	45			1.6
	-135			135	115	35			1.8
32	-FCR32103- 85	10	52	85	65	45	3	BRG3210□□	1.4
	-120			120	100	50			1.7
	-135			135	115	40			1.9

1. Wrench included. Inserts must be ordered separately.

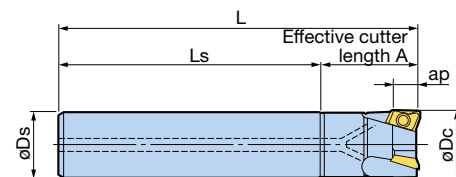
Inserts **J4** Cutting conditions **J5**

Cylindrical Shank Type

[Oversize] Cutter diameter: $\phi 16 - \phi 33$



Cutter diameter is **1mm** larger than shank diameter, preventing workpiece interference (except ST28).



Cutter diameter ϕD_c	Model	ϕD_s	Effective cutting edge length a_p	L	A	L_s	Number of inserts	Insert Model	Weight (kg)
16	ST15-FCR16082-120	15	8	120	25	95	2	BRG1608□□	0.2
17	ST16-FCR17082-120	16	8	120	25	95	2	BRG1608□□	0.2
20	ST19-FCR20082-165	19	8	165	30	135	2	BRG2008□□	0.4
	-FCR20083-135			135		3	0.3		
21	ST20-FCR21082-165	20	8	165	30	135	2	BRG2008□□	0.4
	-FCR21083-135			135		3	0.3		
25	ST24-FCR25082-180	24	8	180	35	145	2	BRG2508□□	0.7
	-FCR25083-150			150		3	0.6		
26	ST25-FCR26082-165	25	8	165	38	127	2	BRG2508□□	0.6
	-FCR26083-150			150		3	0.6		
32	ST28-FCR32102-180	28	10	180	48	132	2	BRG3210□□	1.1
	-FCR32103-180			132		3	1.0		
33	ST32-FCR33102-180	32	10	180	48	132	2	BRG3210□□	1.1
	-FCR33103-180			132		3	1.0		

1. Wrench included. Inserts must be ordered separately.

2. Lower the cutting parameters as needed for long projection length and 3 inserts models.

3. 2-insert models are recommended for medium or heavy milling of slots or pockets.

4. For medium or heavy slot milling or ramping with projection length exceeding 2.5 times the diameter, 2-insert models are recommended.

Inserts **J4** Cutting conditions **J5**

Evolved rigidity realizes both heavy and stable ramping.

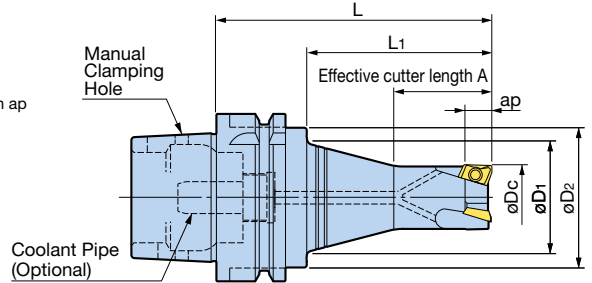
HSK Integrated Type



[Standard Type]



- Model Description
HSK-A50 - **FCR** **16** **08** **2** - **75**
 - HSK SHANK No.
 - FCR Type
 - Cutter diameter ϕD_c
 - Effective cutting edge length ap
 - Number of inserts
 - L dimension



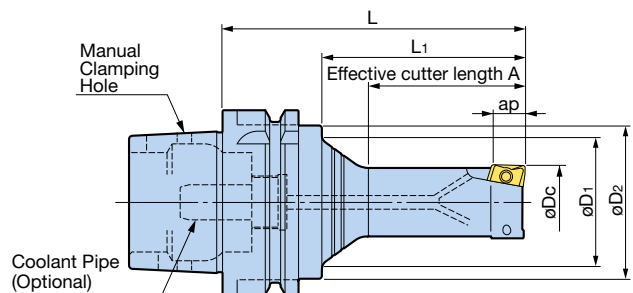
A Type (DIN69893-1) (ISO12164)

Cutter diameter ϕD_c	Model	Effective cutting edge length ap	ϕD_1	ϕD_2	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	HSK-A50-FCR16082- 75	8	32	40	75	41	27	2	BRG1608□□	0.5
20	-FCR20083- 75				75	41	28	3	BRG2008□□	0.6
25	-FCR25083- 75				75	41	33	3	BRG2508□□	0.6
32	-FCR32103- 75				10	—	75	41	39	3
16	HSK-A63-FCR16082- 85	8	45	50	85	51	25	2	BRG1608□□	0.9
	-120				120	86	30			1.1
	-135				135	101	25			1.2
20	-FCR20083- 85	8	45	50	85	51	32	3	BRG2008□□	1.0
	-120				120	86	30			1.2
	-135				135	101	30			1.3
25	-FCR25083- 85	8	45	50	85	51	35	3	BRG2508□□	1.0
	-120				120	86	45			1.2
	-135				135	101	35			1.4
32	-FCR32103- 85	10	45	50	85	51	40	3	BRG3210□□	1.1
	-120				120	86	50			1.4
	-135				135	101	40			1.5

1. Wrench included. Inserts must be ordered separately.
2. Coolant pipe is not included. Please order separately. See page [C63](#)



[Long Type]



A Type (DIN69893-1) (ISO12164)

Cutter diameter ϕD_c	Model	Effective cutting edge length ap	ϕD_1	ϕD_2	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	HSK-A63-FCR16082L- 85	8	45	50	85	51	40	2	BRG1608□□	0.9
	-120				120	86	45			1.0
20	-FCR20082L-105	8	45	50	105	71	50	2	BRG2008□□	1.1
	-120				120	86	60			1.2
25	-FCR25082L-105	8	45	50	105	71	55	2	BRG2508□□	1.1
	-120				120	86	65			1.1
32	-FCR32102L-120	10	45	50	120	86	70	2	BRG3210□□	1.4
	-135				135	101	80			1.4

1. Wrench included. Inserts must be ordered separately.
2. Coolant pipe is not included. Please order separately. See page [C63](#)

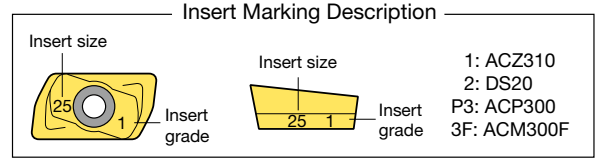
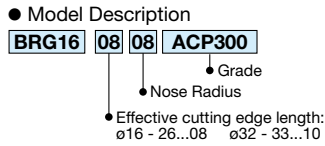


J
Endmilling

FULLCUT MILL FCR Type

<Insert>

- Exclusive design with relief angles and rake angles optimized for each cutter size.



Cutter diameter	Insert Model	Effective cutting edge length	Nose radius	Insert grade			
				ACP300 (for steel)	ACM300F (for stainless steel)	ACZ310 (for cast iron)	DS20 (for aluminum)
ø16, ø17	BRG160808	8	0.8	○	○	○	○
ø20, ø21	BRG200808	8		○	○	○	○
ø25, ø26	BRG250808	8		○	○	○	○
ø32, ø33	BRG321008	10	3.2	○	○	○	○
	BRG321032	10		—	—	—	○

1. Inserts are available in packets of 10 pcs.
 Please specify the insert model number and grade when ordering.

Caution

- Inserts are exclusive for each cutter diameter. Be sure to purchase an insert suited to the cutter diameter, as the use of a different insert may cause problems.
- Not compatible with inserts for FULLCUT MILL FCM Type.

■ Insert Grade Description

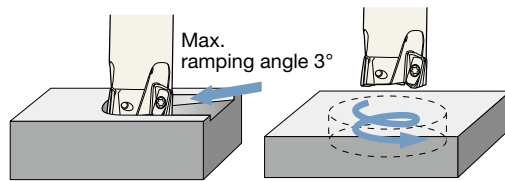
ACP300	ACM300F	ACZ310
Material for general steel, with a super multi-layered PVD coating on a super-tough substrate. Excellent chipping and thermal fracture resistance allows interrupted cutting as well.	Uses a new coating with improved smoothness and adhesiveness on a newly developed ultra-hard carbide substrate. Excellent welding and chipping resistance, and capable of stable stainless steel machining.	Material for cast iron and ductile cast iron machining, with a PVD multilayer coating on an ultra-fine particle alloy substrate. Highly wear-resistant and also resistant to machine impact.

DS20
Material for non-ferrous metals, with a special diamond coating (DLC) realizing high adhesion and low friction, on K20 class carbide.

<Insert Clamping Screw Set>

Insert clamp screws and tightening wrench are consumables. Order periodically for replacement or spares.

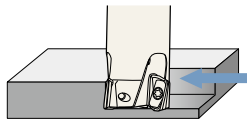
		● Insert Clamping Screw Set	● Driver-Type Wrench
		Screw x 10 pcs Wrench x 1 pce. 	
Cutter diameter	Insert Model	Set Model	Wrench Model
ø16, ø17	BRG1608□□	S2506DS	DA-T8
ø20, ø21	BRG2008□□		
ø25, ø26	BRG2508□□		
ø32, ø33	BRG3210□□	S3508DS	DA-T15

FULLCUT MILL FCR Type**Cutting Conditions**

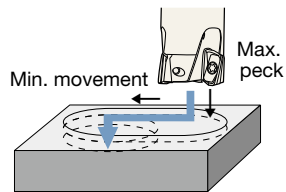
Cutter diameter	Blind Hole Helical Machining		Through Hole Helical Machining		Cutter diameter	Blind Hole Helical Machining		Through Hole Helical Machining	
	Max. diameter	Min. diameter	Min. diameter	Max. diameter		Max. diameter	Min. diameter	Min. diameter	Max. diameter
ø16	ø30	ø27	ø22		ø25	ø48	ø45	ø39	
ø17	ø32	ø29	ø24		ø26	ø50	ø47	ø41	
ø20	ø38	ø35	ø29		ø32	ø62	ø59	ø48	
ø21	ø40	ø37	ø31		ø33	ø64	ø61	ø50	

Ramping/Helical Milling

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel	Tool Steel (SKD11)	Cast Iron	Aluminum
	Insert grade	ACP300		ACM300F			ACZ310	DS20
	Cutting fluid	Dry						Dry/Wet
ø16 - ø17	Cutting speed Vc (m/min)	100 - 200	150 - 220	60 - 80	100 - 150	60 - 80	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.06 - 0.12	0.06 - 0.12	0.05 - 0.08	0.08 - 0.16	0.06 - 0.1	0.08 - 0.18	0.06 - 0.24
ø20 - ø26	Cutting speed Vc (m/min)	100 - 200	150 - 200	60 - 100	120 - 150	60 - 100	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.08 - 0.2	0.08 - 0.2	0.05 - 0.1	0.12 - 0.2	0.06 - 0.1	0.02 - 0.18	0.1 - 0.35
ø32 - ø33	Cutting speed Vc (m/min)	100 - 200	150 - 200	60 - 100	120 - 150	60 - 120	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.08 - 0.2	0.08 - 0.2	0.05 - 0.1	0.12 - 0.2	0.08 - 0.12	0.06 - 0.2	0.1 - 0.35

**Shoulder Milling/Slotting**

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel	Tool Steel (SKD11)	Cast Iron	Aluminum
	Insert grade	ACP300		ACM300F			ACZ310	DS20
	Cutting fluid	Dry						Dry/Wet
ø16 - ø21	Cutting speed Vc (m/min)	100 - 200	100 - 200	60 - 80	120 - 180	80 - 120	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.08 - 0.18	0.08 - 0.18	0.05 - 0.1	0.12 - 0.18	0.08 - 0.12	0.08 - 0.18	0.1 - 0.3
ø25 - ø33	Cutting speed Vc (m/min)	100 - 200	100 - 200	60 - 100	120 - 180	80 - 120	100 - 180	200 - 1,500
	Feed rate fz (mm/t)	0.08 - 0.2	0.08 - 0.2	0.05 - 0.1	0.12 - 0.2	0.08 - 0.12	0.08 - 0.2	0.1 - 0.35

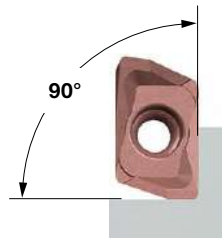
**Peck-drilling**

Cutter diameter	Max. peck	Min. movement	Cutter diameter	Max. peck	Min. movement
ø16	0.5	14	ø25	1	23
ø17		15	ø26		24
ø20	1	18	ø32	2	30
ø21		19	ø33		31

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel	Tool Steel (SKD11)	Cast Iron	Aluminum
	Insert grade	ACP300		ACM300F			ACZ310	DS20
	Cutting fluid	Dry/Air Blow						Air/Wet
ø16 - ø17	Cutting speed Vc (m/min)	80 - 120	80 - 120	60	80 - 120	60 - 80	80 - 160	200 - 350
	Feed per rev. f (mm/rev)	0.06 - 0.1	0.06 - 0.1	0.04 - 0.06	0.05 - 0.08	0.05 - 0.08	0.06 - 0.1	0.06 - 0.1
ø20 - ø26	Cutting speed Vc (m/min)	100 - 160	100 - 160	60 - 100	100 - 160	60 - 100	80 - 180	200 - 500
	Feed per rev. f (mm/rev)	0.1 - 0.25	0.1 - 0.25	0.1 - 0.25	0.12 - 0.25	0.1 - 0.2	0.08 - 0.3	0.1 - 0.3
ø32 - ø33	Cutting speed Vc (m/min)	100 - 160	100 - 160	60 - 100	100 - 160	60 - 100	80 - 180	200 - 600
	Feed per rev. f (mm/rev)	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3	0.12 - 0.3	0.1 - 0.2	0.08 - 0.4	0.1 - 0.3

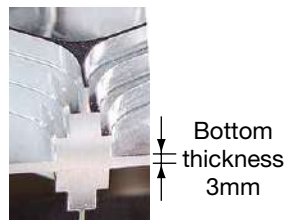
Caution

- This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
- Be sure to use safety enclosures, as chips may scatter.
- Do not use oil-based cutting fluid, as there is a risk of fire.
- Dry cutting is recommended for stainless steel as well; however, wet cutting may extend insert life in case severe built-up edge occurs.

APPLICATION EXAMPLES

S50C helical machining was accomplished stably at 1,100mm/min. feed, with excellent perpendicularity.

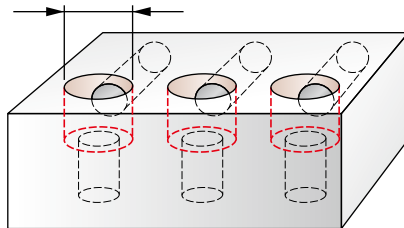
FULLCUT MILL Model	BBT40-FCR20083-120
Insert Model	BRG200808 (ACP300)
Workpiece material	S50C/Air blow
Cutting speed Vc (m/min)	150
Feed Vf (mm/min)	1,100
Axial cutting depth ap (mm)	2mm x 3 times
Machining hole diameter	ø38



Even with less-rigid workpiece with 3mm bottom thickness clamped by a vise, machining at 4,300mm/min. feed on both sides of the workpiece is achieved.

FULLCUT MILL Model	BBT40-FCR20083-85
Insert Model	BRG200808 (DS20)
Workpiece material	A2017/Air blow
Cutting speed Vc (m/min)	750
Feed Vf (mm/min)	4,300
Axial cutting depth ap (mm)	6mm x 3 times
Radial cutting depth ae (mm)	Max. 20

with ø30 side hole

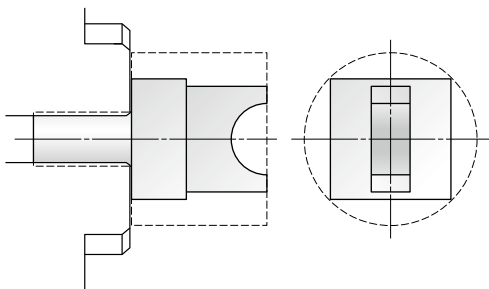


Side holes caused frequent machining defects with conventional ø30 drilling, while helical machining achieved excellent stability.

No problems with machining surface or steps either.

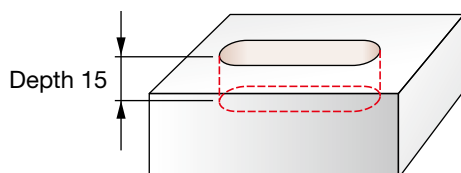
FULLCUT MILL Model	BBT40-FCR25083-85
Insert Model	BRG250808 (ACP300)
Workpiece material	SS400/Dry cutting
Cutting speed Vc (m/min)	160
Feed Vf (mm/min)	600
Hole depth (mm)	25

Machining from bar material



Even with less-rigid cantilever chucking of a workpiece on a millturn machine, low cutting resistance allowed high-precision, high-efficiency machining with no problems.

FULLCUT MILL Model	BBT40-FCR16082-85
Insert Model	BRG160808 (ACP300)
Workpiece material	S45C/Dry cutting
Cutting speed Vc (m/min)	160
Feed Vf (mm/min)	650
Axial cutting depth ap (mm)	2
Radial cutting depth ae (mm)	10



Excellent surface finish for indexable insert endmills, and no finishing required. No problems with steps either. Achieved 7 times greater cutting efficiency than conventional carbide drills and endmills.

FULLCUT MILL Model	BBT40-FCR20083-85
Insert Model	BRG200808 (DS20)
Workpiece material	A2017/Wet cutting
Cutting speed Vc (m/min)	350
Feed Vf (mm/min)	2,000
Axial cutting depth ap (mm)	5mm Peck-drilling
Radial cutting depth ae (mm)	20

Indexable insert endmills which combine sharpness and toughness are comparable to solid endmills.

● Abundant variations from cylindrical shanks to DUAL CONTACT integrated types.

BBT Integrated Type

Slotting
Shoulder milling

- Tough 7/24 taper shank integrated type.
Equipped with DUAL CONTACT <BIG-PLUS> to further improve rigidity and precision!

[Standard Type]



● Model Description

- BBT30 - FCM 16 09 2 - 65**
- L dimension
 - Number of inserts
 - Effective cutting edge length ap
 - Cutter diameter ϕD_c
 - FCM Type
 - BIG-PLUS BT No.

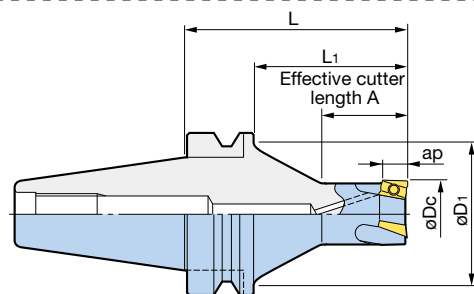
Holder with DUAL CONTACT as standard



- BT type dual contact system.
- Improvement of rigidity, Z-axis accuracy, and ATC repeatability.

Caution

BIG-PLUS spindles produced by licensed machine or spindle builders are strictly controlled in dimensions by the BIG original MASTER GAUGE. Only the BIG-PLUS HOLDERS can achieve the optimal performance of these spindles fully and safely.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Cutter diameter ϕD_c	Model	Effective cutting edge length ap	ϕD_1	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	BBT30-FCM16092- 65	9	40	65	43	23	2	ARG1609□□	0.48
20	-FCM20093- 65				43	28	3	ARG2009□□	0.49
25	-FCM25093- 65				43	33	3	ARG2509□□	0.52
32	-FCM32113- 65	11	—	50	43	38	3	ARG3211□□	0.56
40	-FCM40114- 50				25	4	ARG4011□□	0.54	
50	-FCM50115- 50				28	5	ARG4011□□	0.65	
16	BBT40-FCM16092- 85	9	55	85	58	23	2	ARG1609□□	1.2
	-105		58	105	78	30			1.3
	-120		60	120	93	25			1.4
	-150		60	150	123				1.7
20	-FCM20093- 85	9	55	85	58	28	3	ARG2009□□	1.2
	-105		58	105	78	35			1.3
	-120		60	120	93	30			1.4
	-150		60	150	123				1.8
25	-FCM25093- 85	9	55	85	58	33	3	ARG2509□□	1.2
	-120		58	120	93	45			1.5
	-135		60	135	108	40			1.6
	-165		60	165	138				1.9
32	-FCM32113- 85	11	55	85	58	38	3	ARG3211□□	1.3
	-120		58	120	93	60			1.6
	-135		60	135	108	50			1.7
	-165		60	165	138	40			2.2
40	-FCM40114- 85	11	55	85	58	43	4	ARG4011□□	1.4
	-120		58	120	93	65			1.8
	-135		60	135	108	60			2.0
	-165		60	165	138	50			2.5
50	-FCM50115- 70	11	—	70	43	38	5	ARG4011□□	1.4
	-120		60	120	93	65			2.2
	-135		60	135	108	60			2.4
	-165		60	165	138	50			3.0

1. Wrench included. Inserts must be ordered separately.

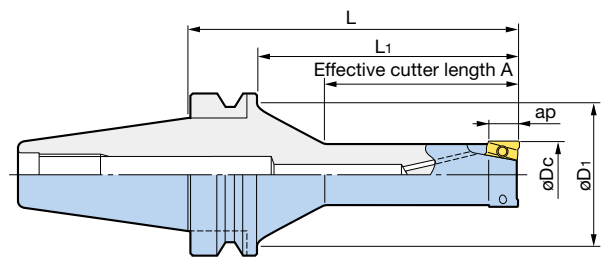
2. For medium/heavy grooving exceeding L = 120mm at $\phi 20$ or L = 135mm at $\phi 25$ or more, we recommend the LONG TYPE (next page).

