



BIG DAISHOWA

AHB

TOOLING & MACHINERY

COMPLETE METALWORKING SOLUTIONS

(800) 991-4225

www.ahbinc.com

ISO Certified

customerservice@ahbinc.com

HIGH PERFORMANCE TOOLING SOLUTIONS

VOL. 4



TOOL HOLDERS

BCV/CV SHANKS

A.1

66-115

BBT/BT SHANKS

A.2

116-187

HSK SHANKS

A.3

188-251

BIG CAPTO SHANKS

A.4

252-279

CYLINDRICAL SHANKS

A.5

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COLLET CHUCKS



CLAMPING
RANGE:
0.018"-0.317"
(0.45-8.05mm)

OVERVIEW ► 18

MAX
50,000
RPM

MEGA MICRO CHUCK

BCV SHANK	68
BBT SHANK	118
HSK SHANK	190/236/243
BIG CAPTO SHANK	254
CYLINDRICAL SHANK	282
N/C LATHE	294

COLLET CHUCKS



CLAMPING
RANGE:
0.010"-1.000"
(0.25-25.4mm)

OVERVIEW ► 19

MAX
40,000
RPM

MEGA NEW BABY CHUCK

BCV SHANK	69
BBT SHANK	120
HSK SHANK	192/238/244
BIG CAPTO SHANK	256

COLLET CHUCKS



CLAMPING
RANGE:
0.075"-0.787"
(0.19-20mm)

OVERVIEW ► 20

MAX
35,000
RPM

MEGA ER GRIP

BCV SHANK	71
BBT SHANK	125
N/C LATHE	299
CKB SHANK	461

COLLET CHUCKS



CLAMPING
RANGE:
0.125"-0.500"
(0.3-12mm)

OVERVIEW ► 21

MAX
40,000
RPM

MEGA E CHUCK

BCV SHANK	72
BBT SHANK	126
HSK SHANK	196/245
BIG CAPTO SHANK	260

COLLET CHUCKS



CLAMPING
RANGE:
0.010"-0.787"
(0.25-20mm)

OVERVIEW ► 24

NEW BABY CHUCK

BBT SHANK	124
CYLINDRICAL SHANK	284
N/C LATHE	296

MILLING CHUCKS



CLAMPING
RANGE:
0.500"-1.500"
(0.12-50mm)

OVERVIEW ► 22

MAX
30,000
RPM

MEGA DOUBLE POWER CHUCK

BCV SHANK	73
BBT SHANK	128
HSK SHANK	198/246
BIG CAPTO SHANK	262

MILLING CHUCKS



CLAMPING
RANGE:
0.750"-1.250"
(0.16-32mm)

OVERVIEW ► 23

MEGA PERFECT GRIP

BCV SHANK	75
BBT SHANK	130
HSK SHANK	200

MILLING CHUCKS



CLAMPING
RANGE:
0.500"-1.500"
(0.16-42mm)

OVERVIEW ► 25

NEW Hi-POWER MILLING CHUCK

BCV SHANK	76
BBT SHANK	132
HSK SHANK	202
BIG CAPTO SHANK	265
CYLINDRICAL SHANK	286
CKB SHANK	462

HYDRAULIC CHUCKS



CLAMPING
RANGE:
0.125"-1.250"
(0.3-32mm)

OVERVIEW ► 26

HYDRAULIC CHUCK

BCV SHANK	78
BBT SHANK	134
HSK SHANK	204/240/247
BIG CAPTO SHANK	266
CYLINDRICAL SHANK	287
N/C LATHE	301

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BASIC ARBORS



CLAMPING
RANGE:
0.250"-1.250"
(Ø4-20mm)

SHRINK FIT HOLDERS

BCV SHANK	81
BBT SHANK	144
HSK SHANK	210
BIG CAPTO SHANK	269
CYLINDRICAL SHANK	288

BASIC ARBORS



SCREW-ON HOLDERS

BBT SHANK	147
HSK SHANK	212

BASIC ARBORS



SHELL/FACE/END MILL

BCV SHANK	82
BBT/BT SHANK	146
HSK SHANK	213/248
BIG CAPTO SHANK	274

MODULAR HOLDERS



OVERVIEW ►32

KAISER BORING SYSTEM

BORING HEADS	415
BCV/CV SHANK	92
BBT/BT SHANK	160
HSK SHANK	220/249
BIG CAPTO SHANK	277
CYLINDRICAL SHANK	467

BUILT-IN DAMPER



OVERVIEW ►39

SMART DAMPER BORING

BBT/BT SHANK	163
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CK/CKB SHANK	454

KAISER BORING INSERTS



BORING INSERTS

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BUILT-IN DAMPER



OVERVIEW ►39

SMART DAMPER MILLING

BCV SHANK	88
BBT SHANK	156
HSK SHANK	217

BUILT-IN DAMPER



OVERVIEW ►39

SMART DAMPER TURNING

HSK SHANK	327
BIG CAPTO SHANK	333
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TAP HOLDERS



OVERVIEW ►30

MEGA SYNCHRO TAPPING HOLDER

BCV SHANK	90
BBT/BT SHANK	158
HSK SHANK	218
BIG CAPTO SHANK	276
CYLINDRICAL SHANK	290
CKB SHANK	464

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OVERVIEW ► 42

ANGLE HEAD

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BBT SHANK	164
HSK SHANK	222

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OVERVIEW ► 44

AIR POWER SPINDLE

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BBT SHANK	178
HSK SHANK	234

SPINDLE SPEEDERS



OVERVIEW ► 45

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OVERVIEW ► 46

Hi-JET HOLDER

CV SHANK	111
BBT/BT SHANK	182

MILL-TURN TOOLING



OVERVIEW ► 40

BCV/CV SHANK	312
BBT/BT SHANK	318
HSK SHANK	324
BIG CAPTO SHANK	330

TOOL HOLDER ACCESSORIES



PULLSTUD BOLT

CV SHANK	113
BT SHANK	184

CAUTION

Only use pullstud bolts made by BIG.
Accuracy is not guaranteed if poor-quality
pullstud bolts are used.

TOOL HOLDER ACCESSORIES



OVERVIEW ► 58

HIGH-PRECISION TEST BAR DYNA TEST

BCV SHANK	114
BBT SHANK	186
HSK SHANK	251
BIG CAPTO SHANK	278

TOOL HOLDER ACCESSORIES



OVERVIEW ► 59

ATC ARM POSITIONING TOOL ATC ALIGNMENT TOOL

CV SHANK	114/571
BT SHANK	186/571

TOOL HOLDER ACCESSORIES



BIG-PLUS CLEANER

CV SHANK	115
BT SHANK	187

TOOL HOLDER ACCESSORIES



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FACE MILLS



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CHAMFER MILLS



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CHAMFER MILLS



OVERVIEW ► 51

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CHAMFER MILLS



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C-CUTTER BOY

CYLINDRICAL SHANK	548

RADIUS MILLS

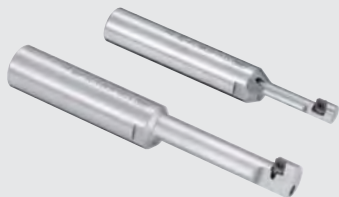


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R-CUTTER

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TOOL ASSEMBLY DEVICES



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CLEANERS



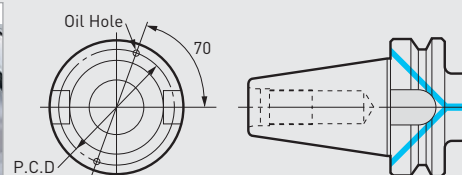
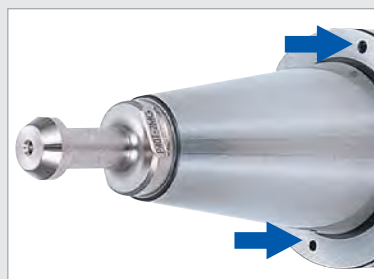
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TABLE CLEANING

CHIP BLOWER	587
CHIPFAN	588
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FLANGE THROUGH COOLANT

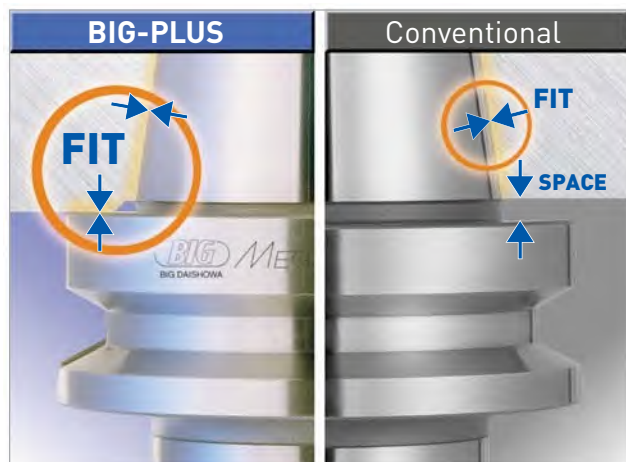
We offer DIN69871/B flange through coolant upon request.



