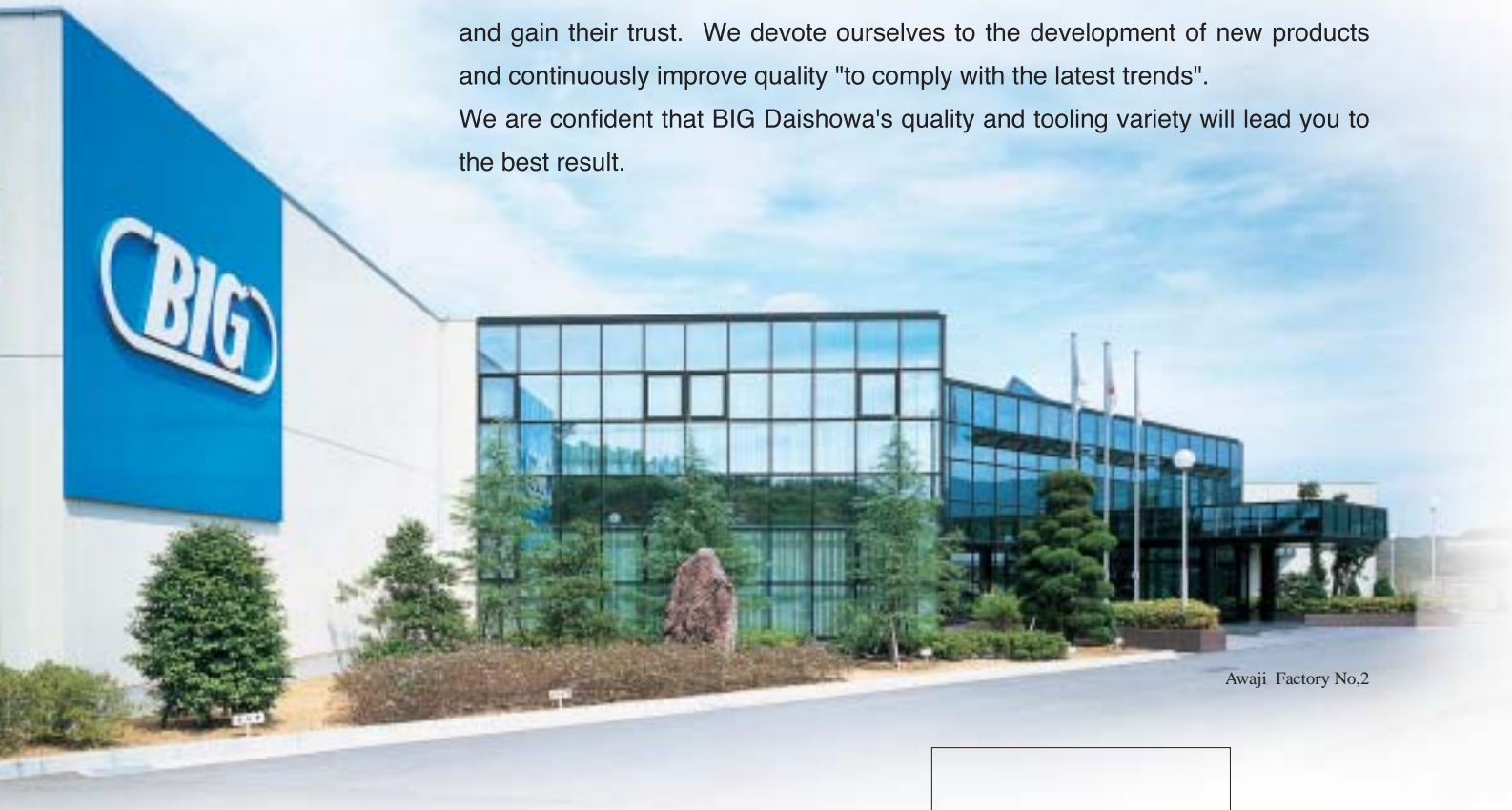


Tooling system of highest quality

Based on superior technologies and state-of-the-art production facilities, we guarantee to offer "high precision" and "high quality" tooling 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. We devote ourselves to the development of new products and continuously improve quality "to comply with the latest trends". We are confident that BIG Daishowa's quality and tooling variety will lead you to the best result.



Awaji Factory No,2



Awaji Factory No,1



Awaji Factory No,3



MEGA TECHNICAL CENTER



Awaji Factory No,4



Awaji Factory No,5



Osaka Factory

INDEX

High Precision, High Rigidity & High Quality Performance

For High Speed

MEGA MICRO CHUCK®



Ultra slim design eliminates any interference.

Clamping Range :
ø0.45 - ø6.05

Features : P5

BBT SHANK	P17
BDV SHANK	P45
HSK SHANK	P55,73,78
CYLINDRICAL SHANK	P85
MICRO COLLET	P91

For High Speed

MEGA NEW BABY CHUCK®



Most reliable high precision collet chuck in the world.

Clamping Range :
ø0.25 - ø20

Features : P6

BBT SHANK	P19
BDV SHANK	P46
HSK SHANK	P57,75,79
CYLINDRICAL SHANK	P86
NEW BABY COLLET	P92
MEGA PERFECT SEAL	P96

For High Speed

MEGA E CHUCK®



BIG original designed holder for small dia endmilling.

Clamping Range :
ø3 - ø12

Features : P7

BBT SHANK	P22
BDV SHANK	P48
HSK SHANK	P61,80
MEGA E COLLET	P94
MEGA E PERFECT SEAL	P97

MEGA DOUBLE POWER CHUCK®

For High Speed



Specialist for heavy-duty cutting.

Clamping Range :
ø16 - ø50

Features : P8

BBT SHANK	P25
BDV SHANK	P49
HSK SHANK	P63,81
STRAIGHT COLLET	P95

NEW BABY CHUCK



Most reliable high precision collet chuck in the world.

Clamping Range :
ø0.25 - ø20

Features : P9

BT SHANK	P29
DV SHANK	P50
HSK SHANK	P65
CYLINDRICAL SHANK	P87
NEW BABY COLLET	P92
BABY PERFECT SEAL	P98

NEW Hi-POWER MILLING CHUCK



High precision design for heavy cutting.

Clamping Range :
ø16 - ø42

Features : P10

BBT/BT SHANK	P32
DV SHANK	P52
HSK SHANK	P67
STRAIGHT COLLET	P95

SHRINK CHUCK



Clamping Range :
ø6 - ø20

BBT SHANK	P35
HSK SHANK	P69,77,82

MOLD CHUCK



Side lock holder for Mold Making

Clamping Range :
ø3 - ø20

BBT SHANK	P37
HSK SHANK	P68,82

SIDE LOCK HOLDER



Clamping Range :
ø6 - ø50

BBT SHANK	P38
------------------------	-----

MORSE TAPER HOLDER



BBT SHANK P39

FACE MILL ARBOR Type FMC



Eliminates chatter
for smoother finish

BBT SHANK P40
BDV SHANK P53

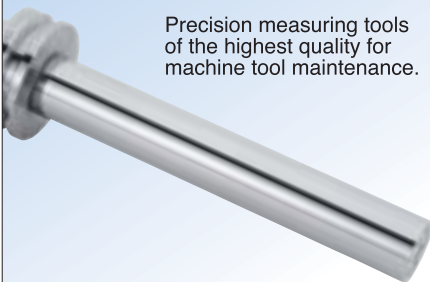
FACE MILL ARBOR Type FMH



Secure coolant /
air supply to cutting edge.

BBT SHANK P41
HSK SHANK P71

DYNA TEST



Precision measuring tools
of the highest quality for
machine tool maintenance.

Features : P11

BBT SHANK P43
BDV SHANK P53
HSK SHANK P72,77,83

CLEANER



Blowing air cleans the BIG-PLUS
machine spindle face.

BBT SHANK P43

PULL STUD BOLT



PULL STUD BOLT P99

POINT MASTER SERIES



Touch probe & edge finder

Features : P12

PMP SERIES P101
PMC SERIES P103
PMG SERIES P104
STYLUS P102

BASE MASTER SERIES

Tool offset sensors



Features : P12

BM-50 P105
BM-50G P105
BM-100G P106
BM-50M P106
BMM-20 P107

TOOL MASTER

Tool offset sensors



Features : P12

TM-100 P107

ACCESSORIES



TOOLING MATE

Ideal for mounting or removing cutting tools and retention knobs.

P108



HOLDER LOCK

Horizontal type to enable to clamp in either right or left side.

P108



KOMBI GRIP

2-way clutch holds HSK and CAPTO toolholders securely from rotating.

P109

ST LOCK

For tightening clamping nuts of cylindrical shank toolholders.

P109



T-SLOT CLEAN

Keeps T-slots of a table free from chips.

P109



α WIPER CLEANER

Easy cleaning by simply inserting and removing.

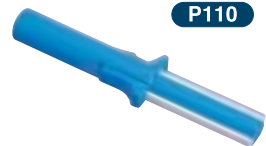
P110



TK CLEANER

Absolute cleaning of clamping bore by unique "slide" feature.

P110



α TAPER CLEANER

Maintain accuracy of high precision collet chucks.

P110



α TOOLING CLEANER

Particles and oil on both taper and flange of 7/24 taper holder are easily removed.

P111



SPINDLE CLEANER

Easy cleaning of oil or particles from the machine spindle.

P111



CLEAN TEC

Full automation of swarf and coolant removal by means of wind pressure.

P111



CUTTING TOOLS



FULLCUT MILL Type FCR

Endmill with low cutting resistance for ramping and helical interpolation.

Features : P13

BBT, BDV, HSK SHANK
..... P113



FULLCUT MILL Type FCM

Shoulder and slot milling cutter with both high radial and axial rake angle.

Features : P13

BBT, BDV, HSK,
CYLINDRICAL SHANK
ARBOR TYPE
..... P119



C-CUTTER MINI

Ultra High Feed Chamfer Mill.

Features : P15

CYLINDRICAL SHANK
..... P129

C-CUTTER

Extensive chamfering range.



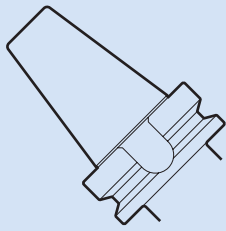
CYLINDRICAL SHANK
..... P134



CENTER BOY

Center and Chamfer in one.

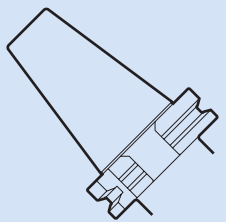
CYLINDRICAL SHANK
..... P135



BBT/BT SHANK

JIS B 6339(BIG-PLUS) / JIS B 6339

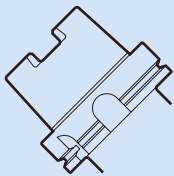
P16 - P43



BDV/DV SHANK

DIN 69871 A/B(BIG-PLUS) / DIN 69871 A/B

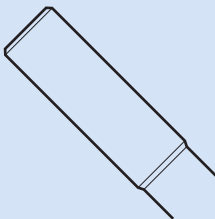
P44 - P53



HSK SHANK

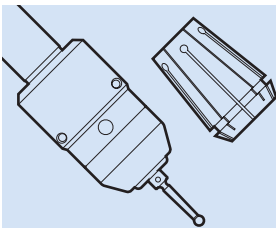
Form A DIN 69893-1 Form E DIN 69893-5
Form F DIN V 69893-6

P54 - P83



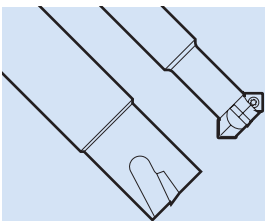
CYLINDRICAL SHANK

P84 - P89



ACCESSORIES

P90- P111



CUTTING TOOLS

P112- P135

Application example

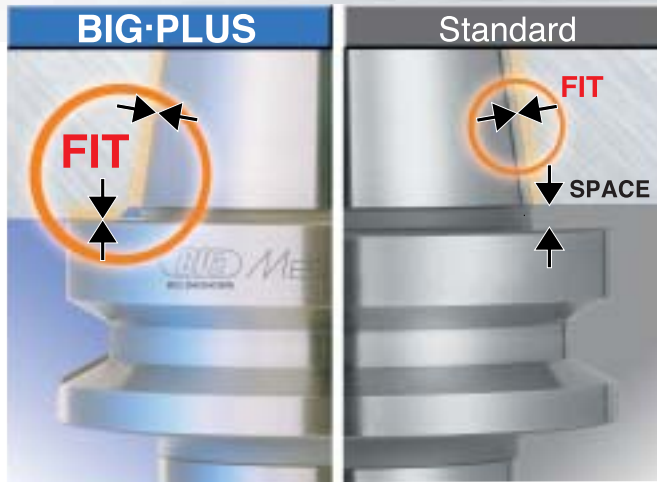
P136- P138



Accurate inspection under strictly controlled quality standards.



Total Tooling System



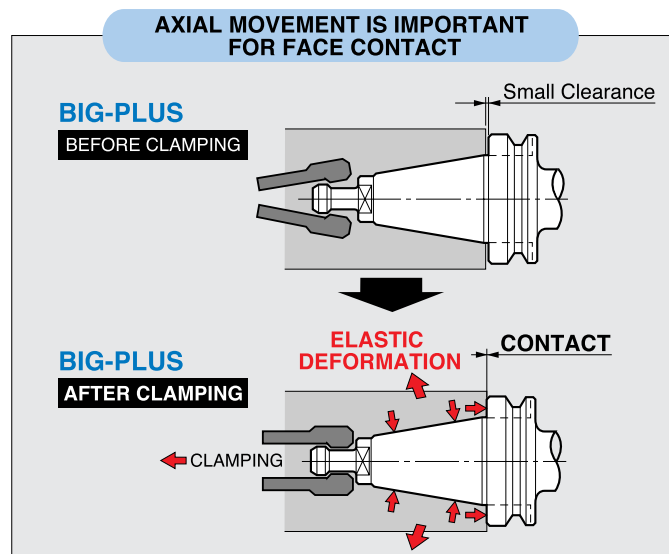
SIMULTANEOUS TAPER & FLANGE FIT

Interchangeable with existing standards cost saving dual contact system. BIG-PLUS is a simple Simultaneous Dual Contact Spindle System maintaining interchangeability with existing machines and toolholders.

BBT Shank **P17**
BDV Shank **P45**

Working principle

Before clamping, although tapers are fit, faces have small clearance and are not fit at this point. When the toolholder is pulled in by the clamping mechanism, the machine spindle expands by elastic deformation and the faces are fit, which completes simultaneous fit between both the taper and face. Therefore, the amount of movement when a toolholder is drawn is very important.

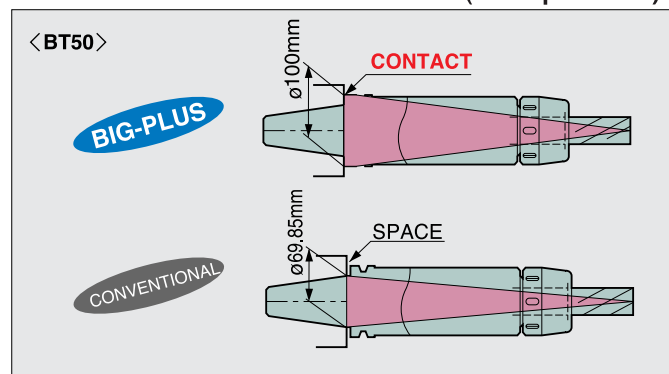


Increased contact diameter for higher rigidity

A conventional steep taper 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.

	CONVENTIONAL	BIG-PLUS
BT50	ø69.85	ø100
BT40	ø44.45	ø 63
BT30	ø31.75	ø 46

● INCREASED CONTACT DIAMETER(Example of BT)



SIMULTANEOUS DUAL CONTACT SYSTEM MAINTAINS INTERCHANGEABILITY WITH EXISTING STANDARDS



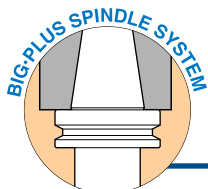
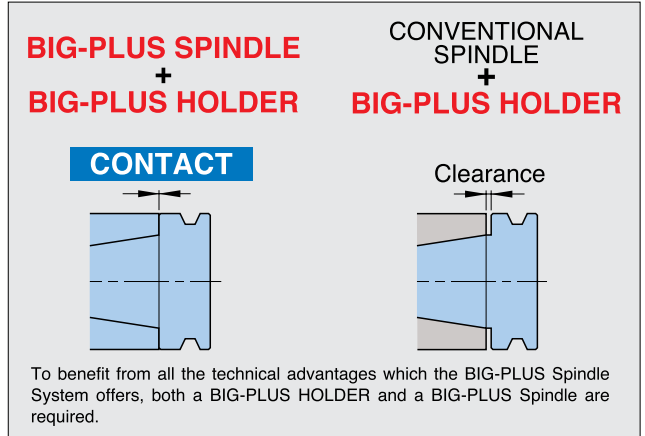
Perfect interchangeability with existing machines and toolholders

Yes, they can. BIG-PLUS holders can be used on existing standard machine spindles. In this case, simultaneous contact can not be attained. In order to achieve excellent performance of simultaneous contact, please use BIG-PLUS holders on BIG-PLUS spindles. Please be aware that simultaneous contact toolholders other than BIG-PLUS holders may damage BIG-PLUS spindles.

FACE MILLING Application



MACHINE TOOL : #40(Horizontal Machining Center)
 CUTTER : Face Milling ø125(6 cutting edges)
 WORK MATERIAL : A2017 Duralumin
 CUTTING DEPTH : 2.4mm



MACHINE BUILDERS

The BIG-PLUS Spindle System is offered by many of the world's leading manufacturers of machining centers. Some of the machine and spindle builders who have produced BIG-PLUS spindles are as follows;

Asa Tech, Advanced Machine, ALEX-TECH, ANCA, ARES, CHEVALIER, CHUO-SEIKI, CITIZEN, COLGAR, Cross Hüller Ex-Cell-O Lamb, D.S.TECHNOLOGIE, DAH LIH, DIXI, DMG, DOOSAN, EGURO, ENSHU, FANUC, FOREST-LINÉ, FPT, FUJI SEIKI, Giddings & Lewis, HNK, HOMMA, HORKOS, HOWA, HWACHEON, IBAG, IKGAI, IMARI, INOUE KOSOKU KIKAI, JOHNFORD, JTEKT, KARATS, KASHIFUJI, KITAMURA, KIWA, KOMATSU, KOMATSU NTC, KONDIA, KOYO, KURAKI, LAZZATI, MAGNIX, MAKINO, MAKINO SEIKI, MANDELLI, MATSUURA, MAZAK, MECTRON, MILLTRONICS, MITSUBISHI, MITSUBOSHI KOGYO, MITSUI SEIKI, MORI SEIKI, MOTOKUBO, NEO, Nicolás Correa, NIIGATA, NIPPON BEARING, NISHIJIMAX, NISSIN-mfg, NOMURA, Northland Tool, NSK, NSS, OBATAKE, OHTORI, OKK, OKUMA, O-M, OMLAT, PAMA, PMC, QUASER, REIDEN, ROKU ROKU, ROYAL, SAJO, SEMPUCO, SETCO, SHAN RONG, SHODA, SHW, SKG, SNK, SODICK, Starrag Heckert, STUDER, SUGINO, TAJMAC-ZPS, TAKISAWA, TANABE, TOPPER, Tos Varnsdorf, TOSHIBA, TOYO SEIKI, TSUGAMI, UTSUNOMIYA, VICTOR Taichung, WALDRICH COBURG, WIA, YAMASAKI GIKEN, YAMASHINA, YASDA, YCM, YU HUNG

Licensed BIG-PLUS toolholder manufacturers

BIG KAISER, KAISER, KOMET, SANDVIK, SCHUNK, SHOWA, YUKIWA

[As of March, 2009]

HSK TOOLING SYSTEM

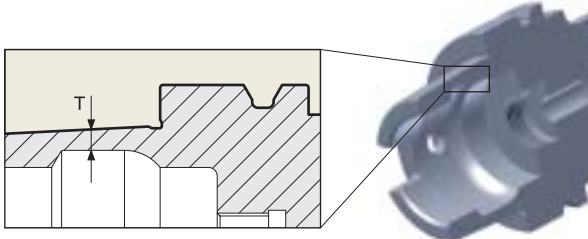


BIG HSK tooling in accordance with ISO and DIN standards. Wide range of standard holders to meet any application need.

- HSK Type A **P55**
- HSK Type E **P73**
- HSK Type F **P78**
- Coolant Pipe for Form A and Form E **P83**

Premium Material Selection

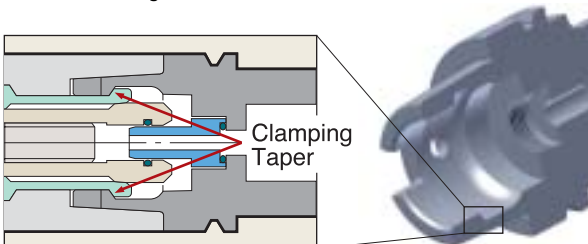
Since HSK is a hollow taper shank, the material has a critical role for optimum performance. BIG uses carefully selected high grade alloy steels. Particularly, BIG uses die steel materials for HSK 40 and smaller where the cross section of shank taper is very thin.



HSK Size	25	32	40	50	63	100
T	1.09	1.25	1.92	2.60	3.47	5.17

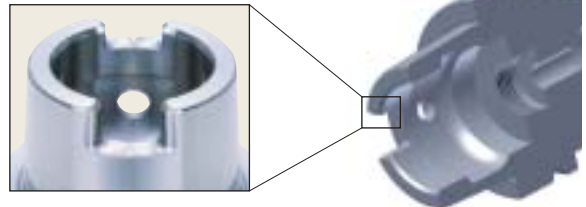
Important Tool Retention Feature

Internal clamping of HSK tools is defined by the location of highly concentrated forces from the machine tool. Accuracy and position of this form will affect the rigidity, repeatability, and precision of tool holders. BIG provides finish machining of this area after heat treatment.



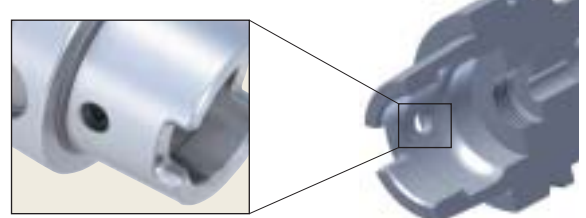
Drive Key Form

HSK Shanks according to Form A are designed to carry out torque transmission by the round shaped key-way at the end of the taper. Because of the importance of this round shaped geometry, BIG provides finishing of this feature after heat treatment.



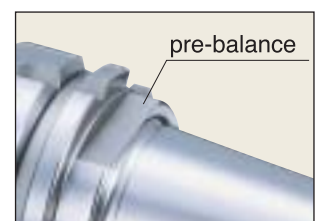
With hole for Manual Clamping

BIG HSK Form A holders have a manual clamping hole as a standard and can therefore be used in place of HSK Form C which is manually mounted in spindles.



Pre-Balanced Design

Since HSK Form A has non-symmetric keyways, it is not balanced. BIG Form A holders are pre-balanced and can therefore be used for high speed applications.





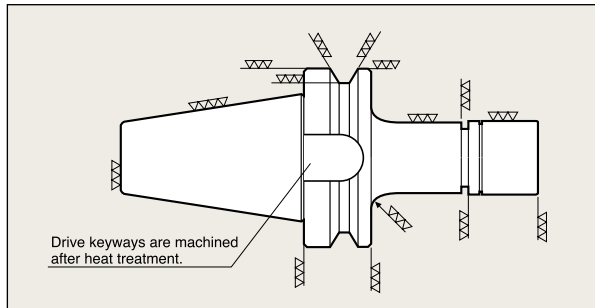
Wide variety of collets and chuck bodies to cover all high speed ultra precision machining applications.

- BBT Shank **P17**
- BDV Shank **P45**
- HSK Shank **P55**
- CYLINDRICAL Shank **P85**



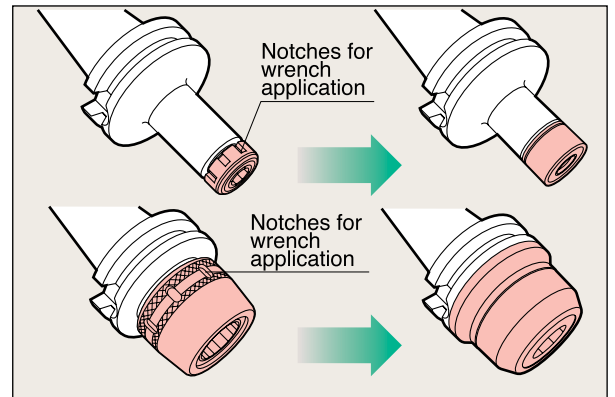
Precision ground and balanced for high speed machining

MEGA CHUCKS are micro mirror ground finished on all surfaces to assure perfect concentricity for high speed machining. The drive keyway is machined after heat treatment.



Notch-free design mega nut prevents vibration and reduces noise

Vibration at high speeds is eliminated with the use of notch free designed nuts, which offer superior balance and concentricity. This ideal nut design not only reduces whistling noise and splattering coolant, but also assures increased strength of the nut itself.



4 chuck types for different high speed machining requirements

To suit micro drills and end mills
Clamping range
ø0.45 - ø6.05mm



MEGA MICRO CHUCK PAT.

To suit carbide drills, reamers and end mills
Clamping range
ø0.25 - ø20mm



MEGA NEW BABY CHUCK PAT.

To suit end mills
Clamping range
ø3 - ø12mm



MEGA E CHUCK PAT.

To suit end mills
Clamping range
ø16 - ø50mm

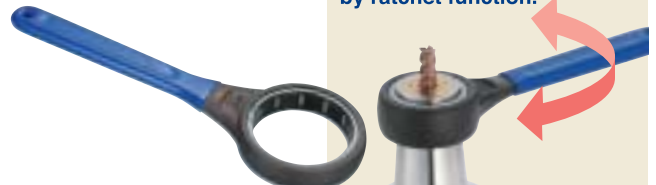


MEGA DOUBLE POWER CHUCK PAT.

Easy and firm clamping by the mega wrench PAT.

The unique MEGA WRENCH has a one way clutch system with roller bearings and a ratchet function which is capable of safely and evenly applying force to the entire nut periphery.

Smooth tightening operation by ratchet function.



MEGA MICRO CHUCK®

0.1mm increments for higher precision
Clamping Range: $\varnothing 0.45 - \varnothing 6.05$



- BBT Shank **P17**
- BDV Shank **P45**
- HSK Shank **P55**
- CYLINDRICAL Shank **P85**



MAX.
50,000
min⁻¹

BIG PLUS
STANDARD



Extremely slim design of body and nut provides superior balance and concentricity and is ideal for reaching into confined areas.

Nut diameter 10, 12 & 14mm. Extremely slim design.

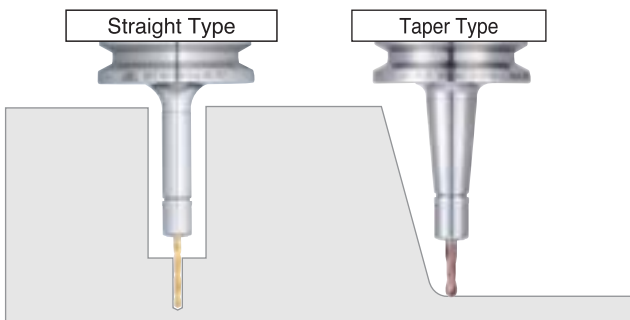
Slim design avoids interference. Ideal for small mold making combining high speed and high precision capability.

$\varnothing 10\text{mm}$
Full scale
3S_{type}

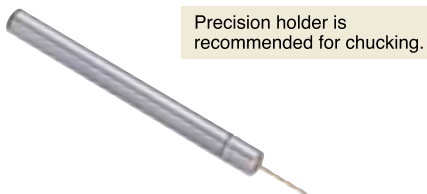


Three versions are available

- Straight Type:** where access is restricted
- Taper Type:** for increased rigidity
- Cylindrical Shank Type:** for increased versatility



Cylindrical Shank Type
Flexible tool layout
For tighter and deeper area



Precision holder is recommended for chucking.

High concentricity

At nose within **1 μm**
At 4d within **3 μm**

100% concentricity inspection. Within 1 μm at nose is guaranteed.



High precision
Micro Collet

Collet concentricity

Collet class	Max. runout	
	At nose	At end of test bar
AA	Within 1μm	Within 3μm

0.1mm increments for higher precision

Collet 124 models

Available in 0.1mm increments. Reduced shrinkage optimizes precision.

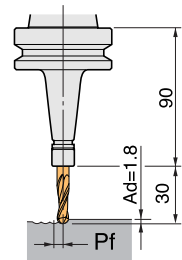
Maximum performance!

Setup

Machine	BBT40 vertical machining center
Holder	BBT40-MEGA6S-90T
Endmill	$\varnothing 6$ 2-flute carbide ball nose
Workpiece	S50C (JIS)

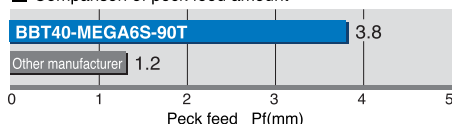
Cutting conditions

Spindle speed	12,000 (min ⁻¹)
Cutting speed	226 (m/min.)
Feed rate	720 (mm/min.)
	0.03 (mm/cutter)
Axial depth of cut	1.8 (mm)



Rigid taper design avoids chatter even with high peck feed milling leading to dramatically reduced machining time.

Comparison of peck feed amount





High precision collet chuck system

PAT.

MEGA NEW BABY CHUCK®

Clamping Range: $\varnothing 0.25 - \varnothing 20$



- BBT Shank **P19**
- BDV Shank **P46**
- HSK Shank **P57**
- CYLINDRICAL Shank **P86**



High speed design, offered in six different size collet series, utilizes ultra precision New Baby Collets which guarantee a runout at the collet nose of less than 1 micron.

MAX. 40,000 min⁻¹



High precision collet, close to submicron



High precision
NBC Collet

100% inspection to guarantee accuracy. Material, production, heat treatment... everything is selected for precision.

Collet concentricity

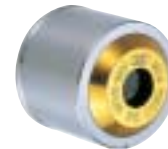
	Collet class	Max. runout	
		At nose	At end of test bar
	AA	Within 1µm	Within 3µm

2 way coolant supply

MAX. COOLANT PRESSURE **7MPa**

Sealed collet nut
MEGA PERFECT SEAL PAT.

- Standard NBC Collet is used.
- High dust resistance



MPS
P96

Through Tools

Tools with holes



Jet Through

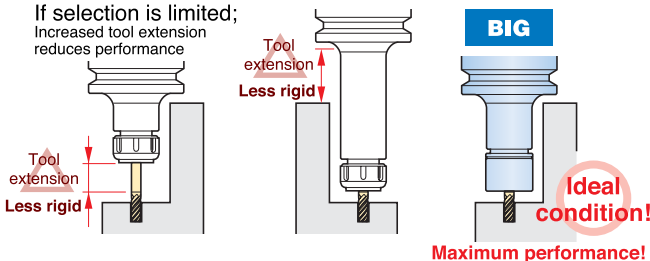
Tools without holes



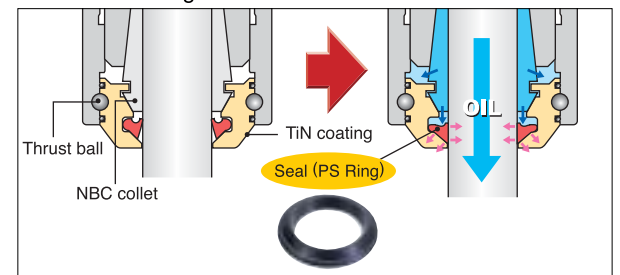
353 versions are available as standard (BBT, BDV, HSK)

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

If selection is limited; Increased tool extension reduces performance

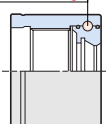


Coolant through tools



Precision nut to optimize performance of collet

Thrust ball bearings



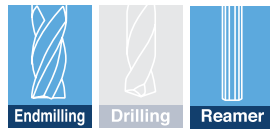
Thrust ball bearings to eliminate distortion of the collet during tightening. Patented design prevents ball bearings from moving at high speed. Threads are finished after heat treatment.

MEGA E CHUCK®

Clamping range: $\varnothing 3.0 - \varnothing 12$



- BBT Shank **P22**
- BDV Shank **P48**
- HSK Shank **P61**



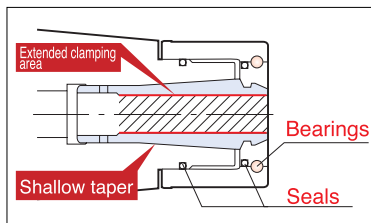
Collet chuck designed exclusively for endmilling up to $\varnothing 12\text{mm}$ with high concentricity & rigidity.

MAX.
40,000
min⁻¹



High grip collet (PAT.P)

Gripping force is an important element for endmilling with a collet chuck. The long gripping length of the collet in the MEGA E series provides a powerful gripping force. The shallower taper of the collet improves concentricity in order to achieve better surface finishes and



● Clamping nut with thrust ball bearings

Eliminates distortion of the collet during tightening for higher gripping force and improved concentricity.

High concentricity

At nose
within **1 μm**

At 4d
within **3 μm**

100% inspection to guarantee accuracy within $1\mu\text{m}$ runout at collet nose.

High precision

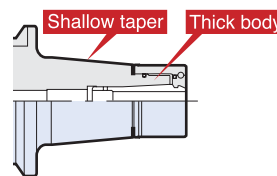
MEGA E COLLET



■ Collet concentricity

Collet class	Max. runout	
	At nose	At end of test bar
AA	Within 1μm	Within 3μm

Substantial and tapered body design



Thick body eliminates chatter and deflection. Tapered extension provides the rigidity to prevent vibration.

Slit-through coolant

MAX. COOLANT PRESSURE
7MPa

Coolant is reliably directed to cutting surface through slits in the collet. Tool life is extended together with improved surface finish as a result of smooth chip evacuation.



● For coolant-through tools

Sealed collet nut to supply coolant reliably through cutting tool.

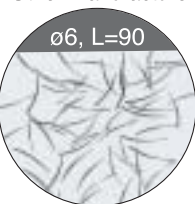


Ultimate performance in both chip volume and surface finish!



BBT40-MEGA6E-90

Other manufacturer



Cutter	Model	Radial DOC (mm)	Axial DOC (mm)	Removal (CC/min)	Power (kw)	Roughness (μm)
$\varnothing 6$	MEGA 6E	3.0	9	45.9	3.4	5.05
	Other manufacturer	0.5	9	7.6	1.1	10.25
$\varnothing 12$	MEGA 13E	12.0	18	91.8	3.0	3.49
	Other manufacturer	3.0	18	23.0	1.2	9.67

MEGA DOUBLE POWER CHUCK®

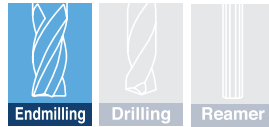
PAT.

Clamping range: $\varnothing 16 - \varnothing 50$

Ideal for solid machines



- BBT Shank **P25**
- BDV Shank **P49**
- HSK Shank **P63**



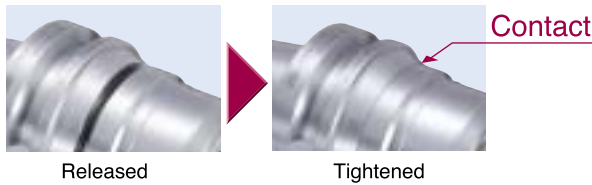
MAX.
30,000
min⁻¹

BIG PLUS
STANDARD



Stabilizing contact between flange & nut provides exceptional rigidity

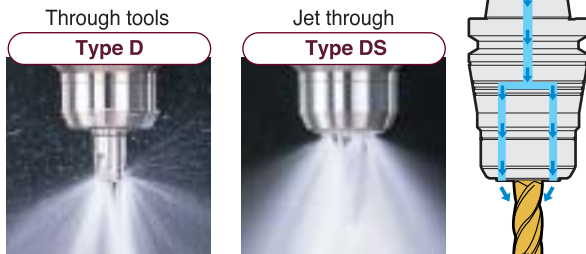
The expanded contact diameter of the nut of the MEGA DOUBLE POWER CHUCK to the flange provides the highest rigidity as if the chuck and nut were one solid piece. This superior rigidity assures heavier duty machining without chatter.



Secure coolant supply

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

- Improved surface finish
- Extended tool life
- Smoother chip evacuation
- Cooling & lubrication of tools



Coolant is reliably directed to cutting tool periphery from chuck nose.

- Straight Collets are available.



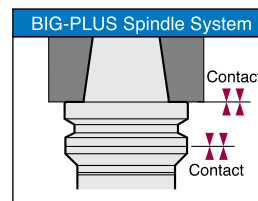
For Through Tools
PSC Collet PAT.

For JET Through
PJC Collet PAT.

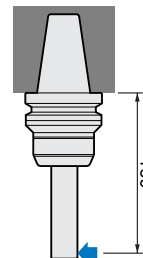
Please choose suitable models according to the applications.

P95

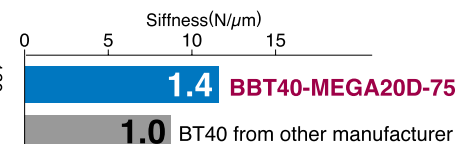
Flange contacting nut together with BIG-PLUS



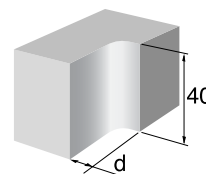
Stabilizing contact of nut to the flange provides exceptional rigidity in addition to the BIG-PLUS effect.



1.4 times increased rigidity
Comparison test proves increased stiffness compared to others.



High rigidity achieves higher level of stability



Cutting conditions

Coated carbide endmill $\varnothing 32$, 4-flutes
Workpiece: SS400 (JIS)

V282m/min
S2,800min⁻¹
F1,120mm/min

BBT50-MEGA32D-105
Radial d = 14mm
Power 15.2KW

Other manufacturer (L = 90)
Radial d = 9.5mm
Power 9.2KW



NEW **BABY CHUCK** PAT.

Clamping Range: $\varnothing 0.25 - \varnothing 20$



- BT Shank **P29**
- DV Shank **P50**
- HSK Shank **P65**
- CYLINDRICAL Shank **P87**

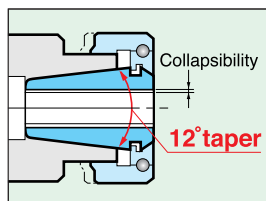


NEW BABY CHUCK are capable of achieving high spindle speeds as required for drilling and end milling with smaller diameter cutting tools.

Ideal combination of taper angle and collet projection length

NEW BABY CHUCK SYSTEM

BIG NEW BABY CHUCK satisfies all requirements for accuracy, clamping force and clamping range, by utilizing the ideal 12° taper angle.



High concentricity

At nose **within 1 μ m**
At 4d **within 3 μ m**



High precision
New Baby Collet

Each collet is inspected and double checked to meet maximum runout tolerance permitted, i.e., 100% check & re-check.

Collet concentricity

	Within 1 μ m	Within 3 μ m
	4d	
Collet class	Max. runout	
	At nose	At end of test bar
AA	Within 1 μ m	Within 3 μ m

The nut is a key to achieve the highest precision of a collet

● Since the threads greatly influences accuracy, they are finished after heat treatment. Therefore, bad influence from clamping action is eliminated, which enhance clamping performance.



● A nut incorporates a thrust bearing with steel balls that prevents stress to a collet and allows a smooth clamping force to a collet.

For high pressure coolant supply

MAX. COOLANT PRESSURE 7MPa

Sealed collet nut

BABY PERFECT SEAL PAT.

- Standard NBC Collet is used.
- High dust resistance



BPS
P98

Through Tools

Tools with holes



Jet Through

Tools without holes



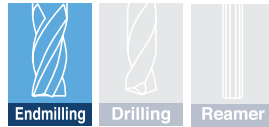
NEW Hi-POWER MILLING CHUCK

Clamping Range : $\phi 16 - \phi 42$



NEW Hi-POWER MILLING CHUCK combines the high accuracy with high torque capability and rigidity.

- BBT /BT Shank **P32**
- DV Shank **P52**
- HSK Shank **P67**



High precision design for heavy cutting

Axial adjustment screw

Provides easy adjustment of cutter projection.

Roller bearings

Rolling friction is minimised so that the clamping force is greatly increased.

Rigid design

The substantial section (for 32mm chuck the section is 10mm) prevents chatter and achieves security of cutting.

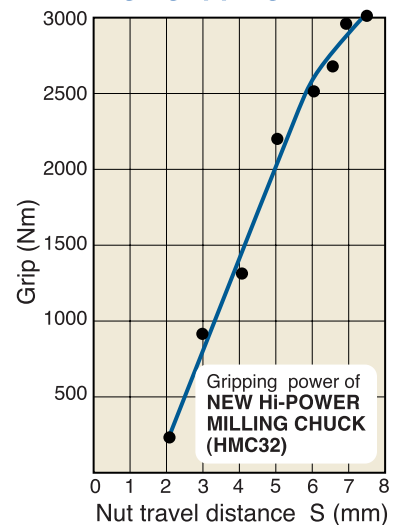
Slits to inner bore

Large shrinkage capability is ensured.

Superior sealing

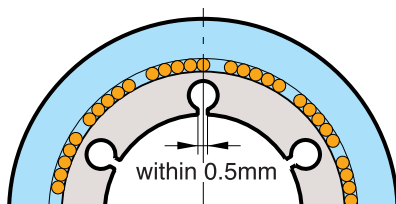
The ingress of contamination by coolant or cutting particles is eliminated for extended tool holder life.

High gripping force



Secure and reliable slit design

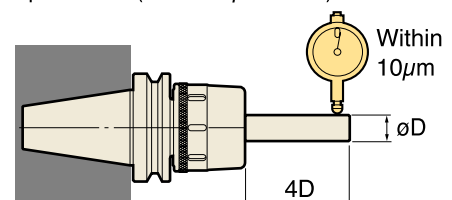
The annular section needs to be substantial in order to provide rigidity but retain the ability to collapse in order to provide sufficient grip. The section of the Hi-Power Milling Chuck has combined holes and slits at regular intervals in order to combine both requirements.



Slit and small hole

Precise concentricity

Concentricity is assured by the integral design and clamping by mechanical compression of the annular section by the rolling bearing system. All models are inspected and double checked to meet maximum runout tolerance permitted. (within $10\mu\text{m}$ at 4D).





Precision measuring tools of the highest quality for machine tool maintenance.

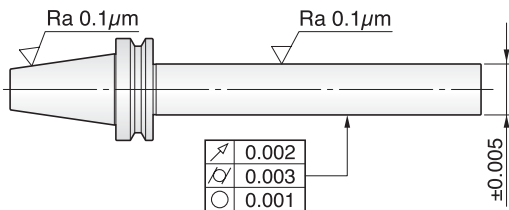


- BBT Shank **P43**
- BDV Shank **P53**
- HSK Shank **P72**



Precision standard of BIG Daishowa Test Arbors

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



Runout	0.002mm
Roundness	0.001mm
Cylindricity	0.003mm
Roughness	Ra : 0.1µ m
Diameter tol.	±0.005mm

Aluminum case

An Aluminum case is provided to protect and store the test bars. (Some models are provided in a wooden box.)



Calibration Certificate and Traceability System

BIG Daishowa can offer a Calibration Certificate with traceability on request as per ISO9000 requirements.

For Machine tool maintenance

Runout of spindle taper



Parallelism to Z-axial movement



COMPACT SENSOR SERIES



High precision Compact Sensor Series enhances accurate machining.



Touch Probe & Edge Finder

POINT MASTER Series

Precision 3-D touch sensor to center and measure the workpiece.



For all materials



For conductive materials



Tool Offset sensors

BASE MASTER Series

Precision touch sensor to determine workpiece offsets and tool length.

TOOL MASTER

LED lamp and sound pre-indicate approach to 100mm height to ease the detecting operation.

For conductive materials.



For all materials



Pre-set $\varnothing 0.05\text{mm}$ tools



World smallest 20mm body diameter.





Type FCR **P113**
Type FCM **P119**

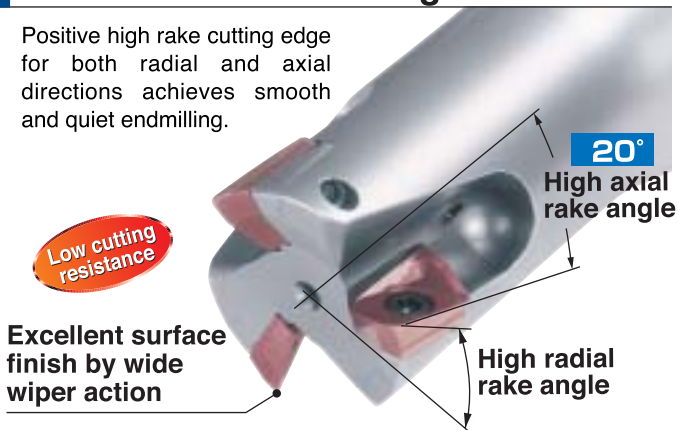


Indexable insert endmills with both excellent sharpness and toughness, achieving the performance of solid endmills.



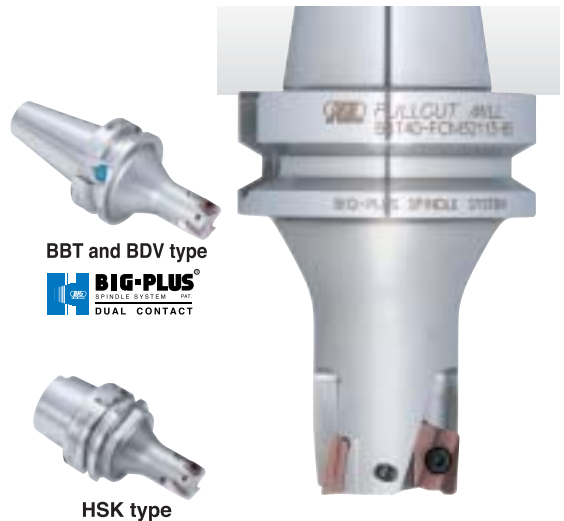
Sharp cutting edge by both high radial and axial rake angles

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

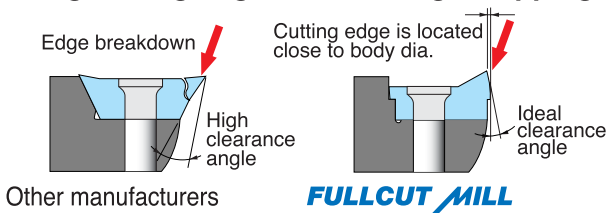


Amazing cutting performance, brought by integral & face contact body!!

Integral style with taper shank and flange contact with the machine spindle provides higher precision and rigidity thus achieving cutting conditions only otherwise available on larger machines.



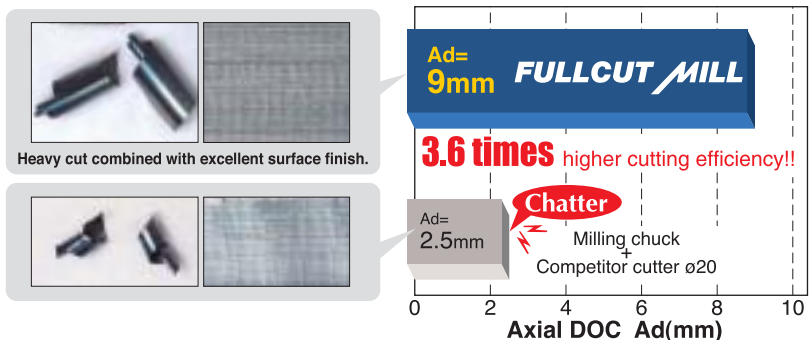
Strong cutting edge reduces edge chipping.



Amazing cutting performance even on #40 taper machine!!

Comparison of axial DOC between integral type with face contact and straight shank type. 3.6 times higher cutting performance than other manufacturer.

Cutting condition Machine : BBT40(BIG PLUS)
Slot milling : 20mm
Work material : C50(S50C)
Spindle speed : 2,400min⁻¹
Speed : V=150m/min
Feed : 0.12mm/tooth



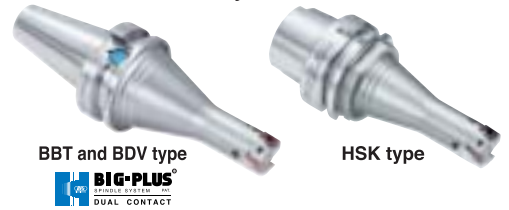
Ramping & Helical milling cutter

FULLCUT MILL Type **FCR** Cutter Dia. $\varnothing 16 - \varnothing 32$

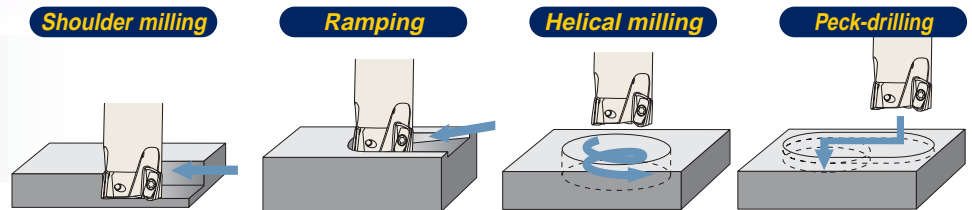


Unique inserts designed for ramping make multi-functional cutting possible.

Higher rigidity with integral body with dual contact system.



For multi-functional cutting



Square Shoulder and slot milling cutter

FULLCUT MILL Type **FCM** Cutter Dia. $\varnothing 12 - \varnothing 80$



The indexable endmill that combines sharpness and rigidity has no match.

A variety of shanks including simultaneous fit with integral body.

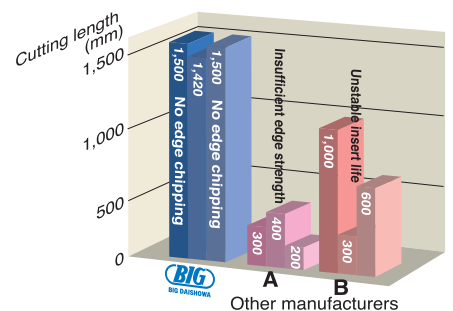


Evaluation of resistance to breakdown of cutting edge



Tough cutting edge of FULLCUT MILL is proven.

An evaluation of cutting length/life as measured when machining the most arduous workpiece by milling over a continuous series of holes. This is the condition most likely to cause edge chipping.