In such cases, 2-flute LONG TYPEs can perform machining using several times greater axial cutting depth, achieving machining efficiency significantly higher than 3-flute models.

Inserts **J14**

Cutting conditions **J15**

[Long Type]



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

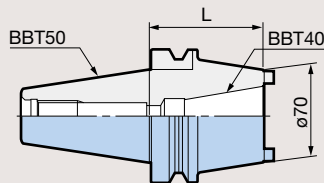
Cutter diameter ϕD_c	Model	Effective cutting edge length a_p	ϕD_1	L	L_1	A	Number of inserts	Insert Model	Weight (kg)
16	BBT30-FCM16092L- 85	9	40	85	63	45	2	ARG1609□□	0.52
20	-FCM20092L- 85				63	50		ARG2009□□	0.55
25	-FCM25092L- 85				63	50		ARG2509□□	0.62
32	-FCM32112L- 85	11			63	60		ARG3211□□	0.71
16	BBT40-FCM16092L-105	9	60	105	78	45	2	ARG1609□□	1.3
	-120			120	93				1.4
20	-FCM20092L-120	9	60	120	93	60	2	ARG2009□□	1.4
	-135			135	108				1.5
25	-FCM25092L-135	9	60	135	108	75	2	ARG2509□□	1.5
	-150			150	123				1.7
32	-FCM32112L-135	11	60	135	108	80	2	ARG3211□□	1.7
	-150			150	123				90

1. Wrench included. Inserts must be ordered separately.

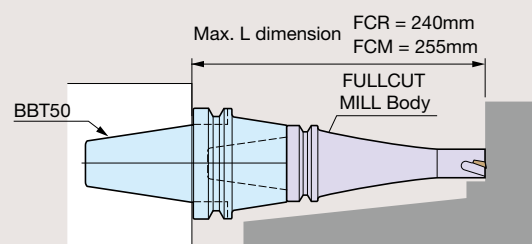
Inserts **J14** Cutting conditions **J15**

Adapter

An adapter for use of the BBT40 (FULLCUT MILL) on BBT50/BT50 machines.



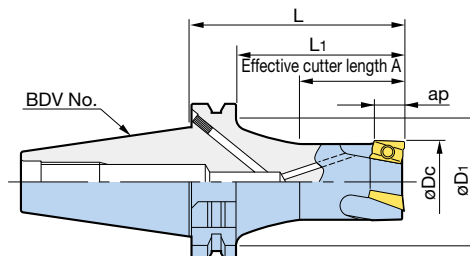
Model	L
BBT50-BBT40-50	50
-90	90



Combination with the Long Type enables further workpiece interference countermeasures.

BDV Integrated Type

[Standard Type]



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

Cutter diameter ϕD_c	Model	Effective cutting edge length a_p	ϕD_1	L	L_1	A	Number of inserts	Insert Model	Weight (kg)
16	BDV40-FCM16092- 85	9	52	85	65	23	2	ARG1609□□	1.2
	-105			105	85	35			1.3
	-120			120	100	34			1.4
20	-FCM20093- 85	9	52	85	65	35	3	ARG2009□□	1.2
	-105			105	85	40			1.3
	-120			120	100	39			1.4
25	-FCM25093- 85	9	52	85	65	33	3	ARG2509□□	1.2
	-120			120	100	45			1.4
	-135			135	115	40			1.6
32	-FCM32113- 85	11	52	85	65	38	3	ARG3211□□	1.3
	-120			120	100	60			1.5
	-135			135	115	50			1.7
40	-FCM40114- 85	11	52	85	65	45	4	ARG4011□□	1.4
	-120			120	100	65			1.7
	-135			135	115	60			2.0
50	-FCM50115- 70	11	52	70	50	50	5	ARG4011□□	1.5
	-120			120	100	100			2.2
	-135			135	115	115			2.4

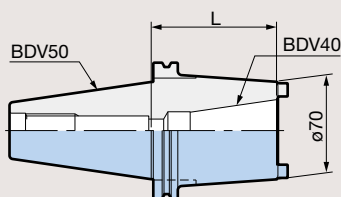
1. Wrench included. Inserts must be ordered separately.

Inserts **J14**

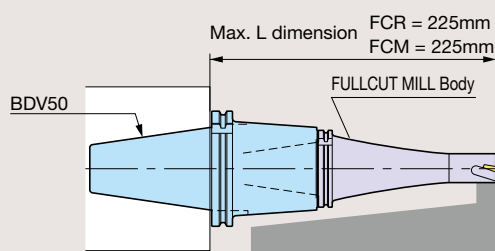
Cutting conditions **J15**

Adapter

An adapter for use of the BDV40 (FULLCUT MILL) on BDV50/DV50 machines.



Model	L
BDV50-BDV40-50	50
-90	90



FULLCUT MILL FCM Type

Cylindrical Shank Type

Slotting
Shoulder milling

- Highly versatile Cylindrical Shank Type.
Make cutting easier by combining with the **BIG** MEGA DOUBLE POWER CHUCK!



We recommend the **BIG** MEGA DOUBLE POWER CHUCK for chucking.



Cutter diameter from $\phi 12 -$

● Model Description

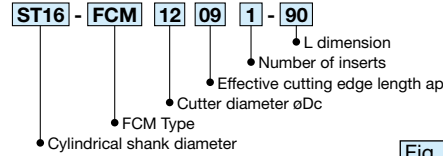


Fig. 1

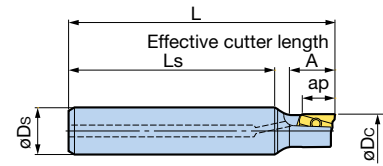
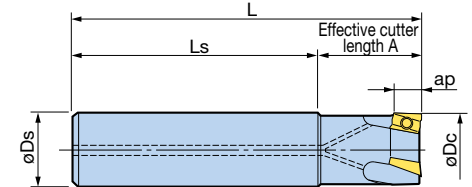


Fig. 2



Cutter diameter ϕDc	Model	Fig.	ϕDs	Effective cutting edge length ap	L	A	Ls	Number of inserts	Insert Model	Weight (kg)		
12	ST16-FCM12091- 90	1	16	9	90	15	70	1	ARG1609□□	0.1		
14	-FCM14091- 90					17				0.1		
16	-FCM16092- 90					25				0.1		
20	ST20-FCM20093-110	2	20	110	110	30	80	3	ARG2009□□	0.2		
25	ST25-FCM25093-120		25			120			35	85	ARG2509□□	0.4
32	ST32-FCM32113-130		32			130			35	95	3	ARG3211□□
40	-FCM40114-130	2	32	11	130	90	140	4	ARG4011□□	0.8		
40	-180					180				1.2		
50	-FCM50115-130					130				90	5	1.0

1. Wrench included. Inserts must be ordered separately.

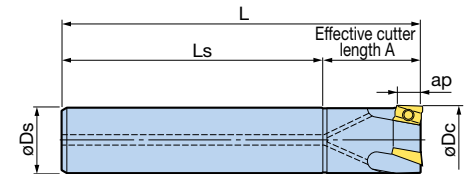
Inserts **J14**

Cutting conditions **J15**

[Oversize]



Cutter diameter is **1mm** larger than shank diameter, preventing workpiece interference.



Cutter diameter ϕDc	Model	ϕDs	Effective cutting edge length ap	L	A	Ls	Number of inserts	Insert Model	Weight (kg)
16	ST15-FCM16092-120	15	9	120	25	95	2	ARG1609□□	0.2
17	ST16-FCM17092-120	16	9	120	25	95	2	ARG1609□□	0.2
20	ST19-FCM20092-165	19	9	165	30	135	2	ARG2009□□	0.4
	-FCM20093-135			135		3	0.3		
21	ST20-FCM21092-165	20	9	165	30	135	2	ARG2009□□	0.4
	-FCM21093-135			135		3	0.3		
25	ST24-FCM25092-180	24	9	180	35	145	2	ARG2509□□	0.7
	-FCM25093-150			150		3	0.6		
26	ST25-FCM26092-165	25	9	165	38	127	2	ARG2509□□	0.6
	-FCM26093-150			150		3	0.6		
32	ST28-FCM32112-180	28	11	180	48	132	2	ARG3211□□	1.1
	-FCM32113-180						3		1.0
33	ST32-FCM33112-180	32	11	180	48	132	2	ARG3211□□	1.1
	-FCM33113-180						3		1.0

1. Wrench included. Inserts must be ordered separately.

2. We recommend 2-flute models for medium/heavy grooving.

3. For medium or heavy slot milling with projection length exceeding 2.5 times the diameter, 2-insert models are recommended.

Inserts **J14**

Cutting conditions **J15**

● Machining of S55C

Model	ST32-FCM33112-180	Axial DOC ap (mm)	10mm x 10 steps
Cutting speed Vc (m/min)	120	Radial DOC ae (mm)	Max. 33mm
Feed rate fz (mm/t)	0.1		

Result Machining was problem-free even under heavy cutting conditions of projection 110mm and ap 10mm.



HSK Integrated Type

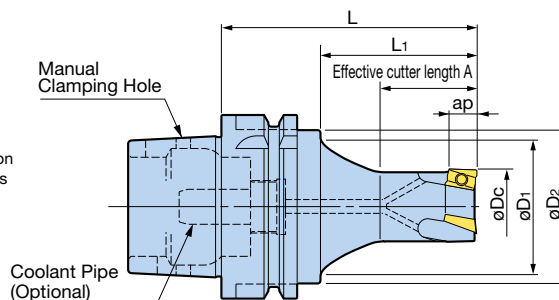
Slotting

Shoulder milling

[Standard Type]



- Model Description
HSK-A40 - FCM 16 09 2 - 65
- HSK SHANK No.
- FCM Type
- Cutter diameter ϕD_c
- Effective cutting edge length a_p
- Number of inserts
- L dimension



A Type (DIN69893-1) (ISO12164)

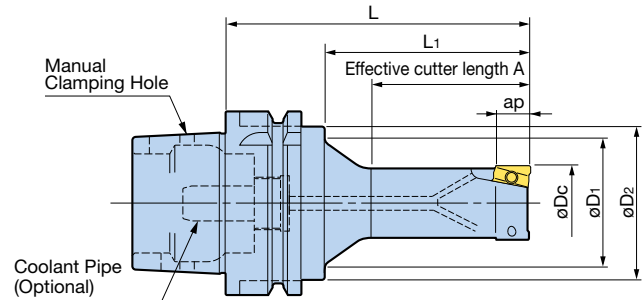
Cutter diameter ϕD_c	Model	Effective cutting edge length a_p	ϕD_1	ϕD_2	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	HSK-A40-FCM16092- 65	9	25	34	65	37	23	2	ARG1609□□	0.3
20	-FCM20093- 65						28	3	ARG2009□□	0.3
25	-FCM25093- 65						35	3	ARG2509□□	0.4
32	-FCM32113- 65						39	3	ARG3211□□	0.5
40	-FCM40114- 65	11	—	—	—	—	45	4	ARG4011□□	0.6
50	-FCM50115- 65						5	5	ARG4011□□	0.7
16	HSK-A50-FCM16092- 75	9	32	40	75	41	23	2	ARG1609□□	0.6
20	-FCM20093- 75						28	3	ARG2009□□	0.6
25	-FCM25093- 75						33	3	ARG2509□□	0.6
32	-FCM32113- 75						39	3	ARG3211□□	0.7
40	-FCM40114- 75	11	—	—	—	—	48	4	ARG4011□□	0.9
50	-FCM50115- 75						5	5	ARG4011□□	1.0
16	HSK-A63-FCM16092- 85	9	45	50	85	51	23	2	ARG1609□□	0.9
	-105				105	71	30			1.0
	-120				120	86	25			1.1
	-150				150	116	25			1.3
20	-FCM20093- 85	9	45	50	85	51	28	3	ARG2009□□	1.0
	-105				105	71	35			1.1
	-120				120	86	30			1.2
	-150				150	116	30			1.4
25	-FCM25093- 85	9	45	50	85	51	33	3	ARG2509□□	1.0
	-120				120	86	45			1.2
	-135				135	101	40			1.3
	-165				165	131	40			1.5
32	-FCM32113- 85	11	45	50	85	51	38	3	ARG3211□□	1.1
	-120				120	86	60			1.3
	-135				135	101	50			1.4
	-165				165	131	40			1.7
40	-FCM40114- 85	11	45	50	85	51	43	4	ARG4011□□	1.3
	-120				120	86	65			1.5
	-135				135	101	60			1.7
	-165				165	131	50			2.1
50	-FCM50115- 70	11	—	53	70	28	28	5	ARG4011□□	1.3
	-120				120	78	78			1.9
	-135				135	93	93			2.2
	-165				165	123	123			2.8

1. Wrench included. Inserts must be ordered separately.
2. Coolant pipe is not included. Please order separately. See page [C63](#)

Inserts **J14**

Cutting conditions **J15**

Endmilling

[Long Type]**A Type (DIN69893-1) (ISO12164)**

Cutter diameter ϕDc	Model	Effective cutting edge length ap	$\phi D1$	$\phi D2$	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	HSK-A63-FCM16092L- 85	9	45	50	85	51	40	2	ARG1609□□	0.9
	-120				120	86	45			1.0
20	-FCM20092L-105	9	45	50	105	71	50	2	ARG2009□□	1.1
	-120				120	86	60			1.2
25	-FCM25092L-105	9	45	50	105	71	55	2	ARG2509□□	1.1
	-120				120	86	65			1.2
32	-FCM32112L-120	11	45	50	120	86	70	2	ARG3211□□	1.3
	-135				135	101	80			1.4

1. Wrench included. Inserts must be ordered separately.

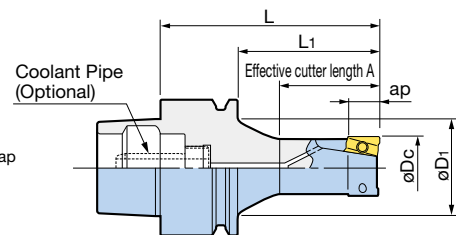
2. Coolant pipe is not included. Please order separately. See page [C63](#)
 Inserts **J14**

 Cutting conditions **J15**
[Standard Type]

● Model Description

HSK-E25	-	FCM	16	09	2	-	45

● L dimension
 ● Number of inserts
 ● Effective cutting edge length ap
 ● Cutter diameter $\phi 16$
 ● FCM Type
 ● HSK-E SHANK No.

**E Type (DIN69893-5)**

Cutter diameter ϕDc	Model	Effective cutting edge length ap	$\phi D1$	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	HSK-E25-FCM16092-45	9	19	45	35	23	2	ARG1609□□	0.17
	-E32-FCM16092-55		26	55	35	23			0.20
	-E40-FCM16092-65		34	65	45	28			0.45

1. Wrench included. Inserts must be ordered separately.

2. Coolant pipe is not included. Please order separately. See page [C63](#)
 Inserts **J14**

 Cutting conditions **J15**
⚠ Caution

As the HSK-E type interface does not have drive key grooves, there is a risk that it may slip in the machine spindle and damage it if cutting load exceeds clamping force of the machine tool. Starting from the lowest possible conditions, increase them gradually while observing the cutting status, and find the optimum with sufficient safety margin.

BIG CAPTO Integrated Type

Slotting

Shoulder milling

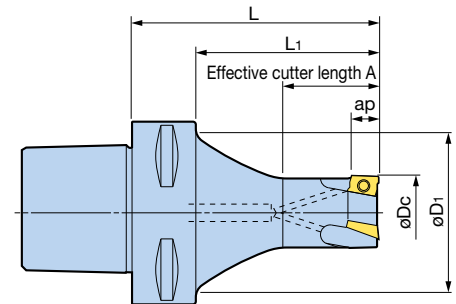
CAPTO is a trademark licensed by Sandvik Coromant.

[Standard Type]

● Model Description

C5	-	FCM	16	09	2	-	65

● L dimension
 ● Number of inserts
 ● Effective cutting edge length a_p
 ● Cutter diameter ϕD_c
 ● FCM Type
 ● Shank No.

**C5**

Cutter diameter ϕD_c	Model	Effective cutting edge length a_p	ϕD_1	L	L ₁	A	Number of inserts	Insert Model	Weight (kg)
16	C5-FCM16092 - 65	9	40	65	45	23	2	ARG1609□□	0.5
	- 90		44	90	70	30			0.6
20	-FCM20093 - 65	9	40	65	45	28	3	ARG2009□□	0.5
	- 90		44	90	70	35			0.6
25	-FCM25093 - 65	9	40	65	45	33	3	ARG2509□□	0.6
	- 90		44	90	70	40			0.7
32	-FCM32113 - 65	11	40	65	45	38	3	ARG3211□□	0.6
	- 90		44	90	70	45			0.8
40	-FCM40114 - 50	11	—	50	30	25	4	ARG4011□□	0.6
	- 90		46	90	70	60			1.0
50	-FCM50115 - 50	11	—	50	30	25	5	ARG4011□□	0.7
	- 90		—	90	70	65			1.0

1. Wrench included. Inserts must be ordered separately.

Inserts **J14**Cutting conditions **J15**

FULLCUT MILL FCM Type

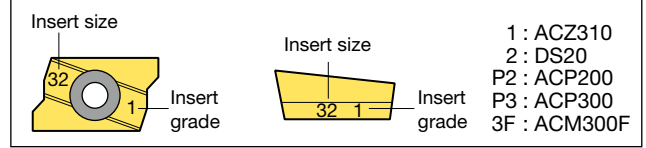
<Insert>



● Model Description
ARG16 **09** **02** **ACP300**

● Grade
 ● Nose Radius
 ● Effective cutting edge length:
 ø12 - 26...09 ø32 - 50...11

Insert Marking Description



Cutter diameter	Insert Model	Effective cutting edge length	Nose radius	Insert grade				
				ACP300 (for steel)	ACP200 (for pre-hardened steel)	ACM300F (for stainless steel)	ACZ310 (for cast iron)	DS20 (for aluminum)
ø12 - ø17	ARG160902	9	0.2	○	—	○	○	○
	160904		0.4	○	○	○	○	○
ø20, ø21	ARG200902	9	0.2	○	—	○	○	○
	200904		0.4	○	○	○	○	○
ø25, ø26	ARG250902	9	0.2	○	—	○	○	○
	250904		0.4	○	○	○	○	○
ø32, ø33	ARG321102	11	0.2	○	—	○	○	○
	321104		0.4	○	○	○	○	○
ø40, ø50	ARG401102	11	0.2	○	—	○	○	○
	401104		0.4	○	○	○	○	○

1. Inserts are available in packets of 10 pcs.
 Please specify the insert model number and grade when ordering.



Caution

- Inserts are exclusive for each cutter diameter. Be sure to purchase an insert suited to the cutter diameter, as the use of a non-compatible insert may cause problems.
- Not compatible with inserts for FULLCUT MILL FCR Type.
- Insert with nose radius 0.2 is for light cutting.

Insert Grade Description

ACP300	ACP200	ACM300F	ACZ310
Material for general steel, with a PVD multilayer coating on an ultra-tough substrate. Resistant to chipping and thermal fractures, allowing interrupted cutting as well.	With multilayers of nano-order TiAlN and AlCrN on a high-hardness base, it has superior wear resistance in pre-hardened steel machining.	Uses a new coating with improved smoothness and adhesiveness on a newly developed ultra-hard carbide substrate. Excellent welding and chipping resistance, and capable of stable stainless steel machining.	Material for cast iron and ductile cast iron machining, with a PVD multilayer coating on an ultra-fine particle alloy substrate. Highly wear-resistant and also resistant to machine impact.