CAUTION ⚠

Tool holders modified for flange through coolant must use proper pullstud to seal backflow of coolant into the spindle.

BIG-PLUS DUAL CONTACT



SIMULTANEOUS TAPER & FLANGE FIT

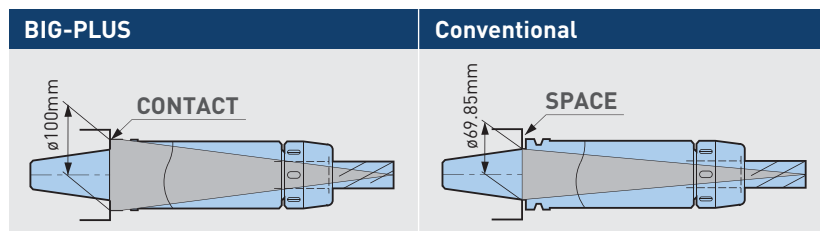
BIG-PLUS surpasses all other spindle concepts while offering interchangeability with existing machines and tool holders.

- Improved surface finish & dimensional accuracy
- Extended tool life
- Improvement of ATC repeatability
- Elimination of Z-axial movement at high speeds
- Improved roundness of boring operations

BASIC CONCEPT

The BIG-PLUS Spindle System is based on the most current available standards in ASME B5.50, JIS B6339 and DIN 69871. A conventional steep taper tool holder is supported on a reference diameter called the gage line. On the contrary, a BIG-PLUS tool holder is supported on the flange face, which brings remarkable improvement to rigidity.

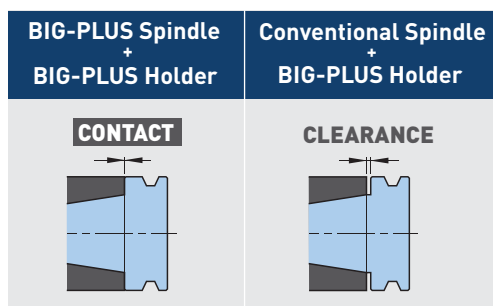
Increased Contact Diameter (Example of BT50)



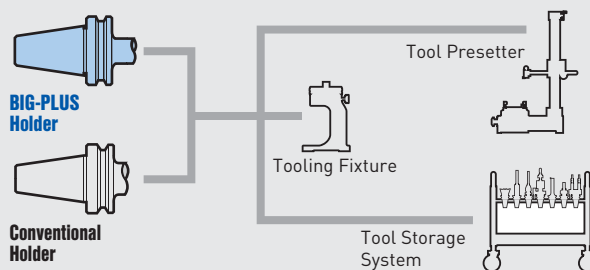
Taper No.	Conventional	BIG-PLUS
CV50	ø2.750	ø3.875
CV40	ø1.750	ø2.500
BT30	ø1.250	ø1.811

PERFECT INTERCHANGEABILITY

BIG-PLUS tool holders can be used on existing standard machine spindles. Existing standard tool holders can also be used on BIG-PLUS spindles. In this case, however, simultaneous contact cannot be attained. Although other simultaneous contact systems require exclusive new accessories, BIG-PLUS tooling uses existing accessories such as a tool presetter and tool holder fixture as it is based on a conventional steep taper shank. Further, it is not necessary to modify tool magazines and ATC devices of existing machines.



Existing Accessories Utilized



THE BIG-PLUS SPINDLE SYSTEM IS AN ORIGINAL DEVELOPMENT OF BIG DAISHOWA SEIKI CO., LTD.

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

BIG-PLUS OVERVIEW

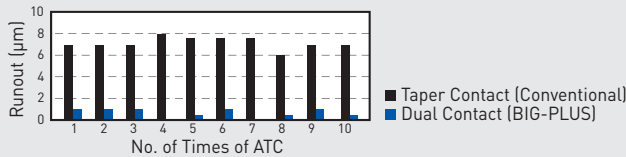


IMPROVEMENT OF ATC REPEATABILITY

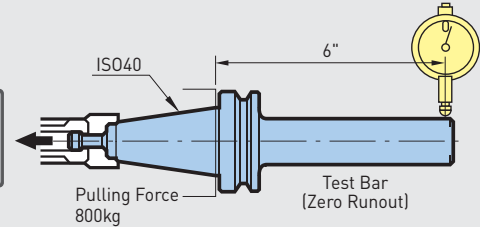
The BIG-PLUS Spindle System ensures the highest precision location of the tool holder in the spindle when using the ATC for loading tools as a result of the dual contact, which precisely positions the tool holder within 1 micron.

ATC Repeatability

Machine: Horizontal (4 years old)



WITHIN
1µm

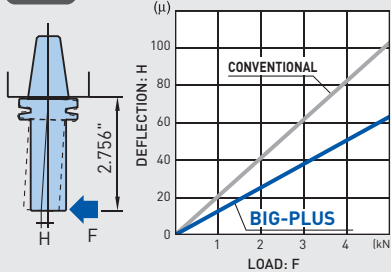


MINIMIZED DEFLECTION FOR MAXIMUM MACHINING ACCURACY & SUPERIOR FINISH

BIG-PLUS simultaneous contact enhances machining rigidity with the larger contact diameter of the tool holder flange face, reducing deflection and improving accuracy and finish.

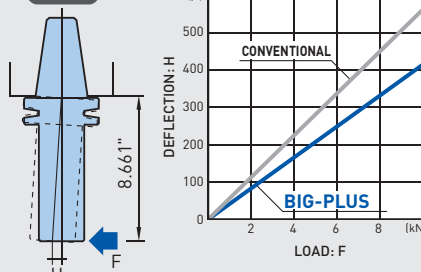
Comparison Of Deflection

BT40



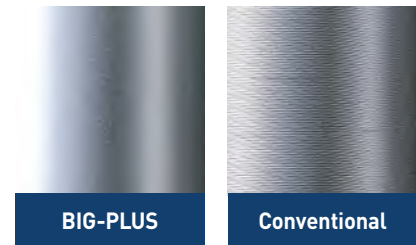
Deflection of a machine spindle is shown. A vertical machine was used for the test.

BT50



Deflection of a machine spindle is shown. A vertical machine was used for the test.

Strict Gage Control



Cutting Conditions

Machine: 40 Taper (Horizontal Machining Center)
Cutter: Face Mill ø5" (6 cutting edges)
Work Material: A2017 Duralumin
Cutting Depth: .094"

STRICT GAGE CONTROL

BIG-PLUS spindles produced by the licensed machine and spindle builders are strictly controlled in dimensions by the original BIG master gage. Only BIG-PLUS trademarked tool holders can achieve the optimal performance fully and safely.

Gages for Machine Spindle



Master Gage



Measuring Device



Master Arbor

BIG-PLUS Spindle System 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:

ACCUWAY, **ADVANCED MACHINE**, ALEX-TECH, AMS, ANCA, AONO GIKEN, ARES, ASADA SEIKI, ASA TECH, AWEA, BERG SPANNTTECHNIK, BFW, BOST, BROTHER, CERI, CHEVALIER, CHUO-SEIKI, CITIZEN, COLGAR, D.S. TECHNOLOGIE, DAH LIH, DAITO, DAIYA SEIKI, DIXI, DMC, DMG MORI PRECISION BORING, DMG MORI SEIKI, DOOSAN, **DYNAMAX**, EGIN-HEINISCH, EGURO, EMCO, ENSHU, FADAL, ANUC, FEELER, FEMCO, FIRST, FIRST, **FISCHER**, FOREST-LINÉ, FPT, FRANZ KESSLER, GIDDINGS & LEWIS, GMN, GROB, **GTI**, HAIDE, HARDINGE, HARTFORD, HEYLIGENSTAEDT, HISION, HNK, HOMMA, HORKOS, HOWA, HSD, HST, HURCO, HWACHEON, IBAG, IBARMIA INNOVATEK, IKEGAI, INOUE KOSOKU KIKAI, JHENG TAI, JOBS, JOHNFORD, JTEKT MACHINE SYSTEMS, JTEKT, JUNGWOO M.S., JYOTI, KARATS, KASHIFUJI, KASWIN, KENTURN, KIRA, KITAMURA, KIWA, KMT, KOMATSU NTC, KONDIA, KOYO, KPTEC, LAZZATI, LMW, MAG, MAGNIX, MAKINO, MAKINO SEIKI, MANDELLI, MATSUURA, MAZAK, MCM, MECTRON, MILLTRONICS, MITSUI SEIKI, MOTOKUBO, MTE, MYL, N.S.S, NACHI, NAKAMURA, NEWAY, NICOLÁS CORREA, NIDEC MACHINE TOOL, NIDEC OKK, NIIGATA, NIPPON BEARING, NISHIJIMAX, NISSIN-MFG, NOMURA, **NORTHLAND TOOL**, NSK, NUMEN, O-M, OBATAKE, OHTORI, OKUMA, OMLAT, OMV, OVERMACH, PAMA, **PDS**, PIETRO CARNAGHI, PMC, QUASER, REIDEN, ROKU ROKU, ROYAL, RS TEC, SAJO, SEMA, SEMPUCO, **SETCO**, SHAN RONG, SHIBAURA, SHODA, SHW, SKF USA, SKG, SKODA, SKYNC, SMEC, SNK, SODICK, SORALUCE, SPINDER, SPINTEC, SPINTRUE, **SPS**, STARRAGHECKERT, STUDER, SUFENG, SUGINO, SUNWOO, **SUPERIOR SPINDLE SERVICE**, SWIFT, TAJMAC-ZPS, TAKAMAZ KIKAI KOUGYOU, TAKISAWA, TANABE, THETA, TONGTAI, TOS KURIM, TOS VARNSDORF, TOYO SEIKI, TSUDAKOMA, TSUGAMI, UGINT, UTSUNOMIYA, VICTOR TAICHUNG, VTEC, VYU CHENG, WALDRICH COBURG, WELE, WIA, YAMASAKI GIKEN, YAMASHINA SEIKI, YASDA, YASUNAGA, YCM, YU HUNG, ZAYER (As of April 2024)

• Bold company names are North American licensed BIG-PLUS spindle rebuilders



HSK TOOLING SYSTEM

ISO 12164/DIN 69893/ASME B5.62

Selected materials and strict control of dimensional accuracy for the optimum quality. Wide range of standard holders to meet all production requirements.

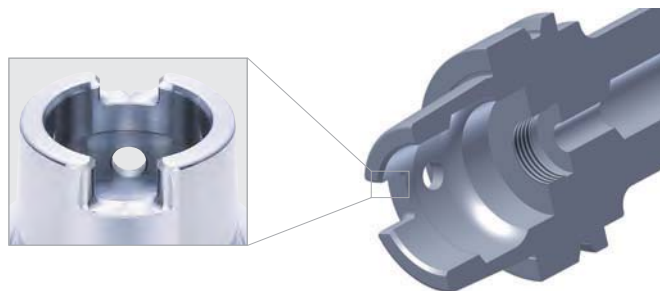
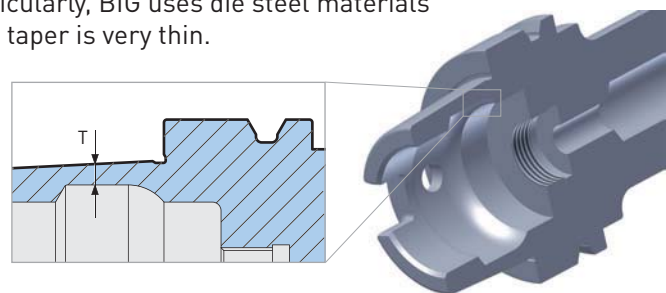


AVAILABLE IN
HSK TYPE A/E/F
HSK SIZES
25/32/40/50/63/80/100/125

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 HSK40 and smaller where the cross section of shank taper is very thin.

HSK Type	HSK Size						
	25	32	40	50	63	100	.125
T	.043	.049	.076	.102	.137	.204	.254

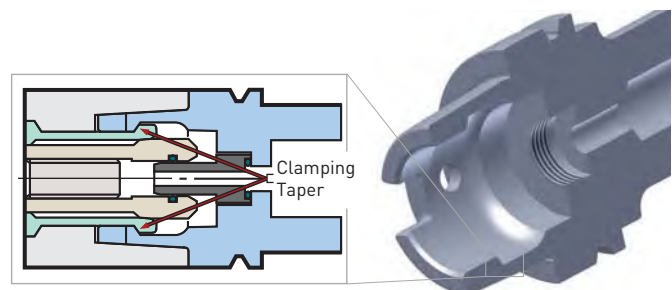


DRIVE KEY FORM

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 finishes this feature after heat treatment.

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.



AVAILABLE IN
TURNING TOOLS
HSK FORM T
HSK-T50/63/T100
(ISO 12164-3)

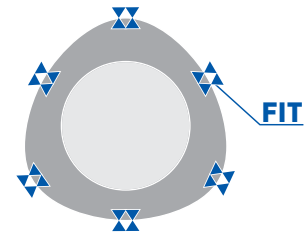


BIG CAPTO

ISO 26623-1

A dual contact modular turning and rotating tool holder system that strengthens the performance of MTCs. The BIG CAPTO modular tooling system offers better efficiency, material selection and heat treatment.

The trademark CAPTO is licensed from Sandvik Coromant



EXCELLENT REPEATABILITY & RUNOUT

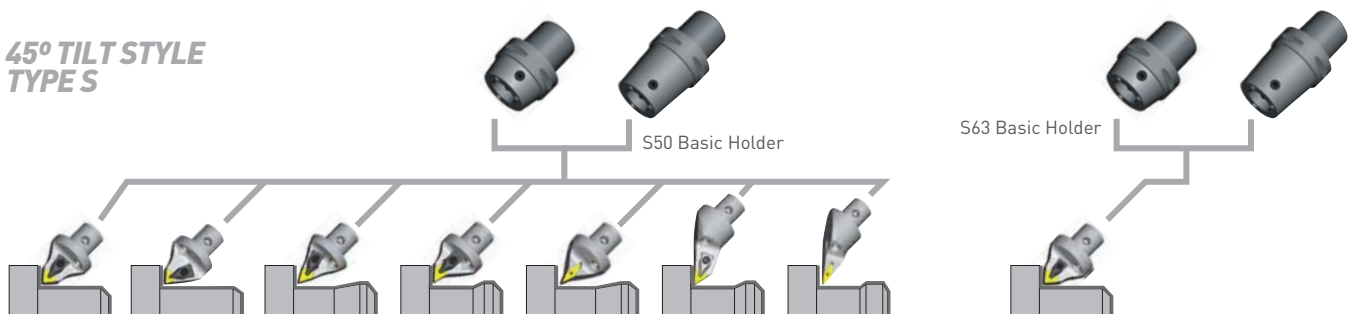
High repeatability is achieved due to the perfect fit of the polygon taper to drive spindle rotation. The combination of a self-centering 1:20 taper and the long taper edge ensures stable runout accuracy.



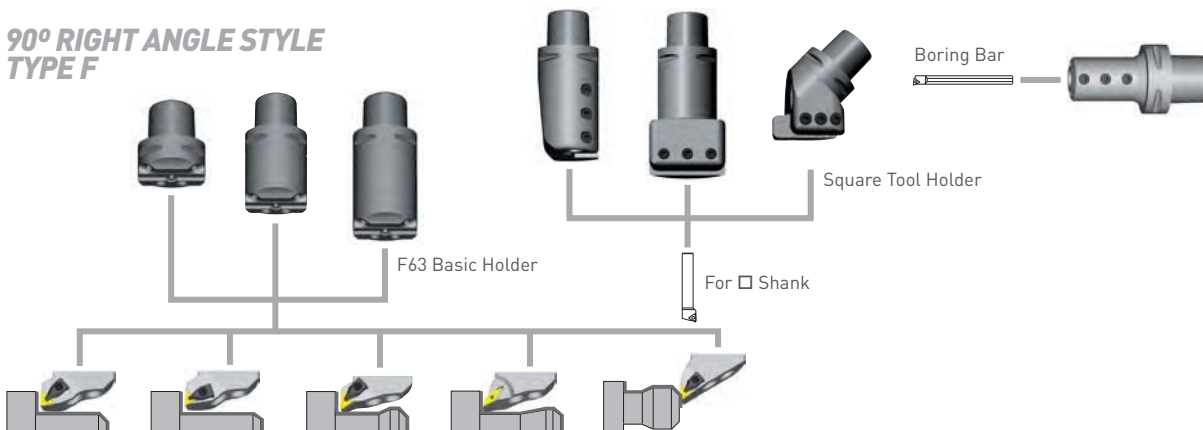
Wider Range of Rotating BIG CAPTO Tooling than Any Other Provider

Since 2002, licensed manufacturer BIG DAISHOWA has offered the most extensive range of rotating BIG CAPTO tooling. Their extended-reach collet chucks feature the NEW BABY collet system, guaranteeing <3 microns accuracy at 4xD. Additional BIG CAPTO solutions include, HYDRAULIC CHUCKS, MEGA E CHUCKS, MEGA DOUBLE POWER CHUCKS for maximum rigidity in end milling, MEGA MICRO CHUCKS for tight spaces, and more.