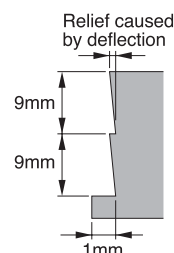


Nose radius 0.2mm

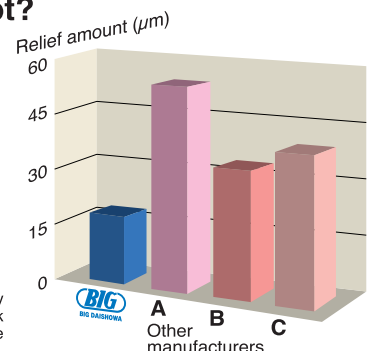
Finishing with indexable endmill - Why not?

Insert with the minimum nose radius of 0.2mm and superb squareness to achieve high precision end milling comparable with solid carbide tools.

Work material: SUS304 stainless steel
Vertical M/C, #40 taper
Cutter dia: 25mm
f = 0.12mm/tooth



Squareness is influenced by the cutting parameters, work materials, rigidity of machine and workpiece, etc.



C-CUTTER mini



P129

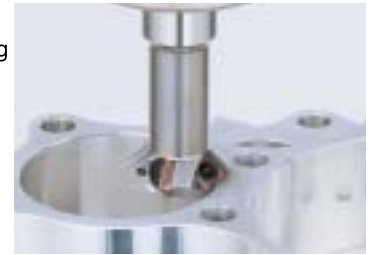
Compact design with 4 inserts & small cutting diameter!! High performance chamfer cutter to achieve ultra high feed rate by reducing the cutting diameter to the lowest limit.

For multi-functional cutting

Chamfering

Back chamfering

Face milling



4 Inserts, small diameter and new coating achieve **Triple effect**

Effect 1 Maveric design.
Ultra high feed by 4 Inserts.

Compared with 1 or 2 inserts per cutter, a 4 insert cutter multiplies feed rate

Effect 2 Increased Spindle speed by
Ultra compact diameter.

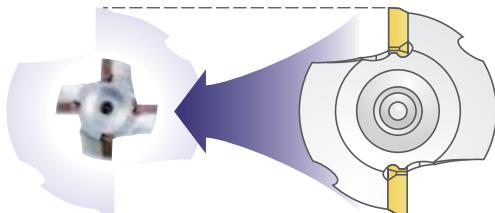
A smaller tool diameter means faster spindle speeds.

Effect 3 Latest coating [ACP200]
increases the Cutting speed.

Wear resistant multi layer PVD coating increases the cutting speed!!

C-cutter mini

Competitor's cutter



Small cutting diameter
and 4 Inserts!!

Large cutting diameter
with only 1 or 2 Inserts.

$$\text{Feed rate} = \begin{matrix} \text{Considerably} \\ \text{Improved!!} \end{matrix} \begin{matrix} \text{UP} \\ \text{Feed rate} \end{matrix} = \begin{matrix} \text{UP} \\ \text{Spindle speed} \end{matrix} \times \text{Feed per tooth} \times \begin{matrix} \text{UP} \\ \text{Number of teeth} \end{matrix}$$

$$\begin{matrix} \text{UP} \\ \text{Spindle speed} \end{matrix} = \frac{\begin{matrix} \text{UP} \\ \text{Cutting speed} \end{matrix}}{\pi \times \begin{matrix} \text{Small dia.} \\ \text{Cutting diameter} \end{matrix}}$$

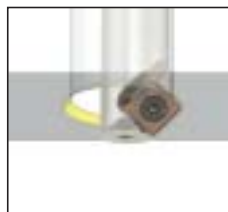
World smallest hex insert

Highly-efficient back chamfering
from 6mm starting hole diameter.
3-corner insert

World's
smallest

Inscribed circle
ø3.97

New series for starting hole for tapping are
available from M8 to M20 range.

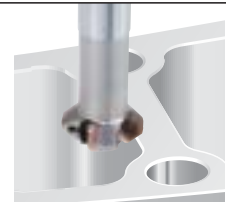


Cutting efficiency
is improved by
8 times.

Work material : C55(S55C)

Chamfering : 1mm x 45°
amount

Feed per tooth : 0.1mm



	Competitor's Tool	C-cutter mini (ST12-C1116-45B-25)
Chamfering dia.	ø29	ø13.5 <small>Small dia.</small>
Number of teeth	2	4 <small>UP</small>
Cutting speed (m/min)	150	300 <small>UP</small>
Spindle speed (min ⁻¹)	1,646	7,040 <small>UP</small>
Feed (mm/min)	329	2,820 <small>8.5x Higher!</small>

BBT/BT SHANK

MEGA MICRO CHUCK	P17
MEGA NEW BABY CHUCK	P19
MEGA E CHUCK	P22
MEGA DOUBLE POWER CHUCK	P25
NEW BABY CHUCK	P29
NEW HI-POWER MILLING CHUCK	P32
MOLD CHUCK	P35
SHRINK CHUCK	P37
SIDE LOCK HOLDER	P38
MORSE TAPER HOLDER	P39
FACE MILL ARBOR	P40
DYNA TEST	P43
CLEANER	P43

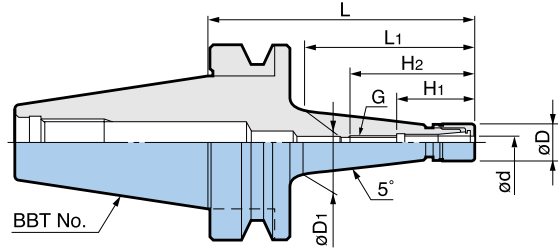


MEGA MICRO CHUCK[®] PAT. Clamping Range : \varnothing 0.45 - \varnothing 6.05

Type T

Taper-off design minimizes interference and maximizes rigidity.

MAX.
40,000
min⁻¹



BIG-PLUS tools can be used in machining centers with conventional spindles.

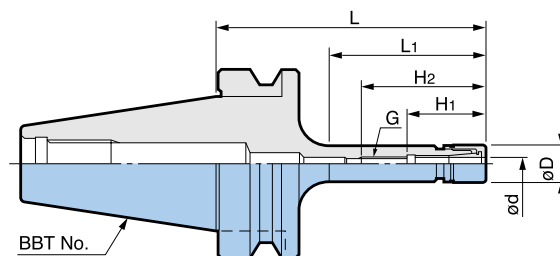
Model	Clamping Range \varnothing d	\varnothing D	\varnothing D1	L	L1	H1	H2	G	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BBT30-MEGA3S- 45T	0.45 - 3.25	10	11.5	45	20	22	38	M4 P0.7	40,000	NBC3S-□	MGN3S	0.38
- 75T			15.7	75	47				40,000			0.42
- 90T			18.3	90	62				35,000			0.45
-105T			21.0	105	77				30,000			0.49
-MEGA4S- 60T	0.45 - 4.05	12	14.8	60	32	26.5	47	M5 P0.8	40,000	NBC4S-□	MGN4S	0.40
- 75T			17.4	75	47				40,000			0.43
- 90T			20.0	90	62				35,000			0.46
-105T			22.6	105	77				30,000			0.50
-MEGA6S- 60T	0.45 - 6.05	14	16.3	60	32	28.5	49	M7 P0.75	40,000	NBC6S-□	MGN6S	0.41
- 75T			18.9	75	47				40,000			0.44
- 90T			21.6	90	62				35,000			0.47
-105T			24.2	105	77				30,000			0.52
-120T			26.8	120	92			25,000			0.58	
BBT40-MEGA3S- 60T	0.45 - 3.25	10	12.2	60	27	22	38	M4 P0.7	35,000	NBC3S-□	MGN3S	0.99
- 90T			17.5	90	57				28,000			1.04
-120T			22.7	120	87				22,000			1.12
-MEGA4S- 60T	0.45 - 4.05	12	13.9	60	27	26.5	47	M5 P0.8	35,000	NBC4S-□	MGN4S	1.00
- 75T			16.5	75	42				32,000			1.02
- 90T			19.1	90	57				28,000			1.05
-105T			21.8	105	72				25,000			1.08
-120T			24.4	120	87				22,000			1.13
-135T			27.0	135	102			20,000			1.20	
-MEGA6S- 60T	0.45 - 6.05	14	15.4	60	27	28.5	49	M7 P0.75	35,000	NBC6S-□	MGN6S	1.01
- 75T			18.0	75	42				32,000			1.03
- 90T			20.7	90	57				28,000			1.06
-105T			23.3	105	72				25,000			1.10
-120T			25.9	120	87				22,000			1.15
-135T			28.6	135	102				20,000			1.22

1. MEGA NUT is included.

Type S

Micro diameter design is ideal for high speed applications in tight areas with small diameter cutting tools.






**MAX.
40,000
min⁻¹**



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Clamping Range ød	øD	L	L1	H1	H2	G	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BBT30-MEGA4S- 60	0.45 – 4.05	12	60	32	26.5	47	M5 P0.8	40,000	NBC4S-□	MGN4S	0.40
- 90			90	62							0.43
-MEGA6S- 60	0.45 – 6.05	14	60	32	28.5	49	M7 P0.75		NBC6S-□	MGN6S	0.42
- 90			90	62							0.45
-105			105	77							0.47
BBT40-MEGA4S- 60	0.45 – 4.05	12	60	23	26.5	47	M5 P0.8		35,000	NBC4S-□	MGN4S
- 90			90	53				1.0			
-MEGA6S- 60	0.45 – 6.05	14	60	23	28.5	49	M7 P0.75	NBC6S-□		MGN6S	1.0
- 90			90	53							1.0

1. MEGA NUT is included.

	Spare Parts	Accessories			
	MEGA NUT 	MEGA WRENCH 	MICRO COLLET 	MICRO COLLET PROTECTIVE CASE 	α TAPER CLEANER 
MEGA MICRO CHUCK	Model	Model	Model	Model	Model
MEGA3S	MGN3S	MGR10	NBC3S-□	NBB3S	SC-NBC3S
MEGA4S	MGN4S	MGR12	NBC4S-□	NBB4S	SC-NBC4S
MEGA6S	MGN6S	MGR14	NBC6S-□	NBB6S	SC-NBC6S

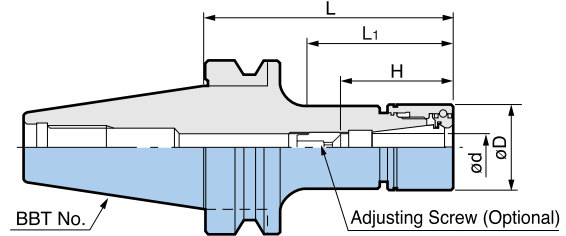
MEGA NEW BABY CHUCK[®] PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$

Coolant-through hole



Ideal ultra precision holders for high speed machining with carbide drills, reamers and endmills. Wide range of lengths and a variety of collet series sizes covers all machining applications.

MAX.
40,000
min⁻¹



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L ₁	H	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BBT30-MEGA 6N- 60	0.25 - 6	20	60	32	23 - 43	40,000	NBC 6-□	MGN 6	0.47
- 75			75	47		35,000			0.5
- 90			90	62		30,000			0.53
-105			105	77		20,000			0.56
-120			120	92		18,000			0.59
-MEGA 8N- 60	0.5 - 8	25	60	34	26 - 45	40,000	NBC 8-□	MGN 8	0.51
- 75			75	49		35,000			0.56
- 90			90	64		30,000			0.61
-105			105	79		20,000			0.67
-120			120	94		18,000			0.72
-MEGA10N- 60	1.5 - 10	30	60	34	38 - 48	40,000	NBC10-□	MGN10	0.54
- 75			75	49		30,000			0.61
- 90			90	64		25,000			0.68
-105			105	79		18,000			0.75
-120			120	94		15,000			0.82
-MEGA13N- 60	2.5 - 13	35	60	34	44 - 63	40,000	NBC13-□	MGN13	0.54
- 75			75	49		30,000			0.63
- 90			90	64		25,000			0.72
-105			105	79		18,000			0.82
-120			120	94		15,000			0.91
-MEGA16N- 60	2.5 - 16	42	60	36	48 - 63	35,000	NBC16-□	MGN16	0.66
- 75			75	51	25,000	0.81			
- 90			90	66	20,000	0.95			
-105			105	81	18,000	1.1			
-MEGA20N- 60 ※			2.5 - 20	46	60	-			51
- 75	75	-			20,000	0.86			
- 90	90	-			15,000	1.0			
-105	105	-			13,000	1.15			

1. MEGA NUT is included.

2. "H" indicates the adjustment length with an Adjusting Screw.

※ Adjusting screw cannot be used with BBT30-MEGA20N-60. "H" is the max. tool shank length that can be inserted into the holder.

Spare Parts		Accessories						
	MEGA NUT 	MEGA WRENCH 	NBC COLLET P92 FOR ENDMILL COLLET P93 	SEALING NUT MEGA PERFECT SEAL P96 	ADJUSTING SCREW Rubber 			
MEGA NEW BABY CHUCK	Model	Model	Model	Model	Model	G	L	B
MEGA 6N	MGN 6	MGR20	NBC 6-□	MPS 6-□	NBA 6B	M 7	12	2
MEGA 8N	MGN 8	MGR25	NBC 8-□	MPS 8-□	NBA 8B	M 9	13	2.5
MEGA10N	MGN10	MGR30	NBC10-□	MPS10-□	NBA10B	M11	16	3
MEGA13N	MGN13	MGR35	NBC13-□	MPS13-□	NBA13B	M14	20	4
MEGA16N	MGN16	MGR42	NBC16-□	MPS16-□	NBA16B	M18	20	4
MEGA20N	MGN20	MGR46	NBC20-□	MPS20-□	NBA20B	M21	20	4

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

BIG-PLUS tools can be used in machining centers with conventional spindles.

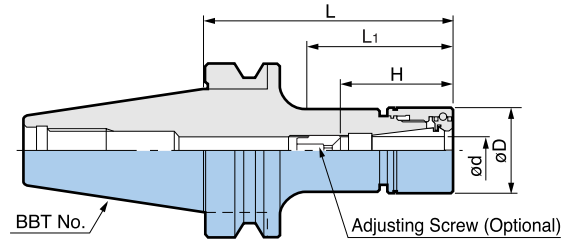
 For BBT50, refer to the following page.

Model	Clamping Range ød	øD	L	L ₁	H	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BBT40-MEGA 6N- 60	0.25 – 6	20	60	23	23 – 43	35,000	NBC 6-□	MGN 6	1.0
- 75			75	38		35,000			1.05
- 90			90	53		35,000			1.1
-105			105	68		20,000			1.14
-120			120	83		20,000			1.18
-135			135	98		20,000			1.2
-165			165	128		14,000			1.2
-200			200	163		9,000			1.3
-MEGA 8N- 60			0.5 – 8	25		60			27
- 75	75	42			35,000	1.05			
- 90	90	57			35,000	1.1			
-105	105	72			20,000	1.14			
-120	120	87			20,000	1.18			
-135	135	102			20,000	1.3			
-165	165	132			14,000	1.3			
-200	200	167			9,000	1.4			
-MEGA10N- 60	1.5 – 10	30			60	26	38 – 48	35,000	NBC10-□
- 75			75	42	35,000	1.15			
- 90			90	57	35,000	1.2			
-105			105	72	20,000	1.27			
-120			120	87	20,000	1.34			
-135			135	102	20,000	1.4			
-165			165	132	15,000	1.5			
-200			200	167	10,000	1.7			
-MEGA13N- 60			2.5 – 13	35	60	31		44 – 63	
- 75	75	40			35,000	1.2			
- 90	90	55			35,000	1.3			
-105	105	70			20,000	1.4			
-120	120	85			20,000	1.5			
-135	135	100			20,000	1.6			
-165	165	130			15,000	1.8			
-200	200	165			10,000	2.0			
-MEGA16N- 60	2.5 – 16	42			60	31	48 – 68		30,000
- 75			75	40	30,000	1.3			
- 90			90	55	30,000	1.4			
-105			105	70	20,000	1.6			
-120			120	85	20,000	1.7			
-135			135	100	20,000	1.8			
-165			165	130	15,000	2.0			
-200			200	165	10,000	2.3			
-MEGA20N- 60			2.5 – 20	46	60	30		51 – 68	30,000
- 75	75	42			30,000	1.25			
- 90	90	57			30,000	1.4			
-105	105	72			20,000	1.6			
-120	120	87			20,000	1.8			
-135	135	102			20,000	1.9			
-165	165	132			15,000	2.1			
-200	200	167			10,000	2.5			

1. MEGA NUT is included.
2. "H" indicates the adjustment length with an Adjusting Screw.

MEGA NEW BABY CHUCK[®] PAT. Clamping Range : $\phi 0.25 - \phi 20$

Coolant-through hole



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Clamping Range ϕd	ϕD	L	L ₁	H	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BBT50-MEGA 6N- 90	0.25- 6	20	90	37	23 - 43	20,000	NBC 6-□	MGN 6	3.7
-120			120	67		20,000			3.8
-165			165	112		14,000			3.9
-200			200	147		9,000			4.0
-MEGA 8N- 90			0.5 - 8	25		90			37
-120	120	67			20,000	3.9			
-165	165	112			16,000	4.1			
-200	200	147			11,000	4.2			
-MEGA10N- 90	1.5 - 10	30			90	37	38 - 48	20,000	NBC10-□
-120			120	67	20,000	4.0			
-165			165	112	16,000	4.3			
-200			200	147	13,000	4.7			
-250			250	197	8,000	4.7			
-300			300	247		5,500		4.9	
-MEGA13N- 90	2.5 - 13	35	90	37	44 - 63	18,000	NBC13-□	MGN13	4.0
-120			120	67		18,000			4.2
-165			165	112		16,000			4.5
-200			200	147		12,000			4.7
-250			250	197		8,000			5.0
-300			300	247		5,500		5.3	
-MEGA16N- 75	2.5 - 16	42	75	31	48 - 68	17,000	NBC16-□	MGN16	4.0
- 90			90	42		17,000			4.2
-120			120	72		17,000			4.4
-165			165	117		16,000			4.8
-200			200	152		13,000			5.1
-250			250	202		10,000		5.5	
-MEGA20N- 75	2.5 - 20	46	75	31	51 - 68	16,000	NBC20-□	MGN20	4.1
- 90			90	46		16,000			4.2
-120			120	76		16,000			4.5
-165			165	121		15,000			4.9
-200			200	156		13,000			5.3
-250			250	206		10,000		5.7	

1. MEGA NUT is included.

2. "H" indicates the adjustment length with an Adjusting Screw.

Spare Parts		Accessories						
MEGA NUT 		MEGA WRENCH 	NBC COLLET P92 FOR ENDMILL COLLET P93 	SEALING NUT MEGA PERFECT SEAL P96 	ADJUSTING SCREW Rubber 			
MEGA NEW BABY CHUCK	Model	Model	Model	Model	Model	G	L	B
MEGA 6N	MGN 6	MGR20	NBC 6-□	MPS 6-□	NBA 6B	M 7	12	2
MEGA 8N	MGN 8	MGR25	NBC 8-□	MPS 8-□	NBA 8B	M 9	13	2.5
MEGA10N	MGN10	MGR30	NBC10-□	MPS10-□	NBA10B	M11	16	3
MEGA13N	MGN13	MGR35	NBC13-□	MPS13-□	NBA13B	M14	20	4
MEGA16N	MGN16	MGR42	NBC16-□	MPS16-□	NBA16B	M18	20	4
MEGA20N	MGN20	MGR46	NBC20-□	MPS20-□	NBA20B	M21	20	4

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

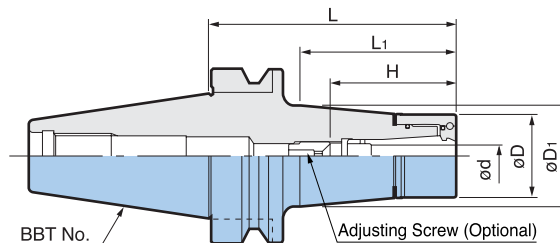
MEGA E CHUCK[®] PAT. Clamping Range : ϕ 3.0 - ϕ 12

Coolant-through hole



Exclusively designed with the advanced technology for high speed endmilling. The long gripping length of the collet provides a powerful gripping force.

MAX.
40,000
min⁻¹



BIG-PLUS tools can be used in machining centers with conventional spindles.

For BBT40 & BBT50, refer to the following page.

Model	Clamping Range ϕ d	ϕ D	ϕ D1	L	L1	H	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BBT30-MEGA 6E- 50	3 - 6	25	25.7	50	25	37 - 45	40,000	MEC 6-□	MEN 6	0.53
- 75			29.9	75	49		35,000			0.64
- 90			32.5	90	64		25,000			0.72
-105			35.1	105	79		25,000			0.82
-MEGA 8E- 50	3 - 8	30	30.4	50	25	42 - 51	40,000	MEC 8-□	MEN 8	0.56
- 75			34.6	75	49		35,000			0.71
- 90			37.4	90	65		25,000			0.83
-105			40.1	105	80		25,000			0.96
-MEGA 10E- 50	3 - 10	35	35.3	50	25	48 - 58	39,000	MEC10-□	MEN10	0.60
- 75			39.7	75	50		35,000			0.80
- 90			41	90	65.5		25,000			0.93
-105			41.1	105	81		25,000			1.06
-MEGA 13E- 50	3 - 12	42	42.5	50	27.5	50 - 58	38,000	MEC13-□	MEN13	0.65
- 75			42	75	51	50 - 60	34,000			0.90
- 90			42	90	66	25,000	1.05			
-105			42	105	81	25,000	1.20			

- MEGA E NUT is included.
- "H" indicates the adjustment length with an Adjusting Screw.

MEGA E CHUCK	Spare Parts	Accessories						
	MEGA E NUT 	MEGA WRENCH 	MEGA E COLLET 	SEALING NUT MEGA E PERFECT SEAL 	ADJUSTING SCREW 			
Model	Model	Model	Model	Model	G	L	B	
MEGA 6E	MEN 6	MGR25	MEC 6-□	EPS 6-□	NBA 6B	M 7	12	2
MEGA 8E	MEN 8	MGR30	MEC 8-□	EPS 8-□	NBA 8B	M 9	13	2.5
MEGA10E	MEN10	MGR35	MEC10-□	EPS10-□	NBA10B	M11	16	3
MEGA13E	MEN13	MGR42	MEC13-□	EPS13-□	NBA13B	M14	20	4

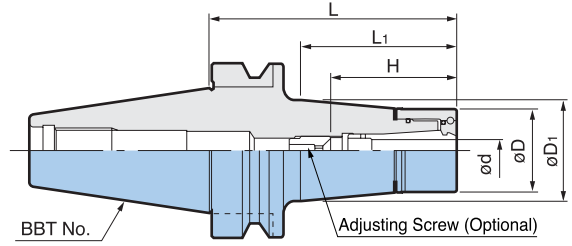
1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

MEGA E CHUCK[®] PAT. Clamping Range : $\varnothing 3.0 - \varnothing 12$

Coolant-through hole



MAX.
30,000
min⁻¹



BIG-PLUS tools can be used in machining centers with conventional spindles.





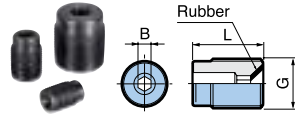
Model	Clamping Range $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)	
BBT40-MEGA 6E- 60	3 - 6	25	26.2	60	28	37 - 45	30,000	MEC 6-□	MEN 6	1.08	
- 75			28.7	75	42		30,000			1.14	
- 90			31.3	90	57		30,000			1.21	
-105			33.9	105	72		29,000			1.29	
-120			36.5	120	87		29,000			1.41	
-135			39	135	101		27,000			1.53	
-165			44.4	165	131		20,000			1.85	
-200			50.7	200	167		15,000			2.32	
-MEGA 8E- 60			3 - 8	30	31		60			28	42 - 48
- 75	33.4	75			42	42 - 51	30,000	1.21			
- 90	36	90			57		30,000	1.30			
-105	38.7	105			72		29,000	1.46			
-120	41.3	120			87		29,000	1.61			
-135	43.9	135			102		27,000	1.76			
-165	49.1	165			132		20,000	2.10			
-200	55.8	200			170		15,000	2.53			
-MEGA 10E- 60	3 - 10	35			36		60	29	48 - 58	30,000	MEC10-□
- 75			38.3	75	42		30,000	1.34			
- 90			40.9	90	57	30,000	1.46				
-105			43.6	105	72	29,000	1.61				
-120			46.2	120	87	29,000	1.78				
-135			48.8	135	102	27,000	1.98				
-165			54.4	165	134	22,000	2.37				
-200			55.5	200	170	16,000	3.07				
-MEGA 13E- 60			3 - 12	42	42.7	60	29	50 - 60		30,000	
- 75	45	75			42	30,000	1.45				
- 90	48	90			59	30,000	1.63				
-105	50.6	105			74	29,000	1.84				
-120	53.4	120			90	29,000	2.07				
-135	56	135			105	26,000	2.34				
-165	57.5	165			135	22,000	2.80				
-200	62.4	200			170	16,000	3.61				

1. MEGA E NUT is included.
 2. "H" indicates the adjustment length with an Adjusting Screw.

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Clamping Range ød	øD	øD1	L	L1	H	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BBT50-MEGA 6E- 90	3 – 6	25	30.4	90	47	37 – 45	20,000	MEC 6-□	MEN 6	3.8
-120			35.6	120	77		20,000			4.0
-165			43.5	165	122		14,000			4.4
-200			49.6	200	157		9,000			4.9
-MEGA 8E- 90			35.1	90	47		20,000			3.9
-120	3 – 8	30	40.4	120	77	42 – 51	20,000	MEC 8-□	MEN 8	4.1
-165			48.2	165	122		16,000			4.6
-200			54.4	200	157		11,000			5.2
-MEGA 10E- 90			40.0	90	47		20,000			4.0
-120	3 – 10	35	45.4	120	77	48 – 58	20,000	MEC10-□	MEN10	4.2
-165			53.0	165	122		16,000			4.9
-200			59.3	200	157		13,000			5.5
-MEGA 13E- 90			46.5	90	47		18,000			4.0
-120	3 – 12	42	52.0	120	77	50 – 60	18,000	MEC13-□	MEN13	4.4
-165			59.0	165	122		16,000			5.2
-200			64.7	200	157		12,000			6.0

- MEGA E NUT is included.
- "H" indicates the adjustment length with an Adjusting Screw.

Spare Parts		Accessories						
	MEGA E NUT 	MEGA WRENCH 	MEGA E COLLET 	SEALING NUT MEGA E PERFECT SEAL 	ADJUSTING SCREW 			
MEGA E CHUCK	Model	Model	Model	Model	Model	G	L	B
MEGA 6E	MEN 6	MGR25	MEC 6-□	EPS 6-□	NBA 6B	M 7	12	2
MEGA 8E	MEN 8	MGR30	MEC 8-□	EPS 8-□	NBA 8B	M 9	13	2.5
MEGA10E	MEN10	MGR35	MEC10-□	EPS10-□	NBA10B	M11	16	3
MEGA13E	MEN13	MGR42	MEC13-□	EPS13-□	NBA13B	M14	20	4

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

MEGA DOUBLE POWER CHUCK[®] PAT. Clamping Range : $\phi 16 - \phi 50$

Coolant-through hole

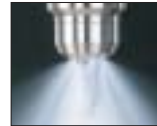
Type D

MAX.
30,000
min⁻¹



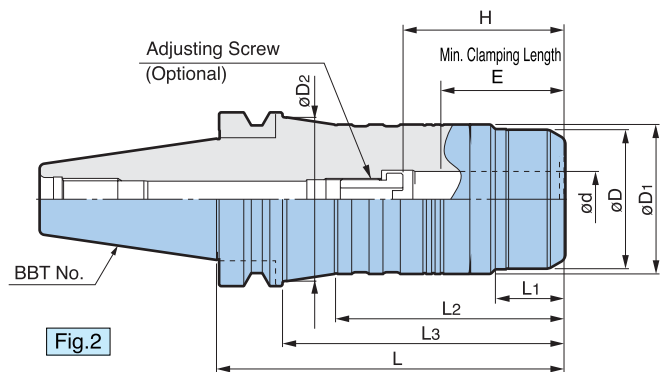
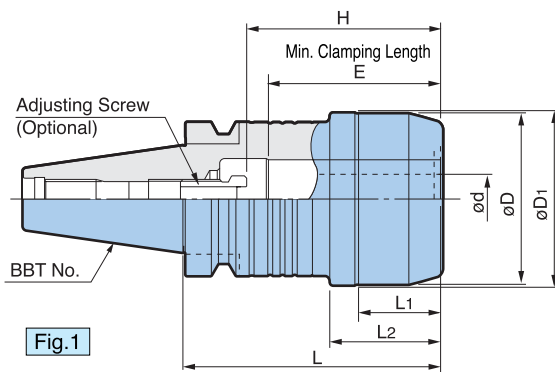
Close to integral rigidity and precision of a solid toolholder. Advanced technology for high speed and heavy duty endmilling.

Two types are available, Type D for use with/without coolant through the tool and Type DS to feed coolant to cutting tool periphery.



Type DS For coolant to cutting tool periphery

For TYPE DS P27



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	ϕd	ϕD	$\phi D1$	$\phi D2$	L	L1	L2	L3	H	Min. Clamping Length E	MAX. min ⁻¹	Weight (kg)
BBT30-MEGA16D- 60	1	16	46	46.7	—	60	25.5	30	—	62	50	30,000	0.8
-MEGA20D- 65		20	50	50.7	—	65	30	35	—	60		25,000	0.9
BBT40-MEGA16D- 75	2	16	46	55	61	75	23.5	33.5	48	71	50	30,000	1.6
-105						105			78			2.2	
-135						135			108			25,000	2.8
-165						165			138			22,000	3.4
-200						200			173			20,000	4.2
-MEGA20D- 75						60			75			48	30,000
-105	105	78	2.1										
-120	120	93	27,000	2.4									
-135	135	108	25,000	2.7									
-165	165	138	22,000	3.3									
-200	200	173	20,000	4.2									
-MEGA25D- 85	1	25	62	62.7	—	85	33	—	—	71 - 81	56	27,000	2.0
-105						105				—		26,000	2.3
-135						135				69 - 79		24,000	3.0
-165						165				—		21,000	3.7
-200						200				—		18,000	4.7
-MEGA32D- 90	1	32	70	70.7	—	90	33.5	45	—	71 - 76	65	26,000	2.1
-105						105				—		2.4	
-135						135				74 - 84		22,000	3.1
-165						165				—		20,000	3.7
-200						200				—		16,000	4.5

※ H-dimension of the model BBT30-MEGA20D-65 is the maximum tool shank length that can be inserted into the holder.



MEGA DOUBLE POWER CHUCK with slots for C-SPANNER is available. Please add "FK" after each model number when ordering.

Example : BBT40-MEGA16D-75FK

(Available for BBT40 and BBT50 models only.)

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	ød	øD	øD1	øD2	L	L1	L2	L3	H	Min. Clamping Length E	MAX. min ⁻¹	Weight (kg)	
BBT50-MEGA16D-105	2	16	46	55	63	105	23.5	33.5	67	71	50	21,000	4.6	
-135						135			97				5.2	
-165						165			127				5.7	
-200						200			162				6.6	
-250						250			212				7.0	
-MEGA20D-105	2	20	60	69	74	105	25.5	36	67	69 - 79	56	20,000	5.1	
-135						135			97				6.0	
-165						165			127				6.8	
-200						200		113.5	162				7.7	
-250						77		250	142.5				212	12,000
-MEGA25D-105	2	25	70	77	82	85	32	45	67	74 - 84	65	20,000	5.4	
-135						135			97				6.5	
-165						165			127				7.6	
-200						200		122.5	162				12,000	8.9
-250						85		250	142.5				212	10,000
-MEGA32D-90	2	32	80	86	95	90	39.5	54	54.2	78 - 95	71	20,000	4.8	
-105						105			67				5.4	
-135						135			97				7.0	
-165						165		127	8.5					
-200						200		130	162				12,000	9.9
-250						250		181.5	212				10,000	12.1
-300						300		182	262				5,000	14.3
-MEGA42D-105	1	42	99	99.7	-	105	40	-	-	88 - 105	71	15,000	6.0	
-135						135							7.8	
-165						165							14,000	9.6
-MEGA50D-120	1	50	105	117	-	120	47	71	-	94 - 110	75	13,000	7.3	

- Wrench is ordered separately.
- "H" indicates the adjustment length with an Adjusting Screw.



※ As a back stop for cutting tools for the MEGA16D models, a commercially available hex socket head screw can be used. However, please contact an agent from BIG when the screw needs to be used with coolant through the body. "H" is the max. tool shank length that can be inserted into the holder.

Accessories									
	MEGA WRENCH		C-SPANNER		ADJUSTING SCREW				
			※ For FK models only.						
MEGA DOUBLE POWER CHUCK	Model	Model	Model	øD	L	L1	G	W	
BBT30-MEGA16D	MGR46	-	-	-	-	-	-	-	-
-MEGA20D	MGR50	-	HMA-M16	19	27	6	M16P1.5	8	
BBT40-MEGA16D,16D/FK	MGR46	NBK20	-	-	-	-	-	-	-
-MEGA20D,20D/FK	MGR55	FK52-55	HMA-M16	19	27	6	M16P1.5	8	10
-MEGA25D,25D/FK	MGR62	FK58-62							
-MEGA32D,32D/FK	MGR70	FK68-75	HMA-M16S						
BBT50-MEGA16D,16D/FK	MGR46	NBK20	-	-	-	-	-	-	-
-MEGA20D,20D/FK	MGR60	FK58-62	HMA-M16	19	27	6	M16P1.5	8	10
-MEGA25D,25D/FK	MGR70	FK68-75							
-MEGA32D,32D/FK	MGR80	FK80-90	HMA-M24	30	36	9.5	M24P1.5	10	10
-MEGA42D,42D/FK	MGR99	FK92-100							
-MEGA50D,50D/FK	MGR105	FK110-115							

※ Refer to bottom right of the previous page for the FK model.

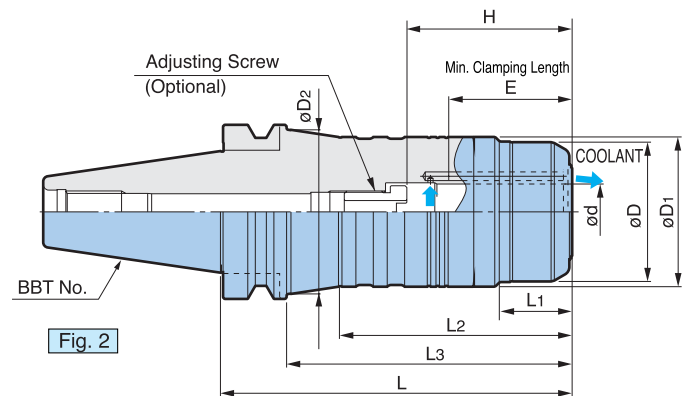
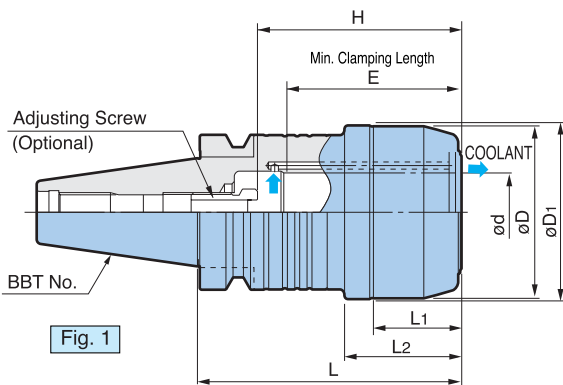
MEGA DOUBLE POWER CHUCK[®] PAT. Clamping Range : $\phi 16 - \phi 50$

Coolant-through hole

Type DS For coolant to cutting tool periphery



MAX
30,000
min⁻¹



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	ϕd	ϕD	$\phi D1$	$\phi D2$	L	L1	L2	L3	H	Min. Clamping Length E	MAX. min ⁻¹	Weight (kg)
BBT30-MEGA16DS- 60	1	16	46	46.7	—	60	28	32.5	—	62	52	30,000	0.8
-MEGA20DS- 65		20	50	50.7	—	65	33	37.5	—	60		25,000	0.9
BBT40-MEGA16DS- 75	2	16	46	55	61	77.4	26	36	50.4	73	52	30,000	1.6
-105						107.4			80.4			2.2	
-135						137.4			110.4			25,000	2.8
-165						167.4			140.4			22,000	3.4
-200						202.4			175.4			20,000	4.2
-MEGA20DS- 75	2	20	55	55.7	61	77.4	35.5	47	50.4	71 - 81	58	30,000	1.7
-105						107.4			80.4			2.1	
-120						122.4			95.4			27,000	2.4
-135						137.4			110.4			25,000	2.7
-165						167.4			140.4			22,000	3.3
-200	202.4	175.4	20,000	4.2									
-MEGA25DS- 85	1	25	62	62.7	—	87.4	35	—	—	71 - 81	58	27,000	2.0
-105						107.4			—			26,000	2.3
-135						137.4			—			24,000	3.0
-165						167.4			—			21,000	3.7
-200						202.4			—			18,000	4.7
-MEGA32DS- 90	1	32	70	70.7	—	92.4	36	47.5	—	71 - 78	67	26,000	2.1
-105						107.4			—			22,000	2.4
-135						137.4			—			20,000	3.1
-165						167.4			—			20,000	3.7
-200						202.4			—			16,000	4.5

※ H-dimension of the model BBT30-MEGA20DS-65 is the maximum tool shank length that can be inserted into the holder.



MEGA DOUBLE POWER CHUCK with slots for C-SPANNER is available. Please add "FK" after each model number when ordering.

Example : BBT40-MEGA16DS-75FK
(Available for BBT40 and BBT50 models only.)

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig	ød	øD	øD1	øD2	L	L1	L2	L3	H	Min. Clamping Length E	MAX. min ⁻¹	Weight (kg)
BBT50-MEGA16DS-105	2	16	46	55	63	107.4	26	36	69.4	73	52	21,000	4.6
-135						137.4			99.4				5.2
-165						167.4			129.4				5.7
-200						202.4			164.4				6.6
-250						252.4			214.4				7.0
-MEGA20DS-105	2	20	60	69	74	107.4	28	38.5	69.4	71 - 81	58	19,000	5.1
-135						137.4			99.4				6.0
-165						167.4			129.4				6.8
-200						202.4		116 164.4	7.7				
-250						252.4		145 214.4	9.1				
-MEGA25DS-105	2	25	70	77	85	34	47.5	76 - 86	69.4	67	20,000	5.4	
-135									137.4			99.4	6.5
-165									167.4			129.4	7.6
-200					202.4			125 164.4	8.9				
-250					252.4			145 214.4	10.8				
-MEGA32DS- 90	2	32	80	86	—	42	56.5	80 - 97	94.4	73	20,000	4.8	
-105					107.4				69.4			5.4	
-135					137.4				99.4			7.0	
-165					167.4				129.4			8.5	
-200					202.4				132.5 164.4			9.9	
-250					252.4				184 214.4			12.1	
-300					302.4				184.5 264.4			14.3	
-MEGA42DS-105	1	42	99	99.7	—	—	—	90 - 107	107	73	15,000	6.0	
-135					137				—			7.8	
-165					167				—			9.6	
-MEGA50DS-120	1	50	105	117	—	122	49	73.5	—	96 - 112	77	13,000	7.3

1. Wrench is ordered separately.

2. "H" indicates the adjustment length with an Adjusting Screw.



※ As a back stop for cutting tools for the MEGA16DS models, a commercially available hex socket head screw can be used. However, please contact an agent from BIG when the screw needs to be used with coolant through the body. "H" is the max. tool shank length that can be inserted into the holder.

Accessories								
	MEGA WRENCH	C-SPANNER	ADJUSTING SCREW					
		※ For FK models only.						
MEGA DOUBLE POWER CHUCK	Model	Model	Model	øD	L	L1	G	W
BBT30-MEGA16DS	MGR46	—	—	—	—	—	—	—
-MEGA20DS	MGR50	—	HMA-M16	19	27	6	M16P1.5	8
BBT40-MEGA16DS,16DS/FK	MGR46	NBK20	—	—	—	—	—	—
-MEGA20DS,20DS/FK	MGR55	FK52-55	HMA-M16	19	27	6	M16P1.5	8
-MEGA25DS,25DS/FK	MGR62	FK58-62						10
-MEGA32DS,32DS/FK	MGR70	FK68-75						10
BBT50-MEGA16DS,16DS/FK	MGR46	NBK20	—	—	—	—	—	—
-MEGA20DS,20DS/FK	MGR60	FK58-62	HMA-M16	19	27	6	M16P1.5	8
-MEGA25DS,25DS/FK	MGR70	FK68-75						8
-MEGA32DS,32DS/FK	MGR80	FK80-90						8
-MEGA42DS,42DS/FK	MGR99	FK92-100	HMA-M24	30	36	9.5	M24P1.5	10
-MEGA50DS,50DS/FK	MGR105	FK110-115						10

※ Refer to bottom right of the previous page for the FK model.

Coolant-through hole

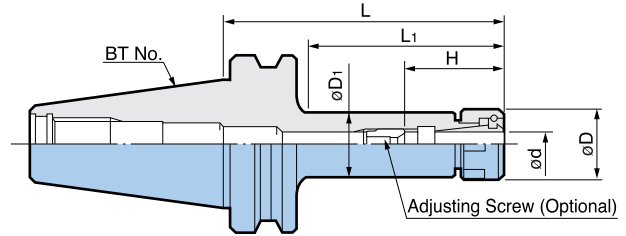
NEW BABY CHUCK

PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$

Great variety in length in order to support high precision machining.



MAX
20,000
min⁻¹



Model	Clamping Range $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H	Collet Model	Nut Model	Weight (kg)
BT30-NBS 6- 45	0.25 – 6	20	19.5	45	20	20 – 40	NBC 6-□	NBN 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				24.5
- 60	60	33	0.46						
- 75	75	48	0.5						
- 90	90	63	0.55						
-105	105	78	0.61						
-120	120	92	0.66						
-NBS10- 45	1.5 – 10	30	29.5	45	20	35 – 45	NBC10-□	NBN10	0.44
- 60				60	34				0.51
- 75				75	49				0.58
- 90				90	64				0.66
-105				105	79				0.74
-120				120	94				0.81
-NBS13- 45	2.5 – 13	35	34.5	45	21	41 – 53	NBC13-□	NBN13	0.39
- 60				60	34	0.5			
- 75				75	49	0.61			
- 90				90	64	0.72			
-105				105	79	0.83			
-120				120	94	0.93			
-NBS16- 45	2.5 – 16	42	41.5	45	21	45 – 53	NBC16-□	NBN16	0.39
- 60				60	37	0.53			
- 75				75	52	0.67			
- 90				90	67	0.81			
-105				105	82	0.95			
-120				120	97	1.10			
-NBS20- 60	2.5 – 20	46	45.5	60	38	48 – 58	NBC20-□	NBN20	0.55
- 75				75	53	0.73			
- 90				90	68	0.9			
-105				105	83	1.08			
-120				120	98	1.26			
-135				135	113	1.45			

1. NEW BABY NUT is included.
 2. Max. 20,000 min⁻¹ is valid for BT30 with L = 45, 60 or 75mm and BT40 with L = 60, 75 or 90mm.
 3. "H" indicates the adjustment length with an Adjusting Screw.

 For BT50, refer to the following page.

Model	Clamping Range ød	øD	øD1	L	L1	H	Collet Model	Nut Model	Weight (kg)
BT40-NBS 6- 60	0.25 – 6	20	19.5	60	23	20 – 40	NBC 6-□	NBN 6	1.1
- 75				75	38				1.15
- 90				90	53				1.2
-105				105	68				1.24
-120				120	83				1.28
-135				135	98				1.3
-165				165	128				1.4
-200				200	158				1.5
-NBS 8- 60				0.5 – 8	25				24.5
- 75	75	38	1.15						
- 90	90	53	1.2						
-105	105	68	1.24						
-120	120	83	1.28						
-135	135	98	1.3						
-165	165	128	1.4						
-200	200	158	1.5						
-NBS10- 60	1.5 – 10	30	29.5			60	23	35 – 45	
- 75				75	38	1.15			
- 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	158	1.9			
-NBS13- 60				2.5 – 13	35	34.5	60		28
- 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	41.5				60	27	45 – 65
- 75				75	40	1.35			
- 90				90	55	1.5			
-105				105	70	1.65			
-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	45.5	60	28	
- 75	75	42	1.35						
- 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. NEW BABY NUT is included.
2. Max. 20,000 min⁻¹ is valid for BT40 with L = 60, 75 or 90mm.
3. "H" indicates the adjustment length with an Adjusting Screw.

 For NEW BABY COLLET for ENDMILL P93

 For NEW BABY COLLET P92

 For WRENCH P31

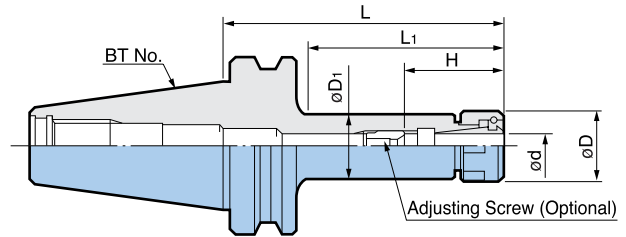
 For ADJUSTING SCREW P31

 For TAP DRIVING BACK STOP P94

Coolant-through hole

NEW BABY CHUCK

PAT. Clamping Range : $\phi 0.25 - \phi 20$



Model	Clamping Range ϕd	ϕD	ϕD_1	L	L ₁	H	Collet Model	Nut Model	Weight (kg)
BT50-NBS 6- 90	0.25 - 6	20	19.5	90	37	20 - 40	NBC 6-□	NBN 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	24.5	90	37	23 - 42	NBC 8-□	NBN 8	4.0
-120				120	67				4.1
-165				165	112				4.2
-200				200	147				4.3
-NBS10- 90	1.5 - 10	30	29.5	90	37	35 - 45	NBC10-□	NBN10	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	34.5	90	37	41 - 60	NBC13-□	NBN13	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	41.5	75	27	45 - 65	NBC16-□	NBN16	4.0
- 90				90	42				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	45.5	75	27	48 - 65	NBC20-□	NBN20	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						

1. NEW BABY NUT is included.

2. Models of L longer than 200mm(※) do not have the coolant-through hole as standard.

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

Spare Parts		Accessories								
NEW BABY NUT		WRENCH		NBC COLLET		BABY PERFECT SEAL		ADJUSTING SCREW		
NEW BABY CHUCK		FOR ENDMILL COLLET		P92		P98		Rubber		
Model	Model	Model	Model	Model	Model	G	L	B		
NBS 6	NBN 6	NBK 6	NBC 6-□	BPS 6-□	NBA 6B	M 7	12	2		
NBS 8	NBN 8	NBK 8	NBC 8-□	BPS 8-□	NBA 8B	M 9	13	2.5		
NBS10	NBN10	NBK10	NBC10-□	BPS10-□	NBA10B	M11	16	3		
NBS13	NBN13	NBK13	NBC13-□	BPS13-□	NBA13B	M14	20	4		
NBS16	NBN16	NBK16	NBC16-□	BPS16-□	NBA16B	M18	20	4		
NBS20	NBN20	NBK20	NBC20-□	BPS20-□	NBA20B	M21	20	4		

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

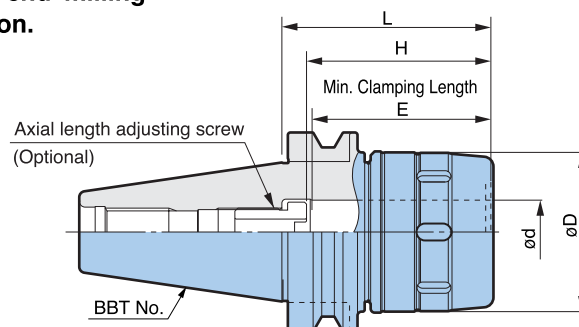
For TAP DRIVING BACK STOP P94

NEW Hi-POWER MILLING CHUCK

Coolant-through hole

Clamping Range : $\phi 16 - \phi 42$

BIG's original design of slit structure supports heavy and finish end milling with high power and precision.



BBT Shank Type

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	ϕd	ϕD	L	H	Min. Clamping Length E	C-Spanner Model	Weight (kg)
BBT30-HMC16- 70	16	46	70	71	50	NBK20	1.0
-HMC20- 75	20	52	75	56 – 66	56	FK52- 55	1.0
-HMC25- 90 ※	25	62	90	56 – 61		FK58- 62	1.4
-HMC32-105	32	70	105	69 – 79	65	FK68- 75	1.7
BBT40-HMC16- 75	16	46	75	71	50	NBK20	1.5
-HMC20- 60	20	60	61	56 – 65	56	FK58- 62	1.4
- 75		75	56 – 65	FK52- 55		1.5	
-105		105	69 – 79	FK52- 55		1.9	
-120		120	69 – 79	FK52- 55		2.2	
-HMC25- 85	25	62	85	71 – 81	56	FK58- 62	1.9
-105			105	71 – 81			2.2
-135			135	71 – 81			2.5
-HMC32- 90	32	70	90	71 – 76	65	FK68- 75	2.0
-105			105	79 – 84			2.3
-135			135	79 – 84			3.0
BBT50-HMC20-105	20	60	105	69 – 79	56	FK58- 62	4.7
-135			135				5.4
-165			165				6.1
-HMC25-105	25	62	105	74 – 84	65	FK58- 62	4.6
-135			135				5.3
-165			165				5.9
-HMC32-105 ▲	32	80	105	78 – 95	71	FK80- 90	5.2
-135 ▲			135				6.3
-165 ▲			165				7.5
-200			200				9.2
-300			300				14.6
-HMC42-105 ▲	42	99	105	93 – 105	73	FK92-100	6.0
-135 ▲			135				7.5
-165 ▲			165				8.8
-200			200				10.7
-300	300	15.5					

1. Wrench and axial adjusting screw is ordered separately if required.
2. ※ Straight Collet cannot be used with the BBT30-HMC25-90.
3. ▲ mark indicates the vibration reduction screw is included.
4. "H" indicates the adjustment length with an Adjusting Screw.