DS20
Material for non-ferrous metals, with a special diamond coating (DLC) realizing high adhesion and low friction, on K20 class carbide.

Both ACP300 and ACP200 can be used for steel machining

ACP200 has excellent wear resistance, while ACP300 has superb chipping resistance. For steel machining, we recommend ACP300 the most highly. ACP300 provides stable machining, but for even higher speeds or when wear resistance is required, use ACP200. Note that ACP200 is not recommended for heavy interrupted cutting or heavy cutting.

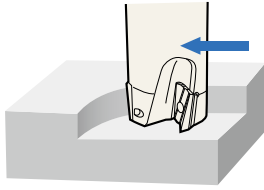
<Insert Clamping Screw Set>

Insert clamp screw and tightening wrench are consumables. Order periodically for replacement or spares.

		● Insert Clamping Screw Set Screw x 10 pcs Wrench x 1 pce.	● Driver-Type Wrench
Cutter diameter	Insert Model	Set Model	Wrench Model
ø12	ARG1609□□	S2505DS	DA-T8
ø14, ø16, ø17			
ø20, ø21	ARG2009□□	S2506DS	
ø25, ø26	ARG2509□□	S3508DS	DA-T15
ø32, ø33	ARG3211□□		
ø40	ARG4011□□		
ø50			

Cutting Conditions

■ Shoulder Milling/Slotting

**Caution**

- FULLCUT MILL FCM Type cannot be used for machining with Z-direction tool feed, such as ramping or drilling.

Light to medium cutting

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel	Cast Iron	Aluminum
	Insert grade	ACP300		ACP200	ACM300F	ACZ310	DS20
	Cutting fluid	Dry					Dry/Wet
ø12 - ø14	Cutting speed Vc (m/min)	150 - 250	180 - 250	80 - 140	140 - 180	100 - 200	200 - 750
	Feed rate fz (mm/t)	0.1 - 0.2	0.1 - 0.2	0.08 - 0.12	0.12 - 0.18	0.1 - 0.2	0.10 - 0.3
ø16 - ø21	Cutting speed Vc (m/min)	150 - 250	180 - 250	80 - 140	140 - 180	100 - 200	200 - 1,000
	Feed rate fz (mm/t)	0.1 - 0.2	0.1 - 0.2	0.08 - 0.12	0.12 - 0.18	0.1 - 0.2	0.10 - 0.3
ø25 - ø33	Cutting speed Vc (m/min)	180 - 280	200 - 280	80 - 140	140 - 200	100 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.1 - 0.24	0.1 - 0.22	0.08 - 0.14	0.12 - 0.2	0.1 - 0.2	0.10 - 0.35
ø40 - ø50	Cutting speed Vc (m/min)	180 - 280	200 - 280	80 - 140	140 - 200	80 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.1 - 0.24	0.1 - 0.22	0.08 - 0.14	0.12 - 0.2	0.1 - 0.2	0.10 - 0.35

Heavy interrupted cutting/Heavy cutting

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Stainless Steel	Cast Iron	Aluminum
	Insert grade	ACP300		ACM300F	ACZ310	DS20
	Cutting fluid	Dry				Dry/Wet
ø12 - ø14	Cutting speed Vc (m/min)	100 - 200	150 - 200	120 - 180	100 - 180	200 - 750
	Feed rate fz (mm/t)	0.08 - 0.14	0.1 - 0.15	0.12 - 0.15	0.08 - 0.18	0.10 - 0.2
ø16 - ø21	Cutting speed Vc (m/min)	100 - 200	150 - 200	120 - 180	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.08 - 0.14	0.1 - 0.15	0.12 - 0.15	0.08 - 0.18	0.10 - 0.2
ø25 - ø33	Cutting speed Vc (m/min)	100 - 200	160 - 220	120 - 180	100 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.1 - 0.16	0.1 - 0.15	0.12 - 0.15	0.08 - 0.2	0.10 - 0.3
ø40 - ø50	Cutting speed Vc (m/min)	100 - 200	160 - 220	120 - 180	100 - 220	200 - 1,500
	Feed rate fz (mm/t)	0.1 - 0.16	0.1 - 0.15	0.12 - 0.15	0.08 - 0.2	0.10 - 0.3

Caution

- As the nose radius 0.2 insert is for light cutting, pay attention to the axial and radial cutting depth and the feed rate.
- This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions, considering the cutting width as well.

- For the oversize type, we recommend 2-flute models for medium/heavy slotting.
- Dry (or air blow) cutting is recommended for steel machining, except finishing. Dry cutting is recommended for stainless steel as well; however, wet cutting may extend insert life in case severe built-up edge occurs.

APPLICATION EXAMPLES

※ All the following examples are dry cutting.

Slotting

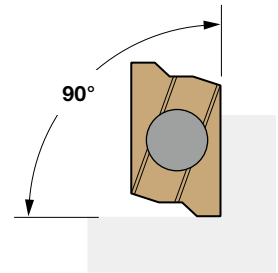
Only the FULLCUT MILL was able to achieve these parameters on a BT40 machine.

FULLCUT MILL Model	BBT40-FCM32113-85
Insert Model	ARG321104 (ACP300)
Workpiece material	S50C
Cutting speed Vc (m/min)	150
Feed rate fz (mm/t)	0.12
Axial DOC ap (mm)	9

**Shoulder Milling**

Excellent perpendicularity was achieved.

FULLCUT MILL Model	BBT40-FCM32113-85
Insert Model	ARG321104 (ACP300)
Workpiece material	S50C
Cutting speed Vc (m/min)	200
Feed rate fz (mm/t)	0.15
Axial DOC ap (mm)	11
Radial DOC ae (mm)	5

**Face Milling**

Even at Vc = 200 and fz = 0.15, finishing surface roughness of Rz = 2.53 was achieved.

FULLCUT MILL Model	BBT40-FCM50115-70
Insert Model	ARG401104 (ACP300)
Workpiece material	S50C
Cutting speed Vc (m/min)	200
Feed rate fz (mm/t)	0.15
Axial DOC ap (mm)	1
Radial DOC ae (mm)	30

	Bottom surface roughness Rz
BIG	2.53
General Cutter A	3.75
General Cutter B	4.32

Difficult-to-Cut Material Machining

High-efficiency machining with SUS304 (feed Vf = 1,140mm/min) was achieved stably.

FULLCUT MILL Model	ST25-FCM25093-120
Holder Model	BBT50-MEGA25D-105
Insert Model	ARG250904 (ACM300F)
Workpiece material	SUS304
Cutting speed Vc (m/min)	150
Feed rate fz (mm/t)	0.2
Axial DOC ap (mm)	9
Radial DOC ae (mm)	3

**Aluminum High-Speed Machining**

Excellent chips and surface roughness were achieved even in high-speed machining of duralumin A2017 (spindle speed n = 12,000min⁻¹).

FULLCUT MILL Model	BBT40-FCM16092-85
Insert Model	ARG16094 (DS20)
Workpiece material	A2017
Cutting speed Vc (m/min)	600
Feed rate fz (mm/t)	0.15
Axial DOC ap (mm)	9



Arbor Type



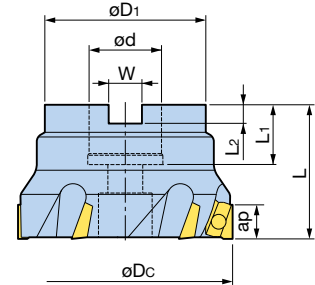
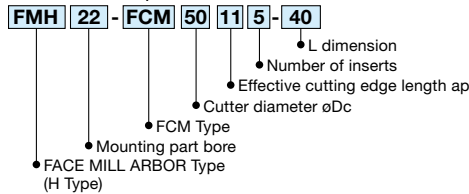
- Compatible with the new-standard Face Mill Arbor type H. Exhibits incredible cutting capacity even with #40 machining centers or millturn machines.



We recommend the **BIG** FACE MILL ARBOR TYPE H for holders.



Model Description



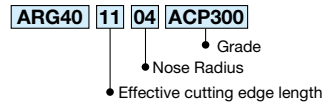
Cutter diameter ϕDc	Model	Effective cutting edge length ap	ϕd	$\phi D1$	L	L ₁	L ₂	W	Number of inserts	Insert Model	Weight (kg)
50	FMH22-FCM 50115-40	11	22	47	40	20	6	10.4	5	ARG4011□□	0.5
63	-FCM 63116-40								6	ARG6311□□	0.7
80	FMH27-FCM 80116-50	11	27	60	50	22	7	12.4	6	ARG8011□□	1.2
100	-FCM100116-50			76							2.0

- A wrench and screws are included. Inserts must be ordered separately.
- The □□ at the end of the Insert Model is the nose radius. Order them putting 02 for 0.2, 04 for 0.4 and 08 for 0.8 nose radius.

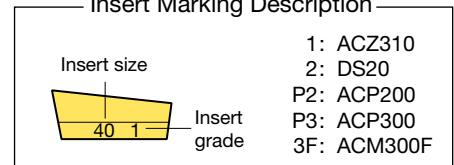
<Insert>



Model Description



Insert Marking Description



Cutter diameter	Insert Model	Effective cutting edge length	Nose radius	Insert Grade				
				ACP300 (for steel)	ACP200 (for pre-hardened steel)	ACM300F (for stainless steel)	ACZ310 (for cast iron)	DS20 (for aluminum)
$\phi 50$	ARG401102	11	0.2	○	—	○	○	○
	ARG401104	11	0.4	○	○	○	○	○
$\phi 63$	ARG631104	11	0.4	○	—	○	—	○
	ARG631108	11	0.8	○	○	○	○	○
$\phi 80, \phi 100$	ARG801104	11	0.4	○	—	○	—	○
	ARG801108	11	0.8	○	○	○	○	○

- Inserts are available in packets of 10 pcs. Please specify the insert model number and grade when ordering.

Caution

- Be sure to purchase an insert suited to the cutter diameter, as the use of a non-compatible insert may cause problems.
- Not compatible with inserts for FULLCUT MILL FCR Type.
- Insert with nose radius 0.2 is for light cutting.

Insert Grade Description

ACP300	ACP200	ACM300F	ACZ310
Material for general steel, with a PVD multilayer coating on an ultra-tough substrate. Resistant to chipping and thermal fractures, allowing interrupted cutting as well.	With multilayers of nano-order TiAlN and AlCrN on a high-hardness base, it has superior wear resistance in pre-hardened steel machining.	Uses a new coating with improved smoothness and adhesiveness on a newly developed ultra-hard carbide substrate. Excellent welding and chipping resistance, and capable of stable stainless steel machining.	Material for cast iron and ductile cast iron machining, with a PVD multilayer coating on an ultra-fine particle alloy substrate. Highly wear-resistant and also resistant to machine impact.

DS20
Material for non-ferrous metals, with a special diamond coating (DLC) realizing high adhesion and low friction, on K20 class carbide.

Both ACP300 and ACP200 can be used for steel machining

ACP200 has excellent wear resistance, while ACP300 has superb chipping resistance. For steel machining, we recommend ACP300 the most highly. ACP300 provides stable machining, but for even higher speeds or when wear resistance is required, use ACP200. Note that ACP200 is not recommended for heavy interrupted cutting or heavy cutting.

FULLCUT MILL FCM Type

<Insert Clamping Screw Set>

Insert clamping screws and tightening wrench are consumables. Order periodically for replacement or spares.

		● Insert Clamping Screw Set Screw x 10 pcs Wrench x 1 pce.	● Driver-Type Wrench
Cutter Diameter	Insert Model	Set Model	Wrench Model
ø50	ARG401102	S3508DS	DA-T15
	ARG401104		
ø63	ARG631104		
	ARG631108		
ø80, ø100	ARG801104		
	ARG801108		

Cutting Conditions

■ Shoulder Milling/Slotting

Light to medium cutting

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel	Cast Iron	Aluminum
	Insert grade	ACP300		ACP200	ACM300F	ACZ310	DS20
	Cutting fluid	Dry					
ø 50 ø 63 ø 80 ø100	Cutting speed Vc (m/min)	100 - 220	150 - 240	80 - 120	120 - 180	100 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.10 - 0.24	0.10 - 0.22	0.08 - 0.14	0.12 - 0.20	0.10 - 0.25	0.10 - 0.35

⚠ Caution

- FULLCUT MILL FCM Type cannot be used for machining with Z-direction tool feed, such as ramping or drilling.

Heavy interrupted cutting/Heavy cutting

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Stainless Steel	Cast Iron	Aluminum
	Insert grade	ACP300		ACM300F	ACZ310	DS20
	Cutting fluid	Dry				Dry/Wet
ø 50 ø 63 ø 80 ø100	Cutting speed Vc (m/min)	100 - 220	150 - 240	120 - 180	100 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.08 - 0.18	0.08 - 0.16	0.12 - 0.15	0.10 - 0.20	0.10 - 0.30

⚠ Caution

- As the nose radius 0.2 insert is for light cutting, pay attention to the axial and radial cutting depth and the feed rate.
- This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions, considering the cutting width as well.
- Dry (or air blow) cutting is recommended for steel machining, except finishing. Dry cutting is recommended for stainless steel as well; however, wet cutting may extend insert life in case severe built-up edge occurs.

Perpendicularity and excellent surface finish unrivaled in indexable insert cutters

Machined with holder BBT40-FMH22-47-45 and Fullcut Mill FMH22-FCM63116-40

※ The perpendicularity and surface roughness will vary depending on the cutting conditions, material, machine tool and workpiece rigidity.



Perpendicularity	Cutting speed Vc (m/min)	150
	Feed rate fz (mm/t)	0.1
	Axial DOC ap (mm)	5
	Radial DOC ae (mm)	0.1

	10 μm
General Cutter	40 μm

Surface roughness	Cutting speed Vc (m/min)	250
	Feed rate fz (mm/t)	0.2
	Axial DOC ap (mm)	0.1
	Radial DOC ae (mm)	50

	Ra(μm)	Rz(μm)
	0.51	2.89
General Cutter	1.56	7.77

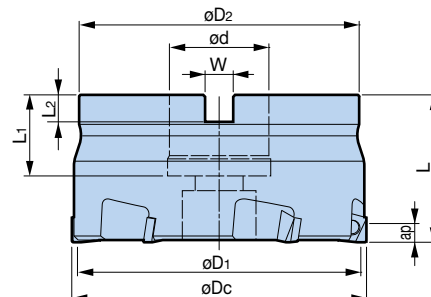
Greatly improves the surface finish in ultra-high-speed machining!

● Speedy cutting edge height adjustment within $1 \mu\text{m}$! Superb surface finish!



We recommend the **BIG** FACE MILL ARBOR
TYPE H for holders.

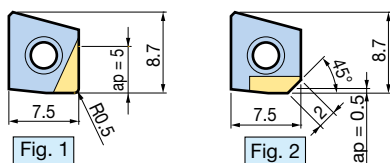
- Model Description
- FM 22 - PLS 50 5 - 35**
- L dimension
 - Number of inserts
 - Cutter diameter ϕD_c
 - Abbreviation of SPEED FINISHER
 - Mounting part bore
 - FACE MILL ARBOR



Model	Cutter diameter ϕD_c	ϕD_1		ϕd	ϕD_2	L	L_1	L_2	W	Number of inserts	Max. min^{-1}	Clamping Screw	Weight (kg)
		DA2200	CBN										
FM22-PLS 505-35	50	46.9	44.9	22	47	35	19	6	10.4	5	20,000	M10 cap bolt	0.4
-PLS 636-35	63	59.9	57.9	22	60	35	19	6	10.4				0.7
FM27-PLS 806-40	80	76.9	74.9	27	76	40	22	7	12.4	6	16,000	M12 cap bolt	1.2
-PLS 1006-35 ●	100	96.9	94.9	27	60	35	24	7	12.4		12,800	MBA-M12 ※	1.3
-PLS 1256-35 ●	125	121.9	119.9	27	60	35	24	7	12.4		10,200	MBA-M12 ※	1.9
FM32-PLS 1006-42	100	96.9	94.9	32	96	42	24	8	14.4		12,800	MBA-M16 ※	2.0
FM40-PLS 1258-50	125	121.9	119.9	40	100	50	28	9	16.4	8	10,200	MBA-M20	3.3
-PLS16010-50	160	156.9	154.9	40	100	50	28	9	16.4				10

1. A wrench and screws are included. Inserts must be ordered separately.
2. For use at spindle speeds of $12,000 \text{min}^{-1}$ and higher, contact us for balance adjustment with the cutter mounted on the arbor.
3. Effective cutting edge length a_p differs depending on the insert used. Refer to the Insert table for details.
4. Cutting edge height adjustment amount is 0.1mm . Note when using reground inserts.
5. The ● mark indicates lightweight design exclusive for BT30.
6. The clamping screw marked ※ is included.

<Insert>



Insert Model	Material	Fig.	Insert grade	Effective cutting edge length
PL0705 DA2200	Aluminum/Non-ferrous	1	Diamond	5.0
PL0705 CBN	Cast Iron	2	CBN	0.5

1. Inserts are available in packets of 1 pcs. Example: PL0705 DA2200...5 pcs
2. Although the insert can be reground once (regrinding allowance 0.2mm), severe wear or chipping on the cutting edge make regrinding impossible. We therefore recommend carrying out early regrinding.

Insert Grade Description

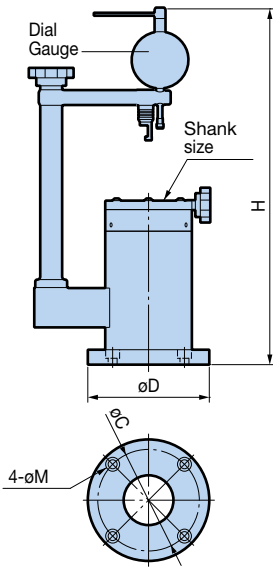
DA2200	CBN
Ultra-precise sintering of ultra-fine diamond particles creates a diamond sintered body with high strength and wear resistance comparable to carbide alloy.	CBN sintered body with greatly increased CBN content and optimized sintered body structure, improving material strength and thermal conductivity.

<Spare Parts>

Insert clamping screws and tightening wrench are consumables. Order periodically for replacement or spares.

● Lifting Screw Set	● Insert Clamping Screw Set	● Driver-Type Wrench
<p>Lifting screw (1 pc) Lifting nut (1 pc)</p>	<p>Screw x 10 pcs Wrench x 1 pce.</p>	
Set Model	Set Model	Driver Model
LSN35	S2506DS	DA-T8

PL Presetter



Essential for cutting edge presetting

- Presetter that allows quick adjustment in micron increments.
- Cutting edge height adjustment can be set within just 15 seconds per insert!



Model	Shank Model	H	øD	øC	øM	Max. tool diameter	※ Max. tool length	Weight (kg)
PLP-BBT30	BBT30	>417	122	102	9 (for M8)	ø160	150	7.5
-BBT40	BBT40							7.6
-BBT50	BBT50	>502	172	149	11 (for M10)	ø315	160	17.5
-HSK63	HSK-A63	>417	122	102	9 (for M8)	ø160	150	7.7

1. Dial Gauge and stabilizer (with 2 AAA dry cells) are included.
2. Included Dial Gauge min. scale is 0.001mm
3. BT shank holders cannot be used.
4. ※ The max. tool length in the table is the dimension from the arbor gauge line to the cutting edge.

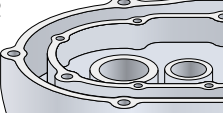
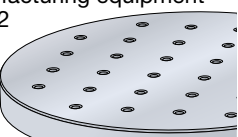
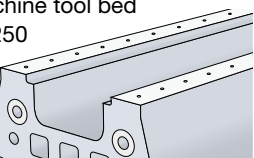
Cutting Conditions

Workpiece material		Insert grade	Cutting speed Vc (m/min)	Feed fz (mm/t)	Coolant
Aluminum alloy	Si content ≤13%	DA2200	2,000 - 4,000	0.05 - 0.2	Wet
	Si content >13%		400 - 800		
Copper alloy		DA2200	500 - 2,500	0.05 - 0.2	Wet
Gray cast iron		CBN	800 - 2,000	0.1 - 0.3	Dry

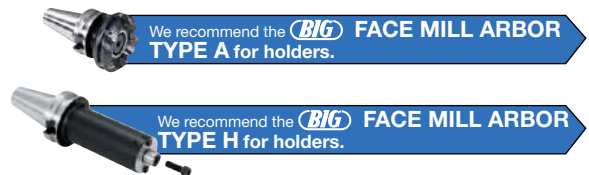
This table is a guideline for selecting cutting parameters. Select the optimum, considering the cutting width as well, as conditions differ depending on the machine tool or workpiece rigidity.