45° TILT STYLE TYPE S



90° RIGHT ANGLE STYLE TYPE F





N/C LATHE TOOLING

IMPROVING THE EFFICIENCY OF NC LATHES AND SUPPORTING PRODUCTIVITY THROUGH RELIABLE TECHNOLOGY



SERIES INCLUDES HOLDERS FOR SMALL LATHES AND TAPPING ATTACHMENTS



MEGA MICRO CHUCK

Ideal for small lathes with limited space.



NEW BABY CHUCK

Ideal as a basic holder for lathes.



ER Collet

MEGA ER GRIP

Achieves stable machining with highly accurate chucking repeatability.



CENTERING HOLDER

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



HYDRAULICS CHUCK FOR SWISS-TYPE AUTOMATIC LATHES

High-precision hydraulic chuck that allows easy tool change using a single wrench.



MEGA SYNCHRO TAPPING HOLDER

Improves thread quality and tap life by reducing thrust loads to 1/10.



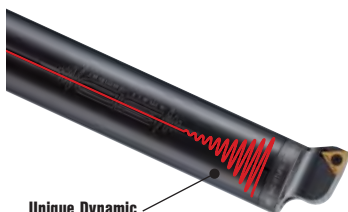
LATHE MASTER

Setup of tool offset position without a trial cut.

SMART DAMPER BORING BAR (FOR INTERNAL TURNING)

Internal Turning Tool with Built-In Damper

The heaviest damper in the series of Smart Dampers instantly absorbs chatter in both rough and finish operations.



Unique Dynamic Damper Adopted



CENTERING TOOL (FOR SMALL LATHES)

Efficient Centering Of Turning Tool Holder

With a dial gage always facing front, tool holder centering can be done with an eye on the gage.

Unique centering tool for lathes with superior visibility.



CTL-90

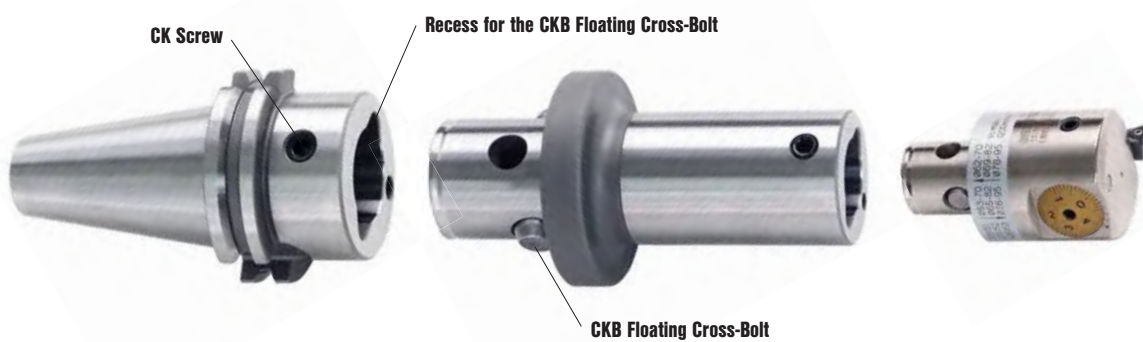




CK/CKB TOOLING SYSTEM

VARIOUS CONNECTIONS – ONE SYSTEM

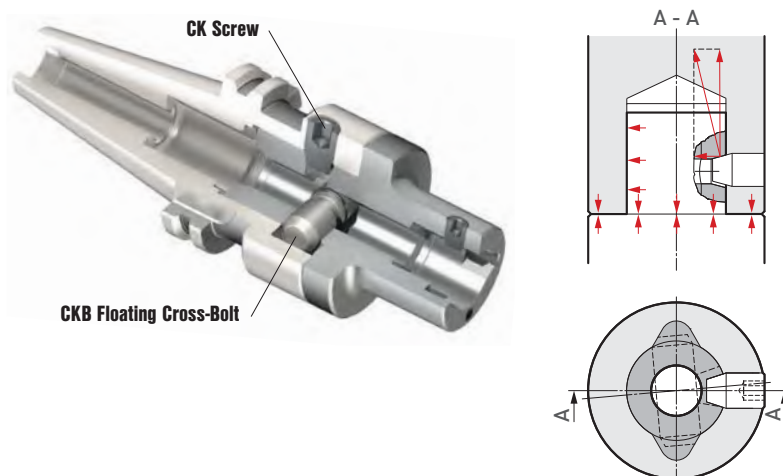
Based on a cylindrical connection with radial locking screw, the world-famous modular precision tool system by KAISER has continuously been improved over the years, and has adapted to customer's needs and the increases in machine tool performance. Compatibility to existing tools has always been a requirement for newer designs. This means that all KAISER connections are almost 100% compatible, and all the components are in stock.



CKB CONNECTION: HIGHLY EFFICIENT AND EASY TO HANDLE

The modular components are clamped with the lateral locking screw (CK-screw). The floating cross bolt is automatically centered in the trapezoid-shaped recesses in the mating part and ensures an absolutely uniform distribution of the torque forces.

- Simple, efficient operation — no special equipment or tools needed
- Maximum rigidity due to high preloading forces and large contact surfaces
- Precise cutting edge location even when using several adapters
- High interchange accuracy, maximum radial change error is .0001"

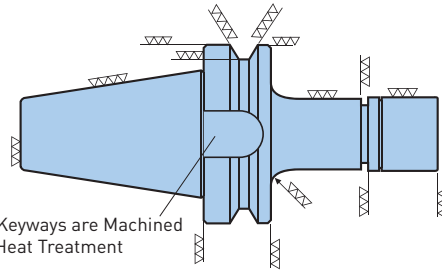


MEGA CHUCK SERIES OVERVIEW



MEGA CHUCK[®]SERIES

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

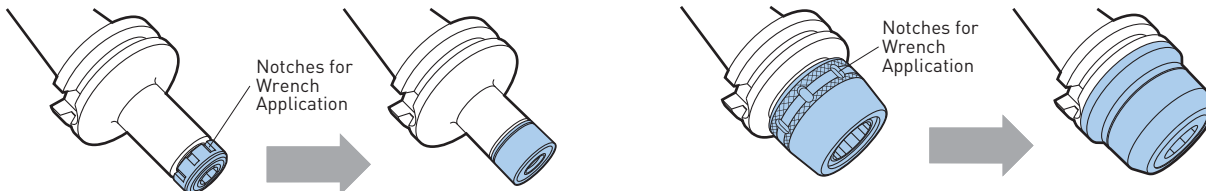


Precision Ground and Balanced for High Speed Machining

MEGA CHUCKS are micro-mirror finished on all surfaces to ensure perfect concentricity for high-speed machining. The MEGA CHUCKS are then balanced with a high-precision dynamic balancing machine.