5. As a back stop for cutting tools for the HMC16 models, a commercially available hex socket head screw can be used. "H" is the max. tool shank length that can be inserted into the holder.
6. MEGA WRENCH is also available to clamp / release the clamping nut. P33

Chuck types with vibration prevention screw	Minimum shank insertion length "H"
BBT50-HMC32- □□□ ▲	88
-HMC42- □□□ ▲	91

For STRAIGHT COLLET P95
 For ADJUSTING SCREW P33

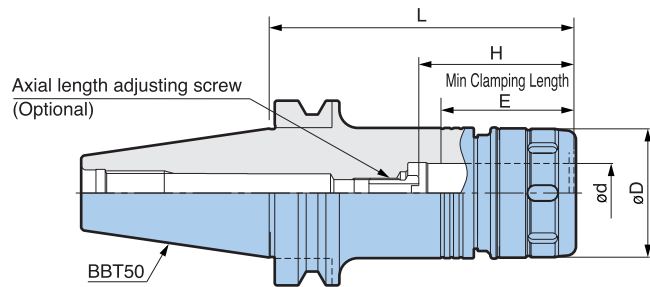
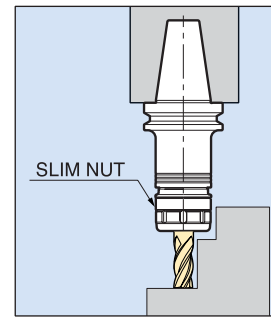
NEW Hi-POWER MILLING CHUCK

Coolant-through hole

Clamping Range : $\phi 20 - \phi 32$

SLIM Type

BBT50 Milling Chuck with the nut for BBT40 models.
Smaller nut diameter minimizes interference.



BBT Shank Type

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	ϕd	ϕD	L	H	Min. Clamping Length E	C-Spanner Model	Weight (kg)
BBT50-HMC20N-105	20	52	105	69 - 79	56	FK52-55	4.6
-135			135				5.0
-165			165				5.4
-200			200				5.9
-HMC32N-105	32	70	105	79 - 84	65	FK68-75	5.1
-135			135				5.8
-165			165				6.5
-200			200				7.6

1. Wrench and axial adjusting screw is ordered separately if required.
2. "H" indicates the adjustment length with an Adjusting Screw.

For STRAIGHT COLLET P95

Accessories

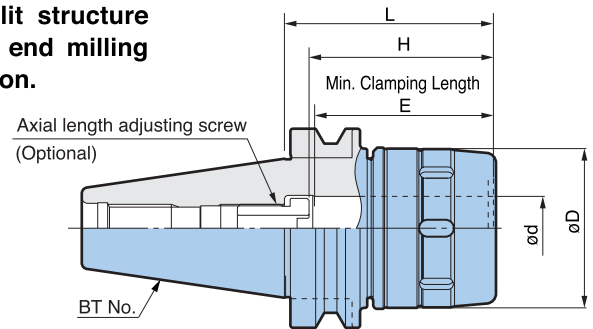
NEW Hi-POWER MILLING CHUCK	C-SPANNER	MEGA WRENCH ※	ADJUSTING SCREW					
	Model	Model	Model	ϕD	L	L ₁	G	W
BBT/BT30-HMC16	NBK20	MGR46	—	—	—	—	—	—
-HMC20	FK52-55	MGR52	HMA-M16	19	27	6	M16P1.5	8
BBT30-HMC25	FK58-62	MGR62	HMA-M16					
-HMC32	FK68-75	MGR70	HMA-M16S	19	27	6	M16P1.5	10
BBT/BT40-HMC16	NBK20	MGR46	—					
-HMC20	FK52- 55	MGR52	HMA-M16					
-HMC20-60	FK58- 62	MGR60	HMA-M16					
-HMC25	FK58- 62	MGR62	HMA-M16	30	36	9.5	M24P1.5	10
-HMC32	FK68- 75	MGR70	HMA-M16S					
BBT/BT50-HMC20	FK58- 62	MGR60	HMA-M16	19	27	6	M16P1.5	8
-HMC20N	FK52- 55	MGR52	HMA-M16					
-HMC25	FK58- 62	MGR62	HMA-M16					
-HMC32	FK80- 90	MGR80	HMA-M24					
-HMC32N	FK68- 75	MGR70	HMA-M16S	30	36	9.5	M24P1.5	10
-HMC42	FK92-100	MGR99	HMA-M24					

※ MEGA WRENCH is also available to clamp / release the clamping nut.

NEW Hi-POWER MILLING CHUCK Coolant-through hole Clamping Range : $\phi 16 - \phi 42$



BIG's original design of slit structure supports heavy and finish end milling with high power and precision.



BT Shank Type

Model	ϕd	ϕD	L	H	Min. Clamping Length E	C-Spanner Model	Weight (kg)
BT30-HMC16- 70	16	46	70	71	50	NBK20	1.0
-HMC20- 75	20	52	75	56 – 66	56	FK52- 55	1.0
BT40-HMC16- 75	16	46	75	71	50	NBK20	1.5
-HMC20- 60	20	52	61	56 – 65	56	FK58- 62	1.4
- 75			75				1.5
-105			105				1.9
-120			120				2.2
-HMC25- 85			85				1.9
-105	25	62	105	71 – 81	56	FK58- 62	2.2
-135			135				2.5
-HMC32- 90			90				2.0
-105	32	70	105	71 – 76	65	FK68- 75	2.3
-135			135				3.0
BT50-HMC20-105			105				4.7
-135	20	60	135	69 – 79	56	FK58- 62	5.4
-165			165				6.1
-HMC25-105			105				4.6
-135	25	62	135	74 – 84	65	FK58- 62	5.3
-165			165				5.9
-HMC32-105 ▲			105				5.2
-135 ▲	32	80	135	78 – 95	71	FK80- 90	6.3
-165 ▲			165				7.5
-HMC42-105 ▲			105				6.0
-135 ▲	42	99	135	93 – 105	73	FK92-100	7.5
-165 ▲			165				8.8

- Wrench and axial adjusting screw is ordered separately if required.
- ▲ mark indicates the vibration reduction screw is included.
- "H" indicates the adjustment length with an Adjusting Screw.
- As a back stop for cutting tools for the HMC16 models, a commercially available hex socket head screw can be used. "H" is the max. tool shank length that can be inserted into the holder.
- MEGA WRENCH is also available to clamp / release the clamping nut. **P33**

For STRAIGHT COLLET **P95**
 For ADJUSTING SCREW **P33**

Chuck types with vibration prevention screw	Minimum shank insertion length "H"
BT50-HMC32- [] [] [] ▲	88
-HMC42- [] [] [] ▲	91

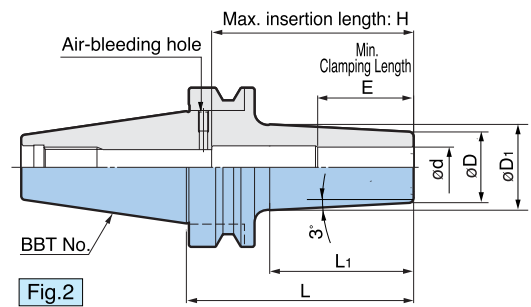
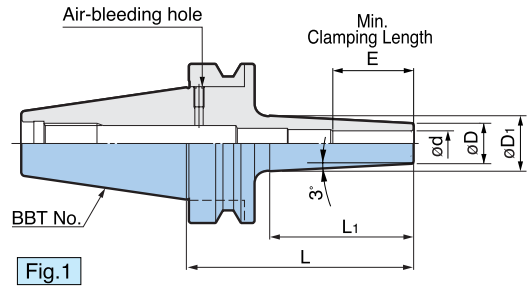
SHRINK CHUCK

Coolant-through hole
Clamping Range : $\phi 6 - \phi 20$

SLIM Type



Slim design avoids interference with the side wall and draft of the mold.



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	ϕd	ϕD	$\phi D1$	L	L1	Min. Clamping Length E	Max. insertion length H	Weight (kg)	
BBT30 -SRC 6S -105	1	6	10	18.0	105	77	26	-	0.48	
-SRC 8S -105		8	13	21.0					0.51	
-SRC10S -105	2	10	16	24.0			32		62	0.55
-SRC12S -105		12	19	27.0						36
BBT40 -SRC 6S -120	1	6	10	19.0	120	86	26	-	1.08	
-165				23.5	165	127			1.21	
-SRC 8S -120		8	13	22.0	120	86			1.12	
-165				26.5	165	129			1.29	
-SRC10S -120		10	16	25.0	120	86	32		1.17	
-165				29.5	165	129			1.36	
-SRC12S -120		12	19	28.0	120	87	36		1.22	
-165				33.0	165	131			1.44	

1. Use carbide cutter within a tolerance of h6.

Please refer to the operation manual of heating / cooling equipment, as some equipments may not be compatible.

Wiper Cleaner (PAT.P) is recommended to clean the clamping bore.

STANDARD Type



Substantial body provides higher rigidity.
Available from 6mm clamping diameter.

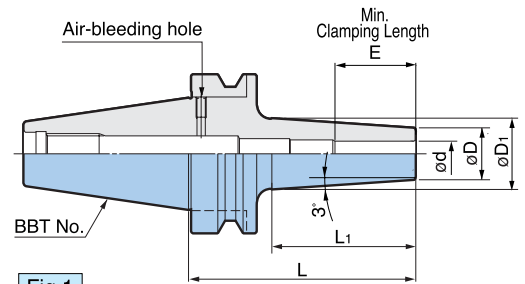


Fig.1

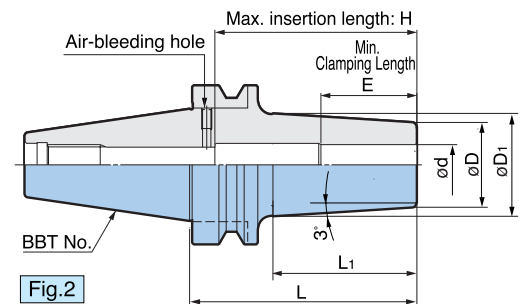


Fig.2

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	ød	øD	øD1	L	L1	Min Clamping Length E	Max. insertion length H	Weight (kg)			
BBT30-SRC 6 - 75	1	6	14	19.0	75	47	26	-	0.47			
-SRC 8 - 75		8	18	23.0					0.51			
-SRC10 - 75	2	10	22	27.0			32	62	0.56			
-SRC12 - 75		12	24	29.0					0.58			
-SRC16 - 75		16	28	33.0			38	80	0.62			
									48			
BBT40-SRC 6 - 90	1	6	14	20.0	90	57	26	-	1.07			
-SRC 8 - 90		8	18	24.0					1.12			
-SRC10 - 90		10	22	28.0					1.18			
-SRC12 - 90		12	24	30.0					1.20			
-SRC16 - 90	2	16	28	34.0			165	132	38	80	1.25	
-165				42.0								
-SRC20 - 90		2	20	34	40.0	90	57	42	100	1.35		
-165					48.0	165	132			2.08		
BBT50 -SRC 6 -105	1	6	14	20.5	105	61	26	-	3.7			
-165				26.0	165	116			3.9			
-SRC 8 -105				8	18	24.5			105	61	3.8	
-165						30.0			165	116	4.0	
-SRC10 -105		10	22	28.5	105	61			32	3.8		
-165				34.0	165	116				4.2		
-SRC12 -105				12	24	30.5			105	61	36	3.9
-165						36.0			165	116		4.2
-SRC16 -105		16	28	34.5	105	61	38		3.9			
-165				40.0	165	116			4.3			
-SRC20 -105		20	34	40.5	105	61	42		4.0			
-165				46.0	165	116			4.6			

1. Use carbide cutter within a tolerance of h6.

Please refer to the operation manual of heating / cooling equipment, as some equipments may not be compatible.

Wiper Cleaner (PAT.P) or TK Cleaner (PAT.) is recommended to clean the clamping bore.



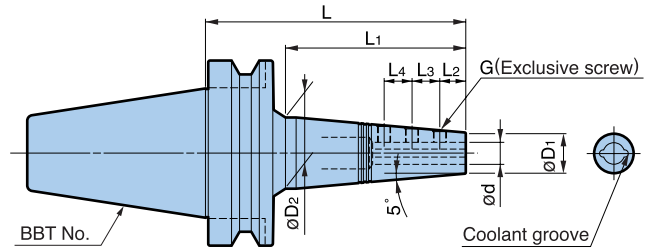
MOLD CHUCK

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

Coolant-through hole

Precision side lock holder to satisfy the requirements for minimum interference, accuracy and high speed.

MAX.
20,000
min⁻¹



Coolant is supplied through 2-grooves in the bore.

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	ød	øD1	øD2	L	L1	L2	L3	L4	G	Max. min ⁻¹	Weight (kg)
BBT40-SSL 3-135	3	10	27.3	135	100	6	6	—	M3	20,000	1.2
-SSL 4-135	4	11	28.2				7		M4	20,000	1.2
-SSL 6-135	6	13	30.0			12	13		M6	20,000	1.3
-SSL 8-135	8	15	31.8			13.5	18			20,000	1.3
-SSL10-150	10	17	36.3	150	115	15	20	M8	17,000	1.5	
-SSL12-150	12	22	41.1				16		16	17,000	1.7
BBT50-SSL 6-150	6	13	30.7	150	104	12	13	—	M6	15,000	3.9
-200			39.5	200	154					12,000	4.4
-SSL 8-150	8	15	32.5	150	104	13.5	18			15,000	3.9
-200			41.3	200	154					12,000	4.4
-SSL10-150	10	17	34.4	150	104	15	20	15,000	4.0		
-200			43.1	200	154			12,000	4.4		
-SSL12-150	12	22	39.2	150	104		16	16	15,000	4.2	
-200			47.9	200	154				12,000	4.9	
-SSL16-150	16	26	42.8	150	104	20	22	M8	15,000	4.5	
-200			51.6	200	154				12,000	5.0	
-SSL20-150	20	30	46.8	150	104		25		15,000	4.6	
-200			55.6	200	154				12,000	5.2	

● BIG genuine side lock screws must be used as they are made to an exclusive design and different from other screws on the market.

■ SIDE LOCK SCREWS

Model	Screw size	Screw Length / Quantity	Chuck Model
H0304FS	M3 P0.5	4mm / 2pcs.	SSL3
H0404FS	M4 P0.5	4mm / 2pcs.	SSL4
H06FSA	M6 P0.75	4.5 , 5mm / 1pce. each	SSL6
H06FSB		4.5 , 6mm / 1pce. each	SSL8,10
H08FSA	M8 P0.75	6mm / 2pcs. 8mm / 1pce.	SSL12
H08FSB		6, 8, 10mm / 1pce. each	SSL16,20

1. Each model consists of 1 set of screws required for 1 Mold Chuck.

SIDE LOCK HOLDER Clamping Range : $\phi 6 - \phi 50$

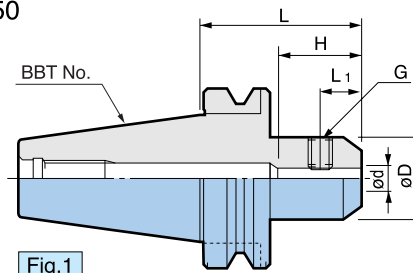


Fig.1

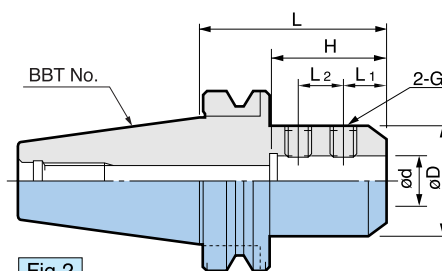


Fig.2

For ENDMILL

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	$\phi d(H5)$	ϕD	L	L1	L2	H	G	Weight (kg)					
BBT30-ISL 6- 60	1	6	25	60	18	—	85※	M 6	0.6					
-ISL 8- 60		8	28					M 8						
-ISL10- 60		10	35					M10						
-ISL12- 60		12	42					M12						
-ISL16- 60		16	48					M14						
BBT40-ISL12- 75	1	12	42	75	22.5	—	110※	M12	1.5					
-ISL16- 75		16	48					M14						
-ISL20- 75		20	52					M16						
-ISL25- 90	2	25	63.5	90	24	25	60	M18	2.1					
-ISL32-105		32	72	105	24	28	82	M20	2.9					
BBT50-ISL16- 90	1	16	48	90	24	—	145※	M14	4.4					
-ISL20- 90		20	52					M16						
-ISL25-105	2	25	65	105	24	25	60	M18	4.6					
-ISL32-105		32	72					M20						
-ISL40-120		40	90					120		30	32	90	M20	6.5
-ISL42-120		42	90					120		30	32	90	M20	
-ISL50-121	50	99.5	121	35	35	90	M24	7.2						

1. H dimension marked with ※ indicates this dimension to the back end of the retention knob.

For DRILL

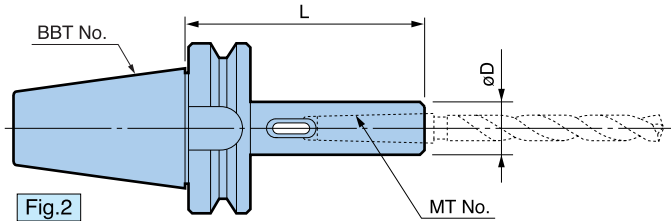
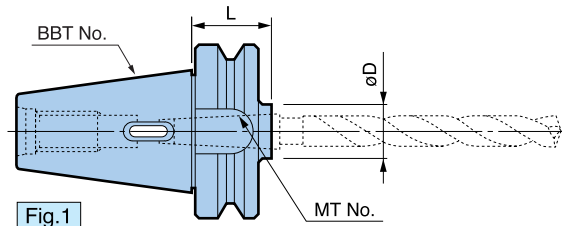
BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	$\phi d(H6)$	ϕD	L	L1	L2	H	G	Weight (kg)
BBT30-TSL20- 75	2	20	48	75	14	14	50	M10	1.0
-TSL25- 80		80		20	15	56	M16		
BBT40-TSL20- 90	2	20	48	90	14	14	50	M10	1.7
-TSL25- 90		25							
-TSL32-105		32		105	25	60	M16		
-TSL40-105		40						68	
BBT50-TSL20- 90	2	20	48	90	14	14	50	M10	4.2
-135				135					4.8
-165				165					5.2
-TSL25-105		25	63	105	15	20	56	M16	4.3
-135				135					4.7
-165				165					5.1
-TSL32-105		32	63	105	15	20	60	M16	4.8
-135				135					5.5
-165				165					6.2
-TSL40-105		40	68	105	15	25	70	M16	4.8
-135				135					5.6
-165				165					6.4
-TSL50-105	50	84	105	35	35	70	M16	5.4	

MORSE TAPER HOLDER



Precise finish of inner taper guarantees high concentricity.



BIG-PLUS tools can be used in machining centers with conventional spindles.

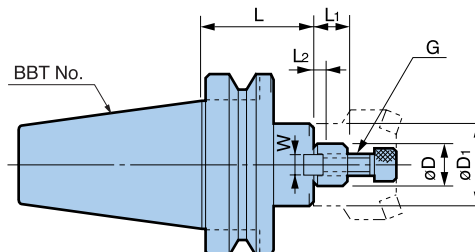
Model	MT No.	Fig.	øD	L	Weight (kg)
BBT30-MTA1- 60	1	1	25	60	0.5
-MTA2- 60	2		32	60	
-MTA3- 80	3		40	80	
BBT40-MTA1- 45	1	1	25	45	1.0
-120		2		120	1.3
-MTA2- 45	2	1	32	45	1.0
-120		2		120	1.6
-MTA3- 75	3	1	40	75	1.0
-135		2		135	1.7
-MTA4- 90	4	2	50	90	1.6
BBT50-MTA1- 45	1	1	25	45	3.9
-120		2		120	4.2
-180		2		180	4.3
-MTA2- 45	2	1	32	45	3.9
-135		2		135	4.3
-180		2		180	4.6
-MTA3- 45	3	1	40	45	3.8
-150		2		150	4.6
-180		2		180	4.9
-MTA4- 75	4	1	50	75	3.9
-180		2		180	5.4
-MTA5-105	5	1	65	105	4.5
-210		2		210	7.2

Morse taper size and corresponding drill diameter

MT No.	Drill diameter ※
1	ø 3 - ø14
2	ø14.5 - ø23
3	ø23.5 - ø31.5
4	ø32 - ø50
5	ø51 - ø76

※ Drill diameter JIS B4302 1 Standard

FACE MILL ARBOR Type FMC



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	øD(h6)	øD1	L	L1	L2	G	W	Weight (kg)
BBT30-FMC16 - 45 ※	16	40	45	16	4	M8	8	0.7
-FMC22 - 45 ※	22	45		18	5	M10	10	0.8
-FMC27 - 45 ※	27	70		20	6	M12	12	1.0
-FMC25.4- 45 ※	25.4	70	45	20	5	M12	9.5	1.0
BBT40-FMC22 - 45	22	45	45	18	5	M10	10	1.3
- 90			90					1.7
-150 ※			150					2.5
-FMC27 - 60	27	70	60	20	6	M12	12	2.0
- 90			90					2.6
-150 ※			150					4.1
-FMC32 - 60	32	85	60	22	7	M16	14	2.1
- 75			75					2.5
-FMC25.4- 60			60					2.0
- 90	25.4	70	90	20	5	M12	9.5	2.7
-150 ※			150					4.2
-FMC38.1- 60			60					2.3
- 75	38.1	85	75	22	7	M16	15.9	2.7
BBT50-FMC22 - 60			60					4.1
-105			105					4.6
-150 ※	22	45	150	18	5	M10	10	4.9
-FMC27 - 45			45					4.1
- 90			90					5.1
-150 ※	27	70	150	20	6	M12	12	6.9
-FMC32 - 45			45					4.3
- 75			75					5.6
-105	32	85	105	22	7	M16	14	7.0
-FMC25.4- 45			45					3.7
- 90			90					5.1
-150 ※	25.4	70	150	20	5	M12	9.5	6.9
-FMC38.1- 45			45					4.2
- 75			75					5.5
-105 ※	38.1	85	105	22	7	M16	15.9	6.7

1. Models marked with ※ do not have a through coolant hole.

FACE MILL ARBOR Type FMH



For cutters that require a coolant hole through the pilot.

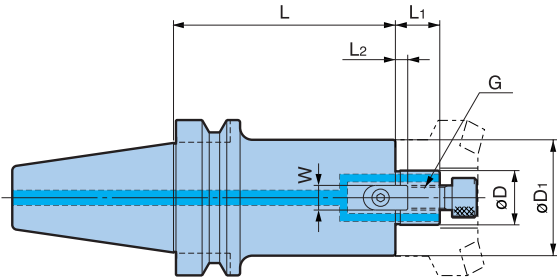
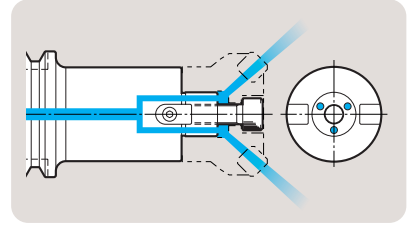


Fig.1

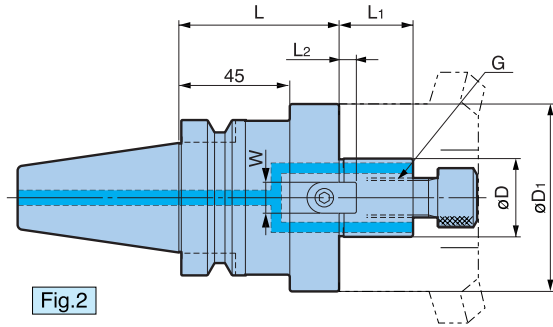


Fig.2

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	øD (h6)	øD1	L	L1	Driver keys		G	Weight (kg)
						L2	W		
BBT40-FMH22 -47- 45	1	22	47	45	18	5	10	M10	1.3
				60					1.5
				90					1.9
				150					2.7
-FMH22 -60- 45	1	22	60	45	18	5	10	M10	1.5
				60					1.8
				90					2.5
-FMH27 -60- 45	1	27	60	45	20	6	12	M12	1.5
				60					1.8
				90					2.5
-FMH27 -76- 60	2	27	76	60	20	6	12	M12	2.1
				90					2.8
-FMH32 -96- 60	2	32	96	60	22	7	14	M16	2.4
-FMH22.225-47- 45	1	22.225	47	45	17	3.5	8	M10	1.3
				60					1.5
				90					1.9
				150					2.7
-FMH22.225-60- 45	1	22.225	60	45	17	3.5	8	M10	1.5
				60					1.8
				90					2.5
-FMH25.4 -70- 60	2	25.4	70	60	22	5	9.5	M12	2.0
				90					2.7
				105					3.1
-FMH31.75 -76- 60	2	31.75	76	60	30	7	12.7	M16	2.2
				90					2.9
-FMH31.75 -96- 60	2	31.75	96	60	30	7	12.7	M16	2.5

1. By utilizing a clamping bolt with a hole through, coolant is supplied through the bolt.

BIG-PLUS tools can be used in machining centers with conventional spindles.

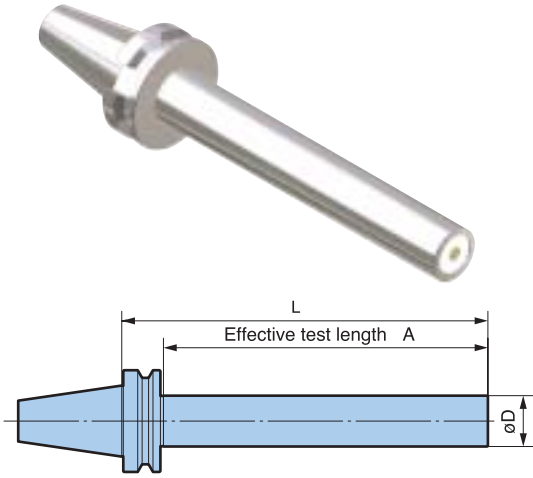
Model	Fig.	øD (h6)	øD1	L	L1	Driver keys		G	Weight (kg)
						L2	W		
BBT50-FMH22 -47- 60	1	22	47	60	18	5	10	M10	4.1
				105					4.7
				150					5.3
				200					6.0
				250					6.7
-FMH22 -60- 60	1	22	60	60	18	5	10	M10	4.2
				105					5.2
				150					5.2
				200					7.4
				250					8.5
-FMH27 -60- 45	1	27	60	45	20	6	12	M12	3.9
				90					5.0
				150					6.3
-FMH27 -76- 45	1	27	76	45	20	6	12	M12	4.0
				90					5.6
				150					7.8
-FMH32 -96- 45	1	32	96	45	22	7	14	M16	4.2
				90					6.8
				150					10.2
-FMH40 -100- 45	2	40	100	45	26	8.5	16	M20 (MBA-M20)	4.4
				75					6.2
				105					8.1
-FMH22.225-47- 60	1	22.225	47	60	17	3.5	8	M10	4.1
				105					4.7
				150					5.3
				200					6.0
				250					6.6
-FMH22.225-60- 60	1	22.225	60	60	17	3.5	8	M10	4.2
				105					5.2
				150					6.2
				200					7.4
				250					8.5
-FMH25.4 -70- 45	1	25.4	70	45	22	5	9.5	M12	4.0
				60					4.5
				90					5.4
				150					7.2
				200					8.7
-FMH31.75 -76- 45	1	31.75	76	45	30	7	12.7	M16	4.1
				75					5.2
				105					6.3
				150					7.9
				200					9.7
-FMH31.75 -96- 45	1	31.75	96	45	30	7	12.7	M16	4.3
				75					6.0
				105					7.7
				150					10.3
				200					13.1
-FMH38.1 -100- 45	2	38.1	100	45	34	9	15.9	M20 (MBA-M20)	4.4
				75					6.3
				105					8.1
				150					10.9

1. By utilizing a clamping bolt with a hole through, coolant is supplied through the bolt.

DYNA TEST

BBT Shank

JIS B 6339 (BIG-PLUS)



Precision test bar of the highest quality.

- Periodic inspection of machine tools to control production stability.
- Shorter models are ideal for measuring ATC repeatability.

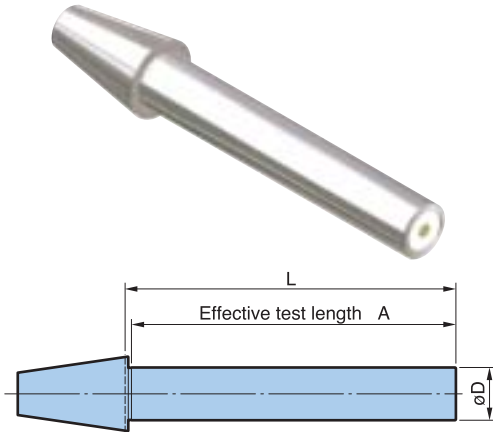
BIG-PLUS tools can be used in machining centers with conventional spindles.

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	
-L360	360	319	

1. Taper length is in accordance with MAS BT standard.

NT Shank

Basic Type (NT Shank) is only suitable for BT shank.



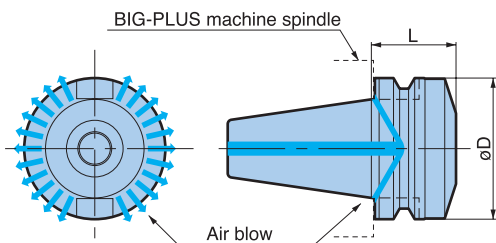
Model	L	A	øD
NT30-32-L150	150	144	32
-L225	225	219	
NT40-50-L200	200	184	50
-L335	335	319	
NT50-50-L200	200	194	
-L335	335	319	

1. Taper length is in accordance with MAS BT standard.

CLEANER



Blowing air cleans the BIG-PLUS machine spindle face.
Oil and dirt is removed from the spindle face.



Model	øD	L
SBT30-ASC-30T	46	30
SBT40-ASC-40T	63	40
SBT50-ASC-60T	100	60

1. When the cleaner is clamped into a BIG-PLUS machine spindle, faces have 1mm clearance.

BDV/DV SHANK

MEGA MICRO CHUCK	P45
MEGA NEW BABY CHUCK	P46
MEGA E CHUCK	P48
MEGA DOUBLE POWER CHUCK	P49
NEW BABY CHUCK	P50
NEW HI-POWER MILLING CHUCK	P52
FACE MILL ARBOR Type FMC	P53
DYNA TEST	P53



Coolant-through hole

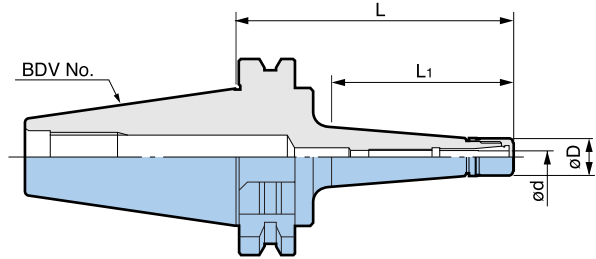
MEGA MICRO CHUCK[®] PAT. Clamping Range : \varnothing 0.45 - \varnothing 6.05

Type T



Micro diameter design is ideal for high speed applications in tight areas with small diameter cutting tools.






MAX.
35,000
min⁻¹



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L ₁	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BDV40-MEGA3S- 60T	0.45 – 3.25	10	60	29	35,000	NBC3S-□	MGN3S	0.95
- 90T			90	59	28,000			1.02
-120T			120	89	22,000			1.14
-MEGA4S- 60T	0.45 – 4.05	12	60	29	35,000	NBC4S-□	MGN4S	0.95
- 90T			90	59	28,000			1.03
-120T			120	89	22,000			1.17
-MEGA6S- 60T	0.45 – 6.05	14	60	29	35,000	NBC6S-□	MGN6S	0.96
- 90T			90	59	28,000			1.05
-120T			120	89	22,000			1.20

1. MEGA NUT is included.

	Spare Parts	Accessories			
	MEGA NUT 	MEGA WRENCH 	MICRO COLLET  P91	MICRO COLLET PROTECTIVE CASE 	α TAPER CLEANER 
MEGA MICRO CHUCK	Model	Model	Model	Model	Model
MEGA3S	MGN3S	MGR10	NBC3S-□	NBB3S	SC-NBC3S
MEGA4S	MGN4S	MGR12	NBC4S-□	NBB4S	SC-NBC4S
MEGA6S	MGN6S	MGR14	NBC6S-□	NBB6S	SC-NBC6S

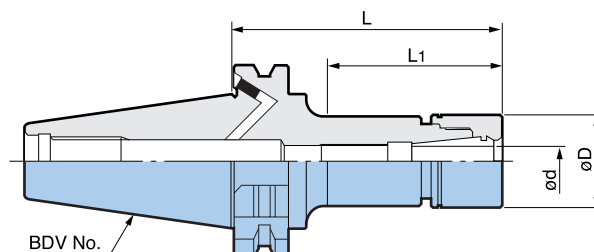
MEGA NEW BABY CHUCK[®] PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$

Coolant-through hole



MAX.
35,000
min⁻¹

Ideal ultra precision holders for high speed machining with carbide drills, reamers and endmills. Wide range of lengths and a variety of collet series sizes covers all machining applications.



BIG-PLUS tools can be used in machining centers with conventional spindles.

For BDV50, refer to the following page.

Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L ₁	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BDV40-MEGA 6N- 60	0.25 – 6	20	60	29	35,000	NBC 6-□	MGN 6	1.0
- 90			90	54	35,000			1.1
-135			135	99	20,000			1.2
-165			165	129	14,000			1.2
-200			200	165	9,000			1.3
-MEGA 8N- 60	0.5 – 8	25	60	29	35,000	NBC 8-□	MGN 8	1.0
- 90			90	56	35,000			1.1
-135			135	101	20,000			1.3
-165			165	131	14,000			1.4
-200			200	166	9,000			1.5
-MEGA10N- 60	1.5 – 10	30	60	29	35,000	NBC10-□	MGN10	1.1
- 90			90	58	35,000			1.2
-135			135	103	20,000			1.4
-165			165	133	15,000			1.6
-200			200	168	10,000			1.7
-MEGA13N- 60	2.5 – 13	35	60	33	35,000	NBC13-□	MGN13	1.1
- 90			90	60	35,000			1.3
-135			135	105	20,000			1.6
-165			165	135	15,000			1.8
-200			200	170	10,000			2.0
-MEGA16N- 60	2.5 – 16	42	60	34	30,000	NBC16-□	MGN16	1.2
- 90			90	63	30,000			1.5
-135			135	108	20,000			1.9
-165			165	138	15,000			2.2
-200			200	173	10,000			2.5
-MEGA20N- 60	2.5 – 20	46	60	39	30,000	NBC20-□	MGN20	1.3
- 90			90	69	30,000			1.6
-135			135	114	20,000			2.0
-165			165	144	15,000			2.3
-200			200	179	10,000			2.6

1. MEGA NUT is included.

For NEW BABY COLLET for ENDMILL P93

For NEW BABY COLLET P92

For MEGA WRENCH P47

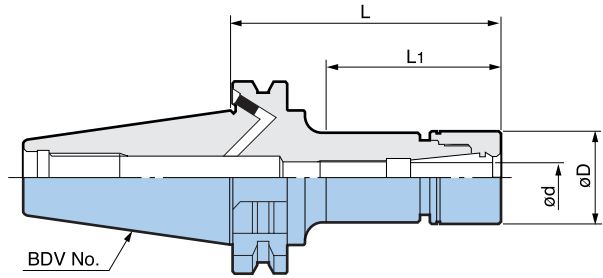
For ADJUSTING SCREW P47

Coolant-through hole

MEGA NEW BABY CHUCK[®] PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$







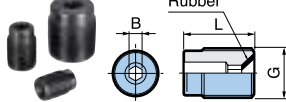
MAX.
20,000
min⁻¹



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L1	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BDV50-MEGA 6N- 90	0.25- 6	20	90	49	20,000	NBC 6-□	MGN 6	3.0
-120			120	79	20,000			3.0
-165			165	124	14,000			3.1
-200			200	159	9,000			3.2
-MEGA 8N- 90	0.5 - 8	25	90	49	20,000	NBC 8-□	MGN 8	3.1
-120			120	79	20,000			3.2
-165			165	124	16,000			3.3
-200			200	159	11,000			3.4
-MEGA10N- 90	1.5 - 10	30	90	54	20,000	NBC10-□	MGN10	3.2
-120			120	79	20,000			3.3
-165			165	124	16,000			3.5
-200			200	159	12,000			3.7
-MEGA13N- 90	2.5 - 13	35	90	54	18,000	NBC13-□	MGN13	3.2
-120			120	79	18,000			3.4
-165			165	124	16,000			3.7
-200			200	159	12,000			3.9
-MEGA16N- 90	2.5 - 16	42	90	54	17,000	NBC16-□	MGN16	3.4
-120			120	84	17,000			3.7
-165			165	129	16,000			4.1
-200			200	164	13,000			4.4
-MEGA20N- 90	2.5 - 20	46	90	54	16,000	NBC20-□	MGN20	3.5
-120			120	84	16,000			3.8
-165			165	129	15,000			4.3
-200			200	164	13,000			4.6

1. MEGA NUT is included.

Spare Parts		Accessories						
	MEGA NUT 	MEGA WRENCH 	NBC COLLET P92 FOR ENDMILL COLLET P93 	SEALING NUT MEGA PERFECT SEAL P96 	ADJUSTING SCREW Rubber 			
MEGA NEW BABY CHUCK	Model	Model	Model	Model	Model	G	L	B
MEGA 6N	MGN 6	MGR20	NBC 6-□	MPS 6-□	NBA 6B	M 7	12	2
MEGA 8N	MGN 8	MGR25	NBC 8-□	MPS 8-□	NBA 8B	M 9	13	2.5
MEGA10N	MGN10	MGR30	NBC10-□	MPS10-□	NBA10B	M11	16	3
MEGA13N	MGN13	MGR35	NBC13-□	MPS13-□	NBA13B	M14	20	4
MEGA16N	MGN16	MGR42	NBC16-□	MPS16-□	NBA16B	M18	20	4
MEGA20N	MGN20	MGR46	NBC20-□	MPS20-□	NBA20B	M21	20	4

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

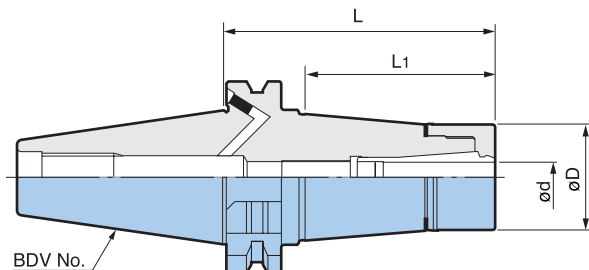
MEGA E CHUCK[®] PAT. Clamping Range : $\varnothing 3$ - $\varnothing 12$

Coolant-through hole



MAX.
30,000
min⁻¹






Exclusively designed with the advanced technology for high speed endmilling. The long gripping length of the collet provides a powerful gripping force.



BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	$\varnothing d$	$\varnothing D$	L	L ₁	MAX. min ⁻¹	Collet Model	Nut Model	Weight (kg)
BDV40-MEGA 6E- 60	3 – 6	25	60	30.4	30,000	MEC 6-□	MEN 6	1.1
- 90			90	59	30,000			1.2
-120			120	92	29,000			1.4
-MEGA 8E- 60	3 – 8	30	60	30.4	30,000	MEC 8-□	MEN 8	1.2
- 90			90	62	30,000			1.3
-120			120	93	29,000			1.5
-MEGA 10E- 60	3 – 10	35	60	33	30,000	MEC10-□	MEN10	1.3
- 90			90	63	30,000			1.4
-120			120	92	29,000			1.7
-MEGA 13E- 60	3 – 12	42	60	35	30,000	MEC13-□	MEN13	1.5
- 90			90	60	30,000			1.7
-120			120	95	29,000			1.9
BDV50-MEGA 6E-120	3 – 6	25	120	89	20,000	MEC 6-□	MEN 6	3.3
-165			165	134	14,000			3.8
-MEGA 8E-120	3 – 8	30	120	89	20,000	MEC 8-□	MEN 8	3.4
-165			165	134	16,000			3.9
-MEGA 10E- 90	3 – 10	35	90	59	20,000	MEC10-□	MEN10	3.3
-120			120	89	20,000			3.6
-165			165	134	16,000			4.1
-MEGA 13E- 90	3 – 12	42	90	59	18,000	MEC13-□	MEN13	3.6
-120			120	89	18,000			3.8
-165			165	136	16,000			4.4

1. MEGA E NUT is included.

Spare Parts		Accessories						
	MEGA E NUT 	MEGA WRENCH 	MEGA E COLLET 	SEALING NUT MEGA E PERFECT SEAL 	ADJUSTING SCREW 			
MEGA E CHUCK	Model	Model	Model	Model	Model	G	L	B
MEGA 6E	MEN 6	MGR25	MEC 6-□	EPS 6-□	NBA 6B	M 7	12	2
MEGA 8E	MEN 8	MGR30	MEC 8-□	EPS 8-□	NBA 8B	M 9	13	2.5
MEGA10E	MEN10	MGR35	MEC10-□	EPS10-□	NBA10B	M11	16	3
MEGA13E	MEN13	MGR42	MEC13-□	EPS13-□	NBA13B	M14	20	4

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

Coolant-through hole

MEGA DOUBLE POWER CHUCK[®] PAT. Clamping Range : $\varnothing 16 - \varnothing 42$

Type DS For coolant to cutting tool periphery

Close to integral rigidity and precision of a solid toolholder. Flange contacting nut assures highest rigidity.

MAX.
25,000
min⁻¹

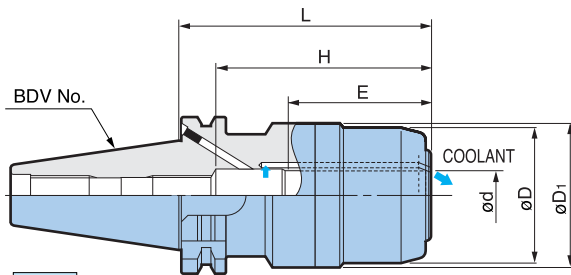


Fig.1

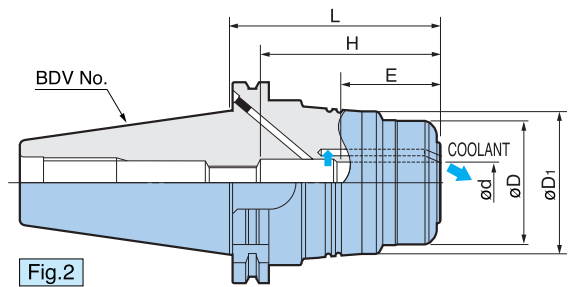


Fig.2

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	H	Min Clamping Length E	MAX. min ⁻¹	Weight (kg)
BDV40-MEGA16DS- 90	1	16	46	55	92.4	73	52	25,000	1.9
-MEGA20DS-100		20	55	55.7	102.4	71 – 81	58	22,000	2.1
-MEGA25DS-100		25	62	62.7	102.4	71 – 81	58	18,000	2.4
-MEGA32DS-100		32	70	70.7	102.4	76 – 86	67	12,000	2.5
BDV50-MEGA16DS- 70	2	16	46	55	72.4	73	52	20,000	3.5
-MEGA20DS-100		20	60	69	102.4	71 – 81	58	20,000	4.9
-MEGA25DS-105		25	70	77	107.4	76 – 86	67	18,000	5.4
-MEGA32DS-105	1	32	80	86	107.4	80 – 94	73	15,000	5.7
-MEGA42DS-105		42	99	99.7	107.4	90 – 107		12,000	6.6

1. Wrench is ordered separately.

For STRAIGHT COLLET P95

Accessories

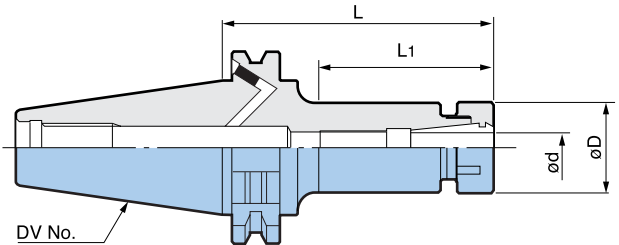
MEGA DOUBLE POWER CHUCK	MEGA WRENCH		ADJUSTING SCREW				
	Model	Model	$\varnothing D$	L	L ₁	G	W
BDV40-MEGA16DS	MGR46	—	—	—	—	—	—
-MEGA20DS	MGR55	HMA-M16	19	27	6	M16P1.5	8
-MEGA25DS	MGR62	HMA-M16					10
-MEGA32DS	MGR70	HMA-M16S					10
BDV50-MEGA16DS	MGR46	—	—	—	—	—	—
-MEGA20DS	MGR60	HMA-M16	19	27	6	M16P1.5	8
-MEGA25DS	MGR70	HMA-M16					10
-MEGA32DS	MGR80	HMA-M24					10
-MEGA42DS	MGR99	HMA-M24	30	36	9.5	M24P1.5	10

Coolant-through hole

NEW BABY CHUCK PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$

Great variety in length in order to support high precision machining.

※MAX.
20,000
min⁻¹



For DV50, refer to the following page.

Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L ₁	Collet Model	Nut Model	Weight (kg)
DV40-NBS 6- 60	0.25 – 6	20	60	28	NBC 6-□	NBN 6	1.0
- 90			90	54			1.1
-135			135	99			1.2
-165			165	129			1.2
-200			200	164			1.3
-NBS 8- 60	0.5 – 8	25	60	28	NBC 8-□	NBN 8	1.0
- 90			90	56			1.1
-135			135	101			1.3
-165			165	131			1.4
-200			200	166			1.5
-NBS10- 60	1.5 – 10	30	60	28	NBC10-□	NBN10	1.1
- 90			90	58			1.2
-135			135	103			1.4
-165			165	133			1.6
-200			200	168			1.8
-NBS13- 60	2.5 – 13	35	60	31	NBC13-□	NBN13	1.1
- 90			90	60			1.3
-135			135	105			1.6
-165			165	135			1.8
-200			200	170			2.0
-NBS16- 60	2.5 – 16	42	60	33	NBC16-□	NBN16	1.2
- 90			90	63			1.5
-135			135	108			1.9
-165			165	138			2.2
-200			200	173			2.5
-NBS20- 60	2.5 – 20	46	60	39	NBC20-□	NBN20	1.3
- 90			90	69			1.6
-135			135	114			2.0
-165			165	144			2.3
-200			200	179			2.6

1. NEW BABY NUT is included.
2. ※Max. 20,000 min⁻¹ is valid for DV40 with L = 60 or 90mm.

For NEW BABY COLLET for ENDMILL P93

For NEW BABY COLLET P92

For WRENCH P51

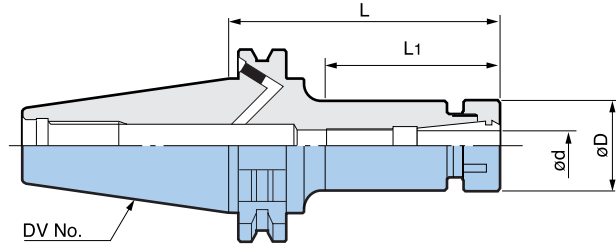
For ADJUSTING SCREW P51

For TAP DRIVING BACK STOP P94

Coolant-through hole

NEW BABY CHUCK

PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$



Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L1	Collet Model	Nut Model	Weight (kg)
DV50-NBS 6- 90	0.25 – 6	20	90	49	NBC 6-□	NBN 6	3.0
-120			120	79			3.0
-165			165	124			3.1
-200			200	159			3.2
-NBS 8- 90	0.5 – 8	25	90	49	NBC 8-□	NBN 8	3.1
-120			120	79			3.2
-165			165	124			3.3
-200			200	159			3.4
-NBS10- 90	1.5 – 10	30	90	49	NBC10-□	NBN10	3.2
-120			120	79			3.3
-165			165	124			3.5
-200			200	159			3.7
-NBS13- 90	2.5 – 13	35	90	54	NBC13-□	NBN13	3.3
-120			120	79			3.4
-165			165	124			3.7
-200			200	159			3.9
-NBS16- 75	2.5 – 16	42	75	39	NBC16-□	NBN16	3.5
- 90			90	54			3.6
-120			120	84			3.9
-165			165	129			4.3
-200			200	164			4.6
-NBS20- 75	2.5 – 20	46	75	39	NBC20-□	NBN20	3.5
- 90			90	54			3.7
-120			120	84			4.0
-165			165	129			4.5
-200			200	164			4.8

1. NEW BABY NUT is included.

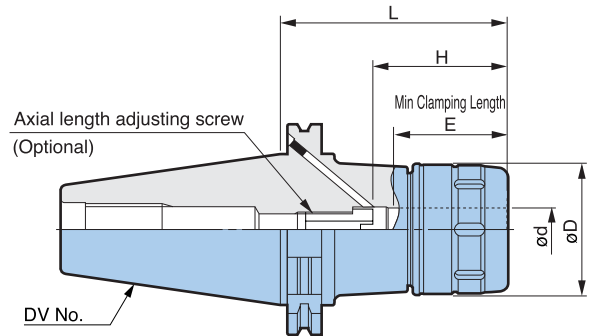
Spare Parts		Accessories						
	NEW BABY NUT	WRENCH	NBC COLLET FOR ENDMILL COLLET	BABY PERFECT SEAL	ADJUSTING SCREW			
NEW BABY CHUCK	Model	Model	Model	Model	Model	G	L	B
NBS 6	NBN 6	NBK 6	NBC 6-□	BPS 6-□	NBA 6B	M 7	12	2
NBS 8	NBN 8	NBK 8	NBC 8-□	BPS 8-□	NBA 8B	M 9	13	2.5
NBS10	NBN10	NBK10	NBC10-□	BPS10-□	NBA10B	M11	16	3
NBS13	NBN13	NBK13	NBC13-□	BPS13-□	NBA13B	M14	20	4
NBS16	NBN16	NBK16	NBC16-□	BPS16-□	NBA16B	M18	20	4
NBS20	NBN20	NBK20	NBC20-□	BPS20-□	NBA20B	M21	20	4

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

For TAP DRIVING BACK STOP P94

NEW Hi-POWER MILLING CHUCK Coolant-through hole Clamping Range : $\varnothing 20 - \varnothing 42$

BIG's original design of slit structure supports heavy and finish end milling with high power and precision.



Model	$\varnothing d$	$\varnothing D$	L	H	Min. Clamping Length E	C-Spanner Model	Weight (kg)
DV40-HMC20- 85	20	52	85	69 – 79	56	FK52- 55	1.7
-105			105				1.9
-120			120				2.1
-HMC25- 95	25	62	95	71 – 81	56	FK58- 62	2.0
-105			105				2.2
-HMC32- 95	32	70	95	79 – 84	65	FK68- 75	2.1
-105			105				2.4
-135			135				2.9
DV50-HMC20-105	20	60	105	69 – 79	56	FK58- 62	4.6
-135			135				5.2
-HMC25-105	25	62	105	74 – 84	65	FK58- 62	4.6
-135			135				5.3
-HMC32-105	32	80	105	78 – 95	71	FK80- 90	5.2
-135			135				6.3
-165			165				7.4
-HMC42-105	42	89	105	93 – 105	73	FK92-100	6.0
-135			135				7.4
-165			165				9.1

1. Wrench and Axial Adjusting Screw is ordered separately.
 2. "H" indicates the adjustment length with an Adjusting Screw.