APPLICATION EXAMPLES

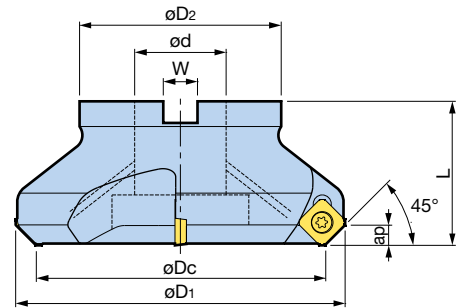
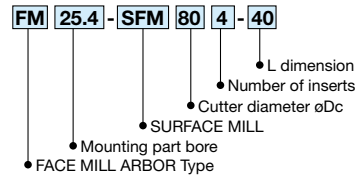
Cutter diameter: ø80

Workpiece	Cutting conditions	Finishing surface roughness	Height difference	No. of workpieces	Result
Crankcase ADC12 	Cutting speed Vc: 4,000m/min Spindle speed n: 15,900min ⁻¹ Feed Vf: 9,550mm/min Cutting depth ap: 2.5mm	Ra = 0.08 μm Rz = 0.55 μm	Within 1 μm	24,000 pcs	Roughing and finishing are combined in a single operation.
Part of semiconductor manufacturing equipment A5052 	Cutting speed Vc: 4,000m/min Spindle speed n: 15,900min ⁻¹ Feed Vf: 9,550mm/min Cutting depth ap: 2.0mm	Ra = 0.07 μm Rz = 0.32 μm	Within 1 μm	320 pcs	Mirror surface finish was achieved.
Machine tool bed FC250 	Cutting speed Vc: 1,500m/min Spindle speed n: 6,000min ⁻¹ Feed Vf: 3,600mm/min Cutting depth ap: 0.5mm	Ra = 0.12 μm Rz = 0.67 μm	Within 2 μm	20 pcs	A finishing surface with flatness 1 - 2 μm was achieved.

Superior surface finish of the workpiece!



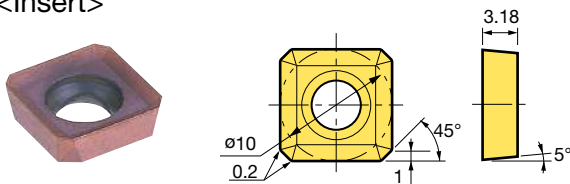
● Model Description



Cutter diameter ϕD_c	Model	Effective cutting edge length ap	ϕD_1	ϕd	ϕD_2	L	W	Number of inserts	Weight (kg)
80	FM25.4-SFM804-40	5	91.6	25.4	56	40	9.5	4	0.9
	FM27 -SFM804-40			27			12.4		

1. A wrench and screws are included. Inserts must be ordered separately.
 Compatible arbors: FMA25.4 and FMH25.4, FMH27 ※ When using FMH, clamping screw MBA-M12H is required.

<Insert>



Insert Model	Coating
CM10C1 ACP200	TiAlN and AlCrN multilayer
CM10C1 ACM250F	Ultra-multilayered thin film structure made of AlTiN and TiAlCrN
CM10C1 NF15KA	Non-coating
CM10C1 DS20	DLC

1. Inserts are available in packets of 10 pcs.

<Insert Clamping Screw Set>

Insert clamping screws and tightening wrench are consumables. Order periodically for replacement or spares.

Insert Clamping Screw Set	Driver-Type Wrench
Screw x 10 pcs Wrench x 1 pce.	
Set Model	Driver Model
S4S-T15DS	DA-T15

Cutting Conditions

Workpiece material	Insert grade	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)	Axial DOC ap MAX. (mm)
General Steel	ACP200	150- 200 - 250	0.10- 0.20 -0.30	3
Mild Steel		180- 240 - 300	0.10- 0.25 -0.40	4
Cast Iron	NF15KA	100- 175 - 250	0.15- 0.23 -0.30	4
Stainless Steel	ACM250F	160- 205 - 250	0.15- 0.23 -0.30	3
Light Alloy	DS20	500- 750 -1000	0.15- 0.23 -0.30	5

This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.

Application example



Workpiece Material	S50C
Cutting Speed Vc (m/min.)	200
Feed Rate fz (mm/t)	0.2
Axial DOC ap (mm)	3
Radial DOC ae (mm)	75
Cutting Method	Dry

High-performance chamfering tool, more compact and with ultra-high feed.

- Ultra-high feed machining enables drastic reduction of chamfering time.
- Supports various machining applications including front and back chamfering as well as face milling.

[Multi-Insert Type] Registered Design **Front and back chamfering**

We recommend the **BIG NEW BABY CHUCK** for chucking.

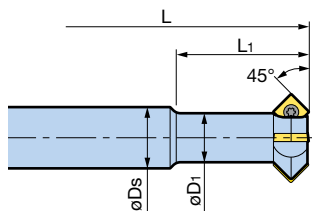
We recommend the **BIG NEW HI-POWER MILLING CHUCK** for chucking.



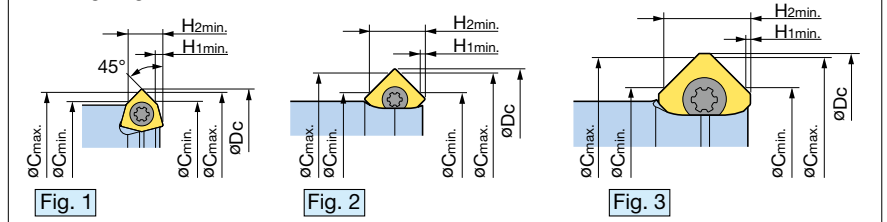
● Model Description

ST10 - C 08 10 - 45 B - 15

- Projection length (L₁)
- Chamfering angle
- Max. chamfer diameter
- Min. bore
- Chamfering
- Shank diameter



Cutting Edge Details



Model	Face Mill Cutter	Fig.	øDc	øDs	øD1	L	L ₁	øC _{min.}	øC _{max.}	H _{1min.}	H _{2min.}	Insert Model	Number of inserts
ST10-C0810-45B-15	—	1	10.5	10	7.4	78	15	8	10	0.7	3.2	CM03...	3
-27						90	27						
ST12-C1012-45B-20	—	1	12.7	12	9	93	20	10	12	1.0	3.7	CM04...	3
-35						108	35						
ST12-C1116-45B-25	—	2	17.1	12	9.6	98	25	11	16	0.4	6.5	CM05...	4
-40						113	40						
ST16-C1520-45B-50	—	2	20.7	16	13.2	123	50	15	20	0.6	6.3		
ST20-C1924-45B-60	—	2	24.7	20	17.2	143	60	19	24	0.6	6.3		
ST20-C2232-45B-50	○	3	32.7	20	19.2	130	50	22	32	0.3	12.4	CM10...	4
-80						160	80						
ST32-C3242-45B-65	○	3	42.7	32	30.6	175	65	32	42	0.3	12.4		
-100						211	100						

1. A wrench and screws are included. Inserts must be ordered separately.
2. In case of chatter in plunge cutting, it is recommended to reduce the number of inserts to only 1 or 2 pcs.

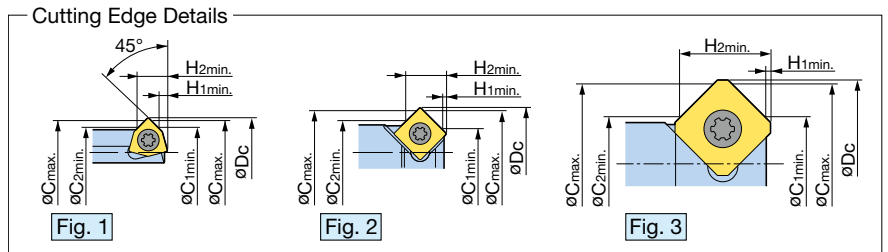
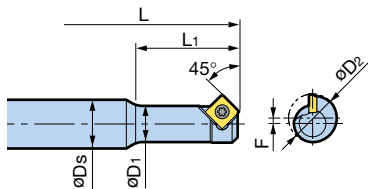
For cutting conditions, refer to Cutting Conditions A on J28.

Inserts J28

[Single Insert Type] Front and back chamfering



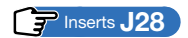
- Model Description
- ST10 - C 06 08 - 45 B - 16**
- Projection length (L₁)
 - Chamfering angle
 - Max. chamfer diameter
 - Min. bore
 - Chamfering
 - Shank diameter



Model	Fig.	øDc	øDs	øD1	øD2	L	L ₁	øC ₁ min.	øC ₂ min.	øC _{max.}	H ₁ min.	H ₂ min.	Offset amount F	Insert Model
ST10-C0608-45B-16	1	8.8	10	5.7	5.7	78	16	6	6	8	1.0	3.8	1.55	CM04...
ST10-C0409-45B-20	2	9.8	10	5.4	7.7	86	20	4	6	9	0.5	5.4	1.1	CM05...
ST10-C0611-45B-20	2	12.0	10	7.4	9.8	81	20	6	8	11	0.4	5.5	1.1	CM05...
-35						96	35							
ST16-C1222-45B-40	3	22.6	16	11.0	16.9	117	40	12	12	22	0.3	12.4	2.9	CM10...

1. A wrench and screws are included. Inserts must be ordered separately.

For cutting conditions, refer to Cutting Conditions A on J28.



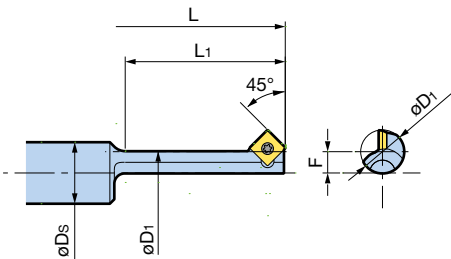
[Spot Facing Hole Type] **Front and back chamfering** Hole diameter: $\phi 10 - \phi 27$



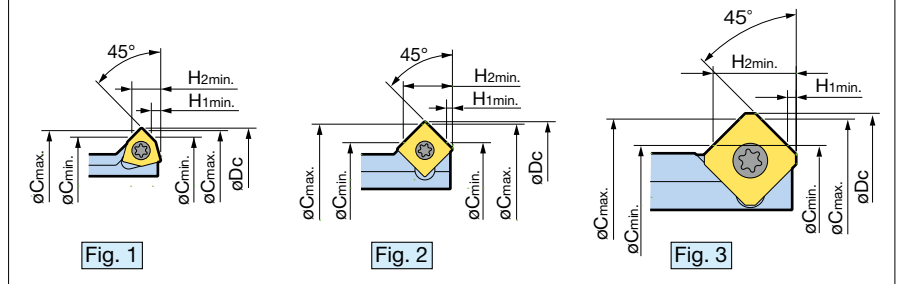
● Model Description

ST10 - C Z 06 - 45 B - 23

- Projection length (L₁)
- Chamfering angle
- Cap bolt size
- For spot facing hole
- Chamfering
- Shank diameter



Cutting Edge Details

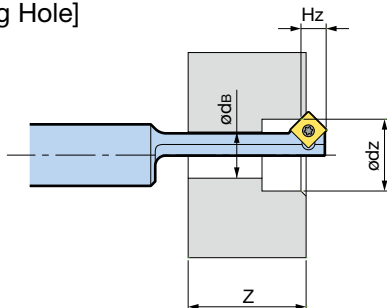


Model	Fig.	øDc	øDs	øD1	L	L ₁	øCmin.	øCmax.	H1min.	H2min.	Offset Amount F	Insert Model
ST10-CZ06-45B-23	1	12.8	10	6.1	85	23	10.0	12.0	1.0	3.8	3.35	CM04...
ST12-CZ08-45B-31	2	16.8	12	8.5	104	31	11.0	16.0	0.5	6.4	4.15	CM05...
ST16-CZ10-45B-37		20.3	16	10.5	111	37	14.5	19.5			4.90	
ST16-CZ12-45B-50	3	24.8	16	13.5	124	50	14.0	24.0	0.2	12.5	5.65	CM10...
ST20-CZ14-45B-56		27.8		20	15.5	139	56	17.0			27.0	

1. A wrench and screws are included. Inserts must be ordered separately.

Inserts **J28**

[Spot Facing Hole]



Cutter size	ødb	Spot Facing Hole		Z
		ødz	Hz	
CZ06	6.6(M 6)	11.0(M 6)	3.3	17
CZ08	9.0(M 8)	14.0(M 8)	4.9	23
CZ10	11.0(M10)	17.5(M10)	4.9	29
CZ12	14.0(M12)	20.0(M12)	9.4	37
CZ14	16.0(M14)	23.0(M14)	9.4	43

For back spot facing for cap bolts...
Back Spot Facing Tool BF-CUTTER
 J41

C-CUTTER MINI

[Bolt Hole & Tap Starting Hole Type] **Front and back chamfering** Tap starting size: M6 - M20



● Model Description

ST8 - **C** **M06** - **45** **B** - **14**

- Shank diameter
- Chamfering
- Tap size
- Chamfering angle
- Projection length (L₁)

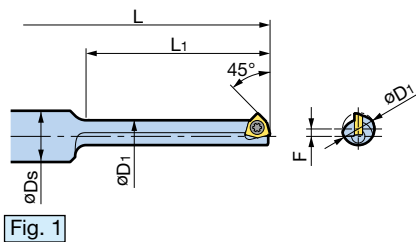


Fig. 1

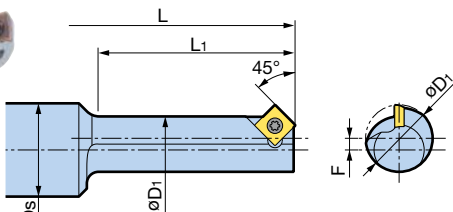
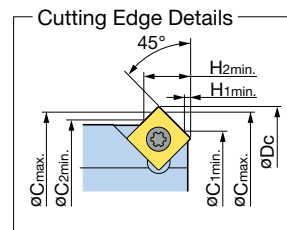
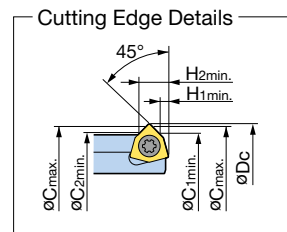


Fig. 2



The ● mark in the table indicates **LONG TYPE** with long projection length.

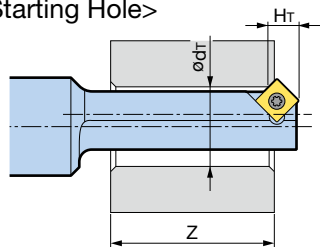
Model	Fig.	øDc	øDs	øD1	L	L ₁	øC _{1min.}	øC _{2min.}	øC _{max.}	H _{1min.}	H _{2min.}	Offset amount F	Insert Model
ST 8-CM06-45B-14	1	7.0	8	4.6	66	14	4.9	4.9	6.3	0.9	3.1	1.20	CM03...
-26 ●					78	26							
ST10-CM08-45B-19	1	9.2	10	6.3	81	19	6.4	6.6	8.4	1.0	3.7	1.45	CM04...
-35 ●					97	35							
ST12-CM10-45B-25	2	11.3	12	8.0	99	25	5.5	8.3	10.5	0.5	5.0	1.65	CM05...
-45 ●					119	45							
ST12-CM12-45B-29	2	13.4	12	9.7	102	29	7.6	10.0	12.6	0.5	5.2	1.85	
-53 ●					126	53							
ST16-CM14-45B-33	2	15.5	16	11.5	107	33	9.7	11.8	14.7	0.5	5.3	2.00	
-61 ●					135	61							
ST16-CM16-45B-37	2	17.6	16	13.5	110	37	11.8	13.8	16.8	0.5	5.4	2.05	
-69 ●					142	69							
ST20-CM18-45B-42	2	19.7	20	14.9	126	42	13.9	15.2	18.9	0.5	5.7	2.40	
-78 ●					162	78							
ST20-CM20-45B-46	2	21.8	20	16.9	129	46	16.0	17.2	21.0	0.5	5.8	2.45	
-86 ●					169	86							

1. A wrench and screws are included. Inserts must be ordered separately.
2. When using an insert model CM05... with the ● mark (LONG TYPE), use the standard insert (CM0502 ACP200) for resistance to chatter.

For cutting conditions, refer to Cutting Conditions B on J28 for the ● marked LONG TYPE, and A for others.

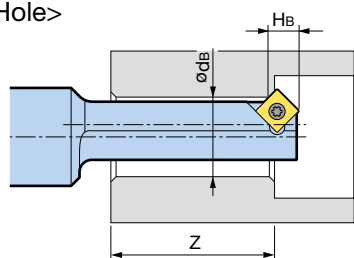


<Tap Starting Hole>



Cutter size	Tap starting hole		Bolt hole		Z	
	ød _T	H _T	ød _B	H _B	Standard Type	Long Type
CM06	5.0 (M 6)	3.0	5.5 (M5)	2.8	10	22
CM08	6.8 (M 8)	3.6	6.6 (M6)	3.7	13	29
CM10	8.5 (M10)	4.9	9.0 (M8)	4.6	17	37
CM12	10.3 (M12)	5.0	11.0 (M10)	4.7	21	45
CM14	12.0 (M14)	5.2	—	—	25	53
CM16	14.0 (M16)	5.3	14.0 (M12)	5.3	29	61
CM18	15.5 (M18)	5.6	16.0 (M14)	5.3	33	69
CM20	17.5 (M20)	5.6	18.0 (M16)	5.4	37	77

<Bolt Hole>

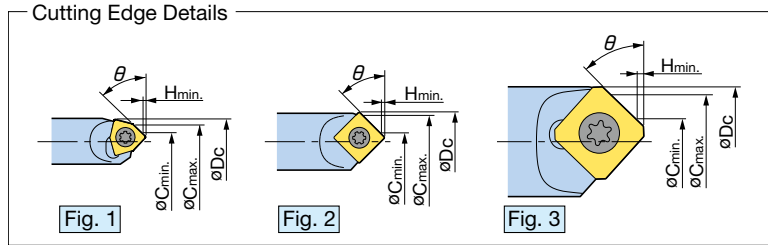
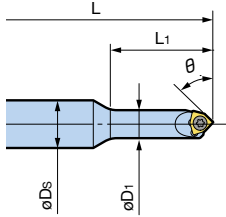


For back spot facing tool for cap bolt...
Back spot facing tool
BF-CUTTER

[Single Insert Type] Front chamfering



● Model Description
ST8 - C 01 03 - 45 - 16
 ● Projection length
 ● Chamfering angle
 ● Max. chamfer diameter
 ● Min. bore
 ● Chamfering
 ● Shank diameter



Model	Fig.	θ	ϕD_c	ϕD_s	ϕD_1	L	L ₁	$\phi C_{min.}$	$\phi C_{max.}$	H _{min.}	Insert Model
ST 8-C0103-45-16	1	45°	4.9	8	4.7	68	16	1	3	0.1	CM03...
ST10-C0204-45-15	1	45°	6.3	10	6	78	15	2	4	0.4	CM04...
-25						88	25				
ST10-C0207-45-20	2	45°	8.1	10	7.8	81	20	2	7	0.4	CM05...
-35						96	35				
ST16-C0515-45-50	3	45°	15.8	16	15.2	122	50	5	15	0.4	CM10...
ST16-C0214-30-40	3	30°	15.9	16	15.4	105	40	2	14	0.2	CM10...
ST16-C0916-60-40	3	60°	16.5	16	15.6	105	40	9	16	0.8	CM10...

1. A wrench and screws are included. Inserts must be ordered separately.
2. Spot drilling (centering) cannot be performed.

For cutting conditions, refer to Cutting Conditions A on J28.

Inserts **J28**

[Universal Type] Front chamfering

Covers chamfering angles from 5° to 85°.