NOTCH-FREE DESIGN MEGA NUT PREVENTS VIBRATION & REDUCES NOISE

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



EASY & FIRM CLAMPING BY THE MEGA WRENCH

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

A Variety of MEGA CHUCKS Available



MEGA MICRO CHUCK

MEGA NEW BABY CHUCK

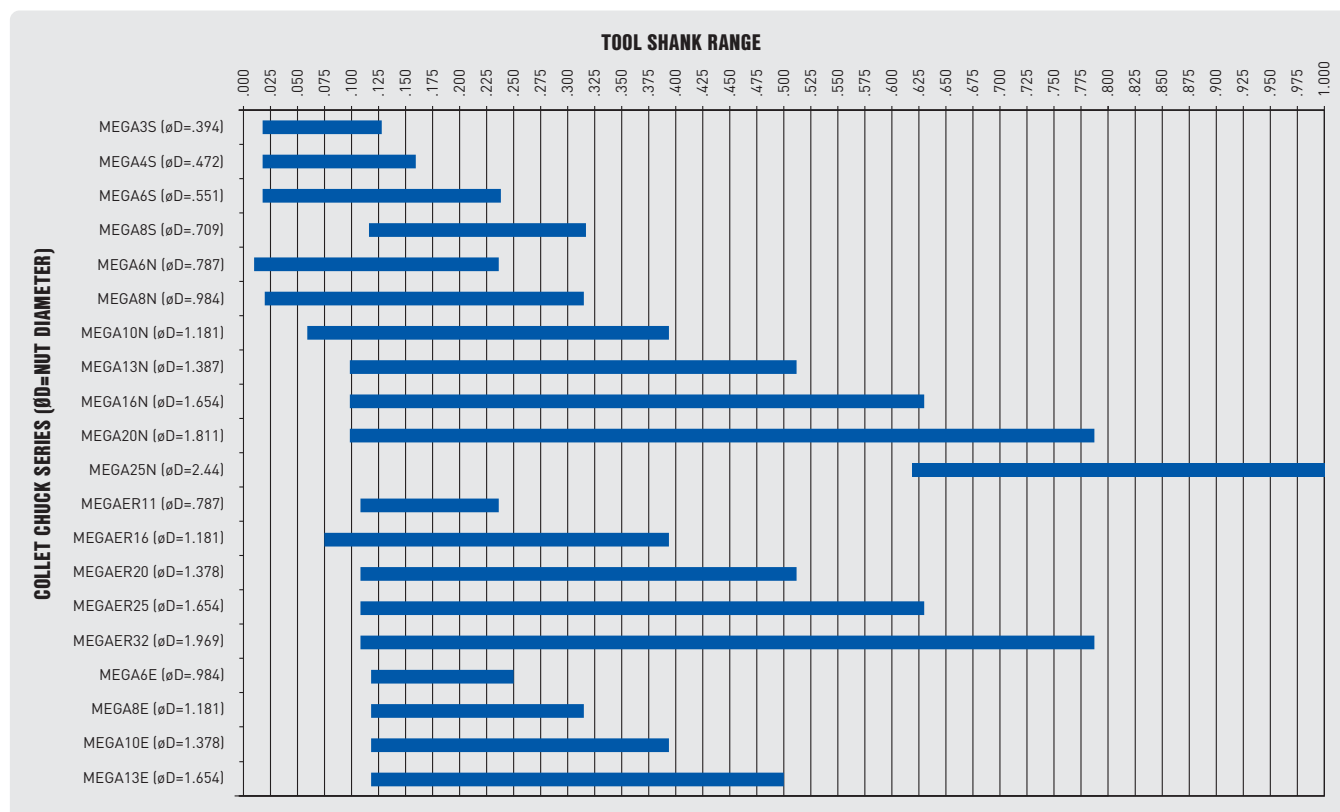
MEGA ER GRIP

MEGA E CHUCK

MEGA DOUBLE POWER CHUCK

COLLET CHUCK PROGRAM OVERVIEW

Collet Chuck Series	Taper Type																			
	BCV		BBT			HSK										BIG CAPTO				
	40	50	30	40	50	A40	A50	A63	A100	A125	E25	E32	E40	E50	F63	C3	C4	C5	C6	C8
MEGA3S	•		•	•		•	•	•			•	•	•	•			•	•	•	
MEGA4S	•		•	•		•	•	•			•	•	•	•	•			•	•	
MEGA6S	•		•	•		•	•	•			•	•	•	•	•	•	•	•	•	
MEGA8S	•		•	•				•				•								
MEGA6N	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•
MEGA8N	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•
MEGA10N	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•
MEGA13N	•	•	•	•	•	•	•	•	•			•	•	•	•	•	•	•	•	•
MEGA16N	•	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•
MEGA20N	•	•	•	•	•	•	•	•	•	•				•	•		•	•	•	•
MEGA25N	•	•	•	•	•		•	•	•											
MEGAER11	•																			
MEGAER16	•	•	•																	
MEGAER20	•	•	•																	
MEGAER25	•	•	•																	
MEGAER32	•	•	•																	
MEGA6E	•		•	•	•	•	•	•	•						•		•	•	•	•
MEGA8E	•		•	•	•	•	•	•	•						•		•	•	•	•
MEGA10E	•		•	•	•	•	•	•	•						•		•	•	•	•
MEGA13E	•	•	•	•	•	•	•	•	•				•	•	•		•	•	•	•



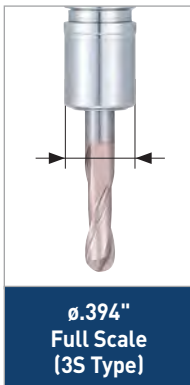


MEGA MICRO CHUCK®

CLAMPING RANGE: ϕ .018"-.317" (ϕ .45-8.05mm)

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

**MAX
50,000
RPM**



EXTREMELY SLIM DESIGN NUT

ϕ .394" / .472" / .551" / .709"

3S/4S/6S/8S Type

Slim design avoids interference. Ideal for small moldmaking, combining speed and high precision capability.



Sealed Nut for Through-Tool Coolant (available for 6S & 8S only)



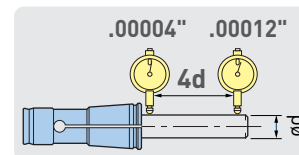
Strict Gage Control

HIGH CONCENTRICITY

MEGA MICRO COLLET

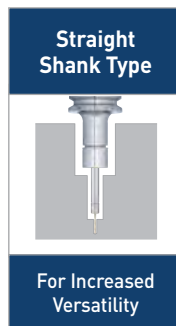
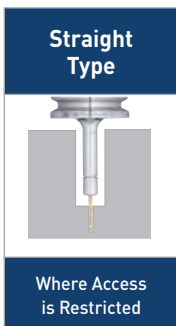
100% concentricity inspection. Guaranteed runout within .00004" at the nose. Available for higher precision in steps of ϕ .004" (ϕ .1mm)

HIGH PRECISION



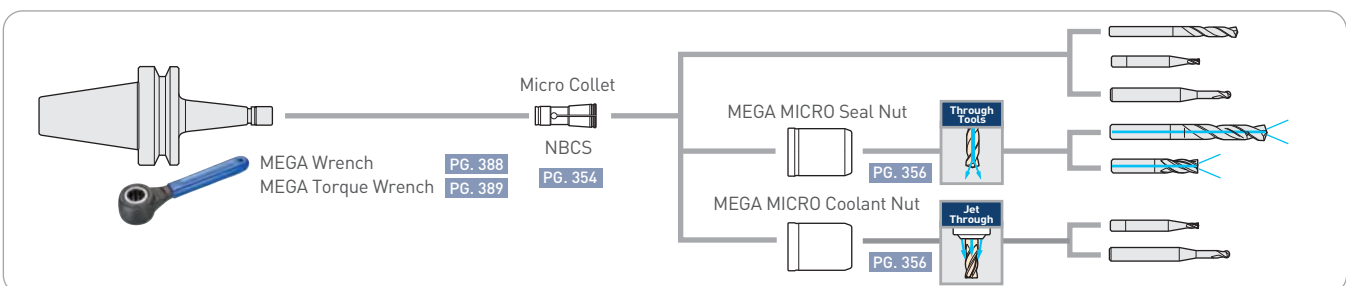
All BIG Collets are AA Grade and inspected twice for accuracy

A Variety of Interfaces for High-Speed Machining

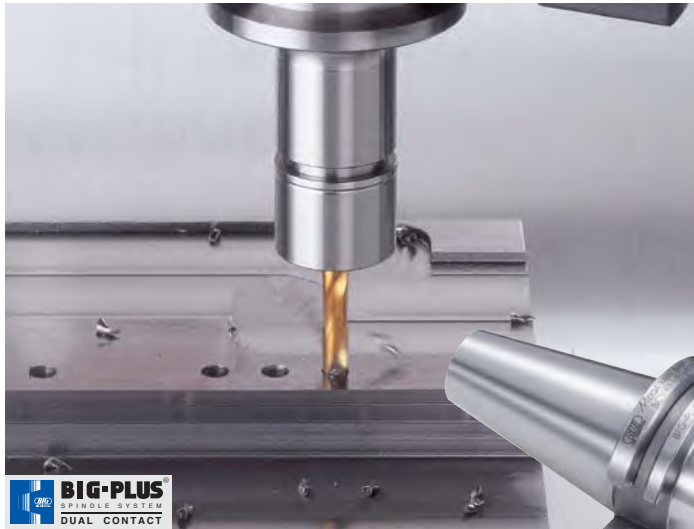


MEGA MICRO COOLANT NUT PAT. PENDING

Provides a more efficient coolant supply for micro cutting tools. Ideal design for high-speed micro machining up to ϕ 6mm.