For STRAIGHT COLLET P95

Accessories									
	C-SPANNER	MEGA WRENCH ※	ADJUSTING SCREW						
NEW Hi-POWER MILLING CHUCK	Model	Model	Model	$\varnothing D$	L	L1	G	W	
DV40-HMC20	FK52- 55	MGR52	HMA-M16	19	27	6	M16P1.5	8	
-HMC25	FK58- 62	MGR62	HMA-M16	19	27	6	M16P1.5	8	
-HMC32	FK68- 75	MGR70	HMA-M16S	19	27	6	M16P1.5	10	
DV50-HMC20	FK58- 62	MGR60	HMA-M16	19	27	6	M16P1.5	8	
-HMC25	FK58- 62	MGR62	HMA-M16	19	27	6	M16P1.5	8	
-HMC32	FK80- 90	MGR80	HMA-M24	30	36	9.5	M24P1.5	10	
-HMC42	FK92-100	MGR99	HMA-M24	30	36	9.5	M24P1.5	10	

※ MEGA WRENCH is also available to clamp / release the clamping nut.

FACE MILL ARBOR Type FMC

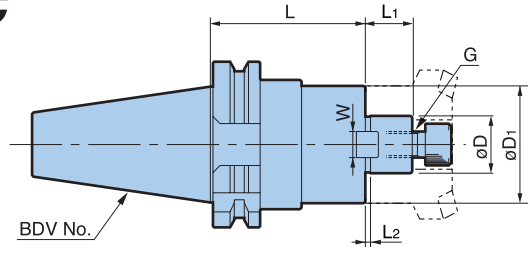


Fig.1

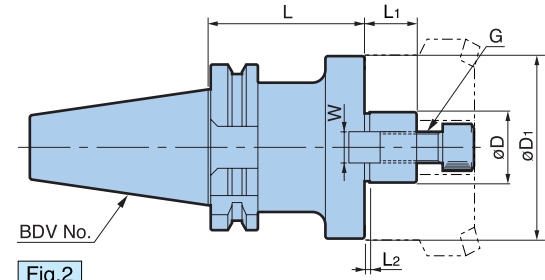


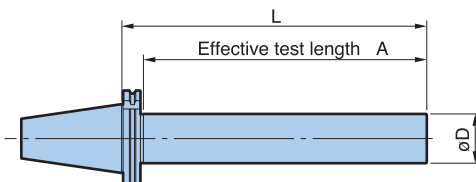
Fig.2

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	Cutter Dia.	øD	øD1	L	L1	L2	W	G	Weight (kg)
BDV40-FMC16- 60	1	40	16	32	60	16	5	8	M 8	1.2
- 90					90					1.6
-FMC22- 60		50, 63	22	45	60	18	5	10	M10	1.4
- 90					90					1.7
-FMC27- 60	2	80	27	70	60	20	6	12	M12	2.0
- 90					90					2.6
-FMC32- 60		100	32	85	60	22	7	14	M16	2.1
- 90					90					2.5
BDV50-FMC22- 60	1	50, 63	22	45	60	18	5	10	M10	4.0
- 90					90					4.4
-150					150					4.8
-FMC27- 60		80	27	70	60	20	6	12	M12	4.3
- 90	90				5.1					
-150	150				6.9					
-FMC32- 60	2	100	32	85	60	22	7	14	M16	4.7
- 90					90					6.0
-150					150					8.0

- 1. Clamping Screw is Hexagon Socket Head Cap Screw.
- 2. Body: With coolant-through hole / Clamping Bolt: Without coolant-through hole.

DYNA TEST



Precision test bar of the highest quality.

- Periodic inspection of machine tools to control production stability.
- Shorter models are ideal for measuring ATC repeatability.

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	L	A	øD
BDV40-50-L200SD	200	170	50
-L340SD	340	310	
BDV50-50-L200SD	200	178	
-L340SD	340	318	

HSK SHANK

Form A

MEGA MICRO CHUCK	P55
MEGA NEW BABY CHUCK	P57
MEGA E CHUCK	P61
MEGA DOUBLE POWER CHUCK	P63
NEW BABY CHUCK	P65
NEW Hi-POWER MILLING CHUCK	P67
MOLD CHUCK	P68
SHRINK CHUCK	P69
FACE MILL ARBOR Type FMH	P71
DYNA TEST	P72

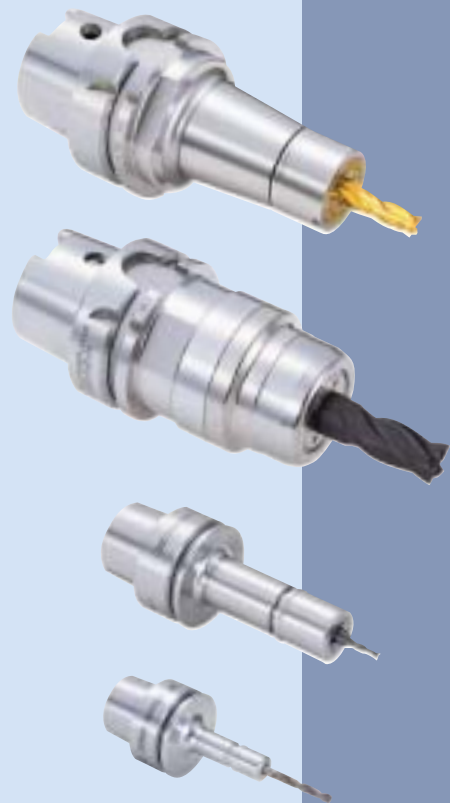
Form E

MEGA MICRO CHUCK	P73
MEGA NEW BABY CHUCK	P75
SHRINK CHUCK	P77
DYNA TEST	P77

Form F

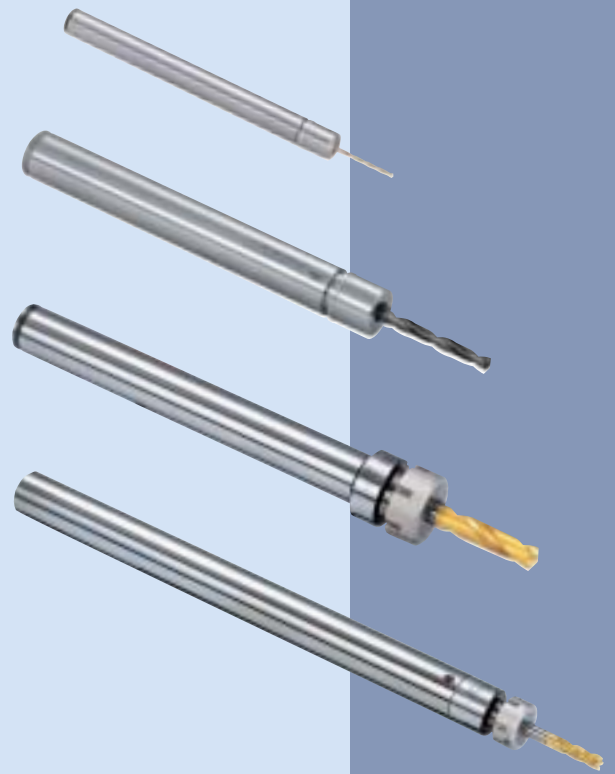
MEGA MICRO CHUCK	P78
MEGA NEW BABY CHUCK	P79
MEGA E CHUCK	P80
MEGA DOUBLE POWER CHUCK	P81
MOLD CHUCK	P82
SHRINK CHUCK	P82
DYNA TEST	P83

COOLANT PIPE	P83
--------------	-----



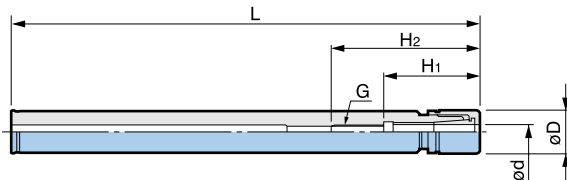
CYLINDRICAL SHANK

MEGA MICRO CHUCK	P85
MEGA NEW BABY CHUCK	P86
NEW BABY CHUCK	P87








MEGA MICRO CHUCK[®] PAT. Clamping Range : \varnothing 0.45 - \varnothing 6.05

\varnothing 10 ultra small dia. to avoid interference.
High precision is maintained by combination with
MEGA NEW BABY CHUCK.



Model	Clamping Range $\varnothing d$	$\varnothing D$	L	H1	H2	G	Collet Model	Nut Model	Weight (kg)
ST10-MEGA3S-120	0.45 – 3.25	10	120	22	38	M4 P0.7	NBC3S-□	MGN3S	0.06
ST12-MEGA4S-130	0.45 – 4.05	12	130	26.5	47	M5 P0.8	NBC4S-□	MGN4S	0.11
-160			160						0.13
ST14-MEGA6S-160	0.45 – 6.05	14	160	28.5	49	M7 P0.75	NBC6S-□	MGN6S	0.18
-200			200						0.21

1. MEGA NUT is included.

	Spare Parts	Accessories			
	MEGA NUT 	MEGA WRENCH 	MICRO COLLET  P91	MICRO COLLET PROTECTIVE CASE 	α TAPER CLEANER 
MEGA MICRO CHUCK	Model	Model	Model	Model	Model
MEGA3S	MGN3S	MGR10	NBC3S-□	NBB3S	SC-NBC3S
MEGA4S	MGN4S	MGR12	NBC4S-□	NBB4S	SC-NBC4S
MEGA6S	MGN6S	MGR14	NBC6S-□	NBB6S	SC-NBC6S

MEGA MICRO CHUCK SET



Including convenient storage case.

Set model **SST12-MEGA4S-130**

Contents

< SST12 - MEGA4S - 130 >

- BODY/ ST12 - MEGA4S - 130 (with MGN4S nut)
- COLLET/ NBC4S - 3 & 4 (2 pcs.)
- WRENCH/ MGR12

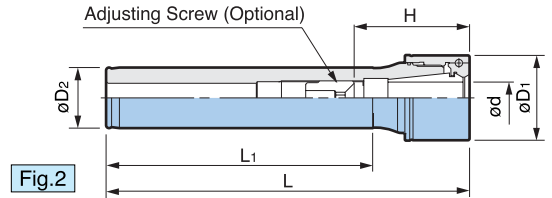
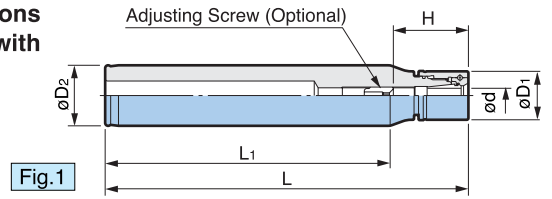
Set model **SST14-MEGA6S-160**

< SST14 - MEGA6S - 160 >

- BODY/ ST14 - MEGA6S - 160 (with MGN6S nut)
- COLLET/ NBC6S - 3,4,5 & 6 (4 pcs.)
- WRENCH/ MGR14

MEGA NEW BABY CHUCK[®] PAT. Coolant-through hole Clamping Range : $\varnothing 0.25 - \varnothing 20$

Cylindrical shank models offer flexible solutions against possible interference in combination with MEGA DOUBLE POWER CHUCK.



Model	Fig.	Clamping Range $\varnothing d$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H	Nut Model	Weight (kg)		
ST20-MEGA 6N-100	1	0.25 – 6	20	20	100	76	23 – 43	MGON 6	0.2		
-150					150	126			0.3		
-250					250	226			0.5		
-MEGA 8N-100	2	0.5 – 8	25		100	65	26 – 45	MGON 8	0.3		
-150					150	115			0.4		
-250					250	215			0.6		
-MEGA10N-100	2	1.5 – 10	30		100	60	38 – 48	MGON10	0.3		
-150					150	110			0.4		
-250					250	210			0.6		
ST25-MEGA 6N-150	1	0.25 – 6	20	25	150	116	23 – 43	MGON 6	0.5		
-MEGA 8N-150					150	123			26 – 45	MGON 8	0.5
-200					200	173					0.7
-MEGA10N-150	2	1.5 – 10	30		150	123	38 – 48	MGON10			0.5
-200					200	173			0.7		
-MEGA13N-150					2	2.5 – 13			35	150	110
-200	200	160	0.7								
-300	300	270	44 – 63				MGON13	1.1			
-MEGA13N-150	2	2.5 – 13			35	150		120	44 – 63	MGON13	0.9
-200				200		170		1.1			
-300			300	270		1.6					
-MEGA16N-150	2	2.5 – 16	42	32	150	110	48 – 68	MGN 16	1.0		
-200					200	160			1.2		
-300					300	260			1.7		
-MEGA20N-150	2	2.5 – 20	46		150	105	51 – 68	MGN 20	1.0		
-200					200	155			1.3		
-300					300	255			1.9		

- MEGA NUT is included.
- "H" indicates the adjustment length with an Adjusting Screw.
- BIG** ST LOCK is recommended to mount / release a cutting tool.



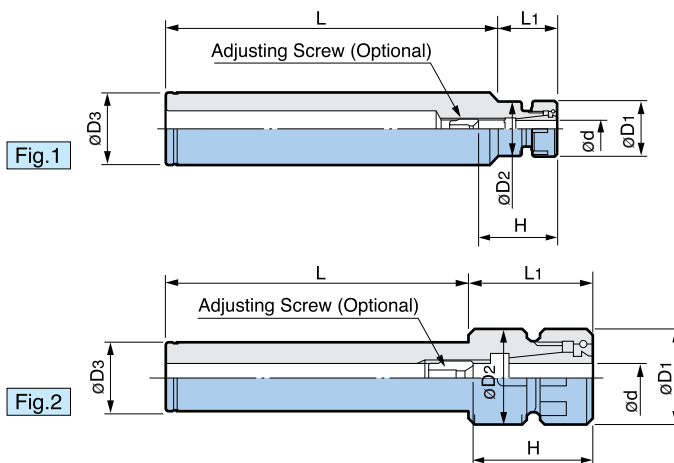
Spare Parts		Accessories						
MEGA NUT		MEGA WRENCH	NBC COLLET P92 For ENDMILL COLLET P93	SEALING NUT MEGA PERFECT SEAL P96	ADJUSTING SCREW Rubber			
MEGA NEW BABY CHUCK	Model	Model	Model	Model	Model	G	L	B
MEGA 6N	MGON 6	MGR20	NBC 6-□	MPS 6-□	NBA 6B	M 7	12	2
MEGA 8N	MGON 8	MGR25	NBC 8-□	MPS 8-□	NBA 8B	M 9	13	2.5
MEGA10N	MGON10	MGR30	NBC10-□	MPS10-□	NBA10B	M11	16	3
MEGA13N	MGON13	MGR35	NBC13-□	MPS13-□	NBA13B	M14	20	4
MEGA16N	MGN16	MGR42	NBC16-□	MPS16-□	NBA16B	M18	20	4
MEGA20N	MGN20	MGR46	NBC20-□	MPS20-□	NBA20B	M21	20	4

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

Coolant-through hole

NEW BABY CHUCK PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$

Avoids interference when used in combination with BIG NEW Hi-POWER MILLING CHUCK.



Model	Fig.	Clamping Range $\varnothing d$	$\varnothing D1$	$\varnothing D2$	$\varnothing D3$	L	L1	H	Weight (kg)	
ST20-NBS 6-100	1	0.25 - 6	20	19.5	20	100	24	20 - 40	0.27	
-150						150			0.39	
-250						250			0.64	
-NBS 8-100	2	0.5 - 8	25	24.5		100	26	23 - 42	0.29	
-150						150			0.41	
-250						250			0.66	
-NBS10-100	2	1.5 - 10	30	29.5		100	28	35 - 45	0.32	
-150						150			0.44	
-250						250			0.69	
-350						350			0.93	
ST25-NBS 6-150	1	0.25 - 6	20	19.5		25	150	24	20 - 40	0.60
-200							200			0.79
-250					250		0.98			
-NBS 8-150	1	0.5 - 8	25	24.5	150		26	23 - 42	0.62	
-200					200				0.81	
-250					250				1.00	
-NBS10-150	2	1.5 - 10	30	29.5	150		28	35 - 45	0.65	
-200					200				0.84	
-250					250				1.03	
-NBS13-150					2				2.5 - 13	35
-200	200	0.86								
-250	250	1.05								

1. NEW BABY NUT is included.

For ST LOCK P109

Model	Fig.	Clamping Range ød	øD1	øD2	øD3	L	L1	H	Weight (kg)	
ST32-NBS 6-150	1	0.25 - 6	20	19.5	32	150	24	20 - 40	0.96	
-200						200			1.28	
-250						250			1.59	
-NBS 8-150		0.5 - 8	25	24.5		150	26	23 - 42	0.99	
-200						200			1.30	
-250						250			1.61	
-NBS10-150		1.5 - 10	30	29.5		150	28	35 - 45	1.02	
-200						200			1.33	
-250						250			1.64	
-350						350			1.95	
-NBS13-150		2	2.5 - 13	35		34.5	150	34	41 - 60	1.04
-200							200			1.35
-250	250				1.67					
-300	300				2.30					
-NBS16-150	2.5 - 16		42	41.5	150	34	45 - 65	1.05		
-200		200			1.37					
-300		300			2.00					
-NBS20-150	2.5 - 20	46	45.5	150	34	48 - 65	1.05			
-200				200			1.37			
-300				300			2.00			

1. NEW BABY NUT is included.

For ST LOCK P109

Spare Parts		Accessories						
	NEW BABY NUT 	WRENCH 	NBC COLLET For ENDMILL COLLET P93	BABY PERFECT SEAL P98	ADJUSTING SCREW Rubber			
NEW BABY CHUCK	Model	Model	Model	Model	G	L	B	
NBS 6	NBN 6	NBK 6	NBC 6- □	BPS 6- □	NBA 6B	M 7	12	2
NBS 8	NBN 8	NBK 8	NBC 8- □	BPS 8- □	NBA 8B	M 9	13	2.5
NBS10	NBN10	NBK10	NBC10- □	BPS10- □	NBA10B	M11	16	3
NBS13	NBN13	NBK13	NBC13- □	BPS13- □	NBA13B	M14	20	4
NBS16	NBN16	NBK16	NBC16- □	BPS16- □	NBA16B	M18	20	4
NBS20	NBN20	NBK20	NBC20- □	BPS20- □	NBA20B	M21	20	4

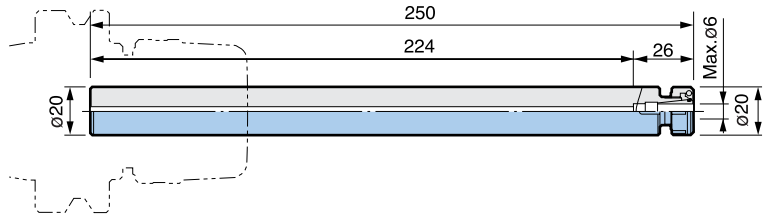
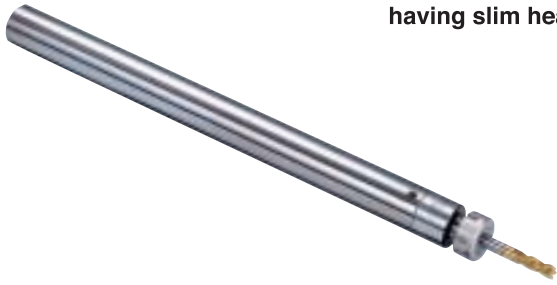
1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

Coolant-through hole

Clamping Range : $\varnothing 0.25 - \varnothing 6$

NEW BABY CHUCK PAT. CARBIDE CYLINDRICAL SHANK

Reliable solution for deep and narrow access
having slim head and solid carbide shank.



Standard Type	
Model	ST20W-NBS6-250 < NBN6 Nut included >
Remarks : Collet and Wrench are not included. Weight : 1.20 kg	
Set Type	
Model	SST20W-NBS6-250
Standard Accessory : NBN 6 nut NBK 6 wrench (2 pcs) NBC collets {NBC6 - 3, 4, 5, 6 (AA)}	

For WRENCH **P88**

For PERFECT SEAL **P98**

For ST LOCK **P109**

Application Example

Spindle Speed : 1,000 min⁻¹
 Cutting Feed : 0.1mm/rev.
 Cutting Depth : 0.5mm
 Cutter : 5mm Solid Carbide End Mill
 Workpiece : Cast Iron G025 (DIN)
 FC25 (JIS)

NEW HI-POWER MILLING CHUCK

NEW HI-POWER MILLING CHUCK ensures high accuracy, high rigidity and powerful gripping force for Carbide Cylindrical Shank New Baby Chuck.



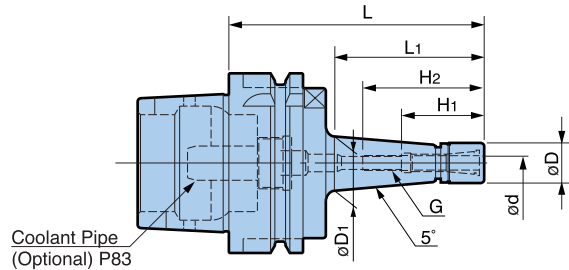
MEGA MICRO CHUCK[®] PAT. Clamping Range : $\varnothing 0.45 - \varnothing 6.05$

Type T

Taper-off design minimizes interference and maximizes rigidity.



MAX.
35,000
min⁻¹



Model	Clamping Range $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H ₁	H ₂	G	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-A40-MEGA3S- 75T	0.45 - 3.25	10	14.5	75	40	22	38	M4 P0.7	32,000	NBC 3S-□	0.28
			17.3	90	56				28,000		0.31
-MEGA4S- 60T	0.45 - 4.05	12	13.9	60	26	26.5	44	M5 P0.8	35,000	NBC 4S-□	0.27
- 75T			16.7	75	42				32,000		0.30
- 90T			19.3	90	58				28,000		0.33
-105T			22.1	105	73				25,000		0.37
-MEGA6S- 60T ※			15.6	60	27				40		—
- 75T	18.4	75	43	28.5	49	M7 P0.75	32,000	0.31			
- 90T	21.1	90	59				28,000	0.34			
-105T	23.9	105	74				25,000	0.39			
HSK-A50-MEGA3S-105T	0.45 - 3.25	10	18.9				105	65	22	38	M4 P0.7
-MEGA4S-105T	0.45 - 4.05	12	20.6	105	65	26.5	47	M5 P0.8	25,000	NBC 4S-□	0.58
-MEGA6S-105T	0.45 - 6.05	14	22.2	105	65	28.5	49	M7 P0.75	25,000	NBC 6S-□	0.60
HSK-A63-MEGA3S- 75T	0.45 - 3.25	10	13.6	75	35	22	38	M4 P0.7	32,000	NBC 3S-□	0.8
- 90T			16.2	90	50				28,000		0.8
-120T			21.5	120	80				25,000		0.9
-MEGA4S- 60T	0.45 - 4.05	12	13.0	60	23	26.5	37	M5 P0.8	35,000	NBC 4S-□	0.8
- 75T			15.4	75	35				32,000		0.8
- 90T			18.0	90	50				28,000		0.9
-105T			20.6	105	65				25,000		0.9
-120T			23.3	120	80				22,000		0.9
-135T			25.9	135	95				20,000		1.0
-MEGA6S- 60T			0.45 - 6.05	14	15.4				60		23
- 75T	17.0	75			35	48	32,000	0.8			
- 90T	19.6	90			50	49	28,000	0.9			
-105T	22.2	105			65		25,000	0.9			
-120T	24.8	120			80		22,000	1.0			
-135T	27.5	135			95		20,000	1.0			

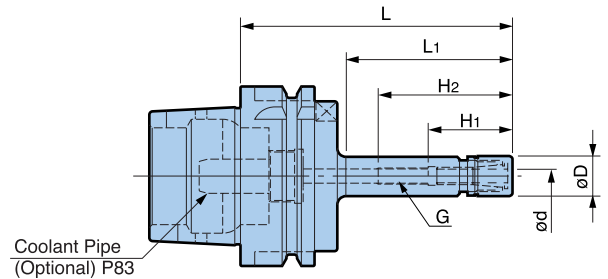
- MEGA NUT is included.
- Coolant pipe is ordered separately.
(Mega Micro Chuck is not designed to be capable of coolant through the body.)
- For models with the mark of ※, there is no internal thread.

Type S

Micro diameter design is ideal for high speed applications in tight areas with small diameter cutting tools.



**MAX.
30,000
min⁻¹**



Model	Clamping Range ød	øD	L	L1	H1	H2	G	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-A40-MEGA3S- 60	0.45 - 3.25	10	60	25	22	39	M4 P0.7	30,000	NBC 3S-□	0.26
-MEGA4S- 60	0.45 - 4.05	12	60	25	26.5	44	M5 P0.8	30,000	NBC 4S-□	0.26
- 90			90	55		47		25,000		0.29
-MEGA6S- 60 ※	0.45 - 6.05	14	60	26	28.5	40	—	30,000	NBC 6S-□	0.27
- 90			90	56		49	M7 P0.75	25,000		0.30
HSK-A50-MEGA3S- 75	0.45 - 3.25	10	75	35	22	38	M4 P0.7	30,000	NBC 3S-□	0.49
-MEGA4S- 75	0.45 - 4.05	12	75	35	26.5	47	M5 P0.8	30,000	NBC 4S-□	0.50
-MEGA6S- 75	0.45 - 6.05	14	75	35	28.5	49	M7 P0.75	30,000	NBC 6S-□	0.51
HSK-A63-MEGA3S- 60	0.45 - 3.25	10	60	22	22	35	M4 P0.7	30,000	NBC 3S-□	0.8
-MEGA4S- 75	0.45 - 4.05	12	75	35	26.5	48	M5 P0.8	30,000	NBC 4S-□	0.8
-105			105	60		47		25,000		0.8
-MEGA6S- 75	0.45 - 6.05	14	75	35	28.5	48	M7 P0.75	30,000	NBC 6S-□	0.8
-105			105	60		49		25,000		0.9

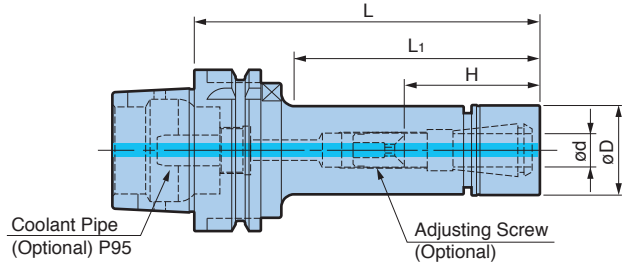
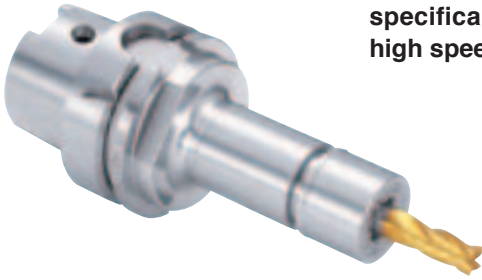
1. MEGA NUT is included.
2. Coolant pipe is ordered separately.
(Mega Micro Chuck is not designed to be capable of coolant through the body.)
3. For models with the mark of ※, there is no internal thread.

MEGA MICRO CHUCK	Spare Parts	Accessories			
	MEGA NUT	MEGA WRENCH	MICRO COLLET	MICRO COLLET PROTECTIVE CASE	α TAPER CLEANER
	Model	Model	Model	Model	Model
MEGA3S	MGN3S	MGR10	NBC3S-□	NBB3S	SC-NBC3S
MEGA4S	MGN4S	MGR12	NBC4S-□	NBB4S	SC-NBC4S
MEGA6S	MGN6S	MGR14	NBC6S-□	NBB6S	SC-NBC6S

MEGA NEW BABY CHUCK[®] PAT. Coolant-through hole Clamping Range : $\varnothing 0.25 - \varnothing 20$

The Body, Collet, Nut and Wrench are specifically designed to be ideal for high speed operations.

MAX.
35,000
min⁻¹



Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L ₁	H	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-A40-MEGA 6N- 60 ✱	0.25- 6	20	60	30.5	33	35,000	NBC 6-□	0.31
- 75			75	45.5	23 - 38	30,000		0.34
- 90			90	60.5	23 - 43	30,000		0.37
-MEGA 8N- 60 ✱	0.5 - 8	25	60	30.5	41	35,000	NBC 8-□	0.35
- 75			75	44.5	26 - 38	30,000		0.39
- 90			90	59.5	26 - 44	30,000		0.44
-MEGA10N- 60 ✱	1.5 - 10	30	60	27	40	35,000	NBC10-□	0.42
- 75 ✱			75	39	55	30,000		0.49
- 90			90	54	38 - 48	30,000		0.56
-MEGA13N- 75 ✱	2.5 - 13	35	75	55	55	25,000	NBC13-□	0.55
- 90 ✱			90	70	64	25,000		0.64
-MEGA16N- 75 ✱	2.5 - 16	42	75	55	53	20,000	NBC16-□	0.65
- 90 ✱			90	70	63	15,000		0.78
-MEGA20N- 90 ✱	2.5 - 20	46	90	70	66	15,000	NBC20-□	0.86

- MEGA NUT is included.
- Coolant pipe is ordered separately.
- "H" indicates the adjustment length with an Adjusting Screw.
- Adjusting screws can not be used with ✱ marked models.

		Spare Parts		Accessories						
		MEGA NUT		MEGA WRENCH	NBC COLLET	SEALING NUT MEGA PERFECT SEAL	ADJUSTING SCREW			
MEGA NEW BABY CHUCK		Model		Model	Model	Model	Model	G	L	B
MEGA 6N	MGN 6	MGR20	NBC 6-□	MPS 6-□	NBA 6B	M 7	12	2		
MEGA 8N	MGN 8	MGR25	NBC 8-□	MPS 8-□	NBA 8B	M 9	13	2.5		
MEGA10N	MGN10	MGR30	NBC10-□	MPS10-□	NBA10B	M11	16	3		
MEGA13N	MGN13	MGR35	NBC13-□	MPS13-□	NBA13B	M14	20	4		
MEGA16N	MGN16	MGR42	NBC16-□	MPS16-□	NBA16B	M18	20	4		
MEGA20N	MGN20	MGR46	NBC20-□	MPS20-□	NBA20B	M21	20	4		

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

 For HSK-A63 & A100, refer to the following page.

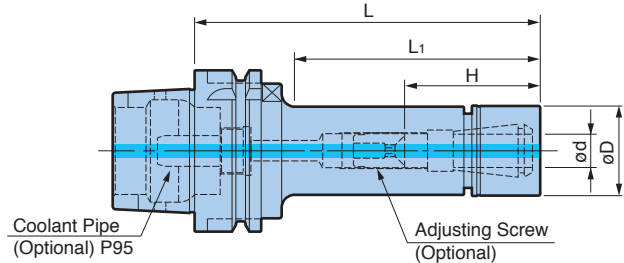
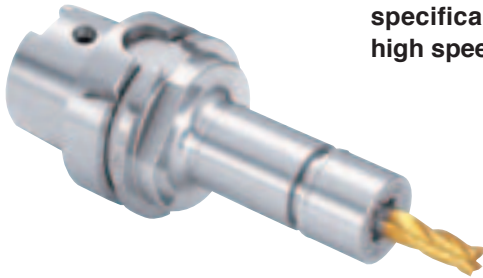
Model	Clamping Range ød	øD	L	L ₁	H	Max. min ⁻¹	Collet Model	Weight (kg)	
HSK-A50-MEGA 6N- 60 ※	0.25- 6	20	60	26	35	35,000	NBC 6-□	0.5	
- 75			75	35	23 - 43	30,000		0.6	
-100			100	60		25,000		0.6	
-120			120	80		23,000		0.7	
-135			135	93		20,000		0.7	
-165			165	123		15,000		0.8	
-MEGA 8N- 60 ※	0.5 - 8	25	60	26		34	35,000	NBC 8-□	0.5
- 75			75	35	26 - 37	30,000	0.6		
-100			100	60	26 - 45	28,000	0.7		
-120			120	80		25,000	0.8		
-135			135	95		20,000	0.8		
-165			165	125		15,000	0.9		
-MEGA10N- 60 ※	1.5 - 10	30	60	27		35	35,000	NBC10-□	0.6
- 75			75	37		46	33,000		0.7
-100			100	62	38 - 48	25,000	0.8		
-120			120	82		20,000	0.9		
-135			135	97		15,000	1.0		
-165			165	127		15,000	1.1		
-MEGA13N- 65 ※	2.5 - 13	35	65	30		39	30,000	NBC13-□	0.7
- 75			75	39		46	28,000		0.7
-100			100	64	44 - 56	25,000	0.9		
-120			120	84	44 - 73	20,000	1.0		
-135			135	99		18,000	1.1		
-165			165	129		15,000	1.4		
-MEGA16N- 75 ※	2.5 - 16	42	75	49		48	28,000	NBC16-□	1.0
-100			100	74		48 - 55	20,000		1.1
-120			120	94		48 - 68	15,000		1.3
-135			135	109	10,000		1.4		
-165			165	139	10,000		1.7		
-MEGA20N- 75 ※			2.5 - 20	46	75		49		69
-100	100	74			51 - 68		15,000	1.3	
-120	120	94					13,000	1.6	
-135	135	109				10,000	1.8		
-165	165	139				8,000	2.2		

1. MEGA NUT is included.
2. Coolant pipe is ordered separately.
3. "H" indicates the adjustment length with an Adjusting Screw.
4. Adjusting screws can not be used with ※ marked models.

MEGA NEW BABY CHUCK[®] PAT. Coolant-through hole Clamping Range : $\varnothing 0.25 - \varnothing 20$

The Body, Collet, Nut and Wrench are specifically designed to be ideal for high speed operations.

**MAX.
35,000
min⁻¹**





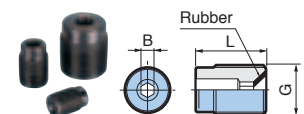


Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L ₁	H	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-A63-MEGA 6N- 75	0.25 - 6	20	75	35	23 - 38	35,000	NBC 6-□	0.9
- 90			90	48	23 - 43	30,000		0.9
-105			105	63		30,000		0.9
-120			120	76	25,000	1.0		
-135			135	91	20,000	1.0		
-165			165	121	15,000	1.0		
-MEGA 8N- 75	0.5 - 8	25	75	35	26 - 38	35,000	NBC 8-□	0.9
- 90			90	50	26 - 45	30,000		1.0
-105			105	63		30,000		1.0
-120			120	76	25,000	1.1		
-135			135	91	20,000	1.1		
-165			165	121	15,000	1.2		
-MEGA10N- 75 ※	1.5 - 10	30	75	35	50	33,000	NBC10-□	1.0
- 90			90	50	38 - 45	33,000		1.0
-105			105	63	38 - 48	25,000		1.1
-120			120	78		25,000		1.2
-135			135	93	20,000	1.3		
-165			165	123	15,000	1.4		
-MEGA13N- 75 ※	2.5 - 13	35	75	37	49	30,000	NBC13-□	1.0
- 90			90	50	64	30,000		1.1
-105			105	65	44 - 56	25,000		1.2
-120			120	80	20,000	1.3		
-135			135	95	44 - 63	20,000		1.4
-165			165	125	15,000	1.7		
-MEGA16N- 75 ※	2.5 - 16	42	75	37	48	30,000	NBC16-□	1.1
- 90			90	52	63	25,000		1.3
-105			105	67	48 - 54	20,000		1.4
-120			120	82	48 - 68	15,000		1.5
-135			135	97		15,000		1.7
-165			165	127	10,000	2.0		
-200	200	162	8,000	2.4				
-MEGA20N- 75 ※	2.5 - 20	46	75	39	51	30,000	NBC20-□	1.2
- 90			90	54	61	25,000		1.4
-105			105	69	51 - 54	20,000		1.5
-120			120	84	51 - 68	15,000		1.7
-135			135	99		15,000		1.8
-165			165	129	10,000	2.3		
-200	200	164	8,000	2.7				

1. MEGA NUT is included.
 2. Coolant pipe is ordered separately.
 3. "H" indicates the adjustment length with an Adjusting Screw.
 4. Adjusting screws can not be used with ※ marked models.

Model	Clamping Range ød	øD	L	L ₁	H	Max. min ⁻¹	Collet Model	Weight (kg)				
HSK-A100-MEGA 6N- 90	0.25 - 6	20	90	43	23 - 43	20,000	NBC 6- □	2.5				
-105			105	58		18,000		2.5				
-120			120	73		18,000		2.5				
-135			135	88		14,000		2.5				
-165			165	113		12,000		2.6				
-MEGA 8N- 90			90	43		20,000		2.5				
-105	0.5 - 8	25	105	58	26 - 45	18,000	NBC 8- □	2.6				
-120			120	73		18,000		2.6				
-135			135	88		14,000		2.7				
-165			165	113		14,000		2.7				
-MEGA10N- 90			1.5 - 10	30		90		43	38 - 45	20,000	NBC10- □	2.6
-105						105		58		18,000		2.7
-120	120	73			18,000	2.7						
-135	135	83			14,000	2.8						
-165	165	113			14,000	3.0						
-MEGA13N- 90 ※	2.5 - 13	35			90	43	44 - 63	18,000		NBC13- □		2.7
-105 ※			105	58	70	16,000		2.8				
-120			120	73	16,000	2.9						
-135			135	88	14,000	3.0						
-165			165	118	14,000	3.2						
-200			200	148	10,000	3.5						
-MEGA16N- 90 ※	2.5 - 16	42	90	47	48 - 68	15,000	NBC16- □	2.8				
-105 ※			105	58		70		14,000	2.9			
-120			120	73		14,000		3.1				
-135			135	88		13,000		3.2				
-165			165	118		13,000		3.6				
-200			200	148		10,000		4.0				
-MEGA20N- 90 ※	2.5 - 20	46	90	47	51 - 68	15,000	NBC20- □	2.9				
-105 ※			105	58		70		14,000	3.0			
-120			120	73		14,000		3.2				
-135			135	88		13,000		3.3				
-165			165	118		13,000		3.8				
-200			200	148		10,000		4.3				

- MEGA NUT is included.
- Coolant pipe is ordered separately.
- "H" indicates the adjustment length with an Adjusting Screw.
- Adjusting screws can not be used with ※ marked models.

Spare Parts		Accessories								
MEGA NUT 		MEGA WRENCH 		NBC COLLET P104 For ENDMILL COLLET P105 		SEALING NUT MEGA PERFECT SEAL P108 		ADJUSTING SCREW 		
MEGA NEW BABY CHUCK	Model	Model	Model	Model	Model	Model	G	L	B	
MEGA 6N	MGN 6	MGR20	NBC 6- □	MPS 6- □	NBA 6B	M 7	12	2		
MEGA 8N	MGN 8	MGR25	NBC 8- □	MPS 8- □	NBA 8B	M 9	13	2.5		
MEGA10N	MGN10	MGR30	NBC10- □	MPS10- □	NBA10B	M11	16	3		
MEGA13N	MGN13	MGR35	NBC13- □	MPS13- □	NBA13B	M14	20	4		
MEGA16N	MGN16	MGR42	NBC16- □	MPS16- □	NBA16B	M18	20	4		
MEGA20N	MGN20	MGR46	NBC20- □	MPS20- □	NBA20B	M21	20	4		

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

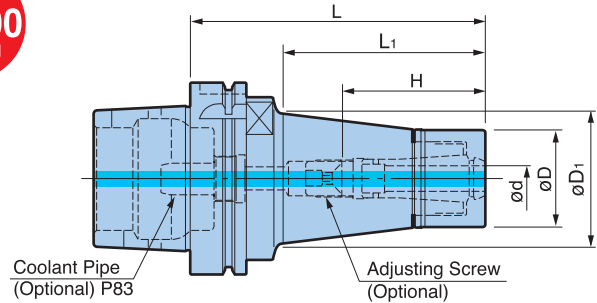
MEGA E CHUCK[®] PAT. Clamping Range : $\varnothing 3.0 - \varnothing 12$

Coolant-through hole

Collet chuck designed exclusively for endmilling with high concentricity and rigidity.



MAX.
35,000
min⁻¹





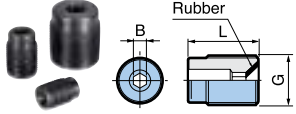


Model	Clamping Range $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H	Max. min ⁻¹	Collet Model	Weight (kg)	
HSK-A40-MEGA 6E- 60 ※	3 - 6	25	25.6	60	24	41	35,000	MEC 6-□	0.39	
- 75 ※			28.2	75	39	55	35,000		0.45	
- 90 ※			28.3	90	54	37 - 45	25,000		0.52	
-MEGA 8E- 65 ※	3 - 8	30	33.6	65	30	44	35,000	MEC 8-□	0.46	
- 75 ※			33.6	75	40	54	30,000		0.51	
- 90 ※			33.6	90	55	42 - 51	25,000		0.61	
-MEGA 10E- 70 ※	3 - 10	35	35	70	35	48	30,000	MEC10-□	0.52	
- 90 ※			35	90	55	48 - 52	25,000		0.67	
-MEGA 13E- 70 ※	3 - 12	42	42	70	35	50	30,000	MEC13-□	0.62	
- 90 ※			42	90	55	67	25,000		0.81	
HSK-A50-MEGA 6E- 75	3 - 6	25	28.5	75	35	37 - 43	30,000	MEC 6-□	0.6	
-100			32.8	100	63	37 - 45	28,000		0.8	
-MEGA 8E- 75 ※	3 - 8	30	33.2	75	38	42	30,000	MEC 8-□	0.7	
-100			36.2	100	56	42 - 51	28,000		0.9	
-MEGA 10E- 75 ※	3 - 10	35	38.1	75	39.5	48	30,000	MEC10-□	0.8	
-100			39.8	100	56	48 - 58	25,000		0.9	
-MEGA 13E- 75 ※	3 - 12	42	-	75	49	50	30,000	MEC13-□	0.9	
-100			-	100	74	50 - 55	25,000		1.1	
HSK-A63-MEGA 6E- 65 ※	3 - 6	25	26.2	65	28	45	30,000	MEC 6-□	0.9	
- 90 ※			30	90	50	37 - 45	29,000		1.0	
-105			32.6	105	65				1.1	
-120			35.3	120	80				1.2	
-135			37.9	135	95	27,000	1.4			
-MEGA 8E- 67 ※	3 - 8	30	31.3	67	30	45	30,000	MEC 8-□	0.9	
- 90 ※			34.8	90	50	37 - 45	30,000		1.1	
-105			37.6	105	66	42 - 51	29,000		1.2	
-120			40.4	120	82		28,000		1.4	
-135			43.2	135	98		27,000		1.6	
-MEGA 10E- 75 ※	3 - 10	35	37.4	75	37	48	30,000	MEC10-□	1.1	
- 90 ※			40	90	52	64			1.2	
-105			42.8	105	68	48 - 58			29,000	1.4
-120			43.3	120	83				28,000	1.5
-135			42.8	135	98				27,000	1.7
-MEGA 13E- 75 ※	3 - 12	42	43	75	31	49	30,000	MEC13-□	1.2	
- 90 ※			44.8	90	45	64	30,000		1.4	
-105			45.7	105	60	50 - 57	29,000		1.6	
-120			47.3	120	76		28,000		1.8	
-135			46.6	135	91		26,000		1.9	

- MEGA E NUT is included.
- Coolant pipe is ordered separately.
- "H" indicates the adjustment length with an Adjusting Screw.
- Adjusting screws can not be used with ※ marked models.

Model	Clamping Range ød	øD	øD1	L	L1	H	Max. min ⁻¹	Collet Model	Weight (kg)		
HSK-A100-MEGA 6E- 75 ※	3 - 6	25	27.4	75	33	46	24,000	MEC 6-□	2.5		
- 90			29.5	90	48	37 - 45	20,000		2.6		
-105			32.1	105	63		18,000		2.7		
-120			34.7	120	78		14,000		2.8		
-135			37.4	135	93	42 - 51	24,000		MEC 8-□	2.9	
-165			42.6	165	122					20,000	2.6
-MEGA 8E- 75 ※			3 - 8	30	32.1					75	33
- 90	34.2	90			48	42 - 51	20,000	2.6			
-105	36.9	105			63		18,000	2.8			
-120	39.5	120			78		16,000	2.9			
-135	42.1	135			93	51	22,000	MEC10-□	3.1		
-165	47.4	165			123				20,000	2.6	
-MEGA 10E- 80 ※	3 - 10	35			37.4				80	38	51
- 90			39.1	90	48	61	20,000	2.7			
-105			41.8	105	63	48 - 58	18,000	2.9			
-120			44.4	120	78		16,000	3.1			
-135			47	135	93		53	20,000	MEC13-□	3.3	
-165			52.3	165	123	18,000				2.8	
-MEGA 13E- 82 ※			3 - 12	42	44.4	82				40	53
- 90	45.8	90			48	61	18,000	2.9			
-105	48.5	105			63	50 - 68	16,000	3.1			
-120	51.1	120			78		14,000	3.3			
-135	53.7	135			93		MEC13-□	3.6			
-165	59	165			123	4.2					

1. MEGA E NUT is included.
2. Coolant pipe is ordered separately.
3. "H" indicates the adjustment length with an Adjusting Screw.
4. Adjusting screws can not be used with ※ marked models.

Spare Parts		Accessories						
	MEGA E NUT 	MEGA WRENCH 	MEGA E COLLET 	SEALING NUT MEGA E PERFECT SEAL 	ADJUSTING SCREW 			
MEGA E CHUCK	Model	Model	Model	Model	Model	G	L	B
MEGA 6E	MEN 6	MGR25	MEC 6-□	EPS 6-□	NBA 6B	M 7	12	2
MEGA 8E	MEN 8	MGR30	MEC 8-□	EPS 8-□	NBA 8B	M 9	13	2.5
MEGA10E	MEN10	MGR35	MEC10-□	EPS10-□	NBA10B	M11	16	3
MEGA13E	MEN13	MGR42	MEC13-□	EPS13-□	NBA13B	M14	20	4

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

Coolant-through hole

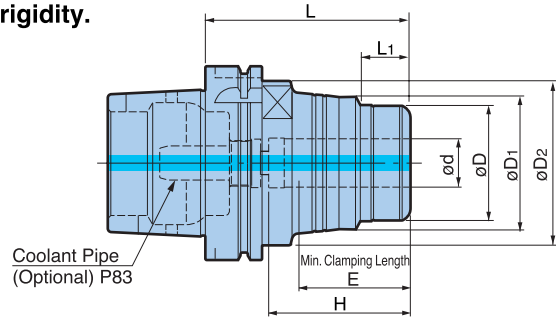
MEGA DOUBLE POWER CHUCK[®] PAT. Clamping Range : $\varnothing 16 - \varnothing 42$

Type D

Close to integral rigidity and precision of a solid toolholder.
Flange contacting nut assures highest rigidity.



MAX.
28,000
min⁻¹



Model	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	H	Min. Clamping Length E	Max. min ⁻¹	Weight (kg)	
HSK-A 40-MEGA16D- 80	16	46	-	-	80	27	61	50	12,000	0.75	
HSK-A 50-MEGA16D- 85	16	46	-	-	85	27	62	50	25,000	1.0	
-MEGA20D- 85 ※	20	50	-	-	86	32	63	51	20,000	1.05	
HSK-A 63-MEGA16D- 80	16	46	55	-	80	23.5	55	50	28,000	1.4	
- 90					90		65		28,000	1.6	
-105					105		71		26,000	1.9	
-135 ○					135		71		22,000	2.4	
-165 ○					165		71		22,000	2.9	
-MEGA20D- 90	20	55	55.7	-	90	34.7	65	56	28,000	1.7	
-105					105		80		26,000	1.6	
-120					120		85		25,000	2.2	
-135					135		85		20,000	2.5	
-165 △					165		85		22,000	3.1	
-MEGA25D-100	25	62	62.7	-	100	34.4	75	56	24,000	2.0	
-135 △					135		80		20,000	2.8	
-MEGA32D-105	32	70	70.7	-	105	34.9	80	65	24,000	2.2	
-135					135		90		20,000	2.9	
HSK-A100-MEGA16D-105	16	46	55	63	105	23.5	71	50	18,000	3.5	
-135 ○					135				71	16,000	4.1
-165 ○					165				71	12,000	4.7
-MEGA20D-105	20	60	69	74	105	25.5	73	56	18,000	4.1	
-135					135		85		16,000	5.0	
-165 △					165		85		15,000	5.9	
-MEGA25D-105	25	70	77	85	105	31.9	73	65	18,000	4.5	
-135					135		90		16,000	5.6	
-165 △					165		90		15,000	6.8	
-MEGA32D-115	32	80	86	85	115	39.6	83	71	18,000	5.0	
-135					135		103		16,000	5.8	
-165					165		105		14,000	7.1	
-MEGA42D-115	42	99	99.7	99.7	115	42	83	78	14,000	5.5	
-135					135		97		10,000	6.9	

1. Wrench is ordered separately.
2. Coolant pipe is ordered separately.
3. The dimension H shows how deep a tool can be inserted.
4. As a back stop of cutting tools, optional Adjusting Screw is available for models marked with △. Please refer to the following page.
For the models marked with ○, commercially available hex socket head screws can be used.
However, please contact an agent from BIG when the screw needs to be used with coolant through the body.
5. ※Straight Collet Type AC cannot be mounted in the HSK-A50-MEGA20D-85.
Other collets such as Type C and PJC are available.