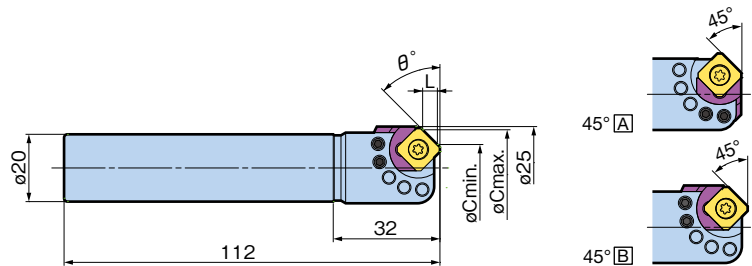


● Model Description
ST20 - CM 5 / 85 A - 30
 ● Chamfering angle adjustment range
 ● C-CUTTER MINI
 ● Shank type

Model **ST20-CM5 / 85A-30**

Compatible insert: **CM10C1**

Inserts **J28**



[Chamfering Range]

Chamfering angle θ	Min. hole $\phi C_{min.}$	Max. chamfer diameter $\phi C_{max.}$	L	Chamfering angle θ	Min. hole $\phi C_{min.}$	Max. chamfer diameter $\phi C_{max.}$	L
5°	5.7	18.8	0.6	50°	14.4	23.2	5.2
10°	6.7	19.7	1.2	55°	15.5	23.3	5.6
15°	7.6	20.5	1.7	60°	16.4	23.3	5.9
20°	8.5	21.2	2.3	65°	17.4	23.2	6.2
25°	9.6	21.8	2.9	70°	18.3	23.0	6.4
30°	10.6	22.3	3.4	75°	19.1	22.7	6.6
35°	11.6	22.7	3.9	80°	19.9	22.3	6.7
40°	12.7	23.0	4.4	85°	20.7	21.9	6.8
45° [A]	13.7	23.3	4.8				
45° [B]	13.4	23.0	4.8				

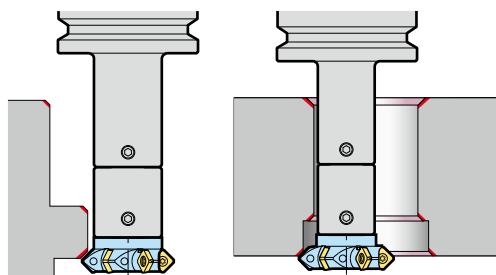
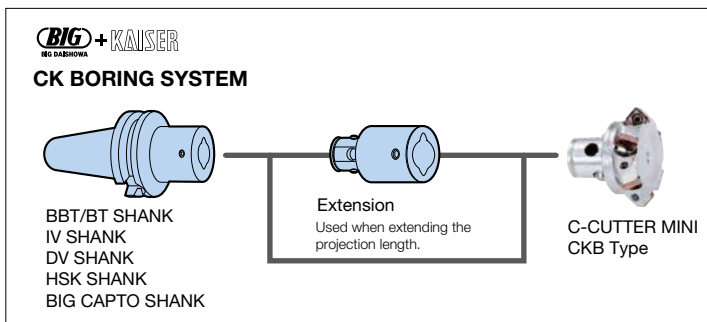
Values in the table are reference only. Measure accurate values with a presetter.

C-CUTTER MINI

BIG+KAISER CK BORING SYSTEM

[CKB Type] Front and back chamfering

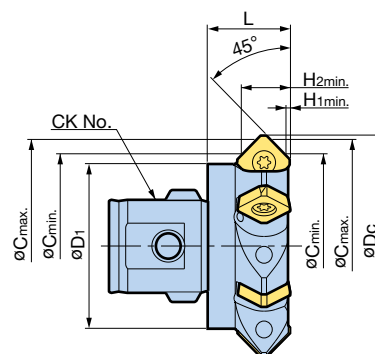
Modular system allows chamfering of deep holes.



Front and back chamfering of grooves and steps located at a distance.

● Model Description
CKB1 - C 22 32 - 45 B - 20

- CK No.
- Chamfering
- Min. chamfer diameter
- Max. chamfer diameter
- Chamfering angle
- L dimension



Model	CK No.	Face milling capability	øDc	øD1	L	Chamfering diameter		H1min.	H2min.	Insert Model	Number of inserts	Weight (kg)
						øCmin.	øCmax.					
CKB1-C2232-45B-20	CK1	○	32.7	19	20	22	32	0.3	12.4	CM10...	4	0.05
CKB3-C3242-45B-20	CK3		42.7	31		32	42					0.14
-C5262-45B-20			62.7	31		52	62					0.24
CKB4-C4252-45B-20	CK4		52.7	39		42	52					0.24
CKB5-C5262-45B-20	CK5		62.7	51		52	62					0.40

1. A wrench and screws are included. Inserts must be ordered separately.
2. In case of chatter in plunge cutting, it is recommended to reduce the number of inserts to 1 or 2 pcs.

For cutting conditions, refer to Cutting Conditions A on J28.

Inserts **J28**

Connection mechanism boasting outstanding reliability

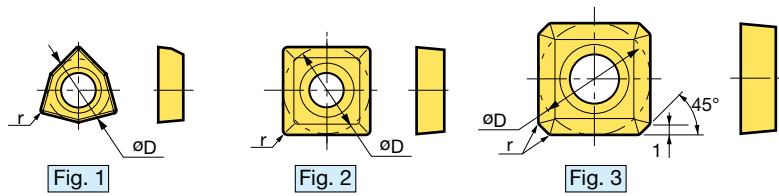
CK BORING SYSTEM CK BORING SYSTEM

Supports various boring applications with abundant heads and accessories.



BIG+KAISER
BIG DASHOWA

<Insert> Optional



- Model Description
- CM 03 02 ACP200
 - Grade
 - Corner radius
 - Insert size
 - C-CUTTER MINI

Suffix **SE** model designates a sharp cutting edge insert.

Model	Fig.	Inscribed circle øD	r	Insert grade					Insert Clamping Screw Set Model
				ACP200	ACP300	ACM250F	NF15KA NEW	DS20	
CM0302	1	3.31	0.2	—	○	○	—	○	S1.6S-T3
CM0402	1	3.97	0.2	—	○	○	—	○	S2SS-T6
CM0502	2	5	0.2	○	—	○	○	○	S2TS-T6
CM0502SE				○	○	—	—	—	
CM10C1	3	10	0.2	○	—	○	○	○	S4S-T15
CM10C1SE				○	—	—	—	—	

1. Inserts are available in packets of 10 pcs. Please specify the insert model number and grade when ordering.
2. The insert clamping screw set contains 10 screws and 1 wrench.
3. Insert clamping screws and tightening wrench are consumables. Order periodically for replacement or spares.

Example: **CM0502 ACP200.....10 Pcs**

Insert Grade Description

ACP200/300	ACM250F	NF15KA NEW	DS20
For steel	For stainless steel	For cast iron	For aluminum/non-ferrous metals
PVD-coated carbide with superior wear resistance due to its nanometer-level thickness ultra-multilayered TiAlN and AlCrN film.	PVD-coated carbide with excellent smoothness and resistance to welding and chipping, due to the ultra-multilayered thin film structure made of AlTiN and TiAlCrN.	New carbide substrate with drastically improved toughness while maintaining high hardness. This non-coated carbide provides both high wear and chipping resistance.	DLC-coated carbide exclusive for aluminum and non-ferrous metals, ultra-smooth with a low wear coefficient and superior welding resistance.



Sharp-edge inserts

Sharp cutting edge effectively prevents burrs.

Cutting Conditions

A (Standard Cutting Conditions)

Workpiece material	Insert grade	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)		Coolant
			Chamfering	Face Milling	
Structural Steel, Carbon Steel, Alloy Steel	ACP200 ACP300	100 - 350	0.05 - 0.4	0.05 - 0.2	Dry
Pre-hardened Steel HRC40 or Below		60 - 100	0.05 - 0.1	0.05 - 0.1	Wet
Tool Steel	ACM250F	60 - 120	0.05 - 0.1	0.05 - 0.1	Dry
Stainless Steel		100 - 250	0.08 - 0.3	0.08 - 0.2	Dry/Wet
Titanium		40 - 60	0.02 - 0.08	0.02 - 0.08	Wet
Inconel		20 - 30	0.02 - 0.08	0.02 - 0.08	Wet
Cast iron	NF15KA NEW	100 - 350	0.1 - 0.5	0.05 - 0.25	Dry
Aluminum/Non-ferrous	DS20, ACP300※	100 - 800	0.1 - 0.5	0.05 - 0.3	Dry/Wet

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Generally, wet cutting effectively improves finishing surfaces.
3. Wet cutting effectively suppresses built-up edges occurring on stainless steel or aluminum chamfering.
4. For aluminum/non-ferrous materials marked with ※, DS20 is the No.1 recommendation. If chatter occurs with DS20, use ACP300.

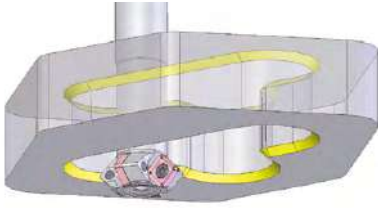
B (Cutting Conditions for Spot Facing Hole Type and Long Type of Bolt Hole & Tap Starting Hole Type)

Workpiece material	Insert grade	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)	Coolant
Unalloyed Steel, Carbon Steel, Alloy Steel	ACP200, ACP300	20 - 100	0.03 - 0.12	Wet
Cast Iron	NF15KA NEW	50 - 160	0.05 - 0.20	Dry
Aluminum/Non-ferrous	ACP200, ACP300	30 - 100	0.03 - 0.12	Wet

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Short projection length types other than the LONG TYPE are recommended for stainless steel and pre-hardened steel.

APPLICATION EXAMPLES

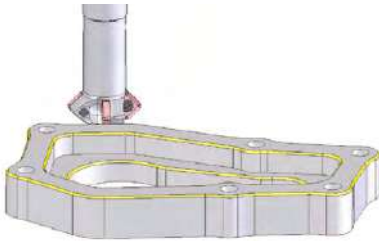
■ Front and back chamfering of stainless steel machine parts



Workpiece: SUS304
Chamfering amount: C3
Feed per tooth: 0.1mm/t

	Third-party product (TiAlN-coated carbide insert used)	C-CUTTER MINI (ST20-C2232-45B-50)
Chamfering diameter	ø30	ø28
Number of inserts	1	4
Cutting speed Vc (m/min)	140	180
Spindle speed n (min ⁻¹)	1,490	2,050
Feed Vf (mm/min)	149	819
Result	5 times greater machining efficiency	

■ Aluminum case chamfering



Workpiece: AC4C
Chamfering amount: C0.5
Feed per tooth: 0.1mm/t

	Third-party product (Non-coated carbide insert used)	C-CUTTER MINI (ST12-C1116-45B-25)
Chamfering diameter	ø40	ø12
Number of inserts	3	4
Cutting speed Vc (m/min)	200	600
Spindle speed n (min ⁻¹)	1,590	15,920
Feed Vf (mm/min)	477	6,370
Result	13 times greater machining efficiency	

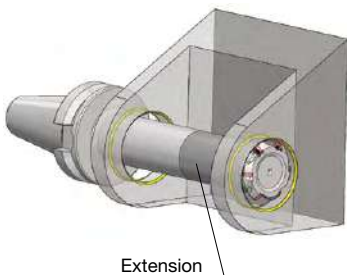
■ Front and back chamfering of M8 Tap Starting Holes



Workpiece: FC250
Hole diameter: ø6.6
Chamfering diameter: ø8.4

	Third-party product (Non-coated carbide insert used)	C-CUTTER MINI (ST10-CM08-45B-19)
Cutting speed Vc (m/min)	30	150
Spindle speed n (min ⁻¹)	1,140	5,680
Feed f (mm/rev)	0.05	0.1
Feed Vf (mm/min)	57	568
Result	No chatter even with a tenfold feed increase.	

■ Front and back chamfering of carbon steel parts



Modular system handles
deep holes, too

Workpiece: S35C
Chamfering amount: C0.5
Feed per tooth : 0.1mm/t
Projection length: 275mm

	Third-party product	C-CUTTER MINI (CKB5-C5262-45B-20)
Number of inserts	Chatter prevents machining	6
Cutting speed Vc (m/min)		200
Spindle speed n (min ⁻¹)		1,230
Feed Vf (mm/min)		735
Result	Front and back chamfering of conventionally impossible projection lengths is also possible.	

Covers wide range of chamfering diameters and reduces the number of tools and ATC required.

- With design exclusive for chamfering, the insert has a large rake angle and produces clean chamfering surface.
- Wide machining range reduces the number of tools in the magazine and is especially effective for reducing ATC time loss.

Cylindrical Shank

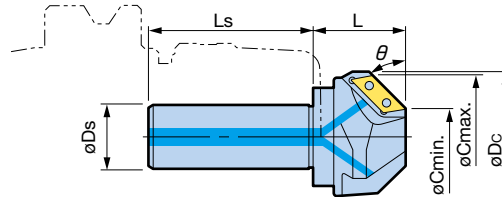
[30°/45°/60° Type]

We recommend the **BIG NEW BABY CHUCK** for chucking.

We recommend the **BIG NEW HI-POWER MILLING CHUCK** for chucking.



Center through



● Model Description

ST32 - **C** **16** **52** **C** - **30**

- Chamfering angle (Blank for 45°)
- Center through
- Max. chamfering diameter
- Min. bore
- C-CUTTER
- Shank type

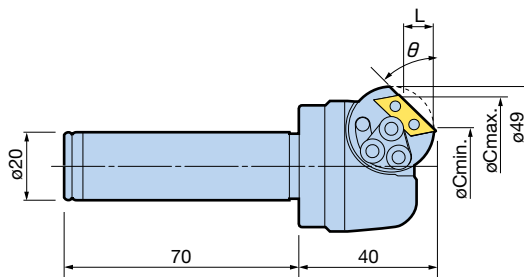
Chamfering angle θ	Model	ϕD_s	Min. hole $\phi C_{min.}$	Max. chamfer diameter $\phi C_{max.}$	Outer diameter ϕD_c	L	Ls	Number of inserts	Applicable Insert
30°	ST32-C1652C-30	32	16	52	68	48	80	2	CW1909A
	ST42-C5085C-30	42	50	85	96	52	80	3	
45°	ST20-C0525C	20	5	25	33	25	60	1	CW1909A CW3115A
	ST25-C1040C	25	10	40	45	35	70	2	
	ST32-C3060C	32	30	60	65	45	80	3	
	ST42-C50100C	42	50	100	106	70	80	3	
60°	ST25-C1434C-60	25	14	34	38	37	70	2	CW1909A
	ST32-C3050C-60	32	30	50	54	45	80	3	
	ST32-C4565C-60	32	45	65	69	50	80	3	

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.

Inserts **J31**

[Universal Type]

Handles chamfering angles from 5° to 85°.



Model **ST20-C5/85A-40**

Compatible insert: **CW1206A**

Inserts **J31**

● Model Description

ST20 - **C** **5 / 85** **A** - **40**

- Chamfering angle adjustment amount
- C-CUTTER
- Shank type

[Chamfering Range]

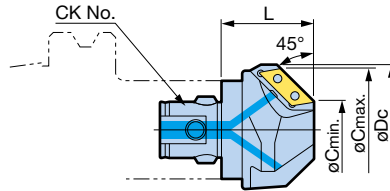
Chamfering angle θ	Min. hole $\phi C_{min.}$	Max. chamfer diameter $\phi C_{max.}$	L	Chamfering angle θ	Min. hole $\phi C_{min.}$	Max. chamfer diameter $\phi C_{max.}$	L
5°	5.5	33.5	1.2	50°	24.0	42.2	10.8
10°	7.3	34.7	2.4	55°	26.4	42.4	11.4
15°	9.0	36.2	3.6	60°	28.5	42.5	12.1
20°	11.2	37.4	4.7	65°	30.7	42.4	12.5
25°	13.0	38.6	5.9	70°	32.9	42.1	12.6
30°	15.2	39.6	7.0	75°	34.9	41.7	12.7
35°	17.4	40.5	8.0	80°	36.9	41.1	11.9
40°	19.6	41.2	9.0	85°	38.8	40.3	8.6
45°	21.8	41.8	10.0				

Chamfering range and L are reference only.
Measure accurate values with a presetter.

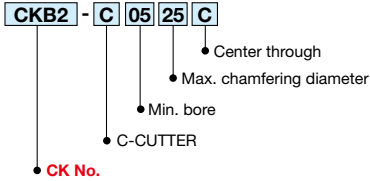
CKB SHANK **BIG** + KAISER
BIG CORPORATION



Center through



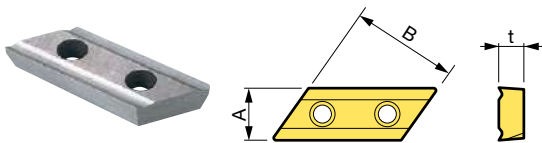
● Model Description



Chamfering angle θ	Model	CK No.	Min. hole $\phi C_{min.}$	Max. chamfer diameter $\phi C_{max.}$	Outer diameter ϕD_c	L	Number of inserts	Applicable Insert
45°	CKB2-C0525C	CK2	5.0	25.0	28.5	25	1	CW1206A
	CKB4-C1040C	CK4	10.0	40.0	45	35	2	CW1909A
	CKB5-C3060C	CK5	30.0	60.0	65	40	3	CW1909A
	CKB6-C50100C	CK6	50.0	100.0	106	65	3	CW3115A

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.

<Insert>



1 pcs

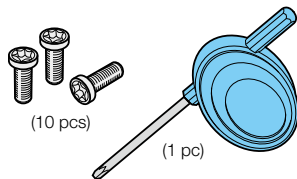
Model			A	B	t
Non-coating	ZX Coating	DLC Coating			
CW1206A	CW1206A(ZX)	CW1206A(DLC)	6.35	12.7	2.7
CW1909A	CW1909A(ZX)	CW1909A(DLC)	9.525	19.05	4.5
CW3115A	CW3115A(ZX)	CW3115A(DLC)	15.875	31.75	7.0

10 pcs

Model		A	B	t
Non-coating	ZX Coating			
CW1206A-10P	CW1206A(ZX)-10P	6.35	12.7	2.7
CW1909A-10P	CW1909A(ZX)-10P	9.525	19.05	4.5
CW3115A-10P	CW3115A(ZX)-10P	15.875	31.75	7.0

Non-coating	Adopts P30-equivalent carbide material with emphasis on toughness for versatile use with materials from steel to aluminum.
ZX Coating	TiN and AlN multilayer coating increases speeds and extends insert life in chamfering of steel or cast iron.
DLC Coating	The exclusive substrate is treated with a thin DLC coating to prevent welding during aluminum machining. It retains sharpness and achieves a clean surface finish.

<Insert Clamping Screw Set>



Insert	Set Model	Wrench
CW1206A	S2S-B	FLR-13S
CW1909A	S3S	FLR-20S
CW3115A	S5S	FLR-28S

1. The set contains 10 screws and 1 wrench.
- ※ Wrenches are also available separately.

Cutting Conditions

Model	Max. chamfering amount	Chamfering mode	General Steels		Stainless Steel		Cast Iron		Aluminum	
			Vc	f	Vc	f	Vc	f	Vc	f
ST20-C5/85A-40	※ 2mm	Plunge	50	0.1	30	0.08	40	0.1	80	0.1
		Side	80	0.15	60	0.1	50	0.15	100	0.2
ST20-C0525C	C2	Plunge	50	0.1	30	0.08	40	0.1	80	0.1
		Side	80	0.15	60	0.1	50	0.15	100	0.15
ST25-C1040C	C3	Plunge	90	0.15	40	0.12	60	0.15	100	0.2
ST25-C1434C-60 ST32-C1652C-30	※ 3mm	Side	120	0.3	60	0.2	90	0.3	150	0.3
ST32-C3060C	C4	Plunge	120	0.3	60	0.18	90	0.25	150	0.3
ST32-C3050C-60 ST32-C4565C-60 ST42-C5085C-30	※ 4mm	Side	150	0.45	60	0.3	120	0.6	200	0.6
ST42-C50100C	C4	Plunge	150	0.4	80	0.25	120	0.35	180	0.4
		Side	150	0.45	60	0.36	120	0.6	240	0.6

Vc: Cutting speed (m/min), f = Feed per revolution (mm/rev)

1. Cutting conditions are the same for coated and non-coated inserts.

The use of coated inserts enables better surface finish and extended insert life.

2. Lower the cutting speed if the maximum chamfering amount is exceeded.

3. If plunge cutting produces long chips, use step feed.

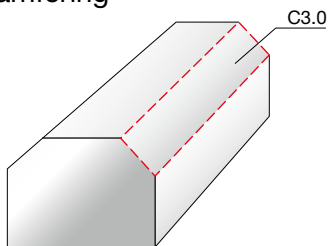
4. We recommend the use of a high-rigidity holder for chucking. (HMC, MEGA-D etc.)