MEGA NEW BABY CHUCK OVERVIEW

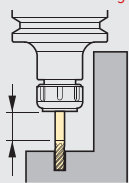
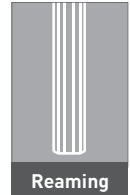


MEGA NEW BABY CHUCK®

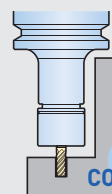
CLAMPING RANGE: ϕ .010" - 1.000" (ϕ .25-25.4mm)

High-speed design, offered in six different collet series sizes. Utilizes ultra precise NEW BABY COLLETS which guarantee a runout at the collet nose of less than .00004".

**MAX
50,000
RPM**



**Maximum
Performance!**



Wide Range Available as Standard

Ideal length and diameter of the holder is the key to precision machining. If selection is limited, an increased tool extension reduces performance.

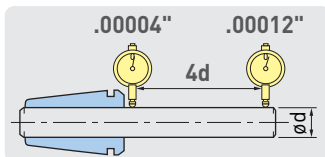


HIGH PRECISION COLLET, CLOSE TO SUBMICRON NEW BABY COLLET

**HIGH
PRECISION**

The NBC collet is 100% inspected to guarantee accuracy. Material, production, heat treatment... everything is selected for precision.

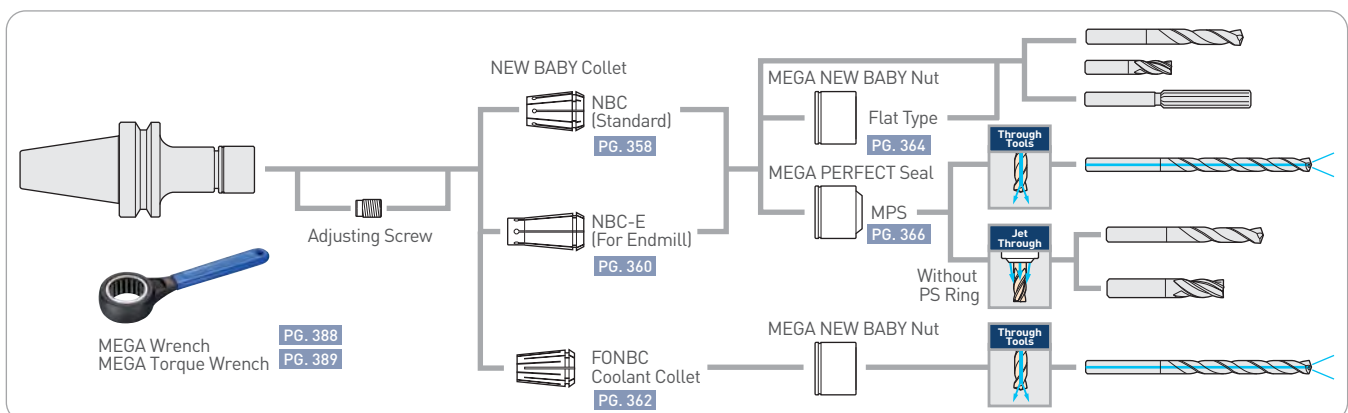
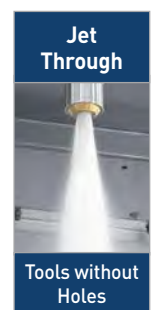
Strict Gage Control



All BIG Collets are AA Grade and inspected twice for accuracy

TWO-WAY COOLANT SEALED COLLET NUT MEGA PERFECT SEAL

- Standard NBC collet is used
- High dust resistance



MEGA ER GRIP OVERVIEW

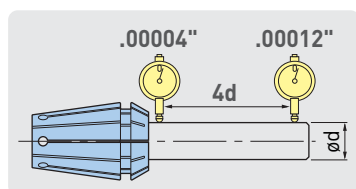


MEGA ER[®] GRIP

CLAMPING RANGE: ϕ .075"-.787" (ϕ 1.9-20mm)

High precision collet, nut and body that outperforms standard ER systems. Reliable and stable runout accuracy will also contribute to improving machining capability and cost reduction.

**MAX
35,000
RPM**



HIGH RIGIDITY BODY THAT INCREASES COLLET CONTACT AREA

By increasing the contact length of the internal taper of chuck bodies, the undesired overhang of the collet is reduced. This modification of the standard improves 3 of the most important requirements for the collet chuck: rigidity, runout accuracy and clamping force. (Conventional DIN collets can also be used)

ER COLLET with the Best Runout Accuracy in the World

Measurement standards in accordance with DIN 6499 and ISO 15488

Clamping Range	DIN/ISO		BIG BIG DAISHOWA MEGA ER [®] GRIP
	Class 1	Class 2	
ϕ .079 - ϕ .394	.0004	.0006	Within .00012
ϕ .394 - ϕ .787	.0006	.0008	

Variety Of Nut Selection

Two types of ER nut as well as sealing nut offer the most suitable solution for your demand. These nuts can also be used for conventional ER chuck models.



**MEGA ER
PERFECT SEAL**



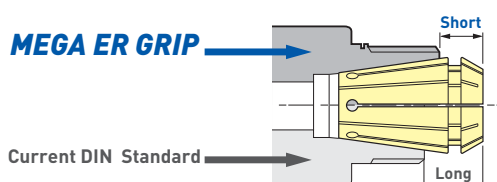
MEGA ER NUT



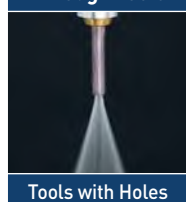
**MEGA ER
SOLID NUT**



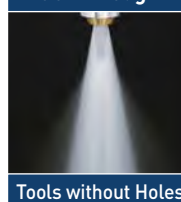
ER NUT



Through Tools

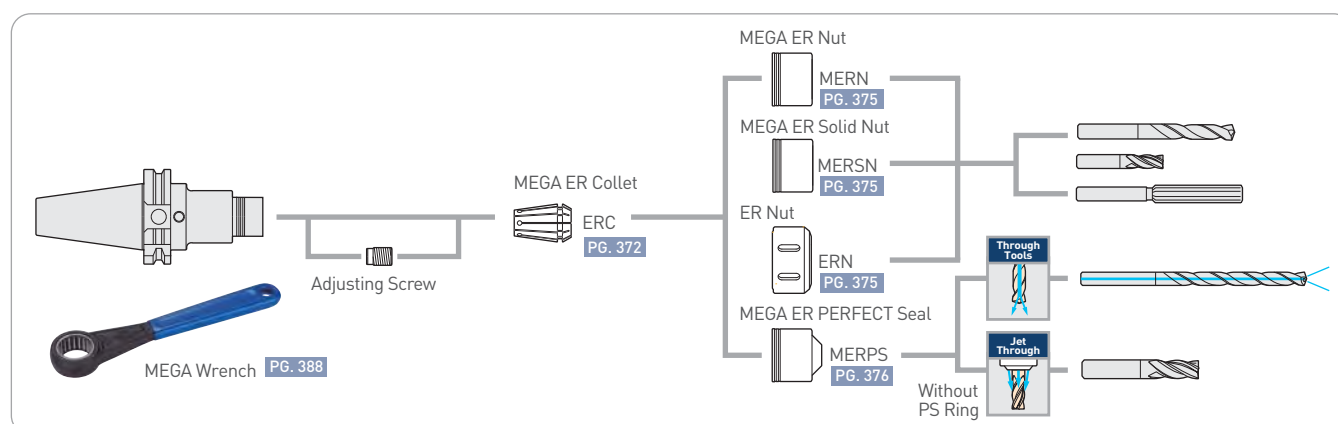


Jet Through

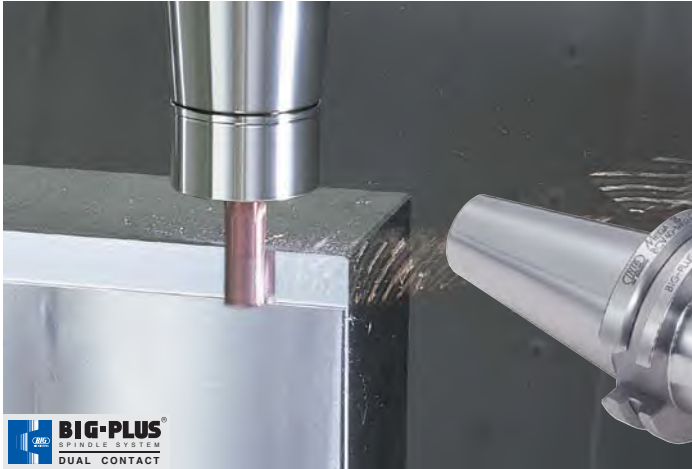


2-Way Coolant Supply

Sealed nut
MEGA PERFECT SEAL
offers two coolant
solutions.