For STRAIGHT COLLET P95

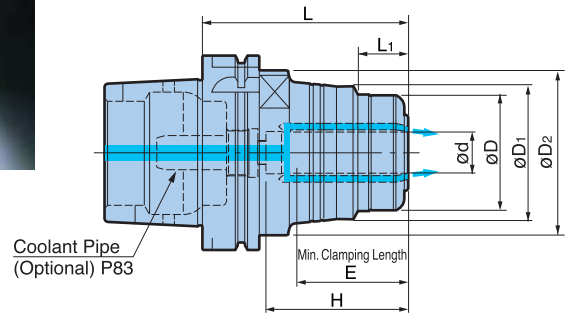
Coolant-through hole

For coolant to cutting tool periphery

Type DS For coolant to cutting tool periphery



MAX.
25,000
min⁻¹



Model	ød	øD	øD1	øD2	L	L1	H	Min. Clamping Length E	Max. min ⁻¹	Weight (kg)
HSK-A 40-MEGA16DS- 80	16	46	-	-	82.4	29.4	63	52	12,000	0.75
HSK-A 50-MEGA16DS- 85	16	46	-	-	87.4	29.4	64	52	25,000	1.0
-MEGA20DS- 85	20	50	-	-	88.4	34.4	65	53	20,000	1.05
HSK-A 63-MEGA16DS- 80	16	46	55	-	82.4	25.9	57	50	25,000	1.4
-MEGA20DS- 90	20	55	55.7	-	92.4	37.1	67	58	25,000	1.7
-120					122.4		87		23,000	2.2
-MEGA25DS-100	25	62	62.7	-	102.4	36.8	77	58	22,000	2.0
-MEGA32DS-105	32	70	70.7	-	107.4	37.3	82	67	22,000	2.2
HSK-A100-MEGA16DS-105	16	46	55	63	107.4	25.9	73	52	18,000	3.5
-135 ○					137.4				16,000	4.1
-MEGA20DS-105	20	60	69	74	107.4	27.9	87	58	18,000	4.1
-135					137.4				16,000	5.0
-165 △					167.4				15,000	5.9
-MEGA25DS-105	25	70	77	85	107.4	34.3	92	67	18,000	4.5
-135					137.4				16,000	5.6
-165 △					167.4				15,000	6.8
-MEGA32DS-115	32	80	86	85	117.4	42	105	73	18,000	5.0
-135					137.4				16,000	5.8
-165					167.4				14,000	7.1
-MEGA42DS-115	42	99	99.7	99.7	117	42	86	80	14,000	5.5

1. Wrench is ordered separately.
2. Coolant pipe is ordered separately.
3. The dimension H shows how deep a tool can be inserted.
4. Type DS provides coolant around the cutting tool periphery, even if used with a cutting tool with a through hole.
5. As a back stop of cutting tools, optional Adjusting Screw is available for models marked with △.
For the models marked with ○, commercially available hex socket head screws can be used.
However, please contact an agent from BIG when the screw needs to be used with coolant through the body.

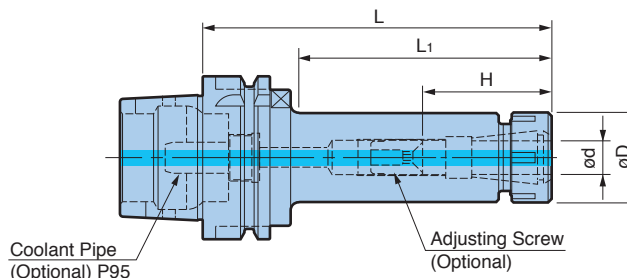
Accessories

MEGA DOUBLE POWER CHUCK	MEGA WRENCH	ADJUSTING SCREW					
	Model	Model	øD	L	L1	G	W
HSK-A 40-MEGA16D,16DS	MGR46	-	-	-	-	-	-
HSK-A 50-MEGA16D,16DS	MGR46	-	-	-	-	-	-
-MEGA20D,20DS	MGR50	-	-	-	-	-	-
HSK-A 63-MEGA16D,16DS	MGR46	-	-	-	-	-	-
-MEGA20D,20DS	MGR55	HMA-M16	19	27	6	M16P1.5	8
-MEGA25D,25DS	MGR62	HMA-M16	19	27	6	M16P1.5	8
-MEGA32D,32DS	MGR70	-	-	-	-	-	-
HSK-A100-MEGA16D,16DS	MGR46	-	-	-	-	-	-
-MEGA20D,20DS	MGR60	HMA-M16	19	27	6	M16P1.5	8
-MEGA25D,25DS	MGR70	HMA-M16	19	27	6	M24P1.5	8
-MEGA32D,32DS	MGR80	-	-	-	-	-	-
-MEGA42D,42DS	MGR99	-	-	-	-	-	-

Coolant-through hole

NEW BABY CHUCK PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$

Great variety in length in order to support high precision machining

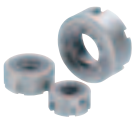

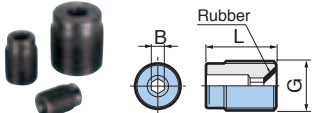


Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L ₁	H	Collet Model	Weight (kg)
HSK-A40-NBS 6- 60 ※	0.25- 6	20	60	27.5	40	NBC 6-□	0.31
- 90			90	57.5	20 - 40		0.37
-NBS 8- 60 ※	0.5 - 8	25	60	29.5	40	NBC 8-□	0.35
- 90			90	59.5	23 - 42		0.44
-NBS10- 75 ※	1.5 - 10	30	75	39	48	NBC10-□	0.49
-105			105	69	35 - 45		0.63
-NBS13- 75 ※	2.5 - 13	35	75	55	53	NBC13-□	0.55
-105			105	85	41 - 58		0.73
-NBS16- 75 ※	2.5 - 16	42	75	55	52	NBC16-□	0.65
- 90			90	70	67		0.78
-NBS20- 90 ※	2.5 - 20	46	90	70	65	NBC20-□	0.86
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	35	48	NBC13-□	1.0
-105			105	65	41 - 55		1.2
-135			135	95			41 - 60
-165			165	125	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
-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
-165			165	129	2.3		
-200			200	164	2.7		

1. NEW BABY NUT is included.
2. "H" indicates the adjustment length with an Adjusting Screw.
3. Adjusting screws can not be used with ※ marked models.
4. Coolant pipe is ordered separately.

Model	Clamping Range ød	øD	L	L1	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	55	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	55	NBC16-□	2.8
-120			120	73	45 - 65		3.1
-165			165	118			3.5
-200			200	148			3.9
-NBS20- 90 ※	2.5 - 20	46	90	47	55	NBC20-□	2.9
-120			120	73	48 - 65		3.3
-165			165	118			3.8
-200			200	148			4.2

1. NEW BABY NUT is included.
2. "H" indicates the adjustment length with an Adjusting Screw.
3. Adjusting screws can not be used with ※ marked models.
4. Coolant pipe is ordered separately.

Spare Parts		Accessories						
	NEW BABY NUT 	WRENCH 	NBC COLLET P104 For ENDMILL COLLET P105 	BABY PERFECT SEAL P110 	ADJUSTING SCREW  Rubber B L G			
NEW BABY CHUCK	Model	Model	Model	Model	Model	G	L	B
NBS 6	NBN 6	NBK 6	NBC 6-□	BPS 6-□	NBA 6B	M 7	12	2
NBS 8	NBN 8	NBK 8	NBC 8-□	BPS 8-□	NBA 8B	M 9	13	2.5
NBS10	NBN10	NBK10	NBC10-□	BPS10-□	NBA10B	M11	16	3
NBS13	NBN13	NBK13	NBC13-□	BPS13-□	NBA13B	M14	20	4
NBS16	NBN16	NBK16	NBC16-□	BPS16-□	NBA16B	M18	20	4
NBS20	NBN20	NBK20	NBC20-□	BPS20-□	NBA20B	M21	20	4

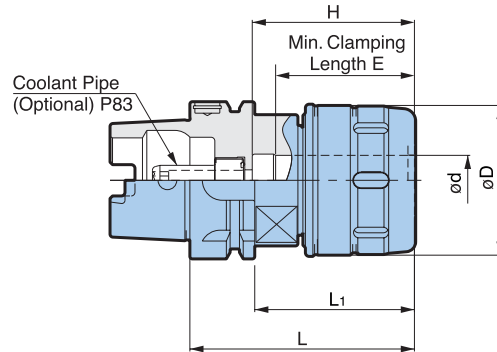
1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

 For TAP DRIVING BACK STOP P106

NEW Hi-POWER MILLING CHUCK

Coolant-through hole
Clamping Range : $\varnothing 20 - \varnothing 32$

BIG's original design of slit structure supports heavy and finish end milling with high power and precision.



Model	$\varnothing d$	$\varnothing D$	L	L ₁	H	Min. Clamping Length E	C-spanner Model	Weight (kg)
HSK-A63-HMC20- 90	20	52	90	64	65	56	FK52 - 55	1.5
-HMC25-100	25	62	100	—	75	65	FK58 - 62	2.0
-HMC32-110	32	70	110	—	85	65	FK68 - 75	2.3

1. Wrench is ordered separately.
2. Coolant pipe is ordered separately.

For STRAIGHT COLLET P95

Accessories		
	C-SPANNER	MEGA WRENCH ※
NEW Hi-POWER MILLING CHUCK	Model	Model
HSK-A63-HMC20	FK52-55	MGR52
-HMC25	FK58-62	MGR62
-HMC32	FK68-75	MGR70

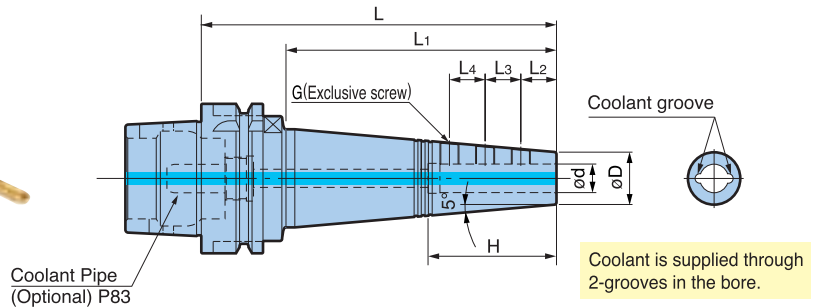
※ MEGA WRENCH is also available to clamp / release the clamping nut.

MOLD CHUCK

Coolant-through hole
Clamping Range : $\varnothing 3 - \varnothing 20$

MAX.
15,000
min⁻¹

Precision side lock holder to meet minimum interference, accuracy and high speed requirements.



Model	$\varnothing d$	$\varnothing D$	L	L ₁	L ₂	L ₃	L ₄	H	G	Max min ⁻¹	Weight (kg)			
HSK-A 63-SSL 3-135	3	10	135	99	6	6	—	—	M 3	15,000	1.0			
-SSL 4-135	4	11				7			M 4		1.0			
-SSL 6-135	6	13				12			13		1.1			
-SSL 8-135	8	15				13.5			18		1.1			
-SSL10-150	10	17	150	114	15	20	16	16	M 6	13,000	1.3			
-SSL12-150	12	22				16					60	1.5		
-SSL16-150	16	26				20					22	70	1.6	
HSK-A100-SSL 6-150	6	13				150					110	12	13	—
-200	200	160	13.5	18	—	—	9,000	3.2						
-SSL 8-150	8	15					150	110	20	13,000	2.8			
-200	200	160					9,000	3.2						
-SSL10-150	10	17					150	110	15	16	16	60	M 8	13,000
-200	200	160	9,000	3.3										
-SSL12-150	12	22	150	110	20	22	65	13,000						3.0
-200	200	160	9,000	3.7										
-SSL16-150	16	26	150	110	20	25	80	M 8	13,000	3.3				
-200	200	160	9,000	4.0										
-SSL20-150	20	30	150	110					20	25	80	13,000	3.4	
-200	200	160	9,000	4.2										

1. H dimension without values in the above table indicates that those models have a larger diameter hole behind the bore.
2. Coolant pipe is ordered separately.

● BIG genuine side lock screws must be used as they are made to an exclusive design and different from other screws on the market.

■ SIDE LOCK SCREWS

Model	Screw size	Screw Length / Quantity	Chuck Model
H0304FS	M3 P0.5	4mm / 2pcs.	SSL3
H0404FS	M4 P0.5	4mm / 2pcs.	SSL4
H06FSA	M6 P0.75	4.5, 5mm / 1pce. each	SSL6
H06FSB		4.5, 6mm / 1pce. each	SSL8,10
H08FSA	M8 P0.75	6mm / 2pcs. 8mm / 1pce.	SSL12
H08FSB		6, 8, 10mm / 1pce. each	SSL16,20

1. Each model consists of 1 set of screws required for 1 Mold Chuck.

SHRINK CHUCK

Coolant-through hole
Clamping Range : $\phi 6 - \phi 20$

SLIM Type



Slim design avoids interference with the side wall and draft of the mold.

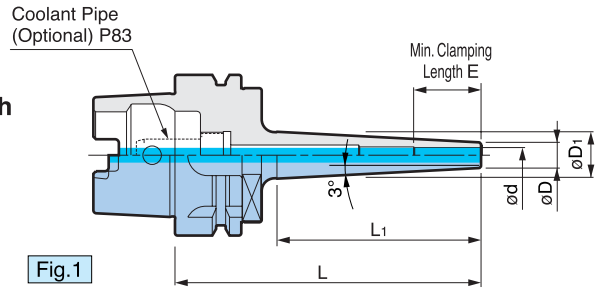


Fig.1

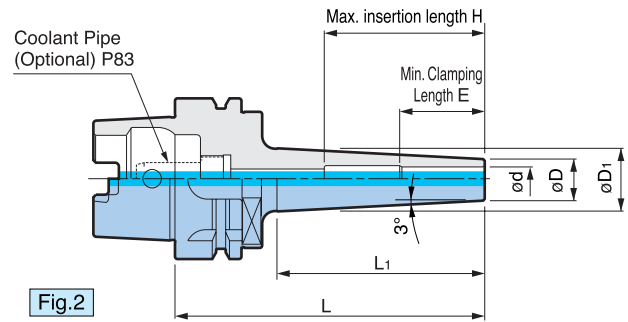


Fig.2

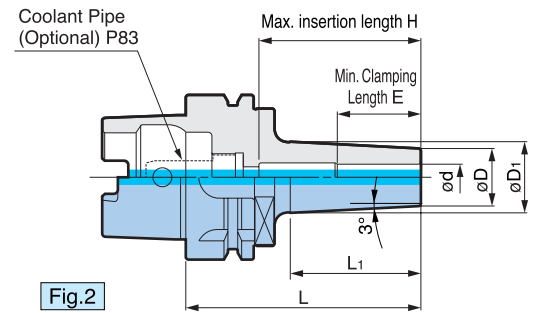
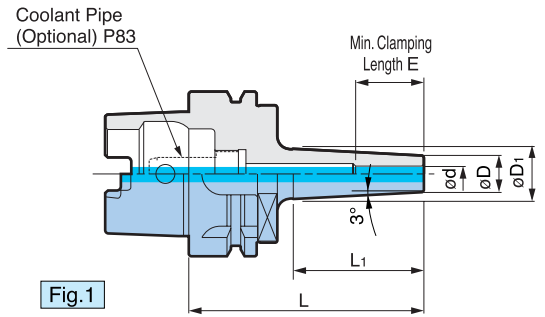
Model	Fig.	ϕd	ϕD	ϕD_1	L	L ₁	Min. Clamping Length E	Max. insertion length H	Weight (kg)
HSK-A40-SRC 6S-105	2	6	10	17.5	105	71.5	26	52	0.32
-SRC 8S-105		8	13	21.0		73.5			
-SRC10S-105		10	16	24.0		74.5			
-SRC12S-105		12	19	26.0		67			
HSK-A50-SRC 6S-105	1	6	10	17.0	105	65	26	-	0.62
-SRC 8S-105	2	8	13	20.0				52	0.65
-SRC10S-105		10	16	23.0				62	0.68
-SRC12S-105		12	19	26.0				72	0.71
HSK-A63-SRC 6S-120	1	6	10	18.5	120	80	26	-	0.9
-165				22.5	165	120			1.0
-SRC 8S-120	2	8	13	21.5	120	80	32	52	0.9
-165				26.0	165	122			1.1
-SRC10S-120		10	16	24.5	120	80	32	62	1.0
-165				29.0	165	122			1.1
-SRC12S-120		12	19	27.5	120	80	36	72	1.0
-165				32.0	165	124			1.2

1. Use carbide cutter within a tolerance of h6.
2. Coolant pipe is ordered separately.

Please refer to the operation manual of heating / cooling equipment, as some equipments may not be compatible.

Wiper Cleaner (PAT.P) is recommended to clean the clamping bore. P110

STANDARD Type



Model	Fig.	ød	øD	øD1	L	L1	Min. Clamping Length E	Max. insertion length H	Weight (kg)					
HSK-A 40-SRC 6- 75	2	6	14	18.5	75	42.5	26	52	0.31					
-SRC 8- 75		8	18	22.5		44.5			0.34					
-SRC10- 75		10	22	26.0		37			0.42					
-SRC12- 75		12	24	28.0		38			0.43					
HSK-A 50-SRC 6- 75	1	6	14	17.5	75	35	26	-	0.61					
-SRC 8- 75	2	8	18	21.5					32	0.64				
-SRC10- 75		10	22	25.5						52	0.67			
-SRC12- 75		12	24	28.0							37	0.69		
-SRC16- 75		16	28	32.0								38	0.71	
HSK-A 63-SRC 6- 90	1	6	14	19.0	90	50	26	-	0.9					
-SRC 8- 90	2	8	18	23.0					32	0.9				
-SRC10- 90		10	22	27.0						36	1.0			
-SRC12- 90		12	24	29.0							38	1.0		
-SRC16- 90		16	28	33.0								100	1.0	
-165				40.5									118	1.7
-SRC20- 90				39.5									90	52
-165	20	34	46.5	165	121	42	100	1.9						
HSK-A100-SRC 6-105	1	6	14	20.0	105	57	26	-	2.5					
-165				26.5	165	117			2.7					
-SRC 8-105				8	18	24.0			105	57	2.5			
-165		30.5	165			117			2.8					
-SRC10-105		10	22			28.0			105	57	2.6			
-165				34.5	165	117			2.9					
-SRC12-105	12			24	30.0	105	57	32	72	2.6				
-165		36.5	165		117	36	3.0							
-SRC16-105		16	28		34.0		105			57	38	2.7		
-165					40.5		165			117		80	3.1	
-SRC20-105					40.0	105	57			42			72	2.8
-165		20	34		46.5	165	117				42	100	3.4	

1. Use carbide cutter within a tolerance of h6.
2. Coolant pipe is ordered separately.

Please refer to the operation manual of heating / cooling equipment, as some equipment may not be compatible.

α Wiper Cleaner (PAT.P) or TK Cleaner (PAT.) is recommended to clean the clamping bore.

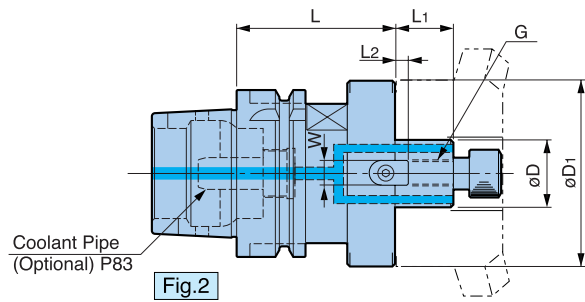
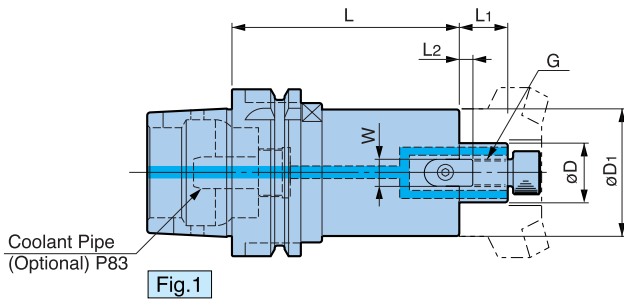
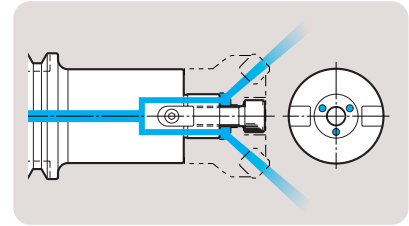


FACE MILL ARBOR Type FMH

Coolant-through hole



For cutters that require a coolant hole through the pilot.



Model	Fig.	øD (h6)	øD1	L	L1	Drive keys		G	Weight (kg)
						L2	W		
HSK-A 63-FMH22 - 47- 45	1	22	47	45	18	5	10	M10	1.1
				60					1.3
				90					1.7
				150					2.5
-FMH27 - 60- 60	2	27	60	60	20	6	12	M12	1.6
				90					2.3
-FMH22.225- 47- 45	1	22.225	47	45	18	3.5	8	M10	1.1
				60					1.3
				90					1.7
				150					2.5
-FMH25.4 - 70- 60	2	25.4	70	60	22	5	9.5	M12	1.8
				90					2.5
				150					4.1
-FMH31.75 - 76- 60	2	31.75	76	60	30	7	12.7	M16	2.0
				90					2.7
HSK-A100-FMH22 - 47-105	1	22	45	105	18	5	10	M10	3.4
				150					4.0
				200					4.7
				250					5.4
-FMH22 - 60- 60	1	22	60	60	18	5	10	M10	2.9
				105					3.9
				150					5.4
				200					6.1
				250					7.2
-FMH27 - 60- 60	1	27	60	60	20	6	12	M12	2.9
				90					3.7
				150					5.0
-FMH27 - 76- 60	1	27	76	60	20	6	12	M12	3.2
				90					4.3
				150					6.5
-FMH32 - 96- 60	2	32	96	60	22	7	14	M16	3.8
				90					5.5
				150					8.9
-FMH40 -100- 75	2	40	100	75	26	8.5	16	M20	4.9
				105					6.8

1. By utilizing a clamping bolt with a hole through, coolant is supplied through the bolt.
 2. Coolant pipe is ordered separately.

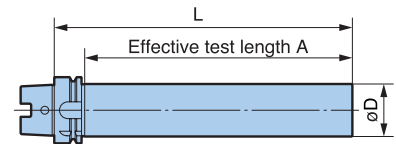
Model	Fig.	øD (h6)	øD ₁	L	L ₁	Drive keys		G	Weight (kg)
						L ₂	W		
HSK-A100-FMH22.225- 47-105	1	22.225	47	105	17	3.5	8	M10	3.4
-150				150					4.0
-200				200					4.7
-250				250					5.3
-FMH22.225- 60- 60	1	22.225	60	60	17	3.5	8	M10	2.9
-105				105					3.9
-150				150					4.9
-200				200					6.1
-FMH25.4 - 70- 60	1	25.4	70	60	22	5	9.5	M12	3.2
- 90				90					4.1
-150				150					5.9
-200				200					7.4
-FMH31.75 - 76- 60	1	31.75	76	60	30	7	12.7	M16	3.6
- 90				90					4.5
-105				105					5.0
-150				150					6.6
-FMH31.75 - 96- 60	2	31.75	96	60	30	7	12.7	M16	3.9
- 90				90					5.5
-105				105					6.4
-150				150					9.0
-FMH38.1 -100- 60	2	38.1	100	60	34	9	15.9	M12	4.1
- 90				90					5.9
-105				105					6.8
-150				150					9.6

1. By utilizing a clamping bolt with a hole through, coolant is supplied through the bolt.
2. Coolant pipe is ordered separately.

DYNA TEST



For inspection and adjustment of machine spindle.



Aluminum box

With in Aluminum box for strage.



Model	L	A	øD
HSK-A 40-32-L180SD	180	157	32
-A 50-32-L240SD	240	211	32
-A 63-50-L200SD	200	171	50
-L350SD	350	321	
-A100-50-L200SD	200	168	50
-L350SD	350	318	

1. The drive key slots are symmetrical to allow the HSK form A Dyna Test Bar to be indexed 180 degrees.

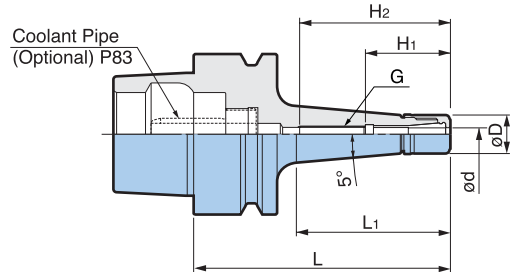
MEGA MICRO CHUCK® PAT. Clamping Range : \varnothing 0.45 - \varnothing 6.05

Type T



Extremely slim design of body and nut provides superior balance and concentricity and is ideal for reaching into confined areas.

MAX.
50,000
min⁻¹

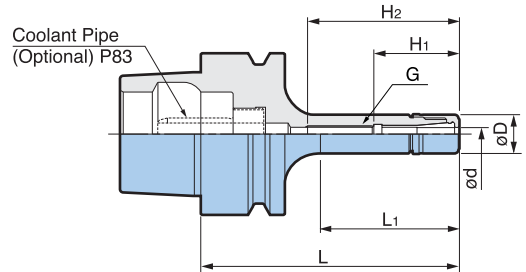


Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L1	H1	H2	G	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-E25-MEGA3S- 45T ※	0.45 - 3.25	10	45	32	22	32	—	50,000	NBC3S-□	0.06
			60	48		38	M4 P0.7	40,000		0.08
-MEGA4S- 45T ※	0.45 - 4.05	12	45	32	26.5	32	—	50,000	NBC4S-□	0.07
			60	48		41	M5 P0.8	40,000		0.10
-MEGA6S- 45T ※	0.45 - 6.05	14	45	32	28.5	31	—	50,000	NBC6S-□	0.08
			60	48		40	M7 P0.75	40,000		0.10
HSK-E32-MEGA3S- 60T	0.45 - 3.25	10	60	34	22	38	M4 P0.7	40,000	NBC3S-□	0.15
			75	49		38		40,000		0.17
-MEGA4S- 45T ※	0.45 - 4.05	12	45	23	26.5	26	—	50,000	NBC4S-□	0.14
			60	34		46	M5 P0.8	40,000		0.16
-MEGA6S- 45T ※	0.45 - 6.05	14	45	23	28.5	28	—	50,000	NBC6S-□	0.14
			60	35		38	M7 P0.75	40,000		0.17
HSK-E40-MEGA3S- 60T	0.45 - 3.25	10	60	34	22	39	M4 P0.7	40,000	NBC3S-□	0.23
			75	49		38		40,000		0.25
-MEGA4S- 60T	0.45 - 4.05	12	60	34	26.5	44	M5 P0.8	40,000	NBC4S-□	0.24
			75	49		47		40,000		0.27
-MEGA6S- 60T ※	0.45 - 6.05	14	60	34	28.5	28	—	40,000	NBC6S-□	0.24
			75	49		49	M7 P0.75	40,000		0.28
- 90T			90	64		49		40,000		0.32
HSK-E50-MEGA3S- 80T	0.45 - 3.25	10	80	48	22	38	M4 P0.7	40,000	NBC3S-□	0.46
-MEGA4S- 80T	0.45 - 4.05	12			26.5	47	M5 P0.8	40,000	NBC4S-□	0.47
-MEGA6S- 80T	0.45 - 6.05	14			28.5	49	M7 P0.75	40,000	NBC6S-□	0.48

1. MEGA NUT is included.
2. For models with the mark of ※, there is no internal thread.
3. Coolant pipe is ordered separately.
(Mega Micro Chuck is not designed to be capable of coolant through the body.)






Type S


MAX.
50,000
min⁻¹



Model	Clamping Range ød	øD	L	L ₁	H ₁	H ₂	G	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-E25-MEGA3S-35 ●	0.45 - 3.25	10	35	22	22	24	M4 P0.7	50,000	NBC3S-□	0.05
-MEGA4S-35 ※ ●			35	22	26	26	—	50,000	NBC4S-□	0.06
-45 ※	0.45 - 4.05	12	45	30	26.5	32	—	50,000		NBC4S-□
-60			60	45		47	M5 P0.8	40,000	0.08	
-MEGA6S-45 ※	0.45 - 6.05	14	45	32	28	31	—	50,000	NBC6S-□	0.07
-60			60	46	28.5	41	M7 P0.75	40,000		0.08
HSK-E32-MEGA3S-45 ※	0.45 - 3.25	10	45	22	22	31	—	50,000	NBC3S-□	0.13
-MEGA4S-45	0.45 - 4.05	12	45	22	26.5	31	M5 P0.8	50,000	NBC4S-□	0.14
-60			60	33		46		40,000		0.15
-MEGA6S-45 ※	0.45 - 6.05	14	45	22	28.5	28	—	50,000	NBC6S-□	0.14
-60			60	34		38	M7 P0.75	40,000		0.15
HSK-E40-MEGA3S-40 ※	0.45 - 3.25	10	40	19	22	24	—	50,000	NBC3S-□	0.21
-MEGA4S-40 ●	0.45 - 4.05	12	40	19	26.5	27	M5 P0.8	50,000	NBC4S-□	0.21
-60			60	33		44		40,000		0.23
-MEGA6S-45 ※	0.45 - 6.05	14	45	23	28.5	27	—	50,000	NBC6S-□	0.22
-60 ※			60	34		28	—	40,000		0.23
HSK-E50-MEGA3S-50 ※	0.45 - 3.25	10	50	20	22	35	—	45,000	NBC3S-□	0.42
-MEGA4S-50 ※	0.45 - 4.05	12	50	21	26.5	30	—	45,000	NBC4S-□	0.43
-80			80	43		47	M5 P0.8	40,000		0.45
-MEGA6S-55 ※	0.45 - 6.05	14	55	26	28.5	35	—	45,000	NBC6S-□	0.43
-80			80	43		49	M7 P0.75	40,000		0.46

- MEGA NUT is included.
- For models with the mark of ※, there is no internal thread.
- Coolant pipe can not be used with ● marked models.
- Coolant pipe is ordered separately.
(Mega Micro Chuck is not designed to be capable of coolant through the body.)

	Spare Parts	Accessories			
	MEGA NUT	MEGA WRENCH	MICRO COLLET	MICRO COLLET PROTECTIVE CASE	α TAPER CLEANER
			 P91		
MEGA MICRO CHUCK	Model	Model	Model	Model	Model
MEGA3S	MGN3S	MGR10	NBC3S-□	NBB3S	SC-NBC3S
MEGA4S	MGN4S	MGR12	NBC4S-□	NBB4S	SC-NBC4S
MEGA6S	MGN6S	MGR14	NBC6S-□	NBB6S	SC-NBC6S

Coolant-through hole

MEGA NEW BABY CHUCK[®] PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$

High speed design utilizes ultra precision New Baby Collet which guarantees a runout at the collet nose of less than 1 micron.



MAX.
40,000
min⁻¹

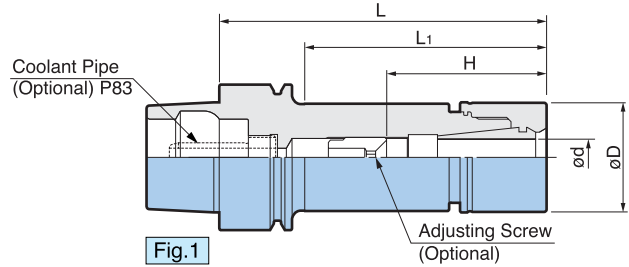


Fig.1

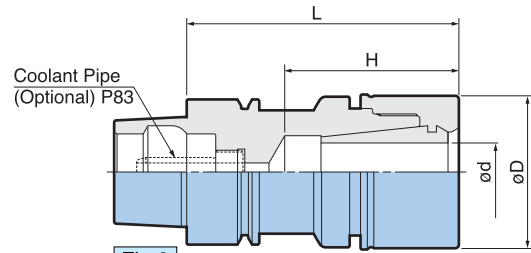


Fig.2

Model	Fig.	Clamping Range $\varnothing d$	$\varnothing D$	L	L ₁	H	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-E25-MEGA 6N- 40 ※	1	0.25 - 6	20	40	28	25	30,000	NBC 6- □	0.10
8N- 45 ※	2	0.5 - 8	25	45	—	30	25,000	NBC 8- □	0.12
10N- 60 ※		1.5 - 10	30	60	—	45	20,000	NBC10- □	0.17
HSK-E32-MEGA 6N- 45 ※	1	0.25 - 6	20	45	24	28	40,000	NBC 6- □	0.17
- 60				60	36	23 - 27	35,000		0.20
-MEGA 8N- 50 ※	1	0.5 - 8	25	50	29	33	40,000	NBC 8- □	0.22
- 65				65	43	26 - 32	35,000		0.27
-MEGA10N- 65 ※	2	1.5 - 10	30	65	—	47	30,000	NBC10- □	0.28
-MEGA13N- 70 ※		2.5 - 13	35	70	—	44	25,000	NBC13- □	0.31
HSK-E40-MEGA 6N- 50 ※	1	0.25 - 6	20	50	26	31	40,000	NBC 6- □	0.26
- 60				60	33	23 - 26	35,000		0.28
- 75				75	48	23 - 41	30,000		0.31
- 90				90	63	23 - 43	28,000		0.35
-120				120	93		25,000		0.41
-MEGA 8N- 55 ※				1	0.5 - 8	25	55		31
- 75	75	50	26 - 38				30,000	0.38	
- 90	90	65	26 - 45				28,000	0.43	
-MEGA10N- 60 ※	1	1.5 - 10	30	60	36	40	35,000	NBC10- □	0.39
- 75 ※				75	51	55	30,000		0.46
- 90				90	66	38 - 48	28,000		0.53
-MEGA13N- 65 ※	1	2.5 - 13	35	65	43	44	30,000	NBC13- □	0.45
- 75 ※				75	53	55	25,000		0.53
- 90				90	68	44 - 48			0.62
-120				120	98	44 - 61	20,000		0.80
-150				150	128		15,000		1.00
-MEGA16N- 65 ※	2	2.5 - 16	42	65	—	46	25,000	NBC16- □	0.43
- 75 ※				75	—	48	20,000		0.60

1. MEGA NUT is included.
 2. Adjusting screws can not be used with ※ marked models.
 3. "H" indicates the adjustment length with an Adjusting Screw.
 4. Coolant pipe is ordered separately.

Model	Fig.	Clamping Range ød	øD	L	L ₁	H	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-E50-MEGA 6N- 55 ※	1	0.25 - 6	20	55	27	35	40,000	NBC 6- □	0.47
- 70				70	37	23 - 39	30,000		0.50
-100				100	63	23 - 43	25,000		0.56
-130				130	93		20,000		0.63
-MEGA 8N- 60 ※	1	0.5 - 8	25	60	30	37	40,000	NBC 8- □	0.52
- 90				90	55	26 - 43	30,000		0.62
-MEGA10N- 60 ※	1	1.5 - 10	30	60	30	35	35,000	NBC10- □	0.56
- 90				90	57	38 - 48	30,000		0.70
-MEGA13N- 60 ※●	1	2.5 - 13	35	60	31	44	30,000	NBC13- □	0.60
- 70				70	40	45	28,000		0.67
- 90				90	59	44 - 67	25,000		0.80
-120				120	89	44 - 63	20,000		1.00
-150				150	119		15,000		1.24
-MEGA16N- 65 ※●	1	2.5 - 16	42	65	39	48	30,000	NBC16- □	0.73
- 75				75	48	52	28,000		0.85
- 90				90	62	65	25,000		1.00
-MEGA20N- 75 ※	2	2.5 - 20	46	75	—	49	25,000	NBC20- □	0.80
-100				100	—	51 - 54	20,000		1.10
-130				130	—	51 - 68	18,000		1.50
-160				160	—		15,000		1.80





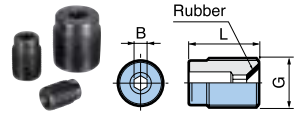
1. MEGA NUT is included.

2. Adjusting screws can not be used with ※ marked models.

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

4. Coolant pipe can not be used with ● marked models.

5. Coolant pipe is ordered separately.

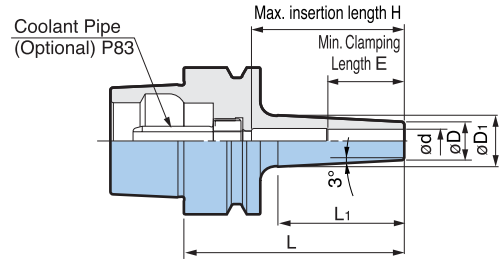
Spare Parts		Accessories						
MEGA NUT		MEGA WRENCH	NBC COLLET	SEALING NUT	ADJUSTING SCREW			
								
MEGA NEW BABY CHUCK	Model	Model	Model	Model	Model	G	L	B
MEGA 6N	MGN 6	MGR20	NBC 6- □	MPS 6- □	NBA 6B	M 7	12	2
MEGA 8N	MGN 8	MGR25	NBC 8- □	MPS 8- □	NBA 8B	M 9	13	2.5
MEGA10N	MGN10	MGR30	NBC10- □	MPS10- □	NBA10B	M11	16	3
MEGA13N	MGN13	MGR35	NBC13- □	MPS13- □	NBA13B	M14	20	4
MEGA16N	MGN16	MGR42	NBC16- □	MPS16- □	NBA16B	M18	20	4
MEGA20N	MGN20	MGR46	NBC20- □	MPS20- □	NBA20B	M21	20	4

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

SHRINK CHUCK

Coolant-through hole
Clamping Range : $\phi 6$ - $\phi 12$

Slim design avoids interference with the side wall and draft of the mold.



Model	ϕd	ϕD	ϕD_1	L	L1	Min. Clamping Length E	Max. insertion length H	Weight (kg)
HSK-E25-SRC 6S- 60	6	10	15.0	60	46	26	50	0.08
-SRC 8S- 60	8	13	18.0		48			0.10
HSK-E32-SRC 6S- 60	6	10	13.5	60	34	26	47	0.15
-SRC 8S- 60	8	13	16.5					0.16
-SRC10S- 60	10	16	20.0		36	32	0.18	
-SRC12S- 60	12	19	23.0		37	35	0.19	
HSK-E40-SRC 6S- 75	6	10	15.0	75	49	26	52	0.24
-SRC 8S- 75	8	13	18.0					0.26
-SRC10S- 75	10	16	21.0		32	62	0.29	
-SRC12S- 75	12	19	24.0		36	0.31		
HSK-E50-SRC 6S- 75	6	10	14.5	75	43	26	52	0.45
-SRC 8S- 75	8	13	17.5					0.46
-SRC10S- 75	10	16	20.5		32	60	0.48	
-SRC12S- 75	12	19	23.5		36	0.51		

1. Use carbide cutter within a tolerance of h6.
2. Coolant pipe is ordered separately.

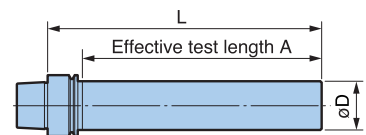
Please refer to the operation manual of heating / cooling equipment, as some equipment may not be compatible.

Wiper Cleaner (PAT.P) is recommended to clean the clamping bore.



DYNA TEST

For inspection and adjustment of machine spindle.



Aluminum box

With in Aluminum box for strage.

Model	L	A	ϕD
HSK-E25-20-L175	175	163	20
-E32-20-L180	180	158	
-E40-32-L180		157	32
-E50-32-L240	240	211	

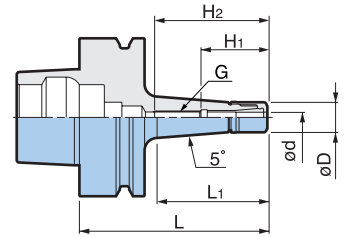
MEGA MICRO CHUCK[®] PAT. Clamping Range : \varnothing 0.45 - \varnothing 6.05

Type T



Extremely slim design of body and nut provides superior balance and concentricity and is ideal for reaching into confined areas.

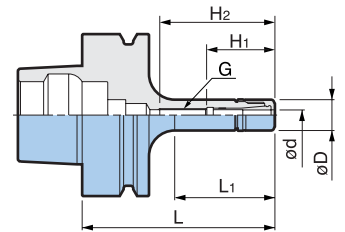
MAX.
32,000
min⁻¹



Model	Clamping Range \varnothing d	\varnothing D	L	L ₁	H ₁	H ₂	G	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-F63-MEGA4S- 75T	0.45 - 4.05	12	75	43	26.5	41	M5 P0.8	32,000	NBC4S-□	0.7
-MEGA6S- 75T	0.45 - 6.05	14	75	43	28.5	41	M7 P0.75	32,000	NBC6S-□	0.7






1. MEGA NUT is included.

Type S



Model	Clamping Range \varnothing d	\varnothing D	L	L ₁	H ₁	H ₂	G	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-F63-MEGA4S- 75	0.45 - 4.05	12	75	38	26.5	41	M5 P0.8	30,000	NBC4S-□	0.7
-105			105	68		47		25,000		0.7
-MEGA6S- 75	0.45 - 6.05	14	75	38	28.5	41	M7 P0.75	30,000	NBC6S-□	0.7
- 90			90	54		49		27,000		0.71
-105			105	68		49		25,000		0.75

1. MEGA NUT is included.

	Spare Parts	Accessories			
	MEGA NUT 	MEGA WRENCH 	MICRO COLLET  P91	MICRO COLLET PROTECTIVE CASE 	α TAPER CLEANER 
MEGA MICRO CHUCK	Model	Model	Model	Model	Model
MEGA4S	MGN4S	MGR12	NBC4S-□	NBB4S	SC-NBC4S
MEGA6S	MGN6S	MGR14	NBC6S-□	NBB6S	SC-NBC6S

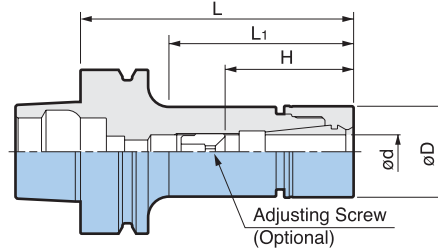
Coolant-through hole

MEGA NEW BABY CHUCK[®] PAT. Clamping Range : $\varnothing 0.25 - \varnothing 20$



The Body, Collet, Nut and Wrench are specifically designed to be ideal for high speed operations.

MAX.
35,000
min⁻¹



Model	Clamping Range $\varnothing d$	$\varnothing D$	L	L ₁	H	Max. min ⁻¹	Collet Model	Weight (kg)	
HSK-F63-MEGA 6N- 75	0.25- 6	20	75	42	23 - 31	35,000	NBC 6-□	0.7	
- 90			90	53	23 - 43	30,000		0.8	
-105			105	68		25,000		0.8	
-135			135	98	20,000	0.9			
-MEGA 8N- 75	0.5 - 8	25	75	42	26 - 38	32,000	NBC 8-□	0.8	
- 90			90	53	26 - 45	30,000		0.9	
-105			105	68		25,000		0.9	
-120			120	83	20,000	0.9			
-135			135	98	15,000	1.0			
-165			165	128	15,000	1.1			
-MEGA10N- 75 ※	1.5 - 10	30	75	42	48	32,000	NBC10-□	0.9	
- 90			90	53	38 - 43	30,000		0.9	
-105			105	68		25,000		1.0	
-120			120	83	25,000	1.1			
-MEGA13N- 75 ※	2.5 - 13	35	75	42	47	30,000	NBC13-□	0.9	
- 90			90	55	61	44 - 53		25,000	1.0
-105			105	70	44 - 53			20,000	1.1
-120			120	85	44 - 63	20,000		1.2	
-165			165	130		15,000		1.6	
-MEGA16N- 75 ※	2.5 - 16	42	75	42	48	30,000	NBC16-□	1.0	
- 90			90	57	61	25,000		1.2	
-105			105	72	48 - 56	20,000		1.3	
-MEGA20N- 75 ※	2.5 - 20	46	75	44	51	30,000	NBC20-□	1.1	
- 90			90	59	61	25,000		1.3	
-105			105	74	51 - 58	20,000		1.4	

- MEGA NUT is included.
- Adjusting screws can not be used with ※ marked models.
- "H" indicates the adjustment length with an Adjusting Screw.

Spare Parts		Accessories						
MEGA NUT		MEGA WRENCH	NBC COLLET	SEALING NUT MEGA PERFECT SEAL	ADJUSTING SCREW			
MEGA NEW BABY CHUCK	Model	Model	Model	Model	Model	G	L	B
MEGA 6N	MGN 6	MGR20	NBC 6-□	MPS 6-□	NBA 6B	M 7	12	2
MEGA 8N	MGN 8	MGR25	NBC 8-□	MPS 8-□	NBA 8B	M 9	13	2.5
MEGA10N	MGN10	MGR30	NBC10-□	MPS10-□	NBA10B	M11	16	3
MEGA13N	MGN13	MGR35	NBC13-□	MPS13-□	NBA13B	M14	20	4
MEGA16N	MGN16	MGR42	NBC16-□	MPS16-□	NBA16B	M18	20	4
MEGA20N	MGN20	MGR46	NBC20-□	MPS20-□	NBA20B	M21	20	4

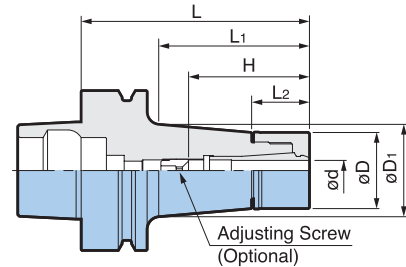
1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

MEGA E CHUCK[®] PAT. Coolant-through hole Clamping Range : $\varnothing 3 - \varnothing 12$







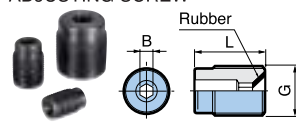
Collet chuck designed exclusively for endmilling with high concentricity and rigidity.

MAX.
30,000
min⁻¹



Model	Clamping Range $\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	L ₂	H	Max. min ⁻¹	Collet Model	Weight (kg)
HSK-F63-MEGA 6E- 65 ※	3 - 6	25	28.1	65	34	21	39	30,000	MEC 6-□	0.8
			31.2	90	57		37 - 45			0.9
-MEGA 8E- 65 ※	3 - 8	30	32.8	65	34	22.5	41	30,000	MEC 8-□	0.8
			36.2	90	58		42 - 46			1.0
-MEGA10E- 75 ※	3 - 10	35	38.4	75	43	23	48	30,000	MEC10-□	1.0
			41.1	90	58		67			1.2
			43.9	105	74		48 - 58	29,000		1.3
			46.7	120	90			27,000		1.6
-MEGA13E- 75 ※	3 - 12	42	45.7	75	46	25	50	30,000	MEC13-□	1.1
			48.3	90	61		64			1.4
			51	105	77		50 - 58	29,000		1.6
			51.8	135	105		50 - 60	26,000		2.0

- MEGA E NUT is included.
- Adjusting screws can not be used with ※ marked models.
- "H" indicates the adjustment length with an Adjusting Screw.

Spare Parts		Accessories							
MEGA E CHUCK	MEGA E NUT 	MEGA WRENCH 	MEGA E COLLET 	SEALING NUT MEGA E PERFECT SEAL 	ADJUSTING SCREW 				
	Model	Model	Model	Model	G	L	B		
	MEGA 6E	MEN 6	MGR25	MEC 6-□	EPS 6-□	NBA 6B	M 7	12	2
	MEGA 8E	MEN 8	MGR30	MEC 8-□	EPS 8-□	NBA 8B	M 9	13	2.5
	MEGA10E	MEN10	MGR35	MEC10-□	EPS10-□	NBA10B	M11	16	3
MEGA13E	MEN13	MGR42	MEC13-□	EPS13-□	NBA13B	M14	20	4	

1. Please be aware that the rubber seal in the Adjusting Screw may be stripped off due to high pressure coolant.

Coolant-through hole

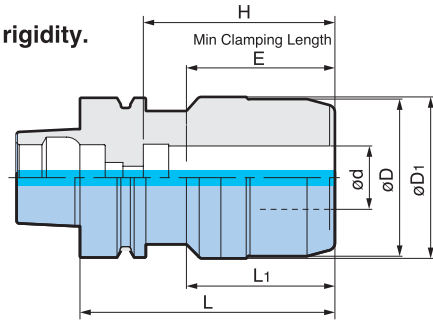
MEGA DOUBLE POWER CHUCK[®] PAT. Clamping Range : $\varnothing 16 - \varnothing 32$

Type D

Close to integral rigidity and precision of a solid toolholder.
Flange contacting nut assures highest rigidity.



MAX. 28,000 min⁻¹

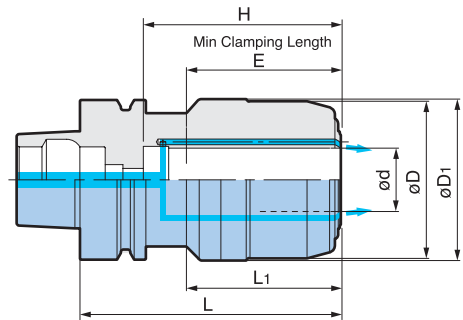


Model	$\varnothing d$	$\varnothing D$	$\varnothing D1$	L	L ₁	H	Min. Clamping Length E	Max. min ⁻¹	Weight (kg)
HSK-F63-MEGA16D- 80	16	46	55	80	38	55	53	28,000	1.3
-MEGA20D- 90	20	55	55.7	90	44.7	65	56	28,000	1.5
-MEGA25D-100	25	62	62.7	100	58	75	65	25,000	1.8
-MEGA32D-105	32	70	70.7	105	63	80	71	24,000	2.0

1. Wrench is ordered separately.

For STRAIGHT COLLET P95

Type DS For coolant to cutting tool periphery



Model	$\varnothing d$	$\varnothing D$	$\varnothing D1$	L	L ₁	H	Min. Clamping Length E	Max. min ⁻¹	Weight (kg)
HSK-F63-MEGA16DS- 80	16	46	55	82.4	40.4	57	53	28,000	1.3
-MEGA20DS- 90	20	55	55.7	92.4	47.1	67	56	28,000	1.5
-MEGA25DS-100	25	62	62.7	102.4	60.4	77	65	25,000	1.8
-MEGA32DS-105	32	70	70.7	107.4	65.4	82	71	24,000	2.0

1. Wrench is ordered separately.

For STRAIGHT COLLET P95

Accessories

	MEGA WRENCH
MEGA DOUBLE POWER CHUCK	Model
HSK-F63-MEGA16D,16DS	MGR46
-MEGA20D,20DS	MGR55
-MEGA25D,25DS	MGR62
-MEGA32D,32DS	MGR70

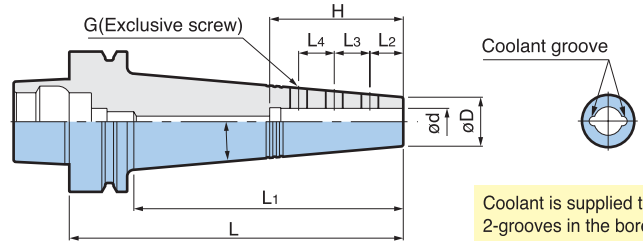
MOLD CHUCK

Coolant-through hole

Clamping Range : $\varnothing 3 - \varnothing 12$

MAX.
15,000
min⁻¹

Precision side lock holder to meet minimum interference, accuracy and high speed requirements.



Coolant is supplied through 2-grooves in the bore.