5. Max. chamfering amount for the 30°, 60° and Universal Types marked with ※ is the chamfering length of the longer side.

APPLICATION EXAMPLES

■ C3 traverse chamfering

S55C

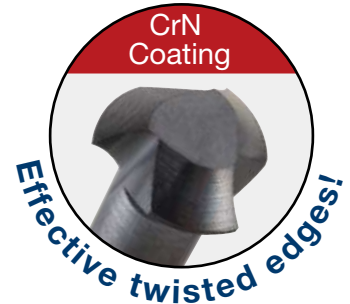


A clean surface with no chatter was achieved even in traverse chamfering, under high cutting conditions.

C-Cutter Model	ST25-C1040C
Insert Model	CW1909A
Spindle speed n	3,000 min ⁻¹
Feed Vf	1,800mm/min

Ultra-fine diameter allows both front and back chamfering even on workpieces with complex shapes!

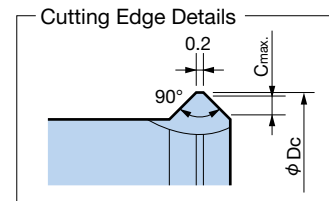
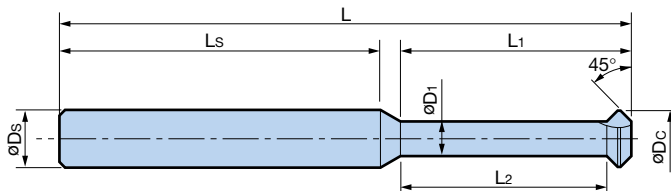
- The long-neck size has been standardized, convenient for deep workpiece edges, or back chamfering of drilled holes.
- Uses a chromium nitride coating for high welding resistance.



● Model Description

ST3 W-C S 3 - 45 B - 06

- Projection length (L₁)
- Front & back chamfering angle
- Max. chamfer diameter
- Chamfering
- Shank diameter



Model	ϕD_c	ϕD_s	ϕD_1	L	L _s	L ₁	L ₂	C _{max}
ST3W-CS3-45B-06	2.9	3	1.7	40	33.0	6	4.5	0.50
-12			1.9		27.0		10.5	0.40
ST4W-CS4-45B-08	3.9	4	2.1	45	35.5	8	6.0	0.80
-16			2.4		27.5		14.0	0.65
ST5W-CS5-45B-10	4.9	5	2.5	50	37.5	10	7.0	1.10
-20			2.8		28.0		17.5	0.95
ST6W-CS6-45B-12	5.9	6	3.0	50	35.5	12	8.5	1.35
-24			3.4		33.5		21.0	1.15
ST8W-CS8-45B-16	7.9	8	4.0	60	40.5	16	11.5	1.85
-32			4.5		35.0		32	28.0

Cutting edge material is CrN coated carbide. Number of inserts is 3 for all models.

Cutting Conditions

Workpiece material	Cutting speed V _c (m/min)	Feed per tooth f _z (mm/t)
Unalloyed Steel, Carbon Steel, Alloy Steel	70 - 100	0.05 - 0.1
Stainless Steel	60 - 80	0.03 - 0.08
Cast Iron/Ductile Cast Iron	40 - 80	0.05 - 0.1
Aluminum/Non-ferrous	80 - 150	0.05 - 0.12

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Generally, wet cutting provides a better surface finish.
3. Back chamfering may require lower cutting conditions than front.
4. Lower the feed if secondary burrs appear.

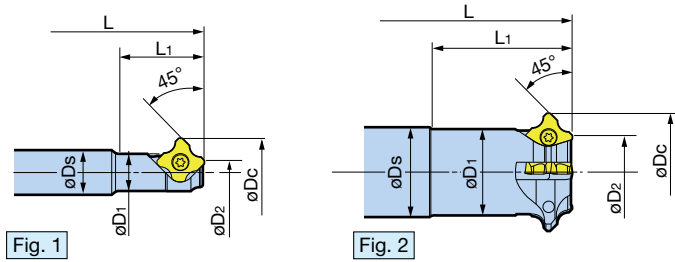
⚠ Caution

- Keep the tool projection length as short as possible.
- Stop using the tool if it receives strong impact such as collision.
- The tool becomes hot during cutting. There is a risk of burn if touched immediately after use.
- Use protective equipment such as safety enclosures and glasses against scattering chips or tool breakage caused by accidents.

Automated rounded chamfering.

- Supports chamfering for both front and back.
- 4 inserts vastly improve efficiency!

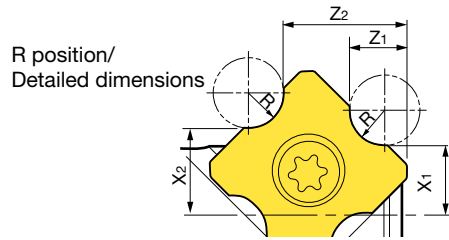
Front and back round chamfering



Model Description

ST10 - RC 06 1 B - 15

- Projection length (L1)
- Front & back chamfering
- Number of inserts
- Compatible insert size
- R-CUTTER
- Shank diameter



Model	Fig.	øDc	øDs	øD1	øD2	L	L1	Number of inserts	R	X1	Z1	X2	Z2	Insert Model
ST10-RC061B-15	1	12.3	10	6.6	4.4	78	15	1	0.5	3.61	1.93	4.30	5.78	RC06....
									1	3.35	2.18	4.04	5.53	
									1.5	3.09	2.43	3.78	5.28	
									2	2.83	2.68	3.52	5.03	
ST16-RC121B-30	1	24.4	16	13.3	8.6	103	30	1	1	7.17	3.79	8.56	11.63	RC12....
									2	6.65	4.29	8.03	11.13	
									3	6.13	4.79	7.51	10.63	
									4	5.60	5.29	6.99	10.13	
ST16-RC064B-30	2	21	16	15.2	13.2	101	30	4	0.5	7.89	1.93	8.59	5.78	RC06....
									1	7.64	2.18	8.34	5.53	
									1.5	7.39	2.43	8.09	5.28	
									2	7.13	2.68	7.84	5.03	
ST32-RC124B-50	2	42	32	30.8	26.3	141	50	4	1	15.85	3.79	17.26	11.63	RC12....
									2	15.33	4.29	16.75	11.13	
									3	14.83	4.79	16.24	10.63	
									4	14.31	5.29	15.73	10.13	

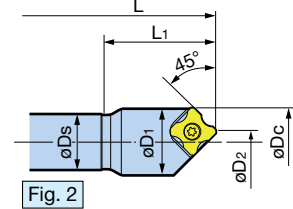
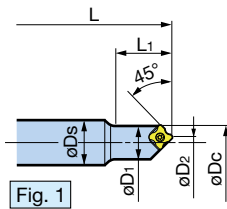
1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.

Cutting Conditions

Workpiece material	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)	Coolant
Unalloyed Steel, Carbon Steel, Alloy Steel	100 - 350	0.05 - 0.2	Dry
Pre-hardened Steel HRC40 or Less	60 - 80	0.05 - 0.1	Wet
Stainless Steel	100 - 250	0.08 - 0.2	Dry/Wet
Cast Iron	100 - 350	0.05 - 0.25	Dry
Aluminum, Non-ferrous	100 - 800	0.05 - 0.25	Dry/Wet

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Generally, wet cutting effectively improves surface finish.
3. Wet cutting effectively suppresses built-up edges occurring on stainless steel or aluminum.

Front round chamfering

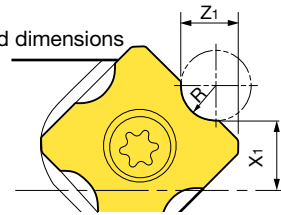


● Model Description

ST16 - **RC** **06** **1** - **20**

- Projection length (L1)
- Number of inserts
- Compatible insert size
- R-CUTTER
- Shank diameter

R position/Detailed dimensions



Model	Fig.	øDc	øDs	øD1	øD2	L	L1	Number of inserts	R	X1	Z1	Insert Model
ST16-RC061-20	1	12.3	16	11.9	4.5	94	20	1	0.5	3.61	1.93	RC06....
									1	3.35	2.18	
									1.5	3.09	2.43	
									2	2.83	2.68	
ST20-RC121-40	2	24.4	20	23.8	8.9	121	40	1	1	7.17	3.79	RC12....
									2	6.65	4.29	
									3	6.13	4.79	
									4	5.60	5.29	

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.

<Insert PAT.>

● Model Description

RC **06** **050** (**ACP300**)

- R Size
- Insert size
- Grade
- R-CUTTER



Uses 4 corners

Type	Insert Model	R size	Insert Clamping Screw Set Model
RC06	RC06050 (ACP300)	R0.5	S2TS-T6
	RC06100 (ACP300)	R1.0	
	RC06150 (ACP300)	R1.5	
	RC06200 (ACP300)	R2.0	
RC12	RC12100 (ACP300)	R1.0	S4S-T15
	RC12200 (ACP300)	R2.0	
	RC12300 (ACP300)	R3.0	
	RC12400 (ACP300)	R4.0	

1. Inserts are available in packets of 10 pcs.
2. Insert is coated carbide.
3. The insert clamping screw set contains 10 screws and 1 wrench.
4. Insert Clamp Screws and tightening wrench are consumables. Order periodically for replacement or spares.

Insert set in a packet of 2 pcs. is also available.
 Please add **-2P** before the grade when ordering.

Example: **RC06050-2P(ACP300)**

BIG + **KAISER** CK BORING SYSTEM**[CKB Type]** Front and back chamfering

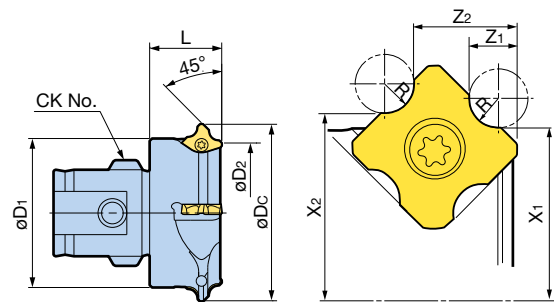
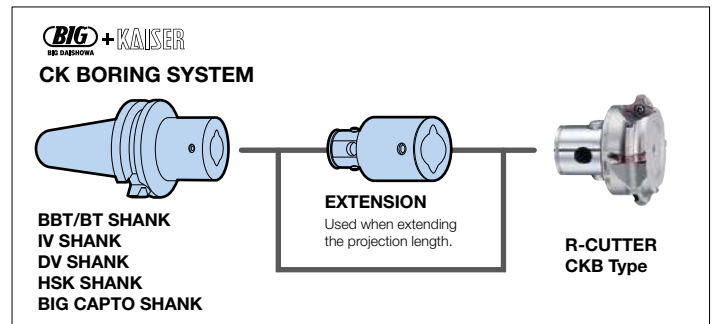
- Automated rounded chamfering.



- Model Description

CKB3 - **RC** **06** **4** **B** - **15**

- Projection length (L)
- Double chamfering
- Number of flutes
- Compatible insert size
- R-CUTTER
- CK No.



Model	CK No.	øDc	øD1	øD2	L	Number of flutes	R	X ₁	Z ₁	X ₂	Z ₂	Insert Model	Weight (kg)
CKB3-RC064B-15	CK3	37	31	29.2	15	4	0.5	15.86	1.93	16.56	5.78	RC06...	0.12
							1	15.61	2.18	16.31	5.53		
							1.5	15.36	2.43	16.06	5.28		
							2	15.11	2.68	15.81	5.03		
CKB5-RC124B-25	CK5	62	50	46.3	25	4	1	25.81	3.79	27.22	11.63	RC12...	0.50
							2	25.31	4.29	26.72	11.13		
							3	24.80	4.79	26.21	10.63		
							4	24.30	5.29	25.71	10.13		

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.
3. Values in the table are reference only. Measure accurate values with a presetter.

Modular boring system with secure and accurate connection mechanism

CK BORING SYSTEM

CK BORING SYSTEM

Supports various boring applications with abundant heads and accessories.



BIG + **KAISER**
BIG DASHOWA

C-CUTTER BOY

Ideal for chamfering with a bench drill.

- Carbide insert achieves excellent chamfering.
- Carbide guide prevents chatter, enabling easy operation.



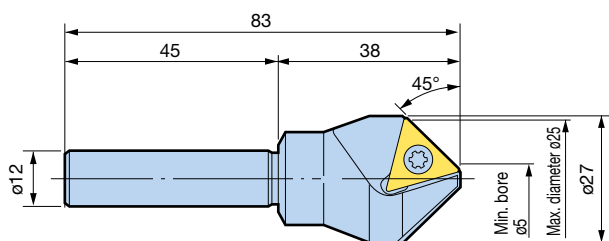
With carbide guide



Shank diameter

ø12

No chatter with a bench drill.



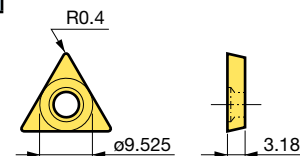
Model **ST12B-C0525**

One insert is included.

<Insert>

Model **C1603B**

Inserts sold in packets of 10 pcs
Example: C1603B...10 pcs



(Insert material: coated carbide)

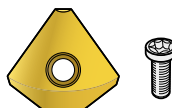
<Insert Clamping Screw Set>



Set Model	Thread size	Wrench
S4S	M4 x 8	FLR-20S

1. The set contains 10 screws and 1 wrench.
- ※ Wrench is also available separately.

<Carbide Guide Set>



Set Model	Carbide guide	Thread size
CG0525S	CG0525	M4 x 7

1. The set contains one carbide guide and one screw.
2. The screw compatible wrench is FLR-20S.

Cutting Conditions

Hole diameter	Spindle speed n (min ⁻¹)		
	Steel	Cast Iron	Aluminum
ø 5	600	800	1,000
ø10	500	600	800
ø15	400	500	600
ø20	300	400	500

1. The values in this table are only for reference and should be adjusted based on workpiece hardness, rigidity and chamfering amount.
2. Keep runout as low as possible while machining.
3. We recommend the use of cutting fluid.

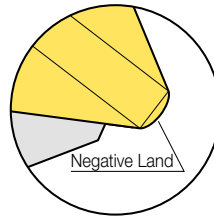
C-CENTERING CUTTER

Registered Design

A multifunction cutter capable of both spot drilling and chamfering.

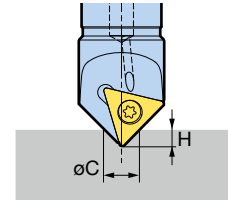
- Prevents chipping during spot drilling.
- Immediate chip evacuation with coolant.

Center through

Centering angle
90° & 120°

As the nose radius on the insert forms negative land, it has high chipping resistance, and the tool life is significantly extended.

Spot Drilling Depth Calculation Method



$$\langle \theta_1 = 90^\circ \rangle$$

$$H = (\phi C - \phi C_{min}) \div 2 + H_{min}$$

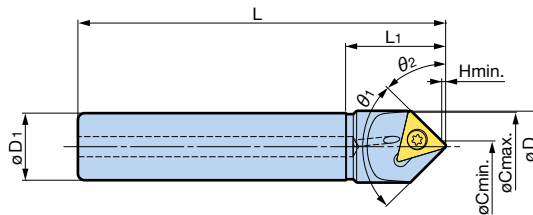
$$\langle \theta_1 = 120^\circ \rangle$$

$$H = (\phi C - \phi C_{min}) \div 3.46 + H_{min}$$

Model Description

ST8 - CN 02 09 - 45 - 65

- Total length
- Chamfering angle
- Max. chamfer diameter
- Min. bore
- C-CENTERING CUTTER
- Shank type



Centering Angle θ_1	Chamfering Angle θ_2	Model	ϕD	ϕD_1	L	L_1	Min. bore ϕC_{min}	Max. chamfer diameter ϕC_{max}	Hmin.	Insert Model
90°	45°	ST 8-CN0209-45- 65 NEW	10	8	65	15	2	9	0.6	CN0406
		ST12-CN0213-45- 90 NEW	14	12	90	20	2	13	0.6	CN0606
		ST20-CN0220-45-110	22	20	110	30	2	20	0.6	CN0906
120°	30°	ST10-CN0211-30- 70 NEW	12.5	10	70	15	2	11	0.4	CN0406
		ST16-CN0216-30- 90 NEW	17	16	90	20	2	16	0.4	CN0606
		ST20-CN0225-30-110 NEW	27	20	110	30	2	25	0.4	CN0906

1. A wrench and screws are included. Inserts must be ordered separately.
2. The nose radius of the insert forms a slightly convex shape at the bottom of the centering hole.
3. Use with hand feed is not recommended.

<Insert> (optional)



Model Description

CN 04 06 ACM250F

- Grade
- Corner radius
- Insert size
- C-CENTERING CUTTER

Model	Inscribed Circle ϕD	Insert Grade			Insert Clamp Screw Set Model	Wrench Model
		Durability-focused ACM250F (for steel, stainless steel, cast iron)	Burr prevention ACZ150 (for steel, structural steel, cast iron)	For non-ferrous metals DS20 (for aluminum)		
CN0406 NEW	4.76	○	○	○	S2TS-6IP	FS-6IP
CN0606 NEW	6.35	○	○	○	S2.5S-8IP	FS-8IP
CN0906	9.525	○	○	○	S4S-15IP	FS-15IP

1. Inserts are available in packets of 10 pcs. Please specify the insert model number and grade when ordering.
Example: CN0406 ACM250F... 10 Pcs
2. The insert clamping screw set contains 10 screws and 1 wrench.
3. Insert clamp screws and tightening wrench are consumables. Order periodically for replacement or spares.

Insert Grade Description

ACM250F	ACZ150	DS20
For steel, stainless steel, cast iron	For steel, structural steel, cast iron	For aluminum
PVD-coated carbide with excellent smoothness and resistance to welding and chipping, due to the ultra-multilayered thin film structure made of AlTiN and TiAlCrN.	The ultra-thin PVD coating made from TiN provides for excellent sharpness and superior burr prevention.	DLC-coated carbide exclusive for aluminum and non-ferrous metals, ultra-smooth with a low wear coefficient and superior welding resistance.

Cutting Conditions

Workpiece Material	Cutting Speed Vc (m/min)	Feed (mm/rev)	
		Spot Drilling	Traverse Chamfering
Carbon steel, Alloy Steel, Structural Steel	50 - 150	0.02 - 0.08	0.05 - 0.2
Stainless Steel	50 - 120	0.02 - 0.05	
Cast Iron	70 - 200	0.02 - 0.08	
Aluminum, Non-ferrous	100 - 300		

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Be sure to use water-soluble cutting fluid during spot drilling.
3. For traverse chamfering, dry cutting (including air blowing) is recommended. However, if severe built-up edge occurs in aluminum machining, use water-soluble cutting fluid.

[Triple Insert Type]

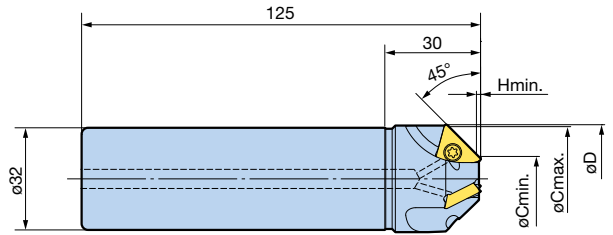
- Effective for traverse chamfering!
- Immediate chip evacuation with coolant



Model Description

ST32 - **CN** **14** **33** - **45** - **125**

- Total length
- Chamfering angle
- Max. chamfer diameter
- Min. bore
- C-CENTERING CUTTER
- Shank type



Model	øD	Min. bore øCmin.	Max. chamfer diameter øCmax.	Hmin.	Insert Model
ST32-CN1433-45-125	34	14	33	0.6	CN0906

1. A wrench and screws are included. Inserts must be ordered separately.



Caution

Spot drilling (centering) is not available.

<Insert>



Model Description

CN **09** **06** | **ACM250F**

- Grade
- Corner radius
- Insert size
- C-CENTERING CUTTER

Model	Inscribed Circle øD	Insert Grade			Insert Clamp Screw Set Model	Wrench Model
		Durability-focused ACM250F (for steel, stainless steel, cast iron)	Burr prevention ACZ150 (for steel, structural steel, cast iron)	For non-ferrous metals DS20 (for aluminum)		
CN0906	9.525	○	○	○	S4S-15IP	FS-15IP

1. Inserts are available in packets of 10 pcs. Please specify the insert model number and grade when ordering.
Example: CN0906 ACM250F... 10 Pcs
2. The insert clamping screw set contains 10 screws and 1 wrench.
3. Insert clamp screws and tightening wrench are consumables. Order periodically for replacement or spares.