MEGA E CHUCK OVERVIEW



MEGA E CHUCK®

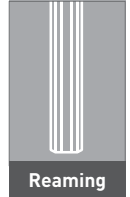
CLAMPING RANGE: $\varnothing$.125"-.500" ($\varnothing$ 3-12mm)

Collet chuck designed exclusively for end milling up to $\varnothing$.500" with high concentricity & rigidity.

**MAX
40,000
RPM**



End Milling



Reaming

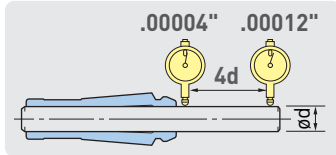


HIGH CONCENTRICITY MEGA E COLLET

100% concentricity inspection. Runout within 1 μ m at nose is guaranteed.

**HIGH
PRECISION**

Guaranteed Max Runout

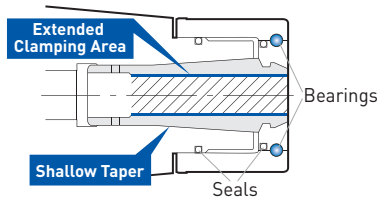


**1 μ m
AT COLLET NOSE**
3 μ m at end of test bar
All BIG Collets are AA Grade and inspected twice for accuracy

- Use only cutting tool shanks with the exact same diameter as the collet bore diameter.

HIGH GRIPPING STRENGTH COLLET

Gripping force is an important element for end milling 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 longer cutting tool life.



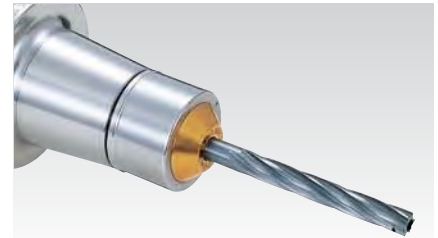
SEALED COLLET NUT

MEGA E PERFECT SEAL

Sealed collet nut to supply coolant reliably through cutting tool. Ideal for burnishing drills and reamers due to the extended gripping length of the MEGA E CHUCK.

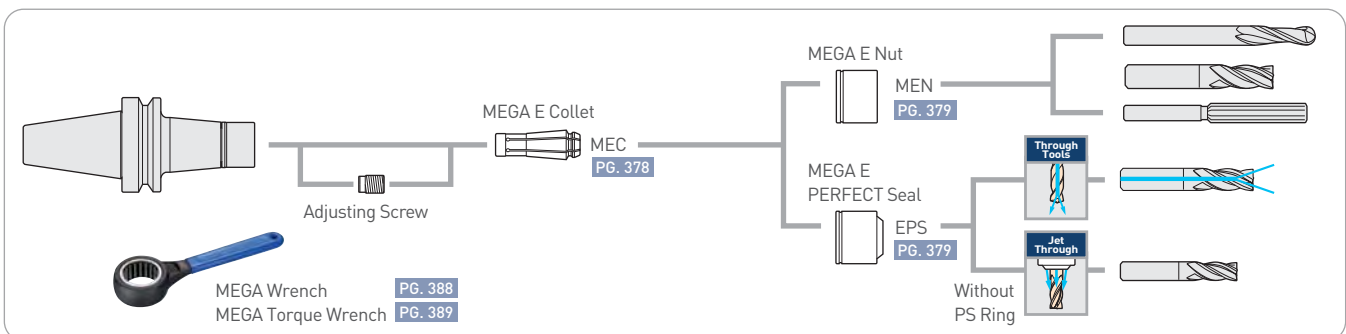
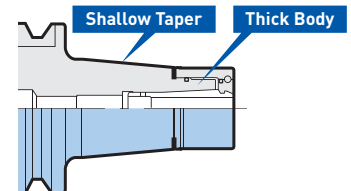


**MAX COOLANT
PRESSURE
1,000
PSI**

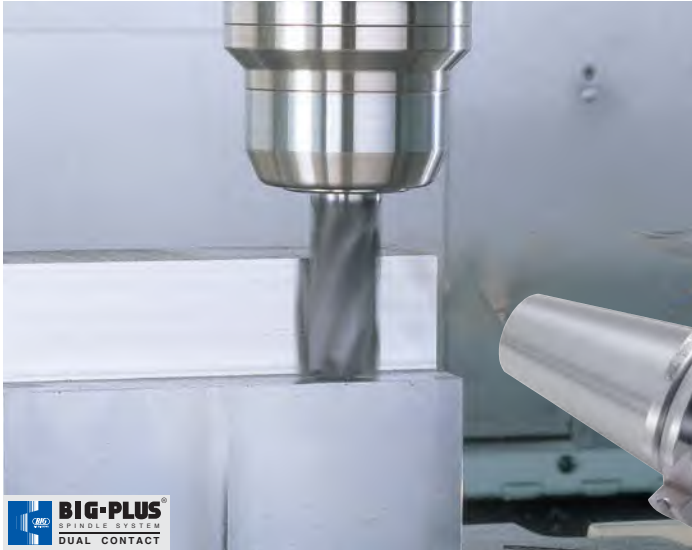


SUBSTANTIAL AND TAPERED BODY DESIGN

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



MEGA DOUBLE POWER CHUCK OVERVIEW



MEGA DOUBLE POWER CHUCK®

CLAMPING RANGE: ϕ .500" - 1.500" (ϕ 12-50mm)

High rigidity design for heavy cutting. Flange contacting nut and simultaneous taper & flange contact ensure highest rigidity.

**MAX
30,000
RPM**



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 ensures heavier duty machining without chatter.

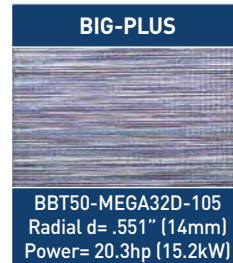


Released



Tightened

CONTACT



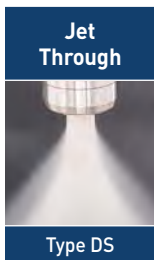
BIG-PLUS
BBT50-MEGA32D-105
Radial d= .551" (14mm)
Power= 20.3hp (15.2kW)



Conventional
Other Manufacturer (L=90)
Radial d= .374" (9.5mm)
Power= 12.3hp (9.2kW)

Cutting Conditions

Cutter: Coated Carbide End Mill ϕ 32mm, 4-flutes
Work Material: A36 Steel (JIS SS400)
Cutting Speed: 925 SFM (282 m/min)
Spindle Speed: 2,800 RPM
Feed Rate: 44 IPM (1,120 mm/min)



**Jet
Through**

Type DS

SECURE COOLANT SUPPLY

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

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

A Variety of Straight Collets Available



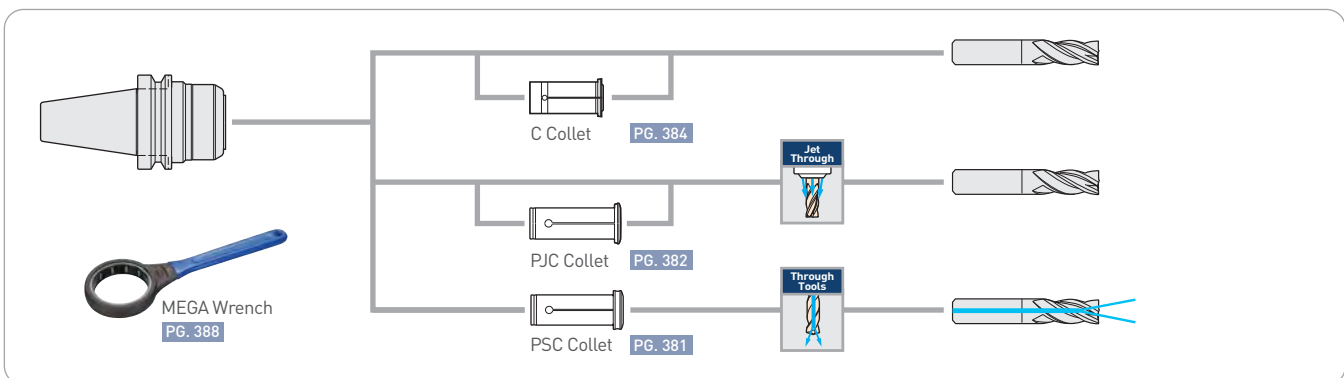
For jet through
PJC collet



For through tools
PSC collet



For through tools
OCA collet





MEGA Perfect GRIP®

CLAMPING RANGE: $\varnothing$.750"-1.250" ($\varnothing$ 16-32mm)