Model	$\varnothing d$	$\varnothing D$	L	L ₁	L ₂	L ₃	L ₄	H	G	Max min ⁻¹	Weight(kg)
HSK-F63-SSL 3-135	3	10	135	107	6	6	—	—	M3	15,000	0.9
-SSL 4-135	4	11				7			M4		0.9
-SSL 6-135	6	13			12	13			M6		1.0
-SSL 8-135	8	15			13.5	18			40		1.0
-SSL10-150	10	17	150	121	15	20	—	—	—	13,000	1.2
-SSL12-150	12	22				15					15

1. H dimension without values in the above table indicates that those models have a larger diameter hole behind the bore.

● BIG genuine side lock screws must be used as they are made to an exclusive design and different from other screws on the market.

SIDE LOCK SCREWS

Model	Screw size	Screw Length / Quantity	Chuck Model
H0304FS	M3 P0.5	4mm / 2pcs.	SSL3
H0404FS	M4 P0.5	4mm / 2pcs.	SSL4
H06FSA	M6 P0.75	4.5, 5mm / 1pce. each	SSL6
H06FSB		4.5, 6mm / 1pce. each	SSL8,10
H08FSA	M8 P0.75	6mm / 2pcs. 8mm / 1pce.	SSL12

1. Each model consists of 1 set of screws required for 1 Mold Chuck.

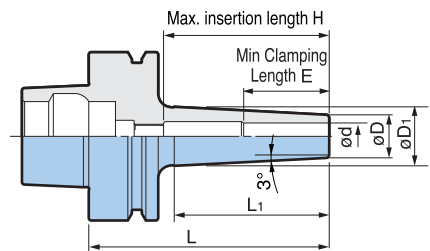
SHRINK CHUCK

Coolant-through hole

Clamping Range : $\varnothing 6 - \varnothing 12$



Slim design avoids interference with the side wall and draft of the mold.



Model	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	Min. Clamping Length E	Max. insertion length H	Weight(kg)
HSK-F63-SRC 6S- 90	6	10	16.0	90	55	26	52	0.70
-120			19.0	120	83			0.75
-SRC 8S- 90	8	13	19.0	90	57	—	52	0.72
-120			22.0	120	85			0.79
-SRC10S- 90	10	16	22.0	90	58	32	62	0.75
-120			25.0	120	87			0.84
-SRC12S- 90	12	19	25.0	90	58	36	62	0.78
-120			28.0	120	88		72	0.89

1. Use carbide cutter within a tolerance of h6.

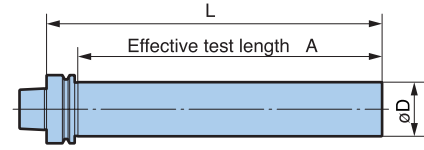
Please refer to the operation manual of heating / cooling equipment, as some equipment may not be compatible.

Wiper Cleaner (PAT.P) is recommended to clean the clamping bore. P110

DYNA TEST



For inspection and adjustment of machine spindle.



Aluminum box

With in Aluminum box for strage.



Model	L	A	øD
HSK-F 63-50-L200	200	171	50
-L350	350	321	

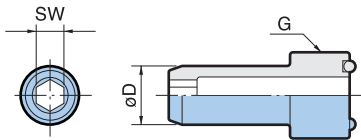
COOLANT PIPE For Form A and Form E

Form A **Form E**



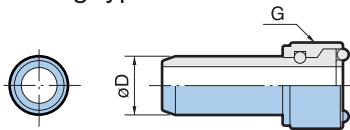
Caution For machines capable of supplying coolant through spindle, the Coolant Pipe should be fitted to all HSK holders to protect against accidental selection of coolant.

● Mono block type



Model	øD	G	SW
HSK 25-CP	5	M 8×P1	2.5
32-CP	6	M10×P1	3
40-CP	8	M12×P1	4
50-CP	10	M16×P1	5
63-CP	12	M18×P1	6
80-CP	14	M20×P1.5	8
100-CP	16	M24×P1.5	8

● 1° swing type



Model	øD	G	Wrench (Optional)
HSK 40-CPM	8	M12×P1	CPW 40
50-CPM	10	M16×P1	CPW 50
63-CPM	12	M18×P1	CPW 63
80-CPM	14	M20×P1.5	CPW 80
100-CPM	16	M24×P1.5	CPW100

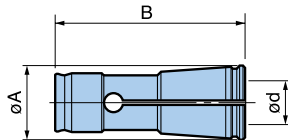
ACCESSORIES

MICRO COLLET	P 91
NEW BABY COLLET	P 92
NBC ENDMILL COLLET	P 93
COLLET EJECTOR	P 93
MEGA E COLLET	P 94
STRAIGHT COLLET for MILLING CHUCK	P 95
PERFECT SEAL (MPS / BPS / EPS)	P 96
PULL STUD BOLT	P 99
POINT MASTER PRO PMP	P101
POINT MASTER PMC	P103
POINT MASTER PMG	P104
BASE MASTER SERIES	P105
TOOL MASTER	P107
TOOLING MATE	P108
HOLDER LOCK	P108
KOMBI GRIP	P109
ST LOCK	P109
T-SLOT CLEAN	P109
α WIPER CLEANER	P110
TK CLEANER	P110
α TAPER CLEANER	P110
α TOOLING CLEANER	P111
SPINDLE CLEANER	P111
CLEAN TEC	P111



MICRO COLLET For MEGA MICRO CHUCK

Available in 0.1mm diameter increments to suit all the cutting tool shank sizes with maximum accuracy. Despite their compact size, high clamping force and accuracy are achieved.



Collet concentricity

Collet Class	Max. Runout	
	At nose	At end of test bar
AA	Within 1µm	Within 3µm

MEGA3S	
Collet Model	Clamping Range ød
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

øA=6.06 B=18.8

MEGA4S	
Collet Model	Clamping Range ød
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

øA=7.4 B=22.5

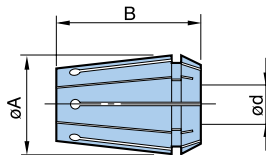
MEGA6S			
Collet Model	Clamping Range ød	Collet Model	Clamping Range ød
NBC6S-0.5 AA	0.45 - 0.55	NBC6S-4.1 AA	4.05 - 4.15
-0.6 AA	0.55 - 0.65	-4.2 AA	4.15 - 4.25
-0.7 AA	0.65 - 0.75	-4.3 AA	4.25 - 4.35
-0.8 AA	0.75 - 0.85	-4.4 AA	4.35 - 4.45
-0.9 AA	0.85 - 0.95	-4.5 AA	4.45 - 4.55
-1.0 AA	0.95 - 1.05	-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		

øA=9.4 B=24.5

NEW BABY COLLET For MEGA NEW BABY CHUCK, NEW BABY CHUCK



(BIG) NEW BABY COLLET is world renowned for its unmatched accuracy and precision. It offers runout less than 1µm at the collet nose, which is a decided advantage in high speed machining.



MEGA6N / NBS6	
Model	Clamping Range ød
NBC 6-0.5 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

øA=9.5 B=14

MEGA8N / NBS8	
Model	Clamping Range ød
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	2.925 - 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
-5.5 AA	5.0 - 5.5
-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

øA=12.5 B=18

MEGA10N / NBS10	
Model	Clamping Range ød
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	2.925- 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
- 5.5 AA	5.0 - 5.5
- 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

øA=16.5 B=27

MEGA13N / NBS13	
Model	Clamping Range ød
NBC13- 3 AA	2.5 - 3.0
- 3.175AA	2.925 - 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
- 5.5 AA	5.0 - 5.5
- 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	
Model	Clamping Range ød
NBC16- 3 AA	2.5 - 3.0
- 3.5AA	3.0 - 3.5
- 4 AA	3.5 - 4.0
- 4.5AA	4.0 - 4.5
- 5 AA	4.5 - 5.0
- 5.5AA	5.0 - 5.5
- 6 AA	5.5 - 6.0
- 6.5AA	6.0 - 6.5
- 7 AA	6.5 - 7.0
- 7.5AA	7.0 - 7.5
- 8 AA	7.5 - 8.0
- 8.5AA	8.0 - 8.5
- 9 AA	8.5 - 9.0
- 9.5AA	9.0 - 9.5
-10 AA	9.5 - 10.0
-10.5AA	10.0 - 10.5
-11 AA	10.5 - 11.0
-11.5AA	11.0 - 11.5
-12 AA	11.5 - 12.0
-12.5AA	12.0 - 12.5
-13 AA	12.5 - 13.0
-13.5AA	13.0 - 13.5
-14 AA	13.5 - 14.0
-14.5AA	14.0 - 14.5
-15 AA	14.5 - 15.0
-15.5AA	15.0 - 15.5
-16 AA	15.5 - 16.0

øA=25.5 B=35

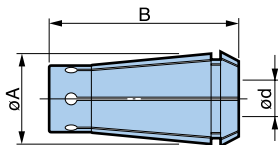
MEGA20N / NBS20	
Model	Clamping Range ød
NBC20- 3 AA	2.5 - 3.0
- 3.5AA	3.0 - 3.5
- 4 AA	3.5 - 4.0
- 4.5AA	4.0 - 4.5
- 5 AA	4.5 - 5.0
- 5.5AA	5.0 - 5.5
- 6 AA	5.5 - 6.0
- 6.5AA	6.0 - 6.5
- 7 AA	6.5 - 7.0
- 7.5AA	7.0 - 7.5
- 8 AA	7.5 - 8.0
- 8.5AA	8.0 - 8.5
- 9 AA	8.5 - 9.0
- 9.5AA	9.0 - 9.5
-10 AA	9.5 - 10.0
-10.5AA	10.0 - 10.5
-11 AA	10.5 - 11.0
-11.5AA	11.0 - 11.5
-12 AA	11.5 - 12.0
-12.5AA	12.0 - 12.5
-13 AA	12.5 - 13.0
-13.5AA	13.0 - 13.5
-14 AA	13.5 - 14.0
-14.5AA	14.0 - 14.5
-15 AA	14.5 - 15.0
-15.5AA	15.0 - 15.5
-16 AA	15.5 - 16.0
-16.5AA	16.0 - 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

øA=28.5 B=38

Collet concentricity

Collet Class	Max. Runout	
	At nose	At end of test bar
AA	Within 1µm	Within 3µm

NEW BABY COLLET For MEGA NEW BABY CHUCK, NEW BABY CHUCK



Collet concentricity

Collet Class	Max. Runout	
	At nose	At end of test bar
AA	Within 1µm	Within 3µm

MEGA6N / NBS6	
Model	ød
NBC 6-3E AA	3
-4E AA	4
-5E AA	5
-6E AA	6

øA=9.2 B=17

MEGA8N / NBS8	
Model	ød
NBC 8-3E AA	3
-4E AA	4
-5E AA	5
-6E AA	6
-8E AA	8

øA=12 B=20

MEGA10N / NBS10	
Model	ød
NBC10- 3E AA	3
- 4E AA	4
- 5E AA	5
- 6E AA	6
- 8E AA	8
-10E AA	10

øA=16 B=32

MEGA13N / NBS13	
Model	ød
NBC13- 3E AA	3
- 4E AA	4
- 5E AA	5
- 6E AA	6
- 8E AA	8
-10E AA	10
-12E AA	12

øA=20 B=38

MEGA16N / NBS16	
Model	ød
NBC16- 3E AA	3
- 4E AA	4
- 5E AA	5
- 6E AA	6
- 8E AA	8
-10E AA	10
-12E AA	12
-14E AA	14
-16E AA	16

øA=25 B=42

MEGA20N / NBS20	
Model	ød
NBC20- 3E AA	3
- 4E AA	4
- 5E AA	5
- 6E AA	6
- 8E AA	8
-10E AA	10
-12E AA	12
-14E AA	14
-16E AA	16
-20E AA	20

øA=28 B=45

- Use only a cutting tool shank with exactly the same diameter as the collet bore diameter.
- The tolerance of the cutting tool shank must be within h7.

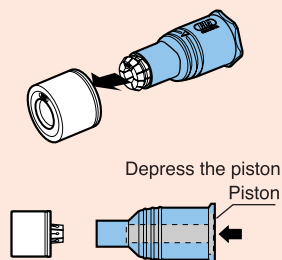
COLLET EJECTOR PAT.P

Collet Ejector can easily and quickly remove New Baby Collets from Mega Nuts & NEW BABY Nuts.



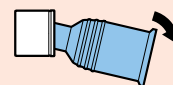
● HOW TO ASSEMBLE A COLLET

Insert the collet into the ColletEjector. Then insert it into the nut and depress the piston.

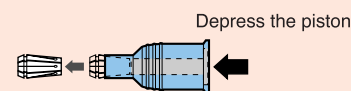


● HOW TO REMOVE A COLLET

1. Tilt the Collet Ejector as shown in the picture to remove the collet from the nut.



2. Finally, depress the piston and the collet will be removed.



■ For NEW BABY COLLET

Model	Nut Model	Collet Model
NBC 6-CE	MGN 6 / NBN 6	NBC 6
NBC 8-CE	MGN 8 / NBN 8	NBC 8
NBC10-CE	MGN10 / NBN10	NBC10
NBC13-CE	MGN13 / NBN13	NBC13

■ For NEW BABY ENDMILL 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

MEGA E COLLET PAT.P For MEGA E CHUCK

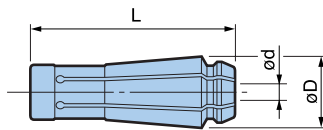


MEGA 6E		
Model	ød	Min. Clamping Length
MEC6-3AA	3	19
-4AA	4	22
-5AA	5	25
-6AA	6	27

L=34.9 øD=11.3

MEGA 8E		
Model	ød	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 øD=14.1



MEGA10E		
Model	ød	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 øD=17.1

MEGA13E		
Model	ød	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 øD=20.6

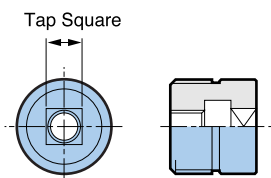
■ Collet concentricity

Collet Class	Max. Runout	
	At nose	At end of test bar
AA	Within 1µm	Within 3µm

- Use only a cutting tool shank with exactly the same diameter as the collet bore diameter.
- The tolerance of the cutting tool shank must be within h7.

TAP DRIVING BACK STOP For NEW BABY CHUCK

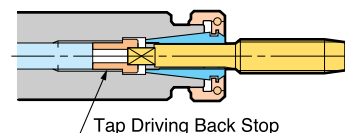
To suit synchronized tapping.



Chuck Model			NBS10	NBS13	NBS16	NBS20
Tap size	Standard	Tap square	Model	Model	Model	Model
M 8	DIN 371	6.2	—	NBA13-M 8DD	—	—
	JIS	5.0	NBA10-M 8	NBA13-M 8	—	—
M10	DIN 371	8.0	—	NBA13-M14M10DD	NBA16-M14M10DD	—
	JIS	5.5	NBA10-M10	NBA13-M10	NBA16-M10	—
M12	DIN 376	7.0	—	NBA13-M12D	NBA16-M12D	NBA20-M12D
	JIS	6.5	—	NBA13-M12	NBA16-M12	NBA20-M12
M14	DIN 376	9.0	—	—	NBA16-M14DM16D	NBA20-M14DM16D
	JIS	8.0	—	NBA13-M14M10DD	NBA16-M14M10DD	NBA20-M14
M16	DIN 376	9.0	—	—	NBA16-M14DM16D	NBA20-M14DM16D
	JIS	10.0	—	—	NBA16-M16	NBA20-M16
M20	DIN 376	12.0	—	—	—	NBA20-M20
	JIS	12.0	—	—	—	NBA20-M20

1. Synchronized tapping function must be provided within the machine.

The square of the tap is positively located by fitting the Tap Driving Back Stop.



STRAIGHT COLLET For MEGA-D/DS & HMC

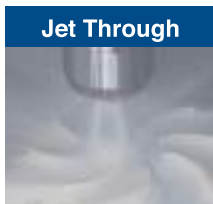
■ PJC COLLET PAT. For MEGA-D/DS & HMC

For coolant to cutting tool periphery

High precision



Jet Through



JET THROUGH COLLET

Coolant shoots out of the collet end face.

Model	Chuck Model
PJC16 - 3, 4, 6, 8, 10, 12	MEGA16D / DS · HMC16
PJC20 - 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16	MEGA20D / DS · HMC20
PJC25 - 6, 8, 10, 12, 14, 16, 18, 20	MEGA25D / DS · HMC25
PJC32 - 6, 8, 10, 12, 14, 16, 18, 20, 25	MEGA32D / DS · HMC32
PJC42 - 6, 8, 10, 12, 14, 16, 18, 20, 25, 32	MEGA42D / DS · HMC42

1. For coolant directed to cutting tool periphery.

※ With either the Type D or Type DS chuck body, coolant is supplied to cutting tool periphery, not through the tool.

■ PSC COLLET PAT. For MEGA-D/DS & HMC

For coolant-through tools

High precision



OIL HOLE COLLET

Model	Chuck Model
PSC16 - 3, 4, 6, 8, 10, 12	MEGA16D / DS · HMC16
PSC20 - 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16	MEGA20D / DS · HMC20
PSC25 - 6, 8, 10, 12, 14, 16, 18, 20	MEGA25D / DS · HMC25
PSC32 - 6, 8, 10, 12, 14, 16, 18, 20, 25	MEGA32D / DS · HMC32
PSC42 - 6, 8, 10, 12, 14, 16, 18, 20, 25, 32	MEGA42D / DS · HMC42

■ AC COLLET For HMC



ADJUSTABLE STRAIGHT COLLET (Type "C")

Model	Chuck Model
AC16 - 6, 8, 10, 12	HMC16
AC20 - 6, 8, 10, 12, 16	HMC20
AC25 - 6, 8, 10, 12, 16, 20	HMC25
AC32 - 6, 8, 10, 12, 16, 20, 25	HMC32
AC42 - 6, 8, 10, 12, 16, 20, 25, 32	HMC42

1. Coolant through is not provided, see below.

■ OCA COLLET For HMC



COOLANT FEED STRAIGHT COLLET (Type "OCA")

Model	Chuck Model
OCA20 - 6, 8, 10, 12, 16,	HMC20
OCA25 - 16, 20	HMC25
OCA32 - 6, 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25	HMC32
OCA42 - 6, 8, 10, 12, 14, 16, 19, 20, 24, 25, 31, 32	HMC42

Sealed collet nut for coolant-through tools

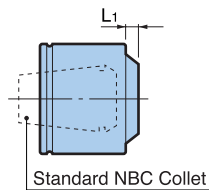
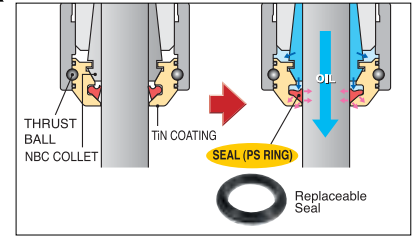
MEGA PERFECT SEAL PAT. For MEGA NEW BABY CHUCK



MAX. COOLANT PRESSURE
7MPa

Reliable coolant supply to the tool tip!

Unique design increases sealing performance with higher coolant pressure to create a "perfect seal".
Remove the PS Ring, to supply coolant to the cutting tool periphery.



2way coolant

Through Tools

Jet Through



With PS RING



Without PS RING

Model	Cutter Shank Dia.	L1	Collet Model	Model	Cutter Shank Dia.	L1	Collet Model		
MPS 6-03035	3 - 3.5	2.3	NBC 6-3 - 3.75	MPS16-03035	3 - 3.5	4.0	NBC16-3 - 4		
-0304	3 - 4		-3 - 4.25	-0304	3 - 4		-3 - 4.5		
-04045	4 - 4.5		-4 - 4.75	-04045	4 - 4.5		-4 - 5		
-0405	4 - 5		-4 - 5.25	-0405	4 - 5		-4 - 5.5		
-05055	5 - 5.5		-5 - 5.75	-05055	5 - 5.5		-5 - 6		
-0506	5 - 6		-5 - 6	-0506	5 - 6		-5 - 6.5		
MPS 8-03035	3 - 3.5	3.9	NBC 8-3 - 4	-06065	6 - 6.5	4.3	-6 - 7		
-0304	3 - 4		-3 - 4.5	-0607	6 - 7		-6 - 7.5		
-04045	4 - 4.5		-4 - 5	-07075	7 - 7.5		-7 - 8		
-0405	4 - 5		-4 - 5.5	-0708	7 - 8		-7 - 8.5		
-05055	5 - 5.5		-5 - 6	-08085	8 - 8.5		-8 - 9		
-0506	5 - 6		-5 - 6.5	-0809	8 - 9		-8 - 9.5		
-06065	5 - 6.5	3.4	-6 - 7	-09095	9 - 9.5	4.6	-9 - 10		
-0607	6 - 7		-6 - 7.5	-0910	9 - 10		-9 - 10.5		
-07075	7 - 7.5		-7 - 8	-10105	10 - 10.5		-10 - 11		
-0708	7 - 8		-7 - 8	-1011	10 - 11		-10 - 11.5		
MPS10-03035	3 - 3.5		3.9	NBC10-3 - 4	-11115		11 - 11.5	5.1	-11 - 12
-0304	3 - 4			-3 - 4.5	-1112		11 - 12		-11 - 12.5
-04045	4 - 4.5	-4 - 5		-12125	12 - 12.5	-12 - 13			
-0405	4 - 5	-4 - 5.5		-1213	12 - 13	-12 - 13.5			
-05055	5 - 5.5	-5 - 6		-1314	13 - 14	-13 - 14.5			
-0506	5 - 6	-5 - 6.5		-1415	14 - 15	-14 - 15.5			
-06065	6 - 6.5	4.3	-6 - 7	-1516	15 - 16	-15 - 16			
-0607	6 - 7		-6 - 7.5	MPS20-03035	3 - 3.5	4.0	NBC20-3 - 4		
-07075	7 - 7.5		-7 - 8	-0304	3 - 4		-3 - 4.5		
-0708	7 - 8		-7 - 8.5	-04045	4 - 4.5		-4 - 5		
-08085	8 - 8.5		-8 - 9	-0405	4 - 5		-4 - 5.5		
-0809	8 - 9		-8 - 9.5	-05055	5 - 5.5		-5 - 6		
-09095	9 - 9.5	-9 - 10	-0506	5 - 6	-5 - 6.5				
-0910	9 - 10	3.5	-9 - 10	-06065	6 - 6.5	4.3	-6 - 7		
MPS13-03035	3 - 3.5		NBC13-3 - 4	-0607	6 - 7		-6 - 7.5		
-0304	3 - 4		-3 - 4.5	-07075	7 - 7.5		-7 - 8		
-04045	4 - 4.5		-4 - 5	-0708	7 - 8		-7 - 8.5		
-0405	4 - 5		-4 - 5.5	-08085	8 - 8.5		-8 - 9		
-05055	5 - 5.5		-5 - 6	-0809	8 - 9		-8 - 9.5		
-0506	5 - 6	4.3	-5 - 6.5	-09095	9 - 9.5	4.6	-9 - 10		
-06065	6 - 6.5		-6 - 7	-0910	9 - 10		-9 - 10.5		
-0607	6 - 7		-6 - 7.5	-10105	10 - 10.5		-10 - 11		
-07075	7 - 7.5		-7 - 8	-1011	10 - 11		-10 - 11.5		
-0708	7 - 8		-7 - 8.5	-11115	11 - 11.5		-11 - 12		
-08085	8 - 8.5		-8 - 9	-1112	11 - 12		-11 - 12.5		
-0809	8 - 9	4.9	-8 - 9.5	-12125	12 - 12.5	5.1	-12 - 13		
-09095	9 - 9.5		-9 - 10	-1213	12 - 13		-12 - 13.5		
-0910	9 - 10		-9 - 10.5	-1314	13 - 14		-13 - 14.5		
-10105	10 - 10.5		-10 - 11	-1415	14 - 15		-14 - 15.5		
-1011	10 - 11		-10 - 11.5	-1516	15 - 16		-15 - 16.5		
-11115	11 - 11.5		-11 - 12	-1617	16 - 17		-16 - 17.5		
-1112	11 - 12	4.2	-11 - 12.5	-1718	17 - 18	4.6	-17 - 18.5		
-12125	12 - 12.5		-12 - 13	-1819	18 - 19		-18 - 19.5		
-1213	12 - 13		-12 - 13	-1920	19 - 20		-19 - 20		

- 1 pce. of PS Ring is included.
- To supply coolant to the periphery of the cutting tool, Adjusting Screw should not be mounted.

[PS RING] PAT.



Model Description

PS - 0304

PS Ring

- Replaceable seal is installed in the MEGA PERFECT SEAL

(Replacement seal is recommended when coolant leaks due to damage of the PS Ring.)

Model	Corresponding MPS Model	Model	Corresponding MPS Model	Model	Corresponding MPS 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 package contains
5 pcs. (1 size).

Sealed collet nut for coolant-through tools

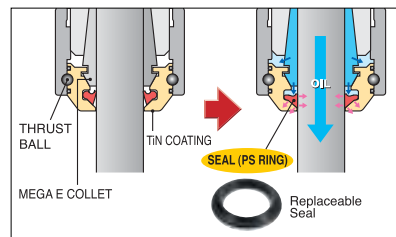
MEGA E PERFECT SEAL PAT. For MEGA E CHUCK



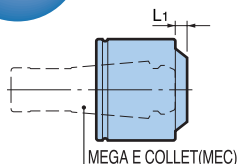
Reliable coolant supply to the tool tip!

Unique design increases sealing performance with higher coolant pressure to create a "perfect seal".

Remove the PS Ring, to supply coolant to the cutting tool periphery.



MAX. COOLANT PRESSURE
7MPa



2way coolant

Through Tools

Jet Through



With PS RING

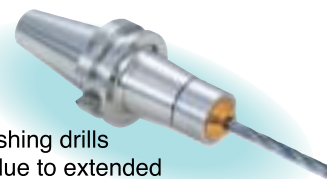


Without PS RING

Model	Cutter Shank Dia.	L1	Collet Model
EPS 6-03	3	5.6	MEC 6- 3
-04	4	5.2	- 4
-05	5		- 5
-06	6		- 6
EPS 8-03	3	6.4	MEC 8- 3
-04	4	6	- 4
-05	5		- 5
-06	6		- 6
-07	7		- 7
-08	8	5.6	- 8
EPS10-03	3	6.4	MEC10- 3
-04	4	6.3	- 4
-05	5		- 5
-06	6		- 6
-07	7		- 7
-08	8		- 8
-09	9		- 9
-10	10	5.7	-10

Model	Cutter Shank Dia.	L1	Collet Model
EPS13-03	3	6.4	MEC13- 3
-04	4	6	- 4
-05	5		- 5
-06	6		- 6
-07	7		- 7
-08	8	6.5	- 8
-09	9		- 9
-10	10		-10
-11	11	6.2	-11
-12	12		-12

- 1 pce. of PS Ring is included.
- To supply coolant to the periphery of the cutting tool, Adjusting Screw should not be mounted.



Ideal for burnishing drills and reamers due to extended gripping length of MEGA E CHUCK.

[PS RING] PAT.

- Replaceable seal is installed in the MEGA E PERFECT SEAL.

(Replacement seal is recommended when coolant leaks due to damage of the PS Ring.)



1 package contains
5 pcs. (1 size).

Model	Chuck Model
PS-0304	EPS □-03
-0405	-04
-0506	-05
-0607	-06
-0708	-07
-0809	-08

Model	Chuck Model
PS-0809	EPS □-09
-0910	-10
-1011	-11
-1112	-12

Sealed collet nut for coolant-through tools

BABY PERFECT SEAL PAT. For NEW BABY CHUCK

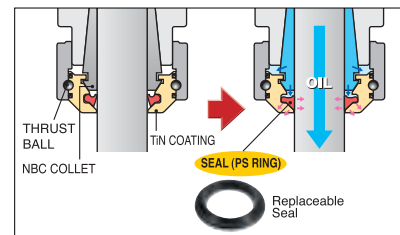
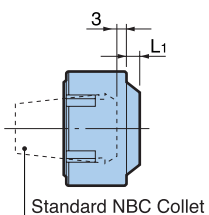


Reliable coolant supply to the tool tip!

Unique design increases sealing performance with higher coolant pressure to create a "perfect seal".

Remove the PS Ring, to supply coolant to the cutting tool periphery.

MAX. COOLANT PRESSURE
7MPa



Model	Cutter Shank Dia.	L1	Collet Model	Model	Cutter Shank Dia.	L1	Collet Model		
BPS 6-03035	3 - 3.5	2.3	NBC 6-3 - 3.75	BPS16-03035	3 - 3.5	4.0	NBC16-3 - 4		
-0304	3 - 4		-3 - 4.25	-0304	3 - 4		-3 - 4.5		
-04045	4 - 4.5		-4 - 4.75	-04045	4 - 4.5		-4 - 5		
-0405	4 - 5		-4 - 5.25	-0405	4 - 5		-4 - 5.5		
-05055	5 - 5.5		-5 - 5.75	-05055	5 - 5.5		-5 - 6		
-0506	5 - 6		-5 - 6	-0506	5 - 6		-5 - 6.5		
BPS 8-03035	3 - 3.5	3.9	NBC 8-3 - 4	-06065	6 - 6.5	4.3	-6 - 7		
-0304	3 - 4		-3 - 4.5	-0607	6 - 7		-6 - 7.5		
-04045	4 - 4.5		-4 - 5	-07075	7 - 7.5		-7 - 8		
-0405	4 - 5		-4 - 5.5	-0708	7 - 8		-7 - 8.5		
-05055	5 - 5.5		-5 - 6	-08085	8 - 8.5		-8 - 9		
-0506	5 - 6		-5 - 6.5	-0809	8 - 9		-8 - 9.5		
-06065	5 - 6.5	3.4	-6 - 7	-09095	9 - 9.5	4.6	-9 - 10		
-0607	6 - 7		-6 - 7.5	-0910	9 - 10		-9 - 10.5		
-07075	7 - 7.5		-7 - 8	-10105	10 - 10.5		-10 - 11		
-0708	7 - 8		-7 - 8	-1011	10 - 11		-10 - 11.5		
BPS10-03035	3 - 3.5		3.9	NBC10-3 - 4	-11115		11 - 11.5	5.1	-11 - 12
-0304	3 - 4			-3 - 4.5	-1112		11 - 12		-11 - 12.5
-04045	4 - 4.5	-4 - 5		-12125	12 - 12.5	-12 - 13			
-0405	4 - 5	-4 - 5.5		-1213	12 - 13	-12 - 13.5			
-05055	5 - 5.5	-5 - 6		-1314	13 - 14	-13 - 14.5			
-0506	5 - 6	-5 - 6.5		-1415	14 - 15	-14 - 15.5			
-06065	6 - 6.5	4.3	-6 - 7	-1516	15 - 16	-15 - 16			
-0607	6 - 7		-6 - 7.5	BPS20-03035	3 - 3.5	4.0	NBC20-3 - 4		
-07075	7 - 7.5		-7 - 8	-0304	3 - 4		-3 - 4.5		
-0708	7 - 8		-7 - 8.5	-04045	4 - 4.5		-4 - 5		
-08085	8 - 8.5		-8 - 9	-0405	4 - 5		-4 - 5.5		
-0809	8 - 9		-8 - 9.5	-05055	5 - 5.5		-5 - 6		
-09095	9 - 9.5	-9 - 10	-0506	5 - 6	-5 - 6.5				
-0910	9 - 10	-9 - 10	-06065	6 - 6.5	-6 - 7				
BPS13-03035	3 - 3.5	4.3	NBC13-3 - 4	-0607	6 - 7	4.3	-6 - 7.5		
-0304	3 - 4		-3 - 4.5	-07075	7 - 7.5		-7 - 8		
-04045	4 - 4.5		-4 - 5	-0708	7 - 8		-7 - 8.5		
-0405	4 - 5		-4 - 5.5	-08085	8 - 8.5		-8 - 9		
-05055	5 - 5.5		-5 - 6	-0809	8 - 9		-8 - 9.5		
-0506	5 - 6		-5 - 6.5	-09095	9 - 9.5		-9 - 10		
-06065	6 - 6.5	4.6	-6 - 7	-0910	9 - 10	-9 - 10.5			
-0607	6 - 7		-6 - 7.5	-10105	10 - 10.5	-10 - 11			
-07075	7 - 7.5		-7 - 8	-1011	10 - 11	-10 - 11.5			
-0708	7 - 8		-7 - 8.5	-11115	11 - 11.5	-11 - 12			
-08085	8 - 8.5		-8 - 9	-1112	11 - 12	-11 - 12.5			
-0809	8 - 9		-8 - 9.5	-12125	12 - 12.5	-12 - 13			
-09095	9 - 9.5	4.9	-9 - 10	-1213	12 - 13	-12 - 13.5			
-0910	9 - 10		-9 - 10.5	-1314	13 - 14	-13 - 14.5			
-10105	10 - 10.5		-10 - 11	-1415	14 - 15	-14 - 15.5			
-1011	10 - 11		-10 - 11.5	-1516	15 - 16	-15 - 16.5			
-11115	11 - 11.5		-11 - 12	-1617	16 - 17	-16 - 17.5			
-1112	11 - 12		-11 - 12.5	-1718	17 - 18	-17 - 18.5			
-12125	12 - 12.5	4.2	-12 - 13	-1819	18 - 19	-18 - 19.5			
-1213	12 - 13		-12 - 13	-1920	19 - 20	-19 - 20			

• 1 pce. of PS Ring is included.

• To supply coolant to the periphery of the cutting tool, Adjusting Screw should not be mounted.

[PS RING] PAT.



• Replaceable seal is installed in the BABY PERFECT SEAL

(Replacement seal is recommended when coolant leaks due to damage of the PS Ring.)

Model	Corresponding BPS Model	Model	Corresponding BPS Model	Model	Corresponding BPS 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 package contains 5 pcs. (1 size).

ACCESSORIES

MICRO COLLET	P 91
NEW BABY COLLET	P 92
NBC ENDMILL COLLET	P 93
COLLET EJECTOR	P 93
MEGA E COLLET	P 94
STRAIGHT COLLET for MILLING CHUCK	P 95
PERFECT SEAL (MPS / BPS / EPS)	P 96
PULL STUD BOLT	P 99
POINT MASTER PRO PMP	P101
POINT MASTER PMC	P103
POINT MASTER PMG	P104
BASE MASTER SERIES	P105
TOOL MASTER	P107
TOOLING MATE	P108
HOLDER LOCK	P108
KOMBI GRIP	P109
ST LOCK	P109
T-SLOT CLEAN	P109
α WIPER CLEANER	P110
TK CLEANER	P110
α TAPER CLEANER	P110
α TOOLING CLEANER	P111
SPINDLE CLEANER	P111
CLEAN TEC	P111



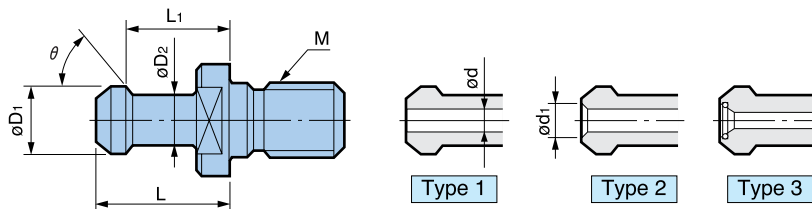
PULL STUD BOLT



**TOOL STEEL
X40CrMOV51**

Tensile Strength Improved By Utilizing Tool Steel (X40CrMOV51).

Toolholders may be pulled out of the machine spindle at high speeds due to strong centrifugal forces. Strong MEGA PULLSTUDS are recommended to protect against this possibility.



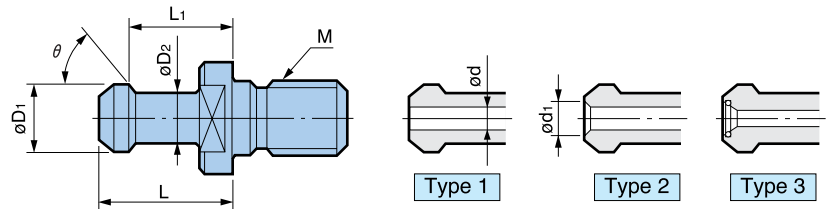
Spindle	Model	Standard	ϕD_1	ϕD_2	L	L_1	θ	ϕd	ϕd_1	Hole Type	Specification / Feature
30 (M12)	30PMG	JIS	12	8	23.4	18.4	75	None		–	JIS BT30
	30PMGH							4.0		1	JIS BT30 with hole
	30PMGH2							2.5	5.5	3	YASDA
	P30T-1MG	MAS-I	11	7	23	18	45	None		–	MAS-1 BT30
	P30T-1MGH							2.5		1	MAS-1 BT30 with hole
	P30T-2MG	MAS-II	11	8	23	18	60	None		–	MAS-2 BT30
	P30T-2MGH							2.5		1	MAS-2 BT30 with hole
	30P-1MGH	Original	11	8	23	18	45	4.0		1	FANUC
40 (M16)	40P	JIS	19	14	29	23	75	None		–	JIS BT40
	40PMG							7.0		1	JIS BT40 with hole
	40PH							7.0		1	MAKINO (Face G) ※1
	40PMGH							4.0	5.0	2	OKUMA (Face G) ※1
	40PH2							7.0		1	YASDA $\phi 3$ side hole
	40PMGH2							7.0	10.0	3	YASDA
	40PH7							5.0		1	MITSUI
	40PMGH7							7.0		1	
	40PH4							7.0		1	
	40PMGH3							7.0		1	
	40PH11							5.0		1	
	40PH12	5.0		1							
	P40T-1	MAS-I	15	10	35	28	45	None		–	MAS-1 BT40
	P40T-1MG							3.0		1	MAS-1 BT40 with hole
	P40T-1H							3.5	5.5	2	
	P40T-1MGH							3.0	7.0	3	OKUMA
	P40T-1H4							4.0		1	MAKINO (Face G) ※1
	P40T-2	MAS-II	15	10	35	28	60	None		–	MAS-2 BT40
	P40T-2MG							3.0		1	MAS-2 BT40 with hole
	P40T-2H							3.5	5.5	2	
	P40T-2MGH							3.5	5.5	2	
	PVD40	DIN	19	14	26	20	75	7.0		1	DIN 69872 from A
	PVD40MG									1	
	MP40	Original	15	10	25	18	90	None		–	MITSUI
POM40									–	MORI w/o hole	
POM40MG	15		10	35	28	90	None		–	MORI From B	
POM40F									–		
PMO40	19		14	29	23	75	7.0	10.0	3	MORI with hole	
PMO40MG											
PYN40	18.8		12.45	19.11	14.03	45	7.0			1	MAZAK
PYN40MG											

1. Machine tool builders have used many various shapes and sizes of pull stud bolts.

2. The use of the incorrect bolts may result in injury or property damage for your machining center.

※1. End face was grinded for the sealing.

※2. End face has O-ring for the sealing.



Spindle	Model	Standard	ϕD_1	ϕD_2	L	L_1	θ	ϕd	ϕd_1	Hole Type	Specification / Feature										
50 (M24)	50PH	JIS	28	21	34	25	75	10.0		1	JIS 50 with hole										
	50PMGH										MAKINO (Face G) ※1										
	50PH2																				
	P50T-1	MAS-I	23	17	45	35	45			-	MAS-1 BT50										
	P50T-1MG										None										
	P50T-1H										8.0	1	MAS-1 BT50 with hole								
	P50T-1MGH										6.0	1	MAKINO (Face G) ※1								
	P50T-1H1										6.0	10.4	1	JTEKT							
	P50T-1H4										6.0	11.2	3	YASDA							
	P50T-1H5										5.5	11	3	MORI (Face G) ※1							
	P50T-1H8										8.2	9.5	3	OKUMA							
	P50T-1H18										6.2		3	TOSHIBA							
	P50T-1H19										4.5		1								
	P50T-2										MAS-II	23	17	45	35	60				-	MAS-2 BT40
	P50T-2MG																				None
	P50T-2H																				8.0
	P50T-2MGH	6.0	7.0	1	OKUMA (Face G) ※1																
	P50T-2H14	6.0		2	OKUMA																
	P50T-2MGH2	6.0	9.5	3	JTEKT																
	P50T-2H11	6.2	10.4	3	YASDA																
	P50T-2H15	6.2	11.2	3																	
	P50T-2H16	5.7		3																	
	PVD50	DIN	28	21	34	25	75	11.5		1	DIN 69872 from A										
	MP50	Original	24	18	31	23	90				-	MITSUI									
	MP50H1											8.0	1	MITSUI with hole							
	POM50											None		MORI							
	POM50H											8.0		1	MORI with hole						
POM50H1	8.0											12.4	3	OKUMA with hole							
POM50H7	23											17	45	35	90	6.0	9.5	3	OKK (Face O) ※2		
POM50H8	23											17	45	35	90	6.0		1	MAZAK (Face G) ※1		
PYN50-5	28.96											20.83	25.2	17.58	45	10.0		1			

1. Machine tool builders have used many various shapes and sizes of pull stud bolts.

2. The use of the incorrect bolts may result in injury or property damage for your machining center.

※1. End face was grinded for the sealing.

※2. End face has O-ring for the sealing.

ACCESSORIES

MICRO COLLET	P 91
NEW BABY COLLET	P 92
NBC ENDMILL COLLET	P 93
COLLET EJECTOR	P 93
MEGA E COLLET	P 94
STRAIGHT COLLET for MILLING CHUCK	P 95
PERFECT SEAL (MPS / BPS / EPS)	P 96
PULL STUD BOLT	P 99
POINT MASTER PRO PMP	P101
POINT MASTER PMC	P103
POINT MASTER PMG	P104
BASE MASTER SERIES	P105
TOOL MASTER	P107
TOOLING MATE	P108
HOLDER LOCK	P108
KOMBI GRIP	P109
ST LOCK	P109
T-SLOT CLEAN	P109
α WIPER CLEANER	P110
TK CLEANER	P110
α TAPER CLEANER	P110
α TOOLING CLEANER	P111
SPINDLE CLEANER	P111
CLEAN TEC	P111



POINT MASTER PRO SERIES

POINT MASTER PRO Series is a precision 3-D touch sensor which will operate in non-conductive as well as conductive applications, Resin, ceramic or coated workpieces, machines with ceramic spindle taper or bearings can all be accommodated etc.

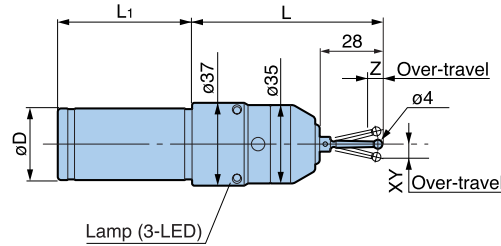


Touch Probe & Edge Finder

CYLINDRICAL Shank Type



For all materials, including non-conductive cutting tools, workpieces, and machine tools.



Model	øD (h7)	L	L1	Repeatability (Probe)	Over-travel		Measuring Pressure (N)		Battery	Battery life (Continuous use)	Standard Stylus	Weight (kg)
					XY	Z	XY	Z				
PMP-10	10	75	49	±1μm (2σ)	±12	5	0.4	1.5	Panasonic Lithium BR435×1	20hours	ST28-4R	0.4
-20	20	90	50						LR1×2	50hours		0.5
-32	32	80	60						0.6			

- PMP-10 have one LED only.
- Above table indicates the specification when using stylus ST28-4R.
- There is approx 5μm lag in X & Y directions and approx. 2μm lag in Z direction to illuminate LED lamp when stylus touches workpiece surface.

BBT Shank Type JIS B 6339 (BIG-PLUS)

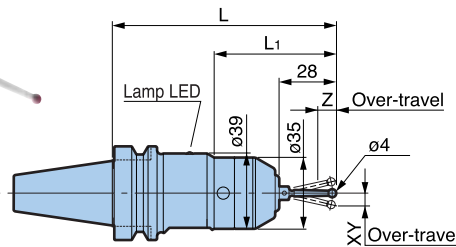
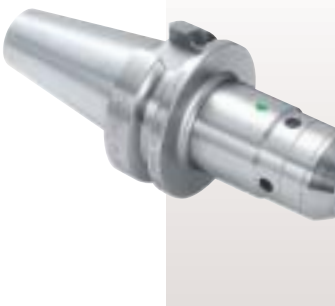


Fig.1

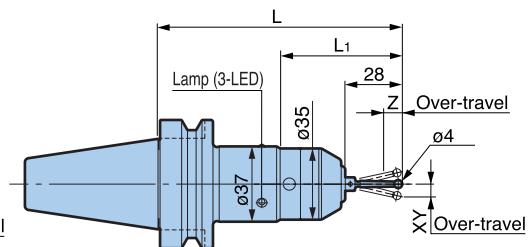


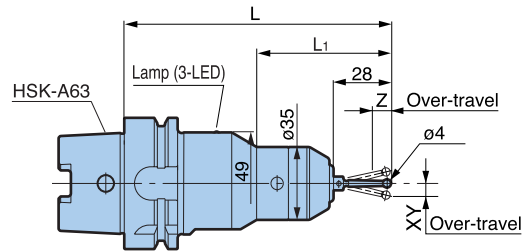
Fig.2

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	Fig.	BBT No.	L	L1	Repeatability (Probe)	Over-travel		Measuring Pressure (N)		Battery	Battery life (Continuous use)	Standard Stylus	Weight (kg)
						XY	Z	XY	Z				
BBT30-PMP-110	1	30	110	60	±1μm (2σ)	±12	5	0.4	1.5	SR44×2	24hours	ST28-4R	0.8
BBT40-PMP-120	2	40	120	60						LR1×2	50hours		1.3

- BBT30-PMP-110 have one LED only.
- Above table indicates the specification when using stylus ST28-4R.
- There is approx 5μm lag in X & Y directions and approx. 2μm lag in Z direction to illuminate LED lamp when stylus touches workpiece surface.

HSK Shank Type ISO12164&DIN69893-1

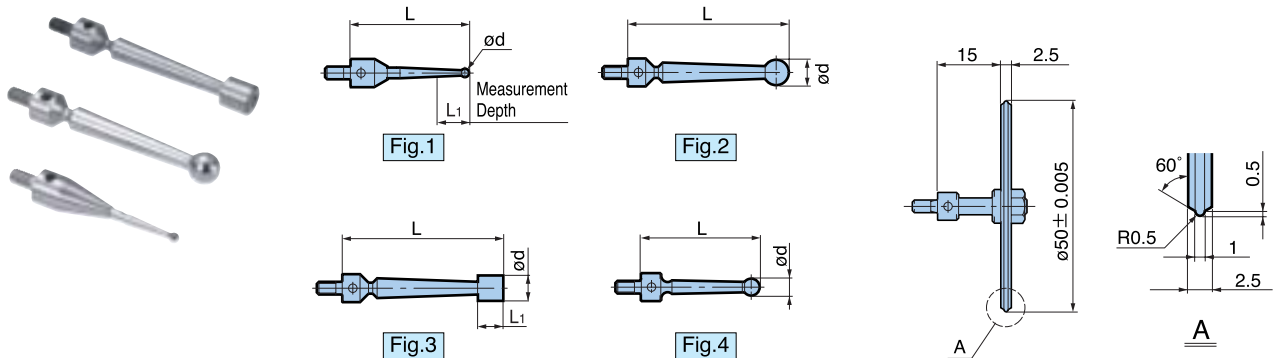


Model	HSK No.	L	L ₁	Repeatability (Probe)	Over-travel		Measuring Pressure (N)		Battery	Battery life (Continuous use)	Standard Stylus	Weight (kg)
					XY	Z	XY	Z				
HSK-A63-PMP-130	63	130	65	±1μm(2σ)	±12	5	0.4	1.5	CR2×1	24hours	ST28-4R	1.3

- Above table indicates the specification when using stylus ST28-4R.
- There is approx 5μm lag in X & Y directions and approx. 2μm lag in Z direction to illuminate LED lamp when stylus touches workpiece surface.

ALTERNATIVE STYLII

The stylus (M3 thread) is replaceable. Please replace when different model of stylus required or if damaged.



Model	Fig.	L	L ₁	∅d	Material	Series	
ST28-1P	1	28	2	1	Carbide	PMG-PMC-PMP	
-2P			8	2			
-3P			4	—			3
-4P				4			
ST38-6P	2	38	—	6	Steel (SUS)	PMG-PMC	
ST38-6×6	3		6	6	PMG□□S-PMC□□S		
ST28-4R	4	28	—	4	Ruby	PMP	

※ Stylus model ST38-6×6 is exclusive for PMG□□S and PMC□□S series.
Runout accuracy may worsen when used on PMG or series without "S".

Ideal for awkward shaped workpiece or tapered portion of plastic mold.

Model **ST15-50K**

* PMG&PMC-Series only.

POINT MASTER **PMC** SERIES

POINT MASTER Series is a precision 3-D touch sensor to center and measure the workpiece.

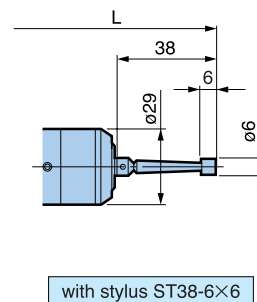
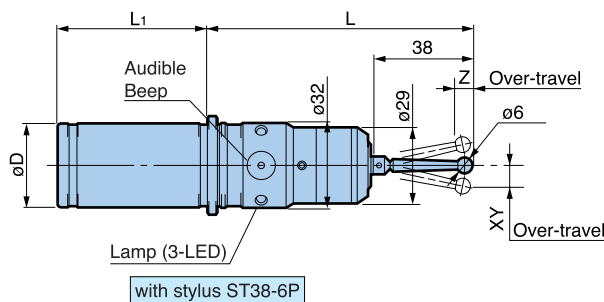
LED lamp illuminates when the stylus touches the workpiece.
Stroke of stylus provides sufficient over-travel for safety.



Touch Probe &
Edge Finder

CYLINDRICAL Shank Type

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

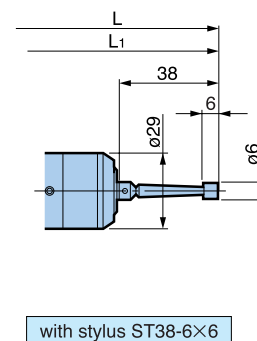
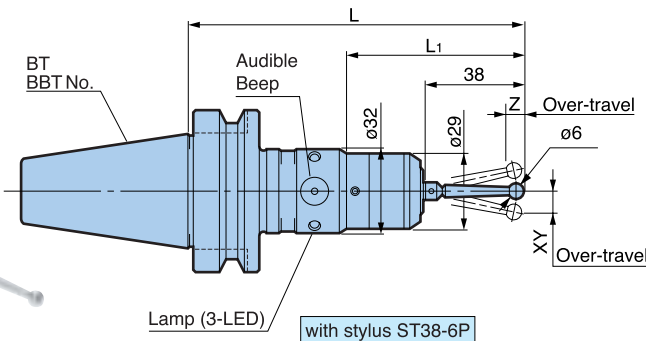


Model	øD h7	L	L1	Repeatability (Probe)	Over-travel		Measuring Pressure (N)		Battery	Battery life (Continuous use)	Standard Stylus	Weight (kg)
					XY	Z	XY	Z				
PMC-20	20	110	50	±1μm (2σ)	±12	5	0.6	3	LR1×2	33hours	ST38-6P	0.4
-32	32	102	58									0.6
PMC-20S	20	110	50	±1μm (2σ)	±12	5	0.6	3	LR1×2	33hours	ST38-6x6	0.4
-32S	32	102	58									0.6

1. ST38-6x6 cylindrical stylus is mounted on models with "S".
2. Above table indicates the specification when using standard stylus.