Insert Grade Description

ACM250F	ACZ150	DS20
For steel, stainless steel, cast iron	For steel, structural steel, cast iron	For aluminum
PVD-coated carbide with excellent smoothness and resistance to welding and chipping, due to the ultra-multilayered thin film structure made of AlTiN and TiAlCrN.	The ultra-thin PVD coating made from TiN provides for excellent sharpness and superior burr prevention.	DLC-coated carbide exclusive for aluminum and non-ferrous metals, ultra-smooth with a low wear coefficient and superior welding resistance.

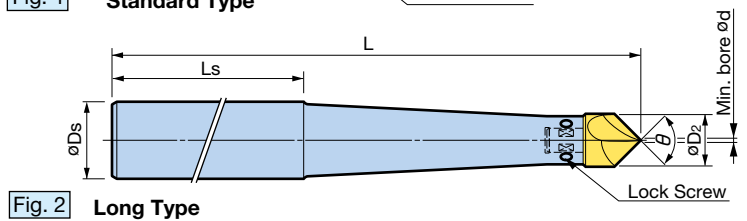
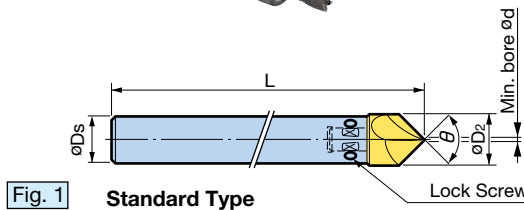
Cutting Conditions

Workpiece Material	Cutting Speed Vc (m/min)	Feed (mm/t)
		Traverse Chamfering
Carbon steel, alloy steel, structural steel	50 - 150	0.05 - 0.2
Stainless Steel	50 - 120	
Cast Iron	70 - 200	
Aluminum	100 - 300	

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. For traverse chamfering, dry cutting (including air blowing) is recommended. However, if severe built-up edge occurs in aluminum machining, use water-soluble cutting fluid.

Accurate positioning of drill holes and chamfering can be performed simultaneously.

- Uses high-precision throwaway bit with superb sharpness.
- Since the cutting edge can be replaced, there is no need for regrinding and the performance remains stable at all times.
- Long shank type with less workpiece interference.



The ● mark in the table indicates long type.

Centering Angle θ	Model	Fig.	ϕD_s	ϕD_2	ϕd	L	Ls	Compatible Bit Model	Spare Lock Screw (Optional)
90°	ST10-CBY09010	1	10	10	0.9	150	-	CBY09010-5P	H0403-5P
	ST12-CBY09013		12	13				CBY09013-5P	
	ST16-CBY09016		16	16	180	CBY09016-5P		H0504-5P	
	ST20-CBY09022		20	22		1.5		CBY09022-5P	H0505-5P
	ST20-CBY09013-220 ●	2	20	13	0.9	220	120	CBY09013-5P	H0403-5P
	-260 ●					260		CBY09022-5P	
ST32-CBY09022-260 ●	260					H0505-5P			
-300 ●	32	22	1.5	300					
120°	ST12-CBY12013	1	12	13	0.9	150	-	CBY12013-5P	H0403-5P

- 2 throwaway bits are included.
- Lock Screw is included. 5-piece sets are sold under the above model number for spare part orders.

⚠ Use with hand feed is not recommended.

<Throwaway Bit>

Precision-finished cutting edge with superb sharpness.
 Since the bit can be replaced, there is no need for regrinding and the performance remains stable at all times.



Centering Angle θ	Model	Compatible Body Model
90°	CBY09010-5P	ST10-CBY09010
	CBY09013-5P	ST12-CBY09013/ST20-CBY09013
	CBY09016-5P	ST16-CBY09016
	CBY09022-5P	ST20-CBY09022/ST32-CBY09022
120°	CBY12013-5P	ST12-CBY12013

· Bits are provided as 5-piece sets.
 (Bit material) High-speed steel/TiN coating

Cutting Conditions

Model	Chamfering						Centering					
	Steel		Cast Iron		Aluminum		Steel		Cast Iron		Aluminum	
	Vc	f	Vc	f	Vc	f	Vc	f	Vc	f	Vc	f
CBY09010...	20	0.1	20	0.12	45	0.15	25	0.08	30	0.1	50	0.15
CBY09013...	25		25		50		30		35		55	
CBY12013...			35		55		45		60			
CBY09016...	30		40		60		50		45		65	
CBY09022...	35											

- Vc: Cutting speed (m/min) f: Feed (mm/rev).
- The values in this table are only for reference and should be adjusted based on workpiece hardness, rigidity, and chamfering amount.
- Lower the cutting speed Vc if chatter occurs.
- Keep the projection length as short as possible.

Back spot facing cutter of optimal design that matches the cap bolt size.

- Easy programming, simply offset the machine spindle and starting hole centers before inserting into the hole.



We recommend the **BIG** NEW HI-POWER MILLING CHUCK for holders/chucks.

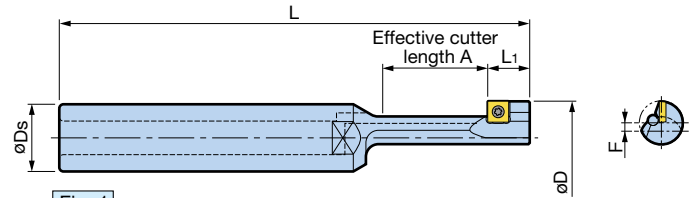


Fig. 1

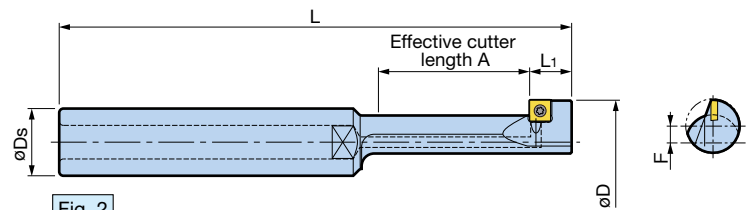


Fig. 2

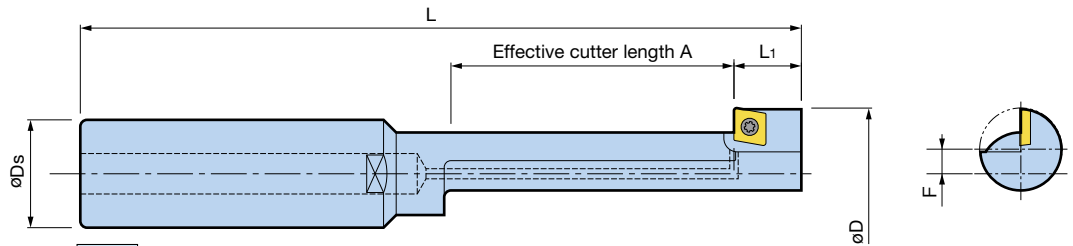
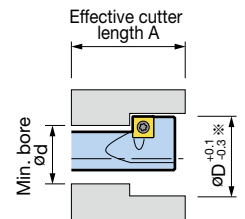


Fig. 3



● Model Description

ST16 - **BF** **M6** / **11** - **12**

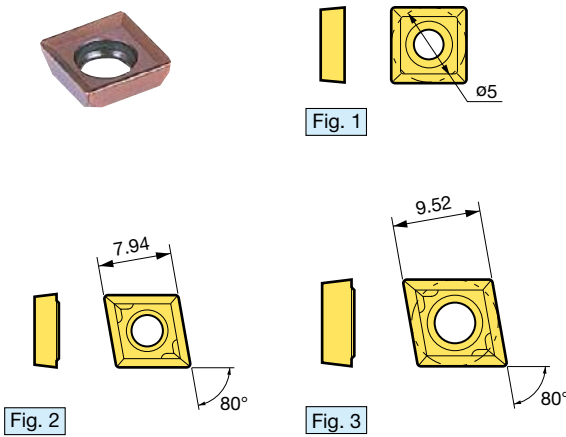
- Shank diameter
- Back spot facing
- Cap bolt size
- Spot facing diameter
- Effective cutter length

Model	Fig.	Spot facing diameter ϕD	ϕD_s	Min. hole ϕd	L	A	L ₁	Offset amount F	Insert Model
ST16-BFM 6/11 - 12	1	11	16	6.5	102	12	9	2.40	CM0502
-BFM 8/14 - 20		14		8.5	108	20		2.90	
-BFM10/17.5- 25		17.5		10.5	112	25		3.65	
-BFM12/20 - 36	2	20	20	13	122	36	10	3.65	CM0502
ST20-BFM14/23 - 49		23		15	136	49		4.15	
-BFM16/26 - 56	3	26	32	17	142	56	15	4.65	CC□□07...
ST32-BFM18/29 - 63		29		19	188	63		5.2	
-BFM20/32 - 70		32		21	195	70		5.7	
-BFM22/35 - 77		35		23	202	77		6.2	
-BFM24/39 - 84		39		25	214	84		7.3	
-BFM27/43 - 95	3	43	32	30	225	95	20	6.8	CC□□09...
-BFM30/48 - 105		48		33	235	105		7.8	

1. A wrench and screws are included. Inserts must be ordered separately.

2. The tolerance marked with ※ is only for reference, as the actual diameter varies depending on rigidity of the machine or workpiece, as well as the cutting conditions.

<Insert>



Model	Fig.	Nose radius	Material	Insert grade
CM0502	1	0.2	General Steel	ACP200
CM0502			Stainless Steel	ACM250F
CM0502			Cast Iron	NF15KA
CM0502			Aluminum/Non-ferrous	DS20
CCGP070204EFM	2	0.4	General Steel	T1500A
CCMP070204EFM				AC820P
CCMP070204EFM				AC830P
CCMP070204EFM			Stainless Steel	AC630M
CCMP070204EFM			Cast Iron	AC700G
CCMP070204EFM			Cast iron/Aluminum/Non-ferrous	AC410K
CCGA070204FN	3	0.8	General Steel	T1500A
CCGM090308EFM				AC820P
CCMM090308EFM				AC830P
CCMM090308EFM			Stainless Steel	AC630M
CCMM090308ESM			Cast Iron	AC700G
CCMM090308EFM			Cast iron/Aluminum/Non-ferrous	AC410K

1. Inserts are available in packets of 10 pcs.
Please specify the insert model number and grade when ordering.

Insert Grade Description

<p>ACP200</p> <p>For general steel</p> <p>PVD-coated carbide with superior wear resistance due to its nanometer-level thickness ultra-multilayered TiAlN and AlCrN film.</p>	<p>ACM250F</p> <p>For stainless steel</p> <p>PVD-coated carbide with excellent smoothness and resistance to welding and chipping, due to the ultra-multilayered thin film structure made of AlTiN and TiAlCrN.</p>	<p>NF15KA <small>NEW</small></p> <p>For cast iron</p> <p>New carbide substrate with drastically improved toughness while maintaining high hardness. This non-coated carbide provides both high wear and chipping resistance.</p>	<p>DS20</p> <p>For aluminum/non-ferrous</p> <p>DLC-coated carbide exclusive for aluminum and non-ferrous metals, ultra-smooth with a low wear coefficient and superior welding resistance.</p>
<p>T1500A</p> <p>For general steel</p> <p>General purpose cermet for applications in regions from finishing to roughing. Special technology improves the material's resistance to thermal shock, allowing safe use even for wet machining.</p>	<p>AC820P</p> <p>For general steel</p> <p>The newly developed CVD method allows for a dense yet smooth coating that achieves outstanding versatility and consistency as the main material for steel.</p>	<p>AC830P</p> <p>For general steel</p> <p>The tough substrate and the peel-resistant, dense and smooth coating deliver high reliability for interrupted cutting of steel.</p>	<p>AC630M</p> <p>For stainless steel</p> <p>The extremely smooth thin film coating gives this material great sharpness. Ideal for stainless steel or other materials that are easily work hardened.</p>
<p>AC700G</p> <p>For cast iron</p> <p>Heat resistant carbide alloy is coated with multiple layers of mainly tough alumina, with additional surface smoothing treatment, to produce a highly reliable material for machining cast iron.</p>	<p>AC410K</p> <p>For cast iron/aluminum/non-ferrous</p> <p>The hardest material for cast iron. Use if not satisfied with the wear resistance of AC700G. Note that this type is not suitable for heavy duty interrupted cutting.</p>	<p>H1</p> <p>For cast iron/aluminum/non-ferrous</p> <p>With slightly higher wear resistance than K10 material, this material is a best selling type of carbide that can be used across a wide range from roughing to finishing.</p>	

<Spare Parts>

Cutter size	Insert Clamping Screw Set	Cutter size	Insert Clamping Screw Set
BFM 6 / 11	S2SS-T6	BFM18 / 29	S3S
BFM 8 / 14		BFM20 / 32	
BFM10 / 17.5		BFM22 / 35	
BFM12 / 20	S2TS-T6	BFM24 / 39	S4S-T15
BFM14 / 23		BFM27 / 43	
BFM16 / 26		BFM30 / 48	

1. The insert clamping screw set contains 10 screws and 1 wrench.

Cutting Conditions

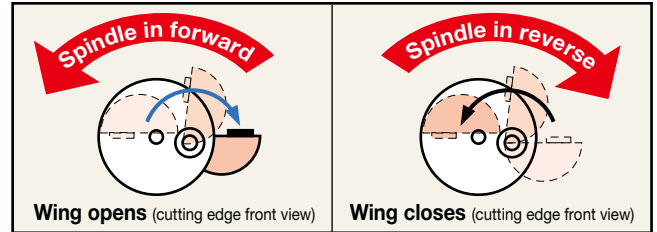
Workpiece material	Cutting speed Vc (m/min)	Feed f (mm/rev)
Carbon Steel, Alloy Steel	30	0.03
Cast Iron	30	0.03
Aluminum/Non-ferrous	30 - 50	0.03

The simplest mechanism achieves automatic back spot facing in machining centers.

- Only forward/reverse rotation of the machine spindle makes back spot facing and back chamfering possible.
- Abundant varieties and unique opening/closing method make it ideal for cast iron and aluminum machining.



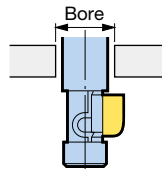
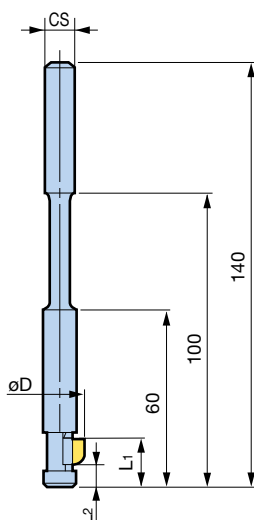
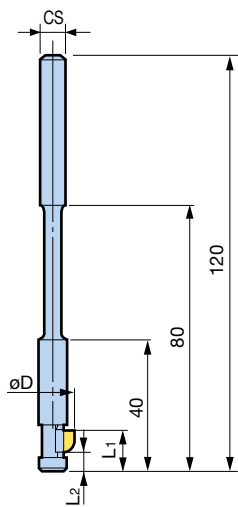
● Automatic opening and closing system



● Reliable cooling through oil hole (Hole diameter $\varnothing 10 - \varnothing 30$)

Reliable lubrication and air supply to the cutting edge reduce the problems caused by chips to extend tool life.

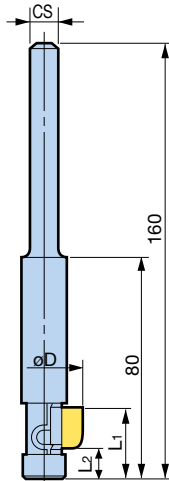
Standard back spot facing series



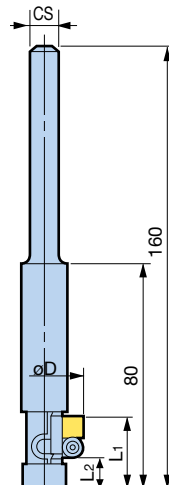
Hole diameter	Spot facing diameter $\varnothing D$	Spindle	Wing	Insert	L ₁	L ₂	CS
4.5	8	27-4.5-CS6	37-011	HSS	11	5	6
5.5	9	27-5.5-CS6	37-011	HSS	11	5	6
	10		-012				
	10.5		-013				
	11		-014				
6.5	9.5	27-6.5-CS6	37-011	HSS	11	5	6
	10.5		-012				
	11		-013				
	11.5		-014				
	13		-015				

7	11.8	27-7-CS8	37-021	HSS	15	5	8
	13.8		-022				
	14.4		-023				
8.4	13	27-8.4-CS8	37-021	HSS	15	5	8
	15		-022				
	15.6		-023				
	17		-024				
9	13.4	27-9-CS8	37-021	HSS	15	5	8
	15		-020-0480				
	15.4		-022				
	16		-023				
	17.4		-024				
	18		-025				
	19.6		-020-0710				

1. Upon purchase, specify the spindle and wing models with reference to the hole diameter and spot facing diameter.
2. The inserts marked with HSS in the table have high-speed steel wings integrated with the cutting edge. HSS wings have no nose radius.
3. Use a NEW BABY CHUCK or NEW HI-POWER MILLING CHUCK for chucking.

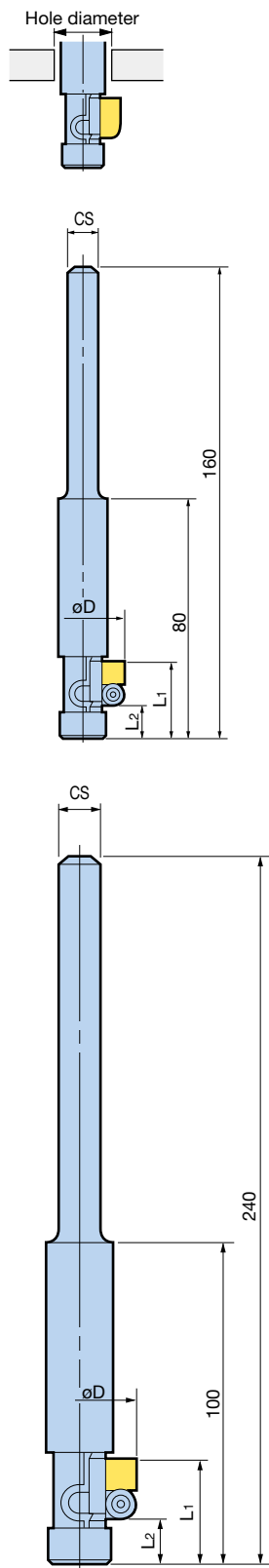


Hole diameter	Spot facing diameter $\varnothing D$	Spindle	Wing	Insert	Nose radius	L ₁	L ₂	CS
10	15.5	27-10-CS10	37-031	HSS	-	24	10	10
	17		-032					
	17.5		-033					
	18		-034					
	19		-035					
	19.6		-030-0730					
10.5	16	27-10.5-CS10	37-031	HSS	-	24	10	10
	17.5		-032					
	18		-033					
	18.5		-034					
	19.5		-035					
	20		-036					
	20.5		-037					
	21.1		-030-0780					
11	16.5	27-11-CS10	37-031	HSS	-	24	10	10
	18		-032					
	18.5		-033					
	19		-034					
	20		-035					
	20.5		-036					
	21		-037					
	22.6		-030-0830					



12	17.5	27-12-CS10	37-031	HSS	-	24	10	10
	19		-032					
	19.5		-033					
	20		-034					
	21		-035					
	21.5		-036					
	22		-037					
	24		-042					
	25.6		-040-0930					
13	17.5	27-13-CS10	37-031	HSS	-	24	10	10
	19		-032					
	19.5		-033					
	20		-034					
	21		-035					
	21.5		-036					
	22		-037					
	24		-042					
	26.6		-040-0980					
13.5	18	27-13.5-CS12	37-031	HSS	-	24	10	12
	19.5		-032					
	20		-033					
	20.5		-034					
	21.5		-035					
	22		-036					
	22.5		-037					
	24		-041					
	26		-043					
	28.1		-050-1030					
		C-0820	0.4	23	9			