For stylus options:P102

BT Shank Type



BT40/50 JIS B 6339

Model	BT No.	L	L1	Repeatability (Probe)	Over-travel		Measuring Pressure (N)		Battery	Battery life (Continuous use)	Standard Stylus	Weight (kg)
					XY	Z	XY	Z				
BT40-PMC-130	40	130	69	±1μm (2σ)	±12	5	0.6	3	LR1×2	33hours	ST38-6P	1.2
BT50-PMC-160	50	160										4.0
BT40-PMC-130S	40	130	69	±1μm (2σ)	±12	5	0.6	3	LR1×2	33hours	ST38-6x6	1.2
BT50-PMC-160S	50	160										4.0

1. ST38-6x6 cylindrical stylus is mounted on models with "S".
2. Above table indicates the specification when using standard stylus.

For stylus options:P102



BBT40/50 JIS B 6339 (BIG-PLUS)

BIG-PLUS tools can be used in machining centers with conventional spindles.

Model	BBT No.	L	L1	Repeatability (Probe)	Over-travel		Measuring Pressure (N)		Battery	Battery life (Continuous use)	Standard Stylus	Weight (kg)
					XY	Z	XY	Z				
BBT40-PMC-130	40	130	69	±1μm (2σ)	±12	5	0.6	3	LR1×2	33hours	ST38-6P	1.2
BBT50-PMC-160	50	160										4.0
BBT40-PMC-130S	40	130	69	±1μm (2σ)	±12	5	0.6	3	LR1×2	33hours	ST38-6x6	1.2
BBT50-PMC-160S	50	160										4.0

1. ST38-6x6 cylindrical stylus is mounted on models with "S".
2. Above table indicates the specification when using standard stylus.

For stylus options:P102

POINT MASTER **PMG** SERIES

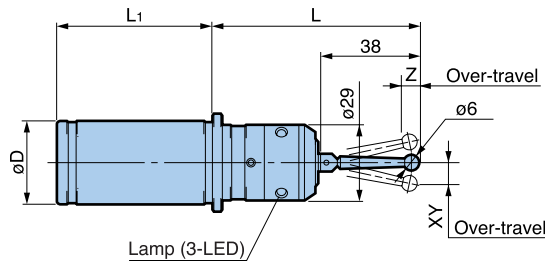
LED lamp illuminates when the stylus touches the workpiece.



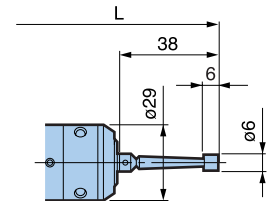
Touch Probe &
Edge Finder

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

CYLINDRICAL Shank Type



with stylus ST38-6P



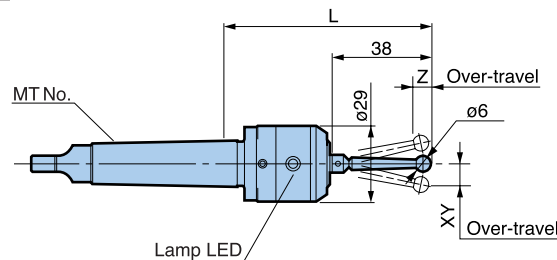
with stylus ST38-6x6

Model	øD h7	L	L1	Repeatability (Probe)	Over-travel		Measuring Pressure (N)		Battery	Battery life (Continuous use)	Standard Stylus	Weight (kg)
					XY	Z	XY	Z				
PMG-10	10	75	50	±1μm (2σ)	±12	5	0.6	3	Panasonic Lithium BR435×1	12hours	ST38-6P	0.2
-20	20	90							LR1×2	25hours		0.3
-32	32	80							60	0.5		
PMG-10S	10	75	50	±1μm (2σ)	±12	5	0.6	3	Panasonic Lithium BR435×1	12hours	ST38-6x6	0.2
-20S	20	90							LR1×2	25hours		0.3
-32S	32	80							60	0.5		

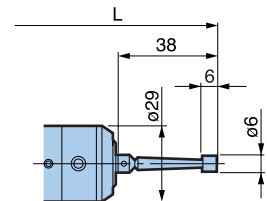
1. PMG-10 and PMG-10S have one LED only.
2. ST38-6x6 cylindrical stylus is mounted on models with "S".
3. Above table indicates the specification when using standard stylus.

For stylus options:P102

MORSE TAPER Shank Type



with stylus ST38-6P



with stylus ST38-6x6

Model	MT No.	L	Repeatability (Probe)	Over-travel		Measuring Pressure (N)		Battery	Battery life (Continuous use)	Standard Stylus	Weight (kg)
				XY	Z	XY	Z				
PMG-MT2	MT2	80	±1μm (2σ)	±12	5	0.6	3	Panasonic Lithium BR435×1	12hours	ST38-6P	0.2
-MT2S										ST38-6x6	0.2

1. PMG-MT2 and PMG-MT2S have one LED only.
2. ST38-6x6 cylindrical stylus is mounted on models with "S".
3. Above table indicates the specification when using standard stylus.

For stylus options:P102

BASE MASTER SERIES

BASE MASTER Series is a precision touch sensor to determine workpiece offsets and tool length.

Mounted on workpiece surface or machine table, LED lamp illuminates immediately when the cutting edge touches the sensor plate and the position is detected.



Tool Offset Sensor

BASE MASTER

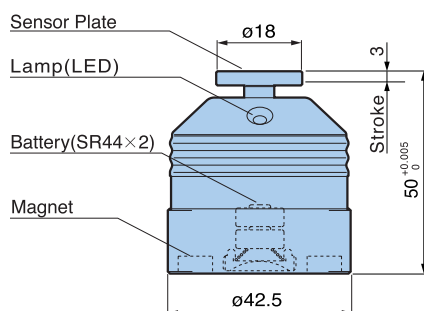
The most popular Base Master model with $\pm 1\mu\text{m}$ accuracy. Operates when a conductive circuit is completed.



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



Model **BM-50**



Height accuracy	$50^{+0.005}_0$ mm
Measurable pressure	3N
Repeatability accuracy	$\pm 1\mu\text{m}(2\sigma)$
Min. measurable tool diameter	$\phi 1\text{mm}$
Battery life	10hours (continuous use)
Weight	0.23kg

BASE MASTER GOLD

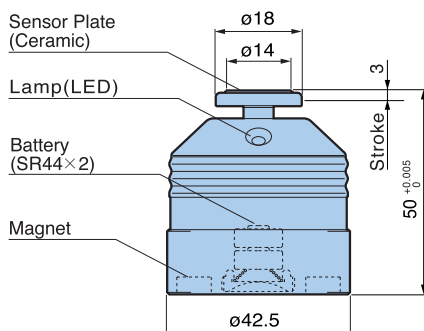
Suitable for various tools and workpieces, including non-conductive materials such as ceramics.



For all materials, including non-conductive cutting tools, workpieces, and machine tools.



Model **BM-50G**



Height accuracy	$50^{+0.005}_0$ mm
Measurable pressure	3N
Repeatability accuracy	$\pm 1\mu\text{m}(2\sigma)$
Min. measurable tool diameter	$\phi 1\text{mm}$
Battery life	10hours (continuous use)
Weight	0.24kg

BASE MASTER GOLD

Suitable for various tools and workpieces, including non-conductive materials such as ceramics.



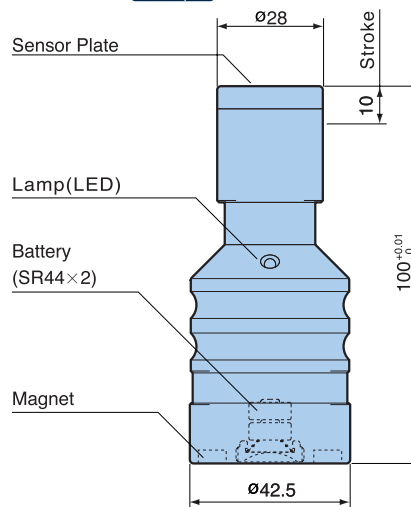
100mm detecting height. Larger measuring head eases operation.

For all materials, including non-conductive cutting tools, workpieces, and machine tools.



NEW

Model **BM-100G**



Height accuracy	100 ^{+0.01} ₀ mm
Measureable pressure	2N
Repeatability accuracy	±1μm(2σ)
Min. measurable tool diameter	ø1mm
Battery life	10hours (continuous use)
Weight	0.36kg

BASE MASTER MICRO PAT.P

Specifically designed for micro cutting tools. Low measuring pressure protects the cutting edge.

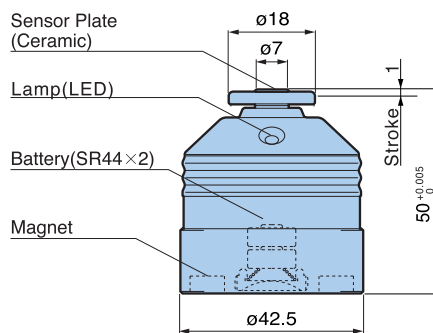


Pre-set **ø0.05mm** tools. Considerable reduction of set-up time for small dia. tools.

For all materials, including non-conductive cutting tools, workpieces, and machine tools.



Model **BM-50M**



Height accuracy	50 ^{+0.005} ₀ mm
Measureable pressure	0.3N
Repeatability accuracy	±1μm(2σ)
Min. measurable tool diameter	ø0.05mm
Battery life	10hours (continuous use)
Weight	0.24kg

BASE MASTER SERIES

BASE MASTER Series is a precision touch sensor to determine workpiece offsets and tool length.

Mounted on workpiece surface or machine table, LED lamp illuminates immediately when the cutting edge touches the sensor plate and the position is detected.



Tool Offset Sensor

BASE MASTER mini

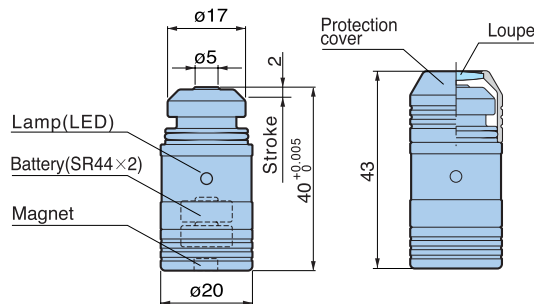
- **World smallest 20mm body diameter.**
- Best suited to measurement in complicated shapes and limited space.
- High intensity Blue LED indication when the offset position is detected.



For all materials, including non-conductive cutting tools, workpieces, and machine tools.



Protection cover with magnifier(X 5)



Height accuracy	$40^{+0.005}_0$ mm
Measurable pressure	1.8N
Repeatability accuracy	$\pm 1\mu\text{m}(2\sigma)$
Min. measurable tool diameter	$\phi 0.1\text{mm}$
Battery life	10hours (continuous use)
Weight	55g

Model **BMM-20**

TOOL MASTER

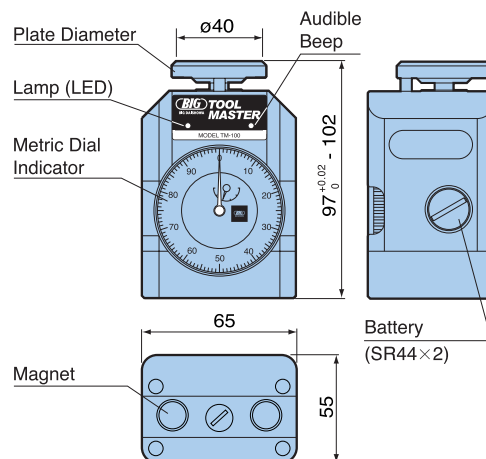
TOOL MASTER is a precision touch sensor with a large dial gauge. LED lamp and sound pre-indicate approach to 100mm height to ease the detecting operation.



Tool Offset Sensor



Model **TM-100**



For all materials, including non-conductive cutting tools, workpieces, and machine tools.

Height accuracy	$100^{+0.02}_0$ mm	
Stroke	5mm	
Stroke range	97 - 102mm	
Measurable pressure	6N(100mm)	
Weight	1.2kg	
Dial gauge	Graduation	0.01mm
	Indication tolerance	$\pm 15\mu\text{m}$
	Repeatability	$5\mu\text{m}$
	Return tolerance	$5\mu\text{m}$

* Dial gauge accuracy in accordance with JISB7503:1997.

ACCESSORIES

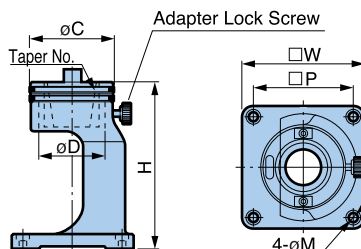
MICRO COLLET	P 91
NEW BABY COLLET	P 92
NBC ENDMILL COLLET	P 93
COLLET EJECTOR	P 93
MEGA E COLLET	P 94
STRAIGHT COLLET for MILLING CHUCK	P 95
PERFECT SEAL (MPS / BPS / EPS)	P 96
PULL STUD BOLT	P 99
POINT MASTER PRO PMP	P101
POINT MASTER PMC	P103
POINT MASTER PMG	P104
BASE MASTER SERIES	P105
TOOL MASTER	P107
TOOLING MATE	P108
HOLDER LOCK	P108
KOMBI GRIP	P109
ST LOCK	P109
T-SLOT CLEAN	P109
α WIPER CLEANER	P110
TK CLEANER	P110
α TAPER CLEANER	P110
α TOOLING CLEANER	P111
SPINDLE CLEANER	P111
CLEAN TEC	P111



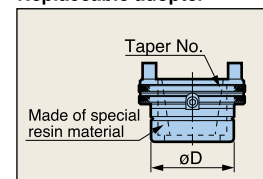
TOOLING MATE

Innovative "Two-way clutch needle roller clamping system" assures secure clamping at the tool flange periphery.

For BBT (BT) & BDV (DV)



Replaceable adaptor

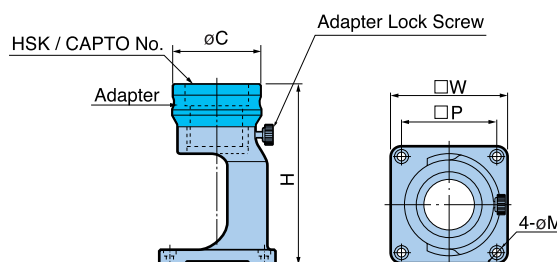


Model	BT / DV No.	øC	øD	H	W	P	øM	Adapter Model
TMS40-30	30	76	60	150	110	90	7 (for M6)	TMA40-30
-40	40							-40
TMS50-40	40	105	88	190	160	130	9 (for M8)	TMA50-40
-50	50							-50

1. 1pc. of Adaptor is included.
2. Adapter can be ordered individually.
3. Adapter Lock Screw is available as a spare part. Model: RTM0615
4. 4pcs. of cap bolts to mount on the table are not included.

Caution
TOOLING MATE must be securely fixed to a bench with 4 mounting bolts.

For HSK & CAPTO PAT.



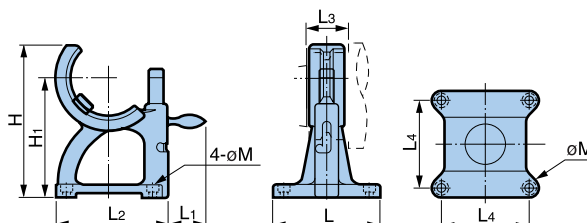
Model	HSK No.	CAPTO No.	øC	H	W	P	øM	Adapter Model
TMS40-32R	32	C3	76	165	110	90	7 (for M6)	TMA40-32R
-40R	40	C4	76	165				-40R
-50R	50	C5	76	165				-50R
-63R	63	C6	87	172				-63R
TMS50-80R	80	C8	114	215	160	130	9 (for M8)	TMA50-80R
-100R	100	-	124	219				-100R

1. 1pc. of Adaptor is included.
2. Adapter can be ordered individually.
3. Adapter Lock Screw is available as a spare part. Model: RTM0615
4. 4pcs. of cap bolts to mount on the table are not included.

Caution
TOOLING MATE must be securely fixed to a bench with 4 mounting bolts.

HOLDER LOCK

Horizontal tooling fixture.



Horizontal operation prevents small cutting tools from dropping into the toolholder.

Model	BT No.	L	L1	L2	L3	L4	H	H1	øM	Fixing cap
HL-BT30	30	82	31	82	26	65	120	100	7 (for M6)	HL-30CP
HL-BT40	40	98	33	98	32	80	140	115		HL-40CP
HL-BT50	50	124	43	131	44	100	178	140	9(for M8)	HL-50CP

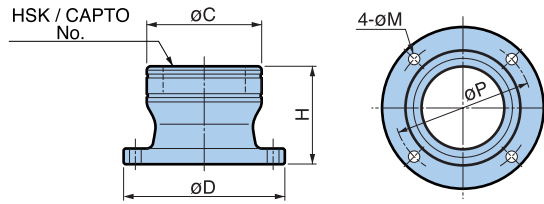
1. Fixing cap is available as a spare part.
2. Exclusive for each size of BBT/BT 30, 40 and 50.
3. 4pcs. of cap bolts to mount on the table are not included.

Caution
HOLDER LOCK must be securely fixed to a bench with 4 mounting bolts.

KOMBI GRIP PAT.

Innovative "Two-way clutch needle roller clamping system" assures secure clamping at the tool flange periphery.

For HSK & CAPTO



Model	HSK No.	CAPTO No.	øC	øD	H	øP	øM
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	



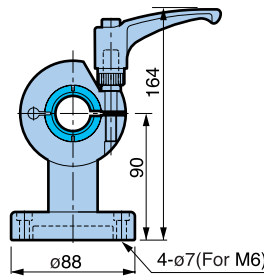
Caution
KOMBIGRIP must be securely fixed to a bench with 4 mounting bolts.

1. Mounting bolts (4 pcs) are not included.

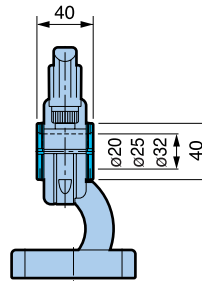
ST LOCK

Ideal fixture for set-up of cylindrical shank toolholder.
Clamps 20, 25 & 32mm diameter shank holder by replacing the sleeve.

ø20, 25 & 32mm sleeves



Model **STL40**



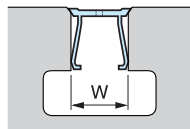
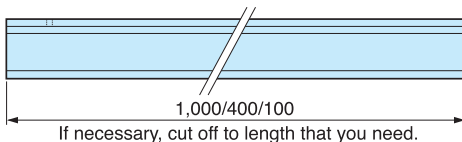
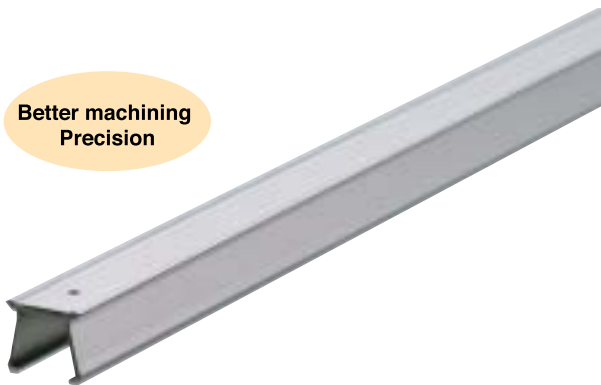
- 1 pce. each of ø20, 25 & 32mm sleeves are included.
- 4 pcs. of cap bolts to mount on the table are not included.

Caution
ST LOCK must be securely fixed to a bench with 4 mounting bolts.

T-SLOT CLEAN

Improve efficiency of table cleaning.
Save you from cleaning T-slots packed with swarf.
Quick discharge of swarf out of a machine

Better machining
Precision



■ Before



■ After



SET

Set model	W	Contents of set
TS14-S	14	400mm × 4 pieces
TS18-S	18	100mm × 4 pieces
TS22-S	22	Removal pin × 1 piece

400mm SET

Set model	W	Contents of set
TS14-400L-100P	14	400mm × 10 pieces Removal pin × 1 piece
TS18-400L-100P	18	
TS22-400L-100P	22	

1,000mm SET

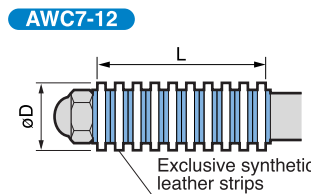
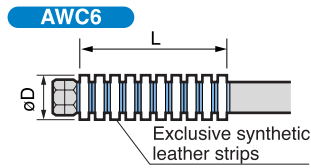
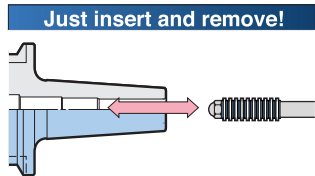
For large machines

Set model	W	Contents of set
TS18-1000L-10P	18	1,000mm × 10 pieces Removal pin × 1 piece
TS22-1000L-10P	22	

Perfect for Hydraulic Chuck and Shrink Fit Holder

Q WIPER CLEANER PAT.P

Easy cleaning by simply inserting and removing.



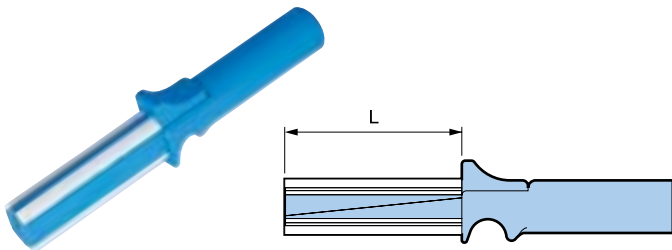
For 6 to 12mm clamping bores

Model	øD	L
AWC 6	6	20
AWC 7	7	
AWC 8	8	
AWC 9	9	26
AWC10	10	
AWC11	11	31
AWC12	12	

Perfect for Hydraulic Chuck and Milling chuck Holder

TK CLEANER PAT.

Absolute cleaning of clamping bore by unique "slide" feature!



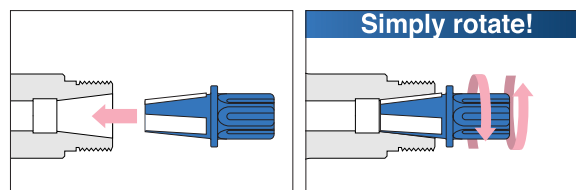
For 13 to 42mm clamping bores

Model	Bore diameter(ø)	L	Leather strips qty
TKC13	13	60	2
14	14		
15	15		
16	16	70	
18	18		
20	20		
25	25	80	3
32	32	100	4
40	40		
42	42		

For internal collet taper

Q TAPER CLEANER

Maintain accuracy of high precision collet chucks!



For MEGA MICRO CHUCK

Model	Suitable body
SC-NBC3S	MEGA 3S
SC-NBC4S	MEGA 4S
SC-NBC6S	MEGA 6S

For MEGA NEW BABY CHUCK & NEW BABY CHUCK

Model	Suitable body
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	Suitable body
SC-MEC 6	MEGA 6E
SC-MEC 8	MEGA 8E
SC-MEC10	MEGA10E
SC-MEC13	MEGA13E

For ER collet chuck



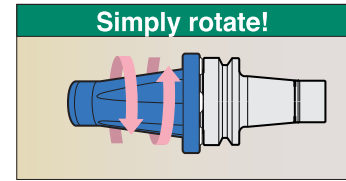
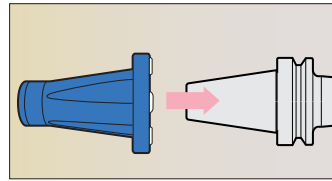
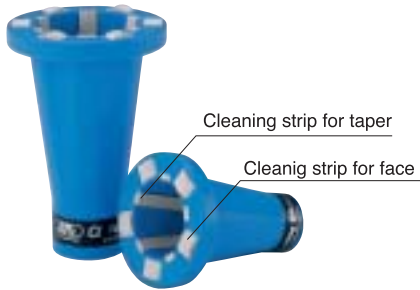
Model	Suitable body
SC-MER11	ER11
SC-MER16	ER16
SC-MER20	ER20
SC-MER25	ER25
SC-MER32	ER32

ACCESSORIES

For tool shank taper and flange

α TOOLING CLEANER

Particles and oil on both taper and flange of 7/24 taper holder are easily removed.



For #30 & #40 tapers

Model	Shank size
SCE-30	No.30
SCE-40	No.40

For machine spindle

SPINDLE CLEANER

Easy cleaning of oil or particles from the machine spindle!



For ISO taper spindle

Model	Taper Size
SC20	#20
SC30	#30
SC40	#40
SC45	#45
SC50	#50

For Morse taper spindle

Model	Taper Size
SC1	MT1
SC2	MT2
SC3	MT3
SC4	MT4
SC5	MT5
SC6	MT6

1. Also suitable for the internal taper of Morse taper holders.

For HSK spindle

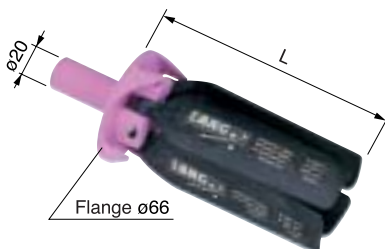
Model	Spindle
SC-HSK 32	HSK-A 32
40	HSK-A 40
50	HSK-A 50
63	HSK-A 63
80	HSK-A 80
100	HSK-A100

Model	Spindle
SC-HSK25E	HSK-E25
32E	HSK-E32
40E	HSK-E40
50E	HSK-E50

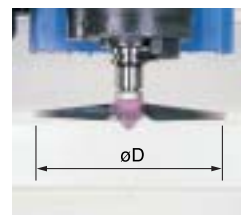
For machine spindle

CLEAN TEC

Full automation of swarf and coolant removal by means of wind pressure.



Model	L	øD
ST20-CT160	82	160
-CT260	130	260
-CT330	166	330



CUTTING TOOLS

FULLCUT MILL FCR	P113
FULLCUT MILL FCM	P119
FULLCUT MILL FCM for Arbor Type	P127
C-CUTTER MINI	P129
C-CUTTER	P134
CENTER BOY	P135
Application example	P136



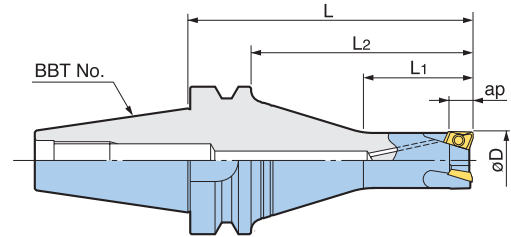
Ramping and Helical milling

FULLCUT MILL PAT. **FCR** Cutter Dia. $\phi 16 - \phi 32$

Unique inserts designed for ramping make multi-functional cutting possible.



BBT Standard type JIS B 6339 (BIG-PLUS)



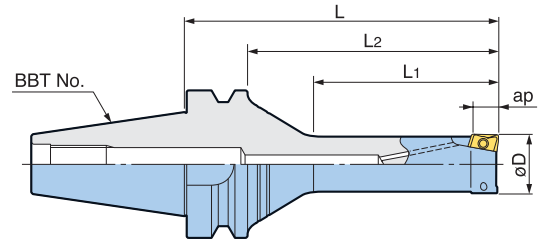
BIG-PLUS tools can be used in machining centers with conventional spindles.

Cutter Dia. ϕD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	BBT30-FCR16082- 65	8	65	28	43	2	BRG16	0.5
20	-FCR20083- 65		65	28	43	3	BRG20	0.5
25	-FCR25083- 65		65	33	43	3	BRG25	0.6
32	-FCR32103- 65	10	65	40	43	3	BRG32	0.6
16	BBT40-FCR16082- 85	8	85	25	58	2	BRG16	1.3
	-120		120	30	93			1.5
	-135		135	25	108			1.6
20	-FCR20083- 85	8	85	35	58	3	BRG20	1.2
	-120		120	30	93			1.6
	-135		135	30	108			1.7
25	-FCR25083- 85	8	85	40	58	3	BRG25	1.3
	-120		120	45	93			1.6
	-135		135	35	108			1.8
32	-FCR32103- 85	10	85	45	58	3	BRG32	1.4
	-120		120	50	93			1.7
	-135		135	40	108			1.9

For Insert : P117

For Cutting Condition : P118

BBT Long nose type JIS B 6339 (BIG-PLUS)



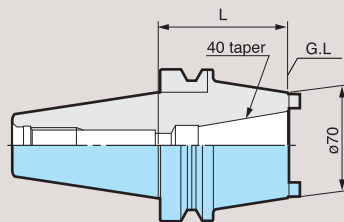
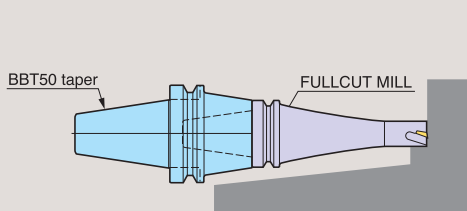
BIG-PLUS tools can be used in machining centers with conventional spindles.

Cutter Dia. øD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	BBT30-FCR16082L- 85	8	85	45	63	2	BRG16	0.5
20	-FCR20082L- 85		85	50	63			
25	-FCR25082L- 85		85	50	63			
32	-FCR32102L- 85	10	85	60	63	2	BRG32	0.7
16	BBT40-FCR16082L-105	8	105	45	78	2	BRG16	1.3
	-120		120	45	93			1.4
20	-FCR20082L-120	8	120	60	93	2	BRG20	1.4
	-135		135	60	108			1.5
25	-FCR25082L-135	8	135	75	108	2	BRG25	1.5
	-150		150	75	123			1.7
32	-FCR32102L-135	10	135	80	108	2	BRG32	1.7
	-150		150	90	123			1.9

☞ For Insert : P117

☞ For Cutting Condition : P118

Adapter for BT50 taper shank (FCR & FCM)



Model	L
BBT50-BBT40-50	50
-90	90

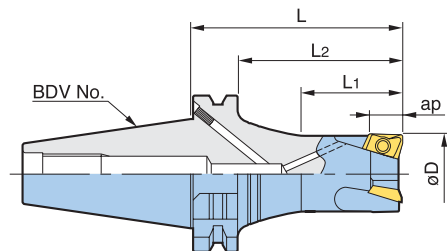
Ramping and Helical milling

FULLCUT MILL PAT. **FCR** Cutter Dia. $\phi 16 - \phi 32$

Unique inserts designed for ramping make multi-functional cutting possible.



BDV Standard type DIN 69871 A/B (BIG-PLUS)



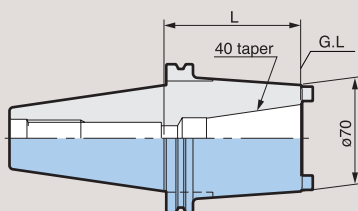
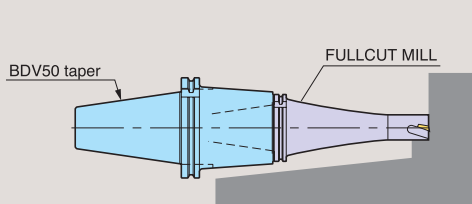
BIG-PLUS tools can be used in machining centers with conventional spindles.

Cutter Dia. ϕD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	BDV40-FCR16082- 85	8	85	25	65	2	BRG16	1.3
	-120		120	30	100			1.5
	-135		135	25	115			1.6
20	-FCR20083- 85	8	85	35	65	3	BRG20	1.2
	-120		120	30	100			1.6
	-135		135	30	115			1.7
25	-FCR25083- 85	8	85	40	65	3	BRG25	1.3
	-120		120	45	100			1.6
	-135		135	35	115			1.8
32	-FCR32103- 85	10	85	45	65	3	BRG32	1.4
	-120		120	50	100			1.7
	-135		135	40	115			1.9

For Insert : P117

For Cutting Condition : P118

Adapter for SK50 taper shank (FCR & FCM)



Model	L
BDV50-BDV40-50	50
-90	90

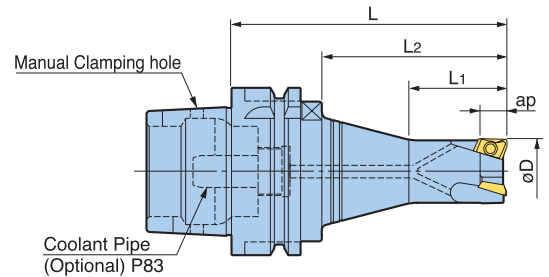


Note

The integral version of the FULLCUT MILL provides increased rigidity as a result of the reduced gage length. It is particularly recommended for use in machines having a small spindle taper. Additionally, there is a cost saving as no chuck is necessary.

HSK-A Standard type

ISO12164 & DIN 69893-1



Cutter Dia. øD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	HSK-A50-FCR16082- 75	8	75	27	41	2	BRG16	0.5
20	-FCR20083- 75		75	28	41	3	BRG20	0.6
25	-FCR25083- 75		75	33	41	3	BRG25	0.6
32	-FCR32103- 75	10	75	39	41	3	BRG32	0.7
16	HSK-A63-FCR16082- 85	8	85	25	51	2	BRG16	0.9
	-120		120	30	86			1.1
	-135		135	25	101			1.2
20	-FCR20083- 85	8	85	32	51	3	BRG20	1.0
	-120		120	30	86			1.2
	-135		135	30	101			1.3
25	-FCR25083- 85	8	85	35	51	3	BRG25	1.0
	-120		120	45	86			1.2
	-135		135	35	101			1.4
32	-FCR32103- 85	10	85	40	51	3	BRG32	1.1
	-120		120	50	86			1.4
	-135		135	40	101			1.5

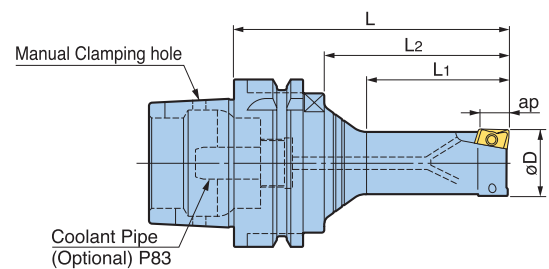
1. Coolant Pipe is ordered separately.

For Insert : P117

For Cutting Condition : P118

HSK-A Long nose type

ISO12164 & DIN 69893-1



Cutter Dia. øD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	HSK-A63-FCR16082L- 85	8	85	40	51	2	BRG16	0.9
	-120		120	45	86			1.0
20	-FCR20082L-105	8	105	50	71	2	BRG20	1.1
	-120		120	60	86			1.2
25	-FCR25082L-105	8	105	55	71	2	BRG25	1.1
	-120		120	65	86			1.1
32	-FCR32102L-120	10	120	70	86	2	BRG32	1.4
	-135		135	80	101			1.4

1. Coolant Pipe is ordered separately.

For Insert : P117

For Cutting Condition : P118

Ramping and Helical milling

FULLCUT MILL PAT. FCR

Indexable Inserts



Model Description
BRG16 **08** **08** **ACZ350S**
 Grade
 Nose Rd.
 Effective Cutting Length
 $\phi 16-25 \dots 08$ $\phi 32 \dots 10$

Marking Description

 Insert Size
 1: ACZ310
 5S: ACZ350S
 2: DC20 / DS20
 grade

Cutter Dia	Insert Model	ap	Nose Red. r	P	M	K	N
				ACZ350S	ACZ310	DC20	DS20
$\phi 16$	BRG160808	8	0.8	○	○	○	○
$\phi 20$	BRG200808	8	0.8	○	○	○	○
$\phi 25$	BRG250808	8	0.8	○	○	○	○
$\phi 32$	BRG321008	10	0.8	○	○	○	○
	BRG321032	10	3.2			○	

※ Inserts are available in packets of 10 pcs.
 Please clarify the insert type and grade when ordering.
 For example, use ordering code: BRG160808ACZ350S.

Caution

- It is important to use the correct insert for the diameter of FULLCUT MILL. Failure to use the correct insert will result in incorrect cutting conditions and poor results.
- There is no compatibility with those of FCM type.**

Insert Classifications

ISO	Grade	Material	Coating
P30	ACZ350S	General steel	TiAlN / TiCN
M30		Stainless steel	
K10	ACZ310	Cast Iron	
N20	DC20	Aluminum	DLC
	DS20		

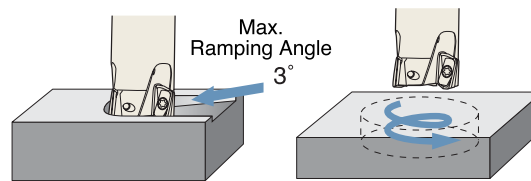
Spare Parts

		Insert Clamping Screw Set	Wrench	Anti-seizure Lubricant
		 (10) screws & (1) wrench		 5g included
Cutter Dia	Insert	Model	Model	Model
$\phi 16$	BRG1608	S2506DS	DA-T8	BN-5
$\phi 20$	BRG2008			
$\phi 25$	BRG2508			
$\phi 32$	BRG3210	S3508DS	DA-T15	

Note It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained.

FCR Recommended Cutting Condition

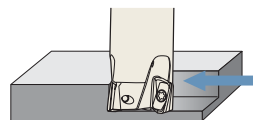
Ramping and helical interpolation



Cutter Dia.	Flat Bottom		Through Hole
	Max. Hole Dia.	Min. Hole Dia.	Min. Hole Dia.
ø16	ø30	ø27	ø22
ø20	ø38	ø36	ø29
ø25	ø48	ø45	ø39
ø32	ø62	ø59	ø48

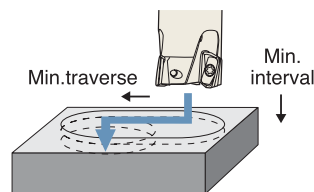
Cutter Dia.	Work Material	Carbon steel Alloy steel	Unalloyed steel	Prehardened steel <HRC40	Stainless steel	Die steel	Cast iron	Aluminium
	Insert Grade	ACZ350S					ACZ310	DS20
	Cutting fluid	Dry		Wet	Dry/Wet	Dry		Dry/Wet
ø16	Speed(m/min)	100 - 200	150 - 220	60 - 80	100 - 150	60 - 80	100 - 180	200 - 1,000
	Feed(mm/tooth)	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 ø25	Speed(m/min)	100 - 200	150 - 200	60 - 100	120 - 150	60 - 100	100 - 180	200 - 1,000
	Feed(mm/tooth)	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	Speed(m/min)	100 - 200	150 - 200	60 - 100	120 - 150	60 - 120	100 - 180	200 - 1,000
	Feed(mm/tooth)	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

Shouldering and slotting



Cutter Dia.	Work Material	Carbon steel Alloy steel	Unalloyed steel	Prehardened steel <HRC40	Stainless steel	Die steel	Cast iron	Aluminium
	Insert Grade	ACZ350S					ACZ310	DS20
	Cutting fluid	Dry		Wet	Dry/Wet	Dry		Dry/Wet
ø16 ø20	Speed(m/min)	100 - 200	100 - 200	60 - 80	120 - 180	80 - 120	100 - 180	200 - 1,000
	Feed(mm/tooth)	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 ø32	Speed(m/min)	100 - 200	100 - 200	60 - 100	120 - 180	80 - 120	100 - 180	200 - 1,500
	Feed(mm/tooth)	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

Plunge milling



Cutter Dia.	Min.interval	Min.traverse
ø16	0.5	14
ø20	1	18
ø25	1	23
ø32	2	30

Cutter Dia.	Work Material	Carbon steel Alloy steel	Unalloyed steel	Prehardened steel <HRC40	Stainless steel	Die steel	Cast iron	Aluminium
	Insert Grade	ACZ350S					ACZ310	DS20
	Cutting fluid	Air blow		Wet	Air/Wet	Air blow		Air/Wet
ø16	Speed(m/min)	80 - 120	80 - 120	60	80 - 120	60 - 80	80 - 160	200 - 350
	Feed(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 ø25	Speed(m/min)	100 - 160	100 - 160	60 - 100	100 - 160	60 - 100	80 - 180	200 - 500
	Feed(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	Speed(m/min)	100 - 160	100 - 160	60 - 100	100 - 160	60 - 100	80 - 180	200 - 600
	Feed(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

- The table is just a reference to determine cutting conditions. It should be adjusted according to a condition of a machine tool or workpiece.
- When long projection length type is used, it is necessary to lower feed rate.
- Since chips may scatter, utilize safety enclosures.
- Do not use oil-based cutting fluid, or a fire may take place.

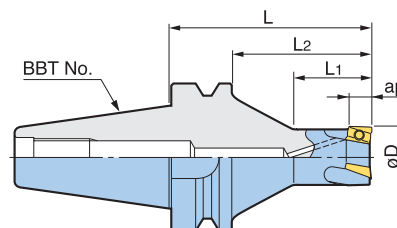
Square Shoulder and Slot milling

FULLCUT MILL PAT. **FCM** Cutter Dia. $\phi 16 - \phi 50$

The indexable endmill that combines sharpness and rigidity has no match.



BBT Standard type JIS B 6339 (BIG-PLUS)



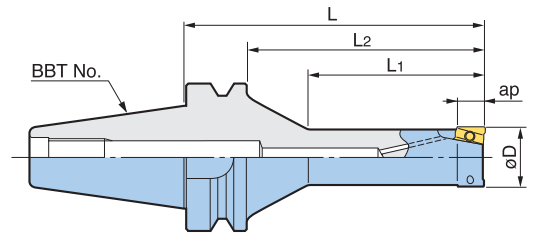
BIG-PLUS tools can be used in machining centers with conventional spindles.

Cutter Dia. ϕD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	BBT30-FCM16092- 65	9	65	23	43	2	ARG16	0.5
20	-FCM20093- 65			28	43	3	ARG20	0.5
25	-FCM25093- 65			33	43	3	ARG25	0.5
32	-FCM32113- 65	11	50	38	43	3	ARG32	0.6
40	-FCM40114- 50			25	28	4	ARG40	0.6
50	-FCM50115- 50			28		5		0.7
16	BBT40-FCM16092- 85	9	85	23	58	2	ARG16	1.2
	-105		105	30	78			1.3
	-120		120	25	93			1.4
	-150		150	123	1.7			
20	-FCM20093- 85	9	85	28	58	3	ARG20	1.2
	-105		105	35	78			1.3
	-120		120	30	93			1.4
	-150		150	123	1.7			
25	-FCM25093- 85	9	85	33	58	3	ARG25	1.2
	-120		120	45	93			1.4
	-135		135	40	108			1.6
	-165		165	138	1.9			
32	-FCM32113- 85	11	85	38	58	3	ARG32	1.3
	-120		120	60	93			1.5
	-135		135	50	108			1.7
	-165		165	40	138			2.1
40	-FCM40114- 85	11	85	43	58	4	ARG40	1.4
	-120		120	65	93			1.7
	-135		135	60	108			2.0
	-165		165	50	138			2.4
50	-FCM50115- 70	11	70	38	43	5	ARG40	1.5
	-120		120	65	93			2.2
	-135		135	60	108			2.4
	-165		165	50	138			3.0

For Insert : P125

For Cutting Condition : P126

BBT Long nose type JIS B 6339 (BIG-PLUS)



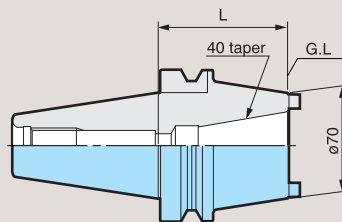
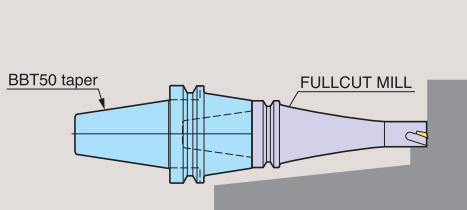
BIG-PLUS tools can be used in machining centers with conventional spindles.

Cutter Dia. øD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	BBT30-FCM16092L- 85	9	85	45	63	2	ARG16	0.5
20	-FCM20092L- 85			50	63		ARG20	0.5
25	-FCM25092L- 85			50	63		ARG25	0.6
32	-FCM32112L- 85	11		60	63		ARG32	0.7
16	BBT40-FCM16092L-105	9	105	45	78	2	ARG16	1.3
	-120		120		93			1.4
20	-FCM20092L-120	9	120	60	93	2	ARG20	1.4
	-135		135		108			1.5
25	-FCM25092L-135	9	135	75	108	2	ARG25	1.5
	-150		150		123			1.7
32	-FCM32112L-135	11	135	80	93	2	ARG32	1.7
	-150		150		123			1.9

For Insert : P125

For Cutting Condition : P126

Adapter for BT50 taper shank (FCR & FCM)



Model	L
BBT50-BBT40-50	50
-90	90

Square Shoulder and Slot milling

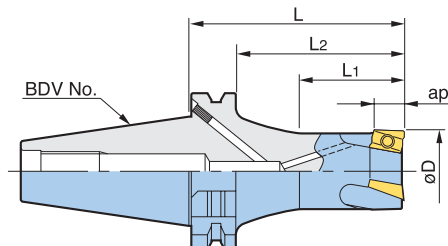
FULLCUT MILL PAT. **FCM** Cutter Dia. $\phi 16 - \phi 50$

The indexable endmill that combines sharpness and rigidity has no match.



BDV Standard type

DIN 69871 A/B (BIG-PLUS)



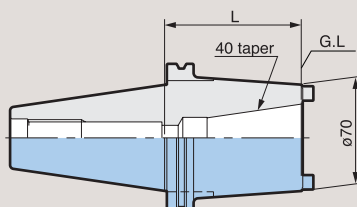
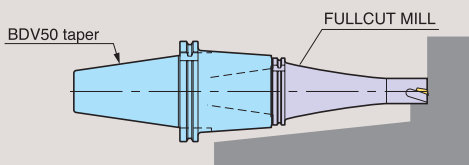
BIG-PLUS tools can be used in machining centers with conventional spindles.

Cutter Dia. ϕD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	BDV40-FCM16092- 85	9	85	23	58	2	ARG16	1.2
	-105		105	30	78			1.3
	-120		120	25	93			1.4
20	-FCM20093- 85	9	85	28	58	3	ARG20	1.2
	-105		105	35	78			1.3
	-120		120	30	93			1.4
25	-FCM25093- 85	9	85	33	58	3	ARG25	1.2
	-120		120	45	93			1.4
	-135		135	40	108			1.6
32	-FCM32113- 85	11	85	38	58	3	ARG32	1.3
	-120		120	60	93			1.5
	-135		135	50	108			1.7
40	-FCM40114- 85	11	85	43	58	4	ARG40	1.4
	-120		120	65	93			1.7
	-135		135	60	108			2.0
50	-FCM50115- 70	11	70	38	43	5	ARG40	1.5
	-120		120	65	93			2.2
	-135		135	60	108			2.4

For Insert : P125

For Cutting Condition : P126

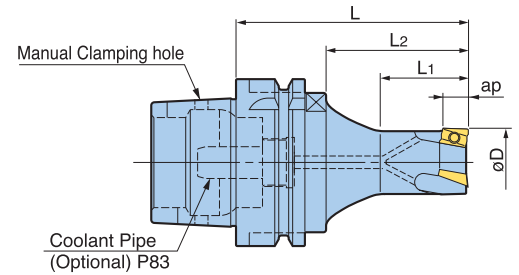
Adapter for SK50 taper shank (FCR & FCM)



Model	L
BDV50-BDV40-50	50
-90	90

HSK-A Standard type

ISO12164 & DIN 69893-1



Cutter Dia. øD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	HSK-A40-FCM16092- 65	9	65	23	37	2	ARG16	0.3
20	-FCM20093- 65			28		3	ARG20	0.3
25	-FCM25093- 65			35		3	ARG25	0.4
32	-FCM32113- 65	11		45	—	4	ARG40	0.5
40	-FCM40114- 65			5	4	0.6		
50	-FCM50115- 65			5	5	0.7		
16	HSK-A50-FCM16092- 75	9	75	23	41	2	ARG16	0.6
20	-FCM20093- 75			28		3	ARG20	0.6
25	-FCM25093- 75			33		3	ARG25	0.6
32	-FCM32113- 75	11		39	—	4	ARG40	0.7
40	-FCM40114- 75			48	4	0.9		
50	-FCM50115- 75			5	5	1.0		
16	HSK-A63-FCM16092- 85	9	85	23	51	2	ARG16	0.9
	-105		105	30	71			1.0
	-120		120	25	86			1.1
	-150		150	25	116			1.3
20	-FCM20093- 85	9	85	28	51	3	ARG20	1.0
	-105		105	35	71			1.1
	-120		120	30	86			1.2
	-150		150	30	116			1.4
25	-FCM25093- 85	9	85	33	51	3	ARG25	1.0
	-120		120	45	86			1.2
	-135		135	40	101			1.3
	-165		165	40	131			1.5
32	-FCM32113- 85	11	85	38	51	3	ARG32	1.1
	-120		120	60	86			1.3
	-135		135	50	101			1.4
	-165		165	40	131			1.7
40	-FCM40114- 85	11	85	43	51	4	ARG40	1.3
	120		120	65	86			1.5
	135		135	60	101			1.7
	165		165	50	131			2.1
50	-FCM50115- 70	11	70	28	28	5	ARG40	1.3
	-120		120	78	78			1.9
	-135		135	93	93			2.2
	-165		165	123	123			2.8

1. Coolant Pipe is ordered separately.

For Insert : P125

For Cutting Condition : P126

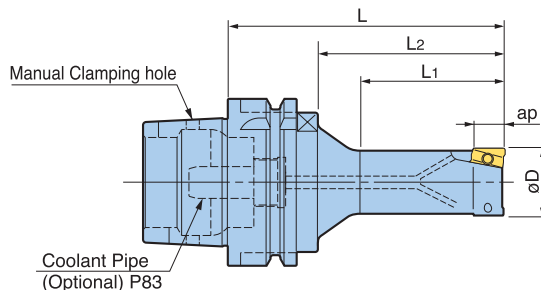
Square Shoulder and Slot milling

FULLCUT MILL PAT. **FCM** Cutter Dia. $\phi 12 - \phi 50$

The indexable endmill that combines sharpness and rigidity has no match.



HSK-A Long nose type ISO12164 & DIN 69893-1



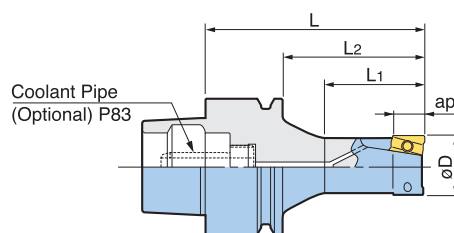
Cutter Dia. ϕD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	HSK-A63-FCM16092L- 85	9	85	40	51	2	ARG16	0.9
	-120		120	45	86			1.0
20	-FCM20092L-105	9	105	50	71	2	ARG20	1.1
	-120		120	60	86			1.2
25	-FCM25092L-105	9	105	55	71	2	ARG25	1.1
	-120		120	65	86			1.2
32	-FCM32112L-120	11	120	70	86	2	ARG32	1.3
	-135		135	80	101			1.4

1. Coolant Pipe is ordered separately.

For Insert : P125

For Cutting Condition : P126

HSK-E Standard type DIN 69893-5



Cutter Dia. ϕD	Model	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
16	HSK-E25-FCM16092-45	9	45	23	35	2	ARG16	0.17
	-E32-FCM16092-55		55	23	35			0.20
	-E40-FCM16092-65		65	28	45			0.45

1. Coolant Pipe is ordered separately.

For Insert : P125

For Cutting Condition : P126

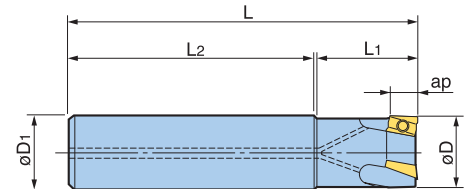
Caution

As HSK-E type interface does not have drive key-ways, there is a possibility that it may slip in machine tool spindles if cutting load exceeds the gripping force of machine tools.
Please try to choose proper cutting condition for our FullCut Mill because it is affected by machine tool performance.

CYLINDRICAL Shank Type



Cutter Dia
ø12 - ø50



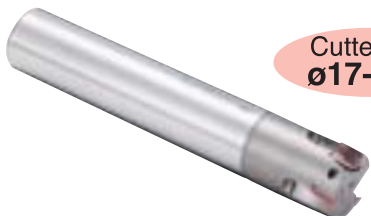
Cutter dia øD	Model	øD1	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
12	ST16-FCM12091- 90	16	9	90	15	70	1	ARG16	0.1
14	-FCM14091- 90				17				0.1
16	-FCM16092- 90				25				0.1
20	ST20-FCM20093-110	20	9	110	30	80	3	ARG20	0.2
25	ST25-FCM25093-120	25	9	120	35	85	3	ARG25	0.4
32	ST32-FCM32113-130	32	11	130	35	95	3	ARG32	0.7
40	-FCM40114-130				40				0.8
50	-FCM50115-130				50				1.0

For Insert : P125

For Cutting Condition : P126

"Trump card" at deep pocket & deep shoulder endmilling

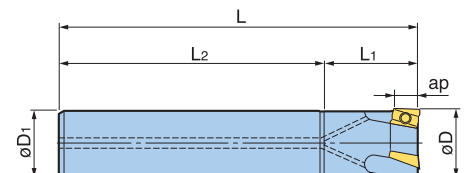
[OVER SIZE]



Cutter Dia
ø17- ø33

POINT $\text{øD} = \text{øD1} + 1\text{mm}$

1mm larger Cutter Dia. than shank Dia. avoids any interference with work-piece.



Cutter dia øD	Model	øD1	ap	L	L1	L2	No. of Insert	Insert Size	Weight (kg)
17	ST16-FCM17092-120	16	9	120	25	95	2	ARG16	0.2
21	ST20-FCM21092-165	20	9	165	30	135	2	ARG20	0.4
	-FCM21093-135			135		105			3
26	ST25-FCM26092-165	25	9	165	38	127	2	ARG25	0.6
	-FCM26093-150			150		112			3
33	ST32-FCM33112-180	32	11	180	48	132	2	ARG32	1.1
	-FCM33113-180			180		132			3

1. For long projection length and 3 tooth cutter's application, please reduce the cutting condition.

For Insert : P125

For Cutting Condition : P126

To suit FULLCUT MILL cylindrical shank type



**MEGA DOUBLE
POWER CHUCK**

P25,49,63,81



**NEW Hi-POWER
MILLING CHUCK**

P32,52,67

Material: C55 (S55C)



Model	ST32-FCM33112-180
Cutting Speed V (m/min.)	120
Feed Rate f (mm/tooth)	0.1
Axial DOC Ad (mm)	10mm x 10 steps
Radial DOC Rd (mm)	Max. 33mm

Result

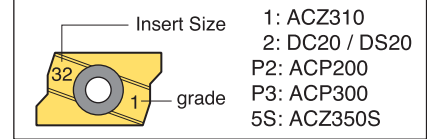
Deep shoulder endmilling is achieved with 110mm projection length and 10mm axial depth.

FULLCUT MILL PAT. FCM

Indexable Inserts



Marking Description



Cutter Dia	Insert Model	ap	Nose Red. r	P		M	K	N	
				ACP200	ACP300	ACZ350S	ACZ310	DC20	DS20
ø12 - ø17	ARG160902	9	0.2		△	○	△	○	
	ARG160904		0.4	△	○	○	○	○	
ø20 - ø21	ARG200902	9	0.2		△	○	△	○	
	ARG200904		0.4	△	○	○	○	○	
ø25 - ø26	ARG250902	9	0.2		△	○	△	○	
	ARG250904		0.4	△	○	○	○	○	
ø32 - ø33	ARG321102	11	0.2		△	○	△	○	
	ARG321104		0.4	△	○	○	○	○	
ø40 - ø50	ARG401102	11	0.2		△	○	△	○	
	ARG401104		0.4	△	○	○	○	○	

※ Inserts are available in packets of 10 pcs.
Please clarify the insert type and grade when ordering.
For example, use ordering code: ARG160904ACP300.

Caution

- It is important to use the correct insert for the diameter of FULLCUT MILL. Failure to use the correct insert will result in incorrect cutting conditions and poor results.
- There is no compatibility with those of FCR type.
- Nose radius 0.2 inserts are suitable for light cutting.




Insert Classifications

ISO	Grade	Material	Coating
P20	ACP200	Prehardened steel	TiAlN / AlCrN
P30	ACP300	General steel	
M30	ACZ350S	Stainless steel	TiAlN / TiCN
K10	ACZ310	Cast Iron	
N20	DC20	Aluminum	DLC
	DS20		

Selection between ACP300 and ACP200 for steel.

ACP200 is superior in anti-wear resistance, while ACP300 is superior in its anti-chipping property. ACP300 is the first recommendation for steel cutting.
Choose ACP200 over ACP300 in cases where further speed or wear-resistance is needed. ACP200 is not, however, recommended for either heavily-interrupted or heavy-duty cutting.

Spare Parts

		Insert Clamping Screw Set (10) screws & (1) wrench 	Wrench 	Anti-seizure Lubricant  5g included
Cutter Dia	Insert	Model	Model	Model
ø12	ARG1609	S2505DS	DA-T8	BN-5
ø14 ø16 ø17		S2506DS		
ø20 ø21	ARG2009		DA-T15	
ø25 ø26	ARG2509			
ø32 ø33	ARG3211			
ø40	ARG4011	S3508DS		
ø50				

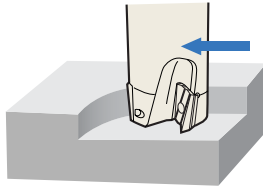


Note

It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained.

FCM Recommended Cutting Condition

Shouldering and slotting



Caution
FULLCUT MILL, FCM type, cannot be used for feeding in Z-axis such as ramping, plunging and boring.

Finish-light cutting

Cutter Dia.	Work Material	Carbon steel Alloy steel	Unalloyed steel	Prehardened steel <HRC40	Stainless steel	Cast iron	Aluminium
	Insert Grade	ACP300		ACP200	ACZ350S	ACZ310	DC20 / DS20
	Cutting fluid	Dry			Dry/Wet	Dry	Dry/Wet
ø12 · ø14	Speed(m/min)	150 - 250	180 - 250	80 - 140	140 - 180	100 - 200	200 - 750
	Feed(mm/tooth)	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	Speed(m/min)	150 - 250	180 - 250	80 - 140	140 - 180	100 - 200	200 - 1,000
	Feed(mm/tooth)	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	Speed(m/min)	180 - 280	200 - 280	80 - 140	140 - 200	100 - 200	200 - 1,500
	Feed(mm/tooth)	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	Speed(m/min)	180 - 280	200 - 280	80 - 140	140 - 200	80 - 200	200 - 1,500
	Feed(mm/tooth)	0.1 - 0.24	0.1 - 0.22	0.08 - 0.14	0.12 - 0.2	0.1 - 0.2	0.10 - 0.35

Medium-heavy cutting

Cutter Dia.	Work Material	Carbon steel Alloy steel	Unalloyed steel	Stainless steel	Cast iron	Aluminium
	Insert Grade	ACP300		ACZ350S	ACZ310	DC20 / DS20
	Cutting fluid	Dry			Dry/Wet	Dry
ø12 · ø14	Speed(m/min)	100 - 200	150 - 200	120 - 180	100 - 180	200 - 750
	Feed(mm/tooth)	0.08 - 0.14	0.1 - 0.15	0.12 - 0.15	0.08 - 0.18	0.10 - 0.2
ø16 - ø21	Speed(m/min)	100 - 200	150 - 200	120 - 180	100 - 180	200 - 1,000
	Feed(mm/tooth)	0.08 - 0.14	0.1 - 0.15	0.12 - 0.15	0.08 - 0.18	0.10 - 0.2
ø25 - ø33	Speed(m/min)	100 - 200	160 - 220	120 - 180	100 - 200	200 - 1,500
	Feed(mm/tooth)	0.1 - 0.16	0.1 - 0.15	0.12 - 0.15	0.08 - 0.2	0.10 - 0.3
ø40 · ø50	Speed(m/min)	100 - 200	160 - 220	120 - 180	100 - 220	200 - 1,500
	Feed(mm/tooth)	0.1 - 0.16	0.1 - 0.15	0.12 - 0.15	0.08 - 0.2	0.10 - 0.3

Caution

- Nose radius 0.2 inserts are suitable for light cutting. Care should be taken in the selection of both axial & radial depth of cut as well as the feed rate.
- This table is a general guideline for cutting data. Please adjust according to machine and workpiece conditions, as well as width of cutting.
- For Long Type, reduce the feed rate.
- Dry cutting (including air blow) is recommended when cutting of steel, except for finishing.
- Dry cutting is recommended for stainless steel. However use soluble oil in a case where severe built-up edge occurs.

Finish milling with axial DOC of 0.2mm or smaller.

Cutter Dia.	Work Material	Carbon steel Alloy steel	Unalloyed steel	Stainless steel	Cast iron
	Insert Grade	ACP200		ACZ310	
	Cutting fluid	Wet			
ø12 - ø50	Speed(m/min)	200 - 250			
	Feed(mm/tooth)	0.1 - 0.2			

Caution

- For Long Type, reduce the feed rate.
- For aluminium alloy, same conditions as "Finish-light cutting" shown above should be applied.
- For finishing of steel, wet cutting improves both surface finish and insert life. ACZ310 grade extends the life further.

Square Shoulder and Face milling

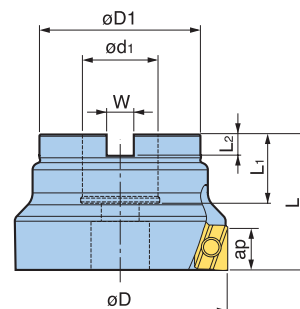
FULLCUT MILL PAT. FCM

Corresponding to Form FMH of new standard face milling adaptor

ARBOR type



Cutter Dia
ø50, ø63, ø80



Form FMH / FMC

Cutter dia øD	Model	ap	ød	øD1	L	L1	L2	W	No. of Insert	Insert Size	Weight (kg)
50	FMH22-FCM50115-40	11	22	47	40	20	6	10.4	5	ARG40	0.5
63	-FCM63116-40		22	47	40	20	6	10.4	6	ARG63	0.7
80	FMH27-FCM80116-50		27	60	50	22	7	12.4	6	ARG80	1.2

For FMC Type BBT: P40

For FMC Type BDV: P53

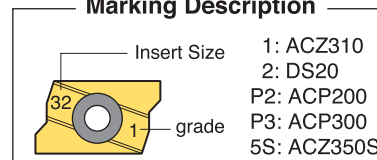
For FMH Type BBT: P41

For FMH Type HSK: P71

Indexable Inserts



Marking Description



Cutter Dia	Insert Model	ap	Nose Red. r	P		M	K	N
				ACP200	ACP300	ACZ350S	ACZ310	DS20
ø50	ARG401104	11	0.4	○	○	○	○	○
ø63	ARG631108	11	0.8	○	○	○	○	○
ø80	ARG801108	11	0.8	○	○	○	○	○

※ Inserts are available in packets of 10 pcs.

Please clarify the insert type and grade when ordering.
For example, use ordering code: ARG401104ACP300.



Caution

It is important to use the correct insert for the diameter of FULLCUT MILL. Failure to use the correct insert will result in incorrect cutting conditions and poor results.

Insert Classifications

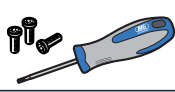


ISO	Grade	Material	Coating
P20	ACP200	Prehardened steel	TiAlN / AlCrN
P30	ACP300	General steel	
M30	ACZ350S	Stainless steel	TiAlN / TiCN
K10	ACZ310	Cast Iron	
N20	DS20	Aluminum	DLC


Selection between ACP300 and ACP200 for steel.

ACP200 is superior in anti-wear resistance, while ACP300 is superior in its anti-chipping property. ACP300 is the first recommendation for steel cutting.

Choose ACP200 over ACP300 in cases where further speed or wear-resistance is needed. ACP200 is not, however, recommended for either heavily-interrupted or heavy-duty cutting.


■ Spare Parts

		Insert Clamping Screw Set (10) screws & (1) wrench 	Wrench 	Anti-seizure Lubricant 5g included 
Cutter Dia	Insert	Model	Model	Model
ø50	ARG401104	S3508DS	DA-T15	BN-5
ø63	ARG631108			
ø80	ARG801108			

 **Note** It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained.

FCM ARBOR type Recommended Cutting Condition

Square Shoulder and Face milling


 **Caution** FULLCUT MILL, FCM ARBOR type, cannot be used for feeding in Z-axis such as ramping, plunging and boring.

■ Finish-light cutting

Cutter Dia.	Work Material	Carbon steel Alloy steel	Unalloyed steel	Prehardened steel <HRC40	Stainless steel	Cast iron	Aluminium
	Insert Grade	ACP300		ACP200	ACZ350S	ACZ310	DS20
	Cutting fluid	Dry			Dry/Wet	Dry	Dry/Wet
ø50 ø63 ø80	Speed(m/min)	100 - 220	150 - 240	80 - 120	120 - 180	100 - 200	200 - 1500
	Feed(mm/tooth)	0.1 - 0.24	0.1 - 0.22	0.08 - 0.14	0.12 - 0.20	0.10 - 0.25	0.10 - 0.35

■ Medium-heavy cutting

Cutter Dia.	Work Material	Carbon steel Alloy steel	Unalloyed steel	Stainless steel	Cast iron	Aluminium
	Insert Grade	ACP300		ACZ350S	ACZ310	DS20
	Cutting fluid	Dry			Dry/Wet	Dry
ø50 ø63 ø80	Speed(m/min)	100 - 220	150 - 240	120 - 180	100 - 200	200 - 1500
	Feed(mm/tooth)	0.08 - 0.18	0.08 - 0.16	0.12 - 0.15	0.10 - 0.20	0.10 - 0.30

 **Caution**

- This table is a general guideline for cutting data. Please adjust according to machine and workpiece conditions, as well as width of cutting.
- In case of long type arbor using, reduce the feed rate.
- Dry cutting (including air blow) is recommended when cutting of steel, except for finishing.
- Dry cutting is recommended for stainless steel. However use soluble oil in a case where severe built-up edge occurs.

Indexable Insert Endmill, achieving the excellent squareness and fine surface finish.



Machined by FULLCUT MILL model : FMH22-FCM63116-40
Arbor model : BBT40-FMH22-27-45


Squareness

Cutting Speed V (m/min.)	150
Feed Rate f (mm/tooth)	0.1
Axial DOC Ad (mm)	5
Radial DOC Rd (mm)	0.1

	10µm
Other manufacture	40µm

Wiper cutting edge

Cutting Speed V (m/min.)	250
Feed Rate f (mm/tooth)	0.2
Axial DOC Ad (mm)	0.1
Radial DOC Rd (mm)	50

	Ra=0.51µm
Other manufacture	Ra=1.56µm

CUTTING TOOLS

FULLCUT MILL FCR	P113
FULLCUT MILL FCM	P119
FULLCUT MILL FCM for Arbor Type	P127
C-CUTTER MINI	P129
C-CUTTER	P134
CENTER BOY	P135
Application example	P136

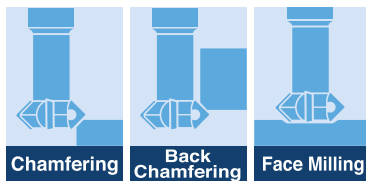


Ultra High Feed Chamfer Mill

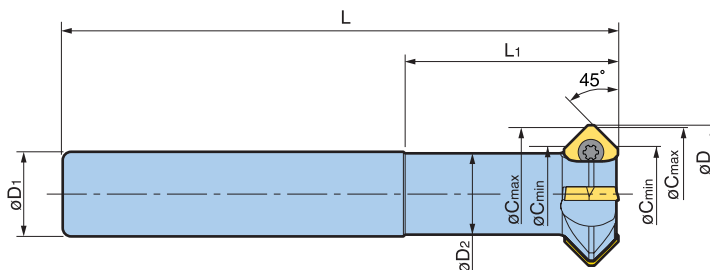
C-CUTTER mini

Front & back chamfering

Multi insert type



World's smallest
Hexagon insert



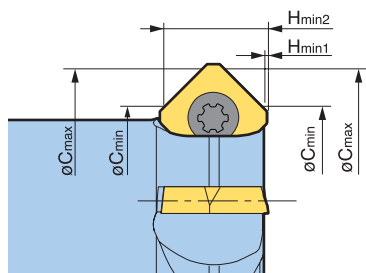
● in the table indicates Long Type

Chamfer		Model	øD	øD1	øD2	L	L1	Insert Model	No. of Insert	Insert Clamping Screw Set
øCmin	øCmax									
10	12	ST12-C1012-45B-20	12.7	12	9.0	93	20	CM04 ...	3	S2SS-T6
		-35 ●				108	35			
11	16	ST12-C1116-45B-25	17.1	12	9.6	98	25	CM05 ...	4	S2TS-T6
		-40 ●				113	40			
15	20	ST16-C1520-45B-50	20.7	16	13.2	123	50	CM10 ...	4	S4S-T15
19	24	ST20-C1924-45B-60	24.7	20	17.2	143	60			
22	32	ST20-C2232-45B-50	32.7	20	19.2	130	50	CM10 ...	4	S4S-T15
		-80 ●				160	80			
32	42	ST32-C3242-45B-65	42.7	32	30.6	175	65	CM10 ...	4	S4S-T15
		-100 ●				211	100			

1. Wrench and screw are included. Inserts are ordered separately (10/pkg).
2. 10 screws and 1 wrench are included in Insert Clamping Screw Set.
3. In case of chamfering with 4 insert type, chatter may occur due to increasing cutting force when plunge cutting. Please try the different types with less inserts, 1 or 2.

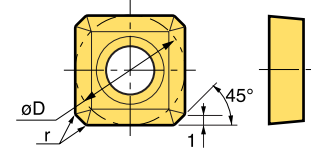
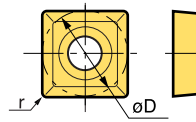
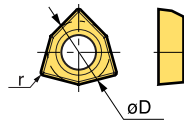
Refer to the Cutting Condition on page 130

Detailed dimension



Cutter type	øCmin	øCmax	Hmin1	Hmin2
C1012	10	12	1.0	3.7
C1116	11	16	0.4	6.2
C1520	15	20	0.6	6.3
C1924	19	24	0.6	6.3
C2232	22	32	0.4	12.4
C3242	32	42	0.4	12.4

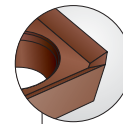
Indexable Inserts



The suffix **SE** designates a sharp cutting edge version.

Fig.	Insert Model	øD	Nose Red. r	P	M	K	N
				ACP300	ACP200	DS20	
1	CM0402	3.97	0.2	○	—	—	—
2	CM0502	5	0.2	—	○	○	—
	CM0502SE			—	○	—	—
3	CM10C1	10	C1	—	○	○	—
	CM10C1SE			—	○	—	—

1. Inserts are available in packet of 10pcs. Please specify model number and grade. (ie: CM0502-ACP200)
2. It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained.



New release, sharp cutting edge insert!! NEW

Sharp cutting edge minimises the generation of burrs. This is especially beneficial when cutting stainless and mild steel materials.

Anti-seizure Lubricant



5g contained

Model **BN-5**

Recommended cutting condition

Work Material	Insert Size	Insert Grade	Side Cutting		Plunge Cutting		Face Milling (CM10 insert only)	
			Vc (m/min)	f (mm/tooth)	Vc (m/min)	f (mm/tooth)	Vc (m/min)	f (mm/tooth)
General steel Alloy steel	CM04	ACP300	100 - 300	0.05 - 0.15	100 - 200	0.06 - 0.12	—	—
	CM05	ACP200	100 - 350	0.08 - 0.18	100 - 200	0.06 - 0.12	—	—
	CM10		100 - 350	0.08 - 0.25	100 - 220	0.08 - 0.18	100 - 200	0.1 - 0.2
High-alloy steel	CM04	ACP300	100 - 180	0.05 - 0.15	100 - 180	0.05 - 0.12	—	—
	CM05	ACP200	100 - 200	0.08 - 0.18	100 - 200	0.06 - 0.12	—	—
	CM10		100 - 220	0.08 - 0.22	100 - 250	0.06 - 0.16	100 - 220	0.08 - 0.2
Prehardened steel (Less than HRC40)	CM04	ACP300	50 - 80	0.05 - 0.08	50 - 80	0.04 - 0.10	—	—
	CM05	ACP200	60 - 100	0.06 - 0.10	60 - 100	0.04 - 0.12	—	—
	CM10		60 - 120	0.06 - 0.10	60 - 120	0.04 - 0.15	60 - 100	0.05 - 0.1
Stainless steel	CM04	ACP300	60 - 150	0.05 - 0.18	60 - 150	0.03 - 0.10	—	—
	CM05	ACP200	100 - 200	0.08 - 0.20	80 - 200	0.05 - 0.12	—	—
	CM10	SE	100 - 250	0.08 - 0.30	80 - 220	0.06 - 0.16	80 - 150	0.05 - 0.2
Cast iron	CM04	ACP300	80 - 150	0.05 - 0.20	80 - 150	0.06 - 0.12	—	—
	CM05	ACP200	100 - 200	0.08 - 0.30	100 - 200	0.08 - 0.15	—	—
	CM10		100 - 300	0.08 - 0.40	100 - 300	0.08 - 0.20	100 - 180	0.1 - 0.25
Aluminum	CM04	ACP300	100 - 800	0.05 - 0.20	100 - 600	0.05 - 0.20	—	—
	CM05	DS20	150 - 800	0.08 - 0.30	100 - 800	0.08 - 0.25	—	—
	CM10		200-1,000	0.08 - 0.45	200 -1,000	0.08 - 0.30	100 -1,000	0.05 - 0.3

1. The table is just a reference to determine cutting conditions. It should be adjusted according to the condition of the machine tool and workpiece.
2. Wet cutting is recommended to obtain the good surface quality.
3. In case built-up edge occurs cutting aluminum and stainless steel, use soluble oil.
4. Standard length type (w/o ● models) are recommended for stainless and pre-hardened steel.

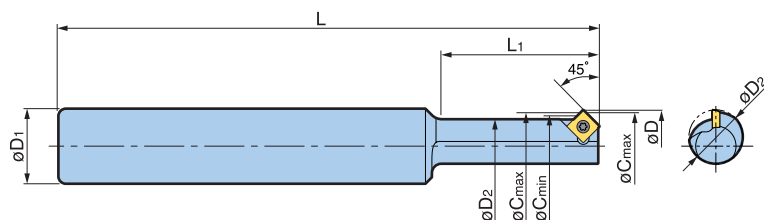
Ultra High Feed Chamfer Mill

C-CUTTER mini

Front & back chamfering

Bolt hole & starting hole for tapping type

Tap size : M8 - M20



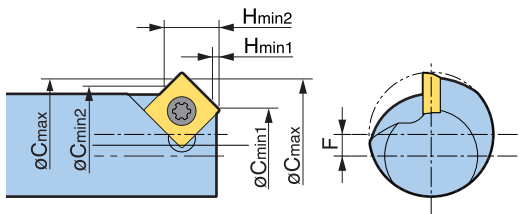
● in the table indicates Long Type

Chamfer		Model	øD	øD1	øD2	L	L1	Insert Model	Insert Clamping Screw Set
øCmin	øCmax								
6.6	8.4	ST10-CM08-45B-19	9.2	10	6.3	81	19	CM04...	S2SS-T6
		-35●				97	35		
8.3	10.5	ST12-CM10-45B-25	11.3	12	8.0	99	25	CM05...	S2TS-T6
		-45●				119	45		
10.0	12.6	ST12-CM12-45B-29	13.4	12	9.7	102	29		
		-53●				126	53		
11.8	14.7	ST16-CM14-45B-33	15.5	16	11.5	107	33		
		-61●				135	61		
13.8	16.8	ST16-CM16-45B-37	17.6	16	13.5	110	37		
		-69●				142	69		
15.2	18.9	ST20-CM18-45B-42	19.7	20	14.9	126	42		
		-78●				162	78		
17.2	21.0	ST20-CM20-45B-46	21.8	20	16.9	129	46		
		-86●				169	86		

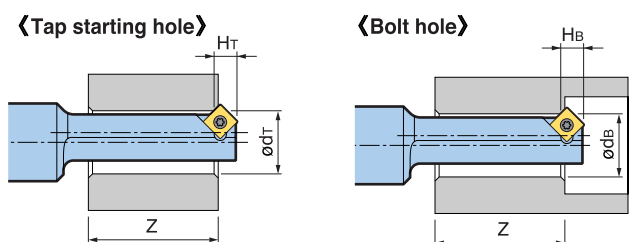
- Wrench and screw are included. Inserts are ordered separately (10/pkg).
- 10 screws and 1 wrench are included in Insert Clamping Screw Set.
- For ● Long Type, standard insert is recommended rather than "SE" sharp edge insert to avoid chipping.

Refer to the Cutting Condition on page 132

Detailed dimension



Cutter Type	øCmin1	øCmin2	øCmax	Hmin1	Hmin2	Offset F
CM08	6.4	6.6	8.4	1.0	3.7	1.45
CM10	5.5	8.3	10.5	0.5	5.0	1.65
CM12	7.6	10.0	12.6	0.5	5.2	1.85
CM14	9.7	11.8	14.7	0.5	5.3	2.00
CM16	11.8	13.8	16.8	0.5	5.4	2.05
CM18	13.9	15.2	18.9	0.5	5.7	2.40
CM20	16.0	17.2	21.0	0.5	5.8	2.45



Cutter Type	Tap starting hole		Bolt hole		Z	
	øDr	HT	øDb	HB	Standard type	Long type
CM08	6.8(M8)	3.6	6.6 (M6)	3.7	13	29
CM10	8.5(M10)	4.9	9 (M8)	4.6	17	37
CM12	10.3(M12)	5.0	11 (M10)	4.7	21	45
CM14	12.0(M14)	5.2	-	-	25	53
CM16	14.0(M16)	5.3	14 (M12)	5.3	29	61
CM18	15.5(M18)	5.6	16 (M14)	5.3	33	69
CM20	17.5(M20)	5.6	18 (M16)	5.4	37	77

Indexable Inserts

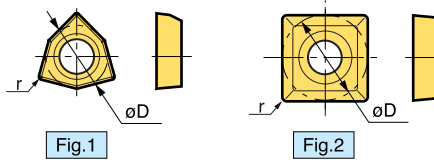
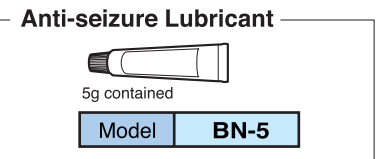


Fig.	Insert Model	øD	Nose Red. r	P	M	K	N
				ACP300	ACP200	DS20	
1	CM0402	3.97	0.2	○	-	-	-
2	CM0502	5	0.2	-	○	○	○



1. Inserts are available in packet of 10pcs. Please specify model number and grade. (ie: CM0502-ACP200)
2. It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained.

Recommended cutting condition

Work Material	Cutter Type	Insert Grade	Standard Type		● Long Type	
			Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
General steel Alloy steel	CM08	ACP300	80 - 180	0.03 - 0.10	30 - 80	0.03 - 0.08
	CM10, CM12	ACP200	120 - 200	0.04 - 0.12	30 - 100	0.04 - 0.1
	CM14, CM16		120 - 200	0.04 - 0.15	30 - 100	0.04 - 0.1
	CM18, CM20		120 - 250	0.05 - 0.20	40 - 100	0.05 - 0.12
High-alloy steel	CM08	ACP300	80 - 160	0.03 - 0.08	20 - 80	0.03 - 0.08
	CM10, CM12	ACP200	100 - 180	0.04 - 0.10	30 - 100	0.04 - 0.1
	CM14, CM16		100 - 200	0.04 - 0.10	30 - 100	0.04 - 0.1
	CM18, CM20		100 - 220	0.05 - 0.12	40 - 100	0.05 - 0.12
Prehardened steel (Less than HRC40)	CM08	ACP300	40 - 80	0.03 - 0.08	20 - 80	0.03 - 0.08
	CM10, CM12	ACP200	40 - 80	0.04 - 0.10	30 - 80	0.04 - 0.1
	CM14, CM16		40 - 80	0.04 - 0.10	30 - 80	0.04 - 0.1
	CM18, CM20		40 - 100	0.05 - 0.12	40 - 100	0.05 - 0.12
Stainless steel	CM08	ACP300	60 - 120	0.03 - 0.08	20 - 80	0.03 - 0.08
	CM10, CM12	ACP200	60 - 120	0.04 - 0.10	30 - 100	0.04 - 0.1
	CM14, CM16		60 - 150	0.04 - 0.10	30 - 100	0.04 - 0.1
	CM18, CM20		60 - 150	0.05 - 0.12	40 - 100	0.05 - 0.1
Cast iron	CM08	ACP300	80 - 150	0.03 - 0.08	20 - 100	0.03 - 0.08
	CM10, CM12	ACP200	100 - 180	0.04 - 0.10	30 - 100	0.04 - 0.12
	CM14, CM16		100 - 200	0.04 - 0.10	30 - 120	0.04 - 0.12
	CM18, CM20		100 - 250	0.05 - 0.12	50 - 150	0.05 - 0.15
Aluminum	CM08	ACP300	100 - 500	0.03 - 0.08	20 - 100	0.03 - 0.08
	CM10, CM12	DS20	100 - 600	0.04 - 0.10	30 - 120	0.04 - 0.1
	CM14, CM16		100 - 800	0.04 - 0.15	30 - 120	0.04 - 0.1
	CM18, CM20		100 - 800	0.05 - 0.20	40 - 150	0.05 - 0.12

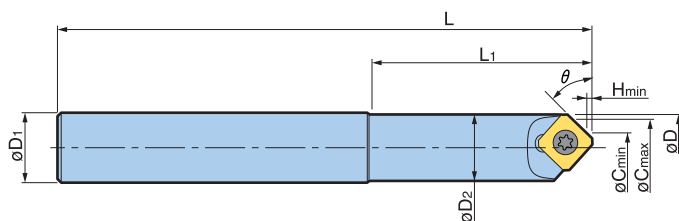
Vc: Cutting speed (m/min.) f: Feed per revolution (mm/rev.)

1. The table is just a reference to determine cutting conditions. It should be adjusted according to the condition of the machine tool and workpiece.
2. Wet cutting is recommended to obtain the good surface quality.
3. In case built-up edge occurs cutting aluminum and stainless steel, use soluble oil.
4. Standard length type (w/o ● models) are recommended for stainless and pre-hardened steel.

Ultra High Feed Chamfer Mill

C-CUTTER mini

Front chamfering



● in the table indicates Long Type

Chamfer		Chamfering angle θ	Model	ϕD	ϕD_1	ϕD_2	L	L1	Hmin	Insert Model	Insert Clamping Screw Set
ϕC_{min}	ϕC_{max}										
2	7	45°	ST10-C0207-45-20	8.1	10	7.8	81	20	0.4	CM05...	S2TS-T6
			-35 ●				96	35			
5	15	45°	ST16-C0515-45-50	15.8	16	15.2	122	50	0.4	CM10...	S4S-T15
2	14	30°	ST16-C0214-30-40	15.9	16	15.4	105	40	0.2	CM10...	
9	16	60°	ST16-C0916-60-40	16.5	16	15.6	105	40	0.8	CM10...	

1. Wrench and screw are included. Inserts are ordered separately (10/pkg).
2. 10 screws and 1 wrench are included in Insert Clamping Screw Set.
3. Centering is not possible.

Indexable Inserts

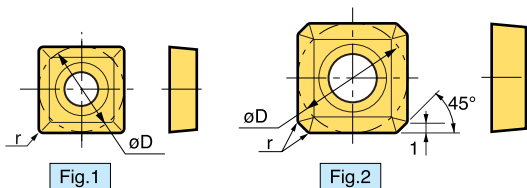
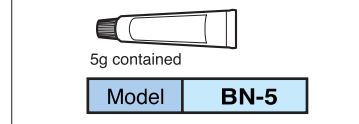


Fig.	Insert Model	ϕD	Nose Red. r	P	M	K	N
				ACP200			DS20
1	CM0502	5.0	0.2	○	○	○	○
2	CM10C1	10.0	C1	○	○	○	○

Anti-seizure Lubricant



1. Inserts are available in packet of 10pcs. Please specify model number and grade. (ie: CM0502-ACP200)
2. It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained.

Recommended cutting condition

Work Material	Insert Model	Insert Grade	Plunge Cutting	
			Vc (m/min)	f (mm/rev)
General steel Alloy steel	CM05	ACP200	100 - 250	0.08 - 0.18
	CM10			0.08 - 0.20
Prehardened steel (Less than HRC40)	CM05	ACP200	60 - 150	0.08 - 0.15
	CM10			0.08 - 0.18
Stainless steel	CM05	ACP200	60 - 120	0.06 - 0.10
	CM10			0.08 - 0.15
Cast iron	CM05	ACP200	80 - 200	0.08 - 0.18
	CM10			0.08 - 0.25
Aluminum	CM05	DS20	100 - 1,000	0.08 - 0.25
	CM10			0.08 - 0.35

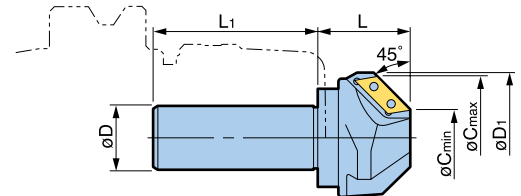
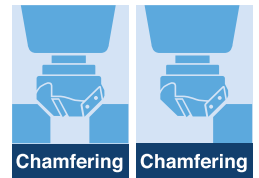
1. The table is just a reference to determine cutting conditions. It should be adjusted according to the condition of the machine tool and workpiece.
2. Wet cutting is recommended to obtain the good surface quality.
3. In case built-up edge occurs cutting aluminum and stainless steel, use soluble oil.
4. Standard length type (w/o ● models) are recommended for stainless and pre-hardened steel.

Chamfer cutter **C-CUTTER**



One C-Cutter to cover a wide chamfering range.

$\varnothing 5 - \varnothing 25$
 $\varnothing 10 - \varnothing 40$
 $\varnothing 30 - \varnothing 60$
 $\varnothing 50 - \varnothing 100$

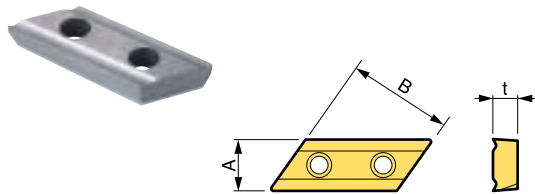


Chamfer		Model	øD	øD1	L	L1	No. of Insert	Insert Model	Screw Set	Wrench
øCmin.	øCmax.									
5.0	25.0	ST20-C0525	20	33	25	48	1	CW12	S2S-B	FLR-13S
10.0	40.0	ST25-C1040	25	45	35	58	2	CW19	S3S	FLR-20S
30.0	60.0	ST32-C3060	32	65	45	80	3			
50.0	100.0	ST42-C50100	42	106	70	80	3	CW31	S5S	FLR-28S

1. Inserts are ordered separately. An Insert Clamping key and Screws are included.
2. 10pcs. of screws and 1pce. of wrench are included in Screw Set.

C-Cutter with **coolant through holes** is available. Please add "C" after each model number when ordering.
Example : **ST20-C0525C**

■ Exclusive indexable



A=Non-coated **AZX**=TiCN+TiAlN multilayer coating

Insert Model	A	B	t	P30	P20
				A	AZX
CW1206	6.35	12.7	2.7	○	○
CW1909	9.525	19.05	4.5	○	○
CW3115	15.875	31.75	7.0	○	○

1. Insert is available form 1 pce.
2. Insert set is available in packs of 10 pcs. Please add "S" before each model number when ordering.
Example: **SCW1206A**

Recommended cutting condition

Work Material	Cutter Type	Max. Chamfer	Insert Grade	Side Cutting		Plunge Cutting	
				Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
General steel Alloy steel	C0525	C2	AZX	80	0.15	50	0.1
	C1040	C3		120	0.3	90	0.15
	C3060	C4		150	0.45	150	0.45
	C50100						
Stainless steel	C0525	C1.5	A	60	0.1	30	0.08
	C1040	C2		60	0.2	40	0.12
	C3060	C3		60	0.3	60	0.3
	C50100						
Cast iron	C0525	C2	AZX	50	0.15	40	0.1
	C1040	C3		90	0.2	60	0.15
	C3060	C4		120	0.6	120	0.5
	C50100						
Aluminum	C0525	C2.5	A	100	0.15	80	0.1
	C1040	C4		160	0.3	100	0.2
	C3060	C5		200	0.6	220	0.6
	C50100						

Vc: Cutting speed (m/min.) f: Feed per revolution (mm/rev.)

1. Cutting condition is the same for both non-coated and coated inserts.
Coated inserts will achieve better surface finish and extended insert life.
2. Reduce cutting speed if a larger chamfer than the max. amount shown in the table is required.

3. Peck feed is necessary in case cutting chips are too long.
4. A High rigidity toolholder is recommended, such as BIG HMC or MEGA-D Chuck.

Center and Chamfer in one **CENTER BOY**



Accurate centering and chamfering can be obtained in a single operation.

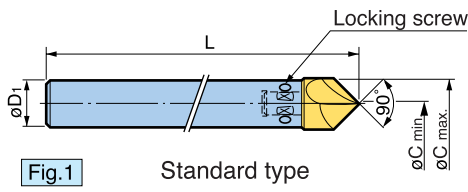
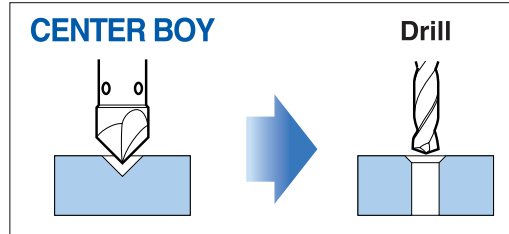


Fig.1

Standard type

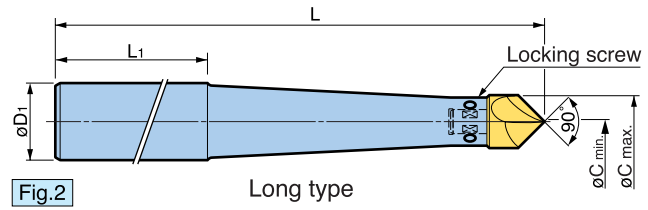


Fig.2

Long type

● in the table indicates Long Type

Chamfer		Model	Fig.	ϕD_1	L	L_1	Insert Model	Spare Locking Screw
ϕC_{min}	ϕC_{max}							
0.9	10	ST10-CBY09010	1	10	150	-	CBY09010	H0403-5P
0.9	13	ST12-CBY09013		12				
1.0	16	ST16-CBY09016		16				
1.5	22	ST20-CBY09022		20				
0.9	13	ST20-CBY09013-220 ●	2	20	220	120	CBY09013	H0403-5P
		-260 ●		260				
1.5	22	ST32-CBY09022-260 ●		32	260		300	CBY09022
		-300 ●	300					

1. 2 pcs of Inserts are included as standard accessories.

2. 2 pcs. of Locking Screws are included. Spare Locking Screws are available in a packet of 5 pcs.

⚠ Hand feed is not recommended.

Insert



Model	CENTER BOY
CBY09010	ST10-CBY09010
CBY09013	ST12-CBY09013 / ST20-CBY09013
CBY09016	ST16-CBY09016
CBY09022	ST20-CBY09022 / ST32-CBY09022

1. Inserts are available in packages of 5 pcs.

2. Insert Grade is HSS with TiN coating.



Highly accurate
Replaceable Insert

Recommended cutting condition

Work Material	Cutter Type	Chamfering		Centering	
		Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
General steel Alloy steel	Standard	20-35	0.10	25-50	0.08
	long	20-35	0.08	20-50	0.08
Stainless steel	Standard	15-30	0.08	20-40	0.08
	long	15-30	0.06	15-30	0.06
Cast iron	Standard	20-40	0.12	30-45	0.10
	long	20-40	0.10	30-45	0.10
Aluminum	Standard	45-60	0.15	50-65	0.15
	long	40-60	0.12	40-60	0.12

Vc: Cutting speed (m/min.) f: Feed per revolution (mm/rev.)

1. The table is just a reference to determine cutting conditions.

It should be adjusted according to the condition of the machine tool and workpiece.

2. In case vibration occurs, reduce cutting speed V.

3. Tool extension should be as short as possible.

CUTTING TOOLS

FULLCUT MILL FCR	P113
FULLCUT MILL FCM	P119
FULLCUT MILL FCM for Arbor Type	P127
C-CUTTER MINI	P129
C-CUTTER	P134
CENTER BOY	P135
Application example	P136



Application example

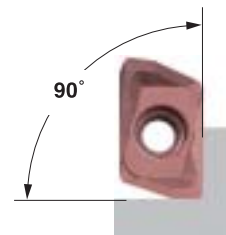
FULLCUT MILL PAT. **FCR**

■ **Bore** Dia. 38 with Helical milling



For carbon steel of C50, very smooth cutting with feed rate of 1,100mm/min and excellent squareness are achieved.

Fullcut Mill	BBT40-FCR20083-120
Insert	BRG200808(ACZ350S)
Work Material	C50(S50C) / Air blow
Cutting Speed V (m/min.)	150
Feed Rate f (mm/min.)	1,100
Axial DOC Ad (mm)	2mm × 3 times
Hole dia.	ø38

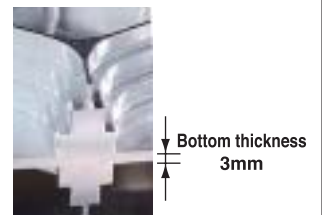


■ **Honeycombed** Pocket with Ramping

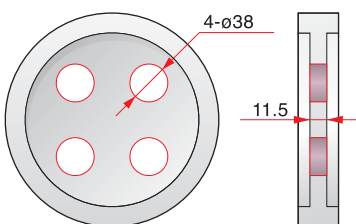


For low rigid workpiece with 3mm thickness clamped by a vise, feed rate of 4,300mm/min on both sides of the workpiece is achieved.

Fullcut Mill	BBT40-FCR20083-85
Insert	BRG200808(DS20)
Work Material	A2017 Duralumin / Air blow
Cutting Speed V (m/min.)	750
Feed Rate f (mm/min.)	4,300
Axial DOC Ad (mm)	6mm × 3 times
Radial DOC Rd (mm)	MAX. 20



■ **Helical milling**



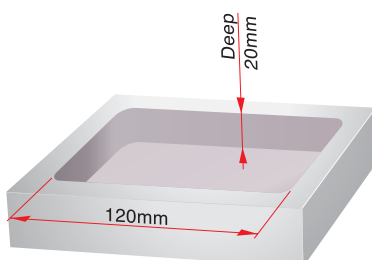
Stable helical milling with 4mm axial DOC on less-rigid workpiece.

Fullcut Mill	BBT40-FCR20083-120
Insert	BRG200808(ACZ350S)
Work Material	15CrMo5(SCM415)
Cutting Speed V (m/min.)	150
Feed Rate f (mm/min.)	480
Axial DOC Ad (mm)	4mm × 3times
Hole dia.	ø38

Compared to another manufacturer

Axial DOC → **1.3times**
Insert life → **2times**

■ **Ramping**



Example of use of BBT50-BBT40 Adapter.

An improved result is obtained compared to the product from another manufacturer.

Fullcut Mill	BBT50-BBT40-50 BBT40-FCR16082-120
Insert	BRG160808(ACZ350S)
Work Material	C50(S50C)
Cutting Speed V (m/min.)	120
Feed Rate f (mm/min.)	480
Axial DOC Ad (mm)	4mm × 5times

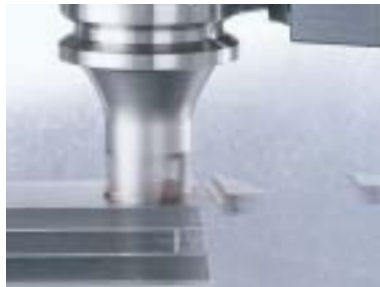
Compared to another manufacturer

No chatter even at higher resistance corner.
Smooth chip evacuation eliminates re-cutting of the swarf and edge chipping of the inserts.

Application example

FULLCUT MILL PAT. FCM

Slot Milling



Only the FULLCUT MILL was capable of achieving this data in a No.40 spindle taper machine.

Fullcut Mill	BBT40-FCM32113-85
Insert	ARG321104(ACP300)
Work Material	C50(S50C)
Cutting Speed V (m/min.)	150
Feed Rate f (mm/tooth)	0.12
Axial DOC Ad (mm)	9

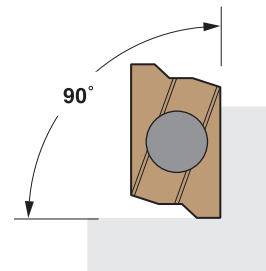


Edge Milling



Excellent perpendicularity is achieved.

Fullcut Mill	BBT40-FCM32113-85
Insert	ARG321104(ACP300)
Work Material	C50(S50C)
Cutting Speed V (m/min.)	200
Feed Rate f (mm/tooth)	0.15
Axial DOC Ad (mm)	11
Radial DOC Rd (mm)	5




Face Milling



Finishing surface roughness was Rz=2.53 at V=200, F=0.15 cutting data.

Fullcut Mill	BBT40-FCM50115-70
Insert	ARG401104(ACP300)
Work Material	C50(S50C)
Cutting Speed V (m/min.)	200
Feed Rate f (mm/tooth)	0.15
Axial DOC Ad (mm)	1
Radial DOC Rd (mm)	30

	Surface Roughness Rz
 BIG BIG DASHOWA	2.53
Manufacturer A	3.75
Manufacturer B	4.32

Material of Low Machineability



High efficiency and stable milling (F=1,140mm/min.) is achieved.

Fullcut Mill	ST25-FCM25093-120
Holder	BBT50-MEGA25D-105
Insert	ARG250904(ACZ350S)
Work Material	SUS304 Stainless steel
Cutting Speed V (m/min.)	150
Feed Rate f (mm/tooth)	0.2
Axial DOC Ad (mm)	9
Radial DOC Rd (mm)	3



C-CUTTER mini

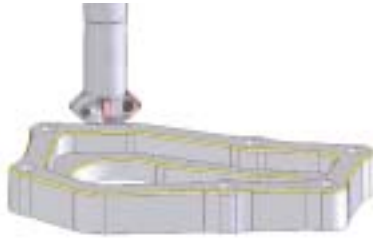
Front & Back chamfering for Stainless



Material : X5CrNi18-9
Chamfer : 3mm x 45°
Feed : 0.1mm/tooth

	Competitor's tool (with TiAlN coated carbide insert)	C-CUTTER mini (ST20-C2232-45B-50)
Chamfering dia.	ø30	ø28
Number of tooth	1	4
Cutting speed(m/min)	140	180
Spindle speed(min ⁻¹)	1,490	2,050
Feed(mm/min)	149	819
Result	5 times better Cutting efficiency	

Chamfering for Aluminum



Material : Al-Si7Mg(Fe)
Chamfer : 0.5mm x 45°
Feed : 0.1mm/tooth

	Competitor's tool	C-CUTTER mini (ST12-C1116-45B-25)
Chamfering dia.	ø40	ø12
Number of tooth	3	4
Cutting speed(m/min)	200	600
Spindle speed(min ⁻¹)	1,590	15,920
Feed(mm/min)	477	6,370
Result	13 times better Cutting efficiency	

Front & back chamfering of starting holes for M8 tapping



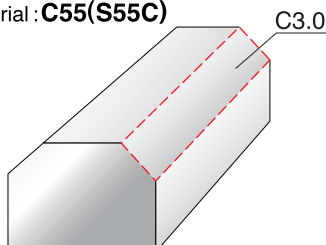
Material : FC250
Tapped hole : ø6.6
Chamfering dia. : ø8.4

	Competitor's tool (with Non-coated carbide insert)	C-CUTTER mini (ST10-CM08-45B-19)
Cutting speed(m/min)	30	150
Spindle speed(min ⁻¹)	1,140	5,680
Feed per tooth(mm/rev)	0.05	0.1
Feed(mm/min)	57	568

C-CUTTER

C3 traverse chamfering

Workmaterial : C55(S55C)



High cutting parameter was achieved without chattering.

C-CUTTER	ST25-C1040
Insert Model	CW1909A
Spindle speed	3,000 min ⁻¹
Feed	1,800mm/min