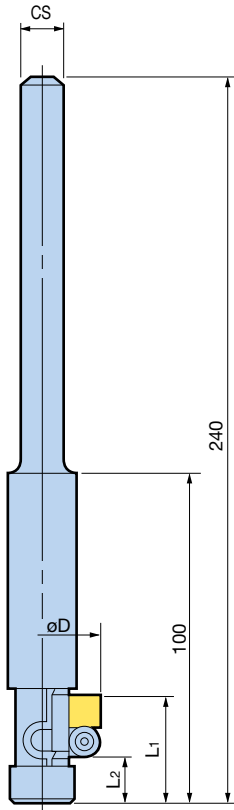
- Upon purchase, specify the spindle and wing models with reference to the hole diameter and spot facing diameter.
- The inserts marked with HSS in the table have high-speed steel wings integrated with the cutting edge. HSS wings have no nose radius.
- Inserts for cast iron (K) are included with wings as standard. Insert for steel (P) is also available. Please order separately. (10 pcs packet)



Hole diameter	Spot facing diameter $\varnothing D$	Spindle	Wing	Insert	Nose radius	L ₁	L ₂	CS				
14	18.5	27-14-CS12	37-031	HSS	—	24	10	12				
	20		-032									
	20.5		-033									
	21		-034									
	22		-035									
	22.5		-036									
	23		-037									
	25		-042									
	27		-044									
	29.6		-050-1080						C-0820	0.8	25	9
15	19.5	27-15-CS12	37-031	HSS	—	24	10	12				
	21		-032									
	21.5		-033									
	22		-034									
	23		-035									
	23.5		-036									
	24		-037									
	26		-042									
	30		-052						080208	0.8	25	9
	32.6		-050-1180						C-0820	0.4	23	9
15.5	20	27-15.5-CS12	37-031	HSS	—	24	10	12				
	21.5		-032									
	22		-033									
	22.5		-034									
	23.5		-035									
	24		-036									
	24.5		-037									
	26		-041									
	30		-051						080208	0.8	25	9
									C-0820	0.4	23	9

16	24	27-16-CS12	37-060-0750	Carbide brazing	—	28	11	12		
	26		-061	080208						
	30		-062	090308					0.8	30
	33		-063							
	33.6		-070-1230	K-1050B					0.4	28
17	27	27-17-CS16	37-061	080208	0.8	28	11	16		
	31		-062	090308						
	34		-063							
	36.6		-070-1330	K-1150B					0.4	28
17.5	26	27-17.5-CS16	37-060-0775	Carbide brazing	—	28	11	16		
	27.5		-061	080208						
	31.5		-062							
	33		-060-1125	090308					0.8	30
	34.5		-063							
	38.1		-070-1380	K-1150B					0.4	28
18	28	27-18-CS16	37-061	080208	0.8	28	11	16		
	32		-062	090308						
	35		-063							
	39.6		-070-1430	K-1250B					0.4	28
19	28	27-19-CS16	37-061	080208	0.8	28	11	16		
	32		-062	090308						
	35		-063							
	40.6		-080-1480	K-1250B					0.4	28

- Upon purchase, specify the spindle and wing models with reference to the hole diameter and spot facing diameter.
- The inserts marked with HSS in the table have high-speed steel wings integrated with the cutting edge. HSS wings have no nose radius.
- Inserts for cast iron (K) are included with wings as standard. Insert for steel (P) is also available. Please order separately. (10 pcs packet)

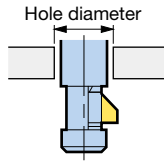
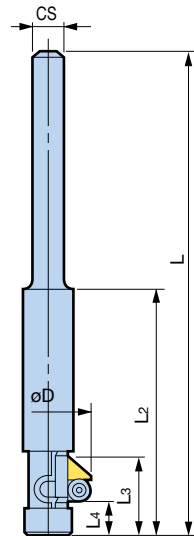
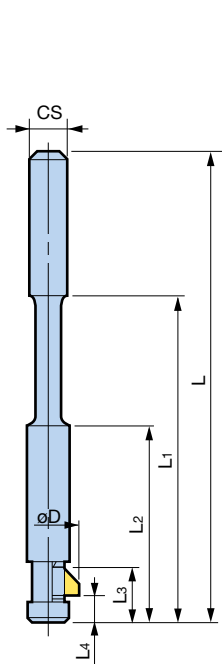


Hole diameter	Spot facing diameter $\varnothing D$	Spindle	Wing	Insert	Nose radius	L ₁	L ₂	CS			
20	29	27-20-CS16	37-061	080208	0.8	28	11	16			
	30		-060-0900								
	33		-062	090308		30					
	36		-063								
	43.6		-080-1580						K-1350B	0.4	28
21	30	27-21-CS20	37-061	080208	0.8	28	11	20			
	34		-062	090308					30		
	37		-063			K-1450B				0.4	28
	46.6		-080-1680								
22	30	27-22-CS20	37-061	080208	0.8	30	13	20			
	33		-060-1000								
	34		-062	090308		32					
	36		-060-1150								
	37		-063								
	40		-090-1350	120308		33	11				
	41		-091								
	47.6		-090-1730	K-1450B		0.4	30				
23	31	27-23-CS20	37-061	080208	0.8	30	13	20			
	35		-062	090308					32		
	38		-063			120308				33	11
	42		-091								
24	32	27-24-CS20	37-061	080208	0.8	30	13	20			
	36		-062	090308					32		
	39		-063			120308				33	11
	40		-090-1250								
	43		-091								
25	33	27-25-CS20	37-101	090308	0.8	46	15	20			
	40		-102	120308					44		
	45		-111			150412				46	
	50		-121								
26	34	27-26-CS25	37-101	090308	0.8	46	15	25			
	40		-100-1300								
	41		-102	120308		44					
	46		-111								
	51		-121	150412		1.2			46		
27	35	27-27-CS25	37-101	090308	0.8	46	15	25			
	42		-102	120308					44		
	47		-111			150412				46	
	52		-121								
28	36	27-28-CS25	37-101	090308	0.8	46	15	25			
	43		-102	120308					44		
	48		-111			150412				46	
	53		-121								
29	37	27-29-CS25	37-101	090308	0.8	46	15	25			
	44		-102	120308					44		
	49		-111			150412				46	
	54		-121								
30	38	27-30-CS25	37-101	090308	0.8	46	15	25			
	45		-102						120308	44	
	46		-100-1400								
	50		-111								
	55		-121	150412		1.2			46		

- Upon purchase, specify the spindle and wing models with reference to the hole diameter and spot facing diameter.
- Inserts for cast iron (K) are included with wings as standard. Insert for steel (P) is also available. Please order separately. (10 pcs packet)

Tools for larger diameter holes than $\varnothing 30$ are also available. Please contact us for details.

45° Back Chamfering Series



Hole diameter	Chamfering diameter $\varnothing D$	Spindle	Wing	Insert	L	L ₁	L ₂	L ₃	L ₄	CS
4.5	8	27-4.5-CS6	34-011	HSS	120	80	40	11	5	6
5.5	9	-5.5								
6.5	9.5	-6.5								
7	14.4	27-7 -CS8	34-023	HSS	140	100	60	15	5	8
8.4	15.6	-8.4								
9	16	-9								

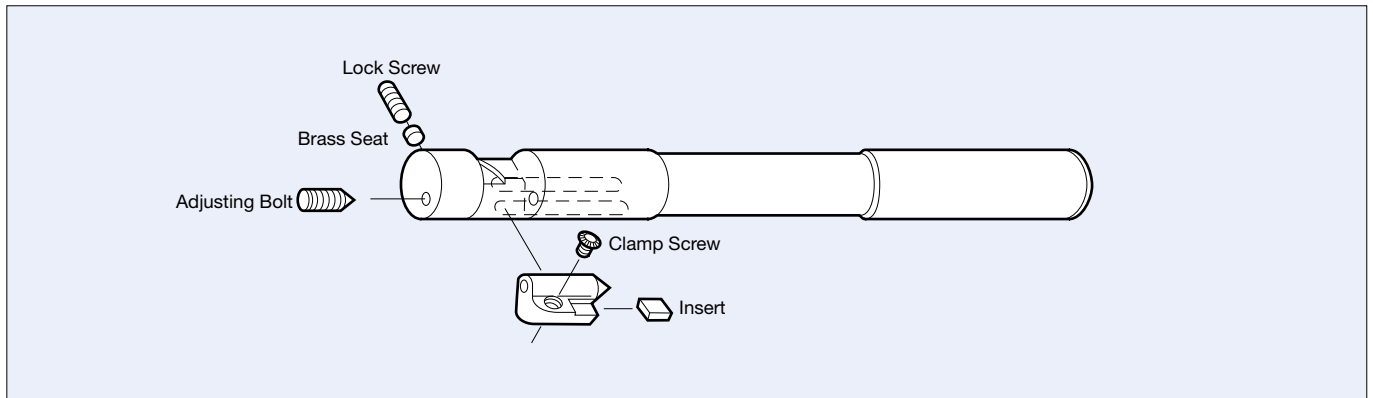
Hole diameter	Chamfering diameter $\varnothing D$	Spindle	Wing	Insert	L	L ₁	L ₂	L ₃	L ₄	CS
10	19	27-10 -CS10	34-035	HSS	160	—	80	24	10	10
10.5	19.5	-10.5								
11	20	-11								
12	21	-12								
13	21	-13	34-035	HSS	160	—	80	24	10	12
13.5	21.5	27-13.5-CS12								
14	22	-14								
15	23	-15								
15.5	23.5	-15.5	34-063	090308 x 45	240	—	100	30	11	12
16	33	27-16 -CS12								
17	34	27-17 -CS16								
17.5	34.5	-17.5								
18	35	-18	34-063	090308 x 45	240	—	100	30	11	16
19	35	-19								
20	36	-20								
21	37	27-21 -CS20								
22	37	-22	34-063	090308 x 45	240	—	100	32	13	20
23	38	-23								
24	39	-24								
25	50	-25								
26	51	27-26 -CS25	34-121	150412 x 45	240	—	100	46	15	25
27	52	-27								
28	53	-28								
29	54	-29								
30	55	-30								

- Upon purchase, specify the spindle and wing models with reference to the hole diameter and chamfering diameter.
- The inserts marked with HSS in the table have high-speed steel wings integrated with the cutting edge.
- Inserts for cast iron (K) are included with wings as standard. Insert for steel (P) is also available. Please order separately. (10 pcs packet)

Tools for larger diameter holes than $\varnothing 30$ are also available. Please contact us for details.

AUTOMATIC BACK SPOT FACER

<Spare Parts>



<Adjusting Bolt, Lock Bolt Set>

Hole diameter	Adjusting bolt	Allen key size for adjusting bolt	Lock Screw Set Set Contents: Brass (2 pcs), Screws (2 pcs), Allen Key (1 pc)
4.5 - 6.5	211-1	0.9	215-1
7 - 9	211-2	1.3	
10 - 15.5	211-3	2	215-3
16 - 24	211-4	3	215-4
25 - 30	211-5	5	215-5

<Clamp Screw>

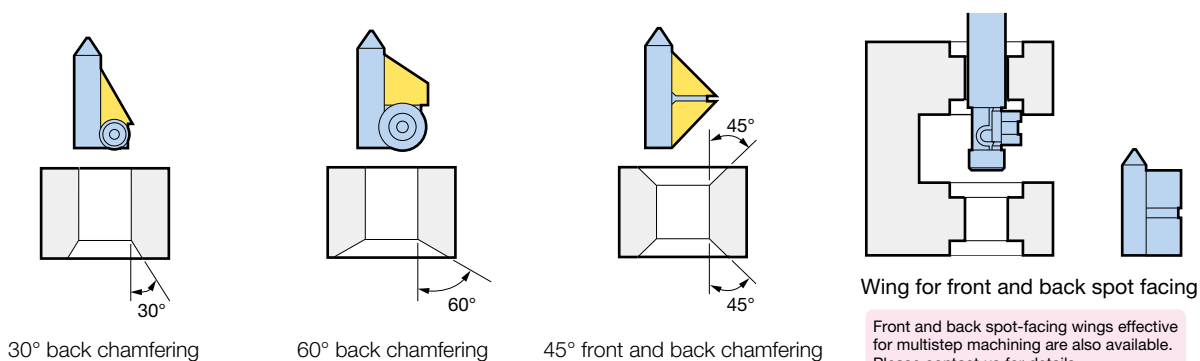
Wing Model	Clamp Screw
040 - 061	4-631
062 - 102	5-639
110 - 121	6-635

1. Note that the clamp screws for wing models 37-060-1125 and 37-060-1150 are different from those listed in the table at left. (Refer to table below)

Wing Model	Clamp Screw
37-060-1125	5-639
37-060-1150	5-639

Wing replacement permits back machining of different diameters and different angles.

※ For models and dimensions, refer to the following page.

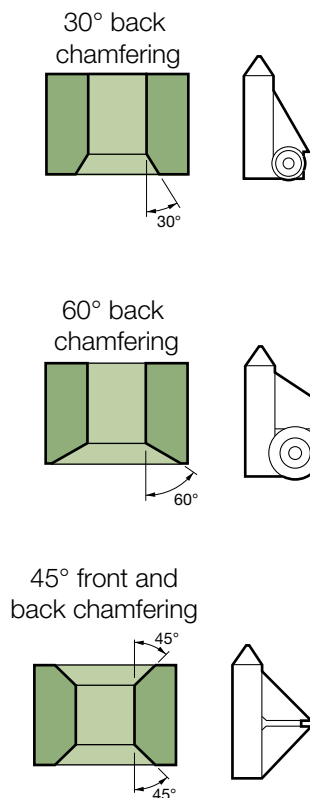


Front and back spot-facing wings effective for multistep machining are also available. Please contact us for details.

(●Tools for hole diameter larger than $\phi 30$
The various series are also available in hole diameter sizes up to $\phi 69$. Please contact us for details.)

Wing Models by Angle

- For 30° and 60° back chamfering, as well as 45° front and back chamfering, select spindles and wings from the table below.



Hole diameter	Chamfering diameter	Spindle Model	Wing Model		
			30° back chamfering	60° back chamfering	45° front & back chamfering
4.5	8	27- 4.5-CS 6	34-011-30	34-011-60	35-011
5.5	9	- 5.5			
6.5	9.5	- 6.5			
7	14.4	27- 7 -CS 8	34-023-30	34-023-60	35-022
8.4	15.6	- 8.4			
9	16	- 9			
10	19	27-10 -CS10	34-035-30	34-035-60	35-035
10.5	19.5	-10.5			
11	20	-11			
12	21	-12			
13	21	-13			
13.5	21.5	27-13.5-CS12			
14	22	-14			
15	23	-15			
15.5	23.5	-15.5			
16	26	-16	34-061-30 * (Insert 090308 x 30)	34-063-60 * (Insert 090308 x 60)	35-060
17	27	27-17 -CS16			
17.5	27.5	-17.5			
18	28	-18			
19	28	-19			
20	29	-20			
21	30	27-21 -CS20			
22	30	-22			
23	31	-23			
24	32	-24	34-102-30 * (Insert 150412 x 30)	34-121-60 * (Insert 150412 x 60)	35-102
25	40	-25			
26	41	27-26 -CS25			
27	42	-27			
28	43	-28			
29	44	-29			
30	45	-30			

- * mark indicates insert type of wing. Insert for cast iron (K) is included as standard. Insert for steel (P) is also available. Please order separately. (10 pcs packet)
- Refer to the previous pages for spindle dimensions.
- The chamfering diameter shows the maximum machinable value.

Cutting Conditions

- For horizontal machining centers and interrupted cutting

When using on a horizontal machining center or for interrupted cutting, double the spindle speed and decrease the feed by 20 to 30%.

- Feed when passing through the workpiece

Set the feed at $f=0.2\text{mm/rev}$ or lower when inserting/extracting the tool into/from the workpiece.

- For use with internal coolant

Coolant discharged during inserting/extracting the tool into/from the workpiece interrupts the opening and closing of the wing, which leads to danger. Stop supplying coolant except when cutting.

- Prohibition of hand feed operation

Always use mechanical feed when cutting with this product. Hand feed should never be used as it may cause unstable cutting, affecting the opening and closing of the wing and leading to damage.

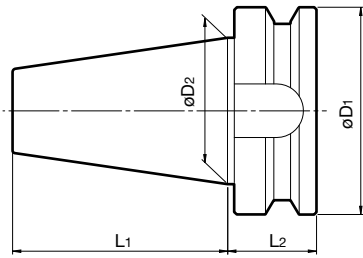
- Spindle selection for the hole diameter

The workpiece starting hole serves as a guide for the spindle during cutting. Always use a spindle that matches the hole diameter.

Spot facing diameter (Chamfering diameter)	Spindle speed n (min ⁻¹)	Feed f (mm/rev)	
		Steel	Cast Iron
9-11	700	0.03	0.05
12-14	600	0.04	0.06
15-17	500	0.05	0.08
18-21	400	0.07	0.10
22-25	550	0.08	0.12
26-30	470	0.09	0.14
31-35	400	0.11	0.16
36-40	350	0.13	0.18
41-45	325	0.14	0.21
46-50	275	0.16	0.24
51-60	250	0.18	0.27
61-70	225	0.22	0.33
71-80	200	0.24	0.37

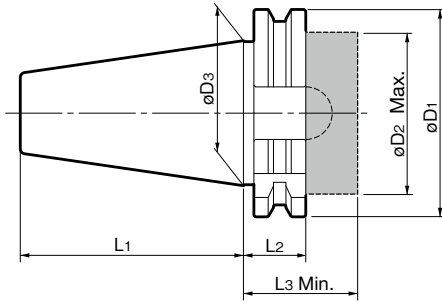
Taper Shank Standard Outer Diameter Dimension Table

Data



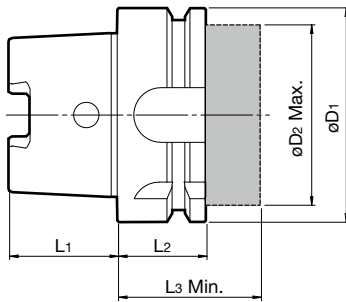
BT Shank (MAS 403 JIS B6339 ISO 7388-2)

BBT(BT)No.	ϕD_1	ϕD_2	L_1	L_2
30	46	31.75	48.4	22
40	63	44.45	65.4	27
50	100	69.85	101.8	38



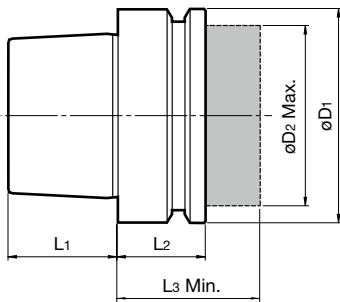
DV Shank (DIN 69871 ISO 7388-1)

BDV(DV)No.	ϕD_1	ϕD_2 Max.	ϕD_3	L_1	L_2	L_3 Min.
30	50	45	31.75	47.8	19.1	35
40	63.55	50	44.45	68.4	19.1	35
50	97.5	80	69.85	101.75	19.1	35



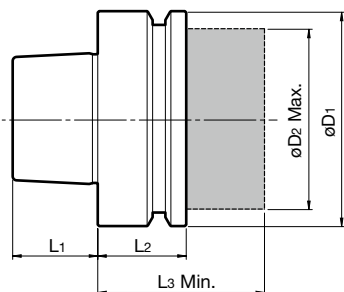
HSK-A Shank (DIN 69893-1 ISO 12164-1)

HSK No.	ϕD_1	ϕD_2 Max.	L_1	L_2	L_3 Min.
A 40	40	34	20	20	35
A 50	50	42	25	26	42
A 63	63	53	32	26	42
A100	100	88	50	29	45
A125	125	111	63	29	45



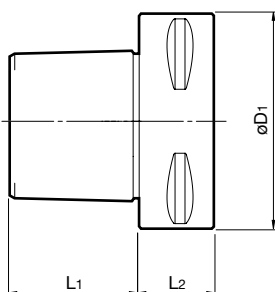
HSK-E Shank (DIN 69893-5)

HSK No.	ϕD_1	ϕD_2 Max.	L_1	L_2	L_3 Min.
E25	25	20	13	10	20
E32	32	26	16	20	35
E40	40	34	20	20	35
E50	50	42	25	26	42



HSK-F63 Shank (DIN 69893-6)

HSK No.	ϕD_1	ϕD_2 Max.	L_1	L_2	L_3 Min.
F63	63	53	25	26	42



Polygon Taper Shank (ISO 26623-1)

C No.	ϕD_1	L_1	L_2
C3	32	19	15
C4	40	24	20
C5	50	30	20
C6	63	38	22
C8	80	48	30



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