100% SECURITY AGAINST END MILL SLIP OR PULLOUT UNDER ANY TORQUE LOAD

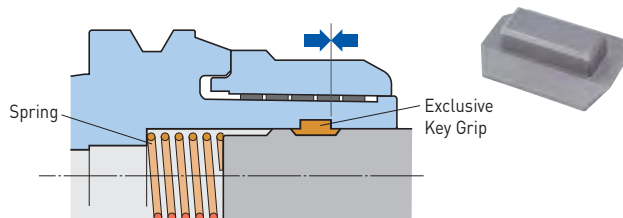
- A unique lock mechanism using a Key Grip prevents the slip and pullout of the tool during heavy cutting
- By simply using straight shank cutters with a Weldon flat, no special cutter is required. If your cutter doesn't have a flat, adding your own flat according to the general Weldon standard allows its use in the MEGA PERFECT GRIP

Simple, Easy Handling with Secure Clamping

1. Place the exclusive Key Grip into the Weldon flat of the end mill shank.
2. Insert the end mill with the Key Grip in alignment with one of the three Key Grip grooves inside the milling chuck.
3. Rotate the end mill approximately 20° clockwise until the Key Grip stops securely against the stopper pin.
4. Finish clamping the tool until the clamping nut contacts the positive stop of the chuck body.

NON-PULLOUT MECHANISM

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



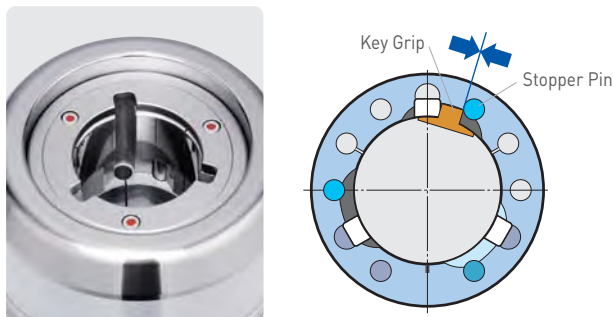
COMPLETE FIT OF NUT AND BODY

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



NON-SLIP MECHANISM

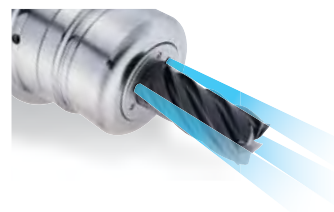
The Key Grip maintains contact with the stopper pin to prevent any slip under high torque.



FLOOD JET-THROUGH COOLANT

The Key Grip grooves provide channels for high volume coolant to the cutter.

Effective end milling of HRSA's requires a high volume of coolant to the cutting edge to dissipate heat and aid in the removal of chips.

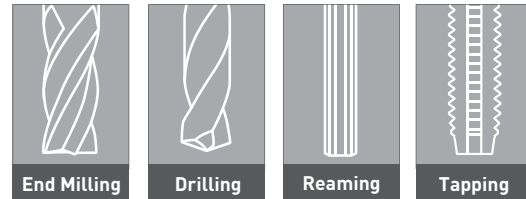




NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-.787" (ϕ .25-20mm)

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

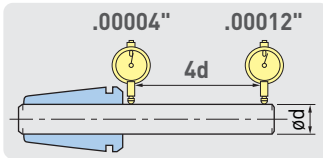


HIGH PRECISION COLLET, CLOSE TO SUBMICRON NEW BABY COLLET

The NBC collet is 100% inspected to guarantee accuracy. Material, production, heat treatment... everything is selected for precision.

HIGH PRECISION

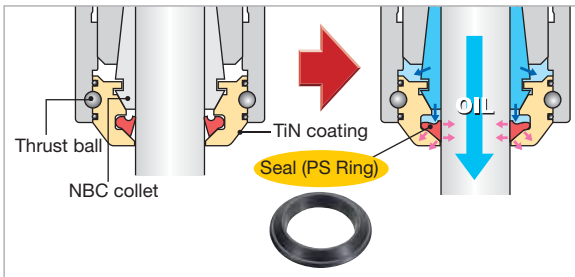
Strict Gage Control



All BIG Collets are AA Grade and inspected twice for accuracy

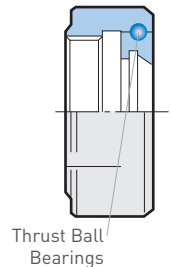
COOLANT-THROUGH TOOLS (BPS)

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



ENSURES HIGH ACCURACY

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

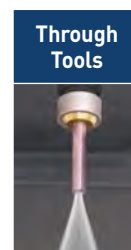


COOLANT METHODS TO SUIT THE APPLICATION

BABY PERFECT SEAL

A Coolant Nut with Oil Sealing Functionality

Removing the internal PS Ring allows jet-through coolant-through supply.



**MAX COOLANT PRESSURE
1,000 PSI**

The runout accuracy heavily affects finish quality and tool life. For holding an end mill, we recommend the use of an E Collet.

NEW Hi-POWER MILLING CHUCK OVERVIEW



NEW Hi-POWER MILLING CHUCK

CLAMPING RANGE: ϕ .500"-1.500" (ϕ 12-42mm)

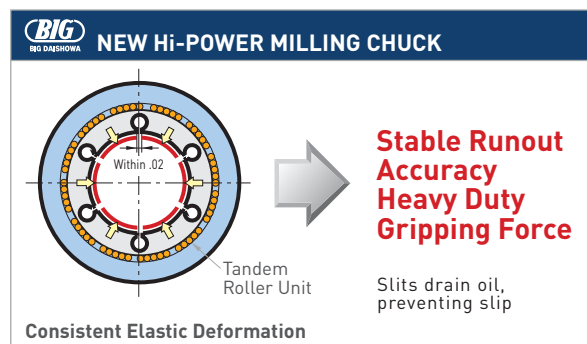
Highly rigid chuck for resistance against chatter. Supports end milling with its heavy duty gripping force and high runout accuracy.



End Milling

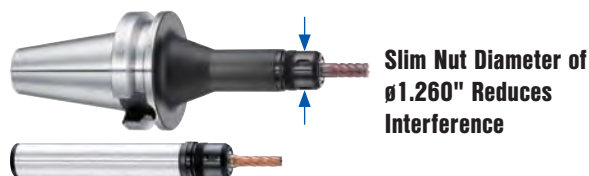
RELIABLE SLIT DESIGN ENSURES HIGH ACCURACY

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

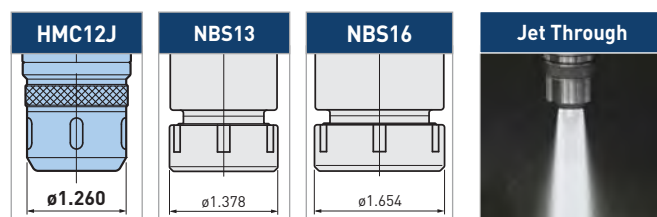


RELIABLE SLIT DESIGN ENSURES HIGH ACCURACY

CLAMPING DIAMETER: ϕ 12mm & .500"

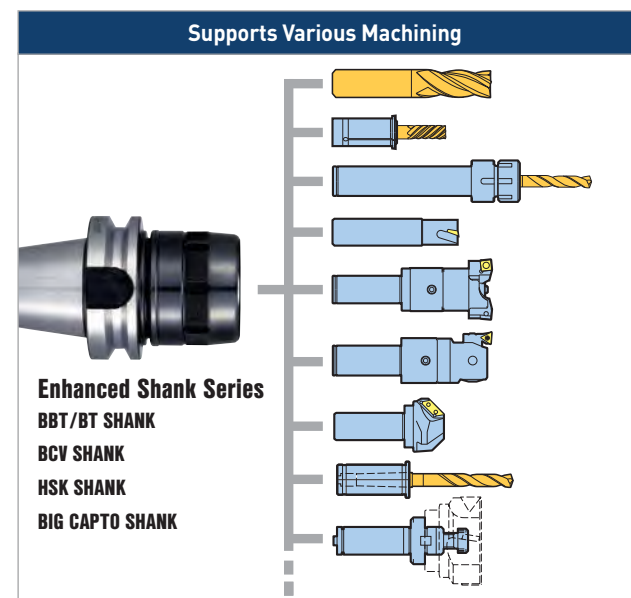


Diameter Slimmer than Collet Chucks



THE MILLING CHUCK IS ALSO IDEAL AS A BASIC HOLDER

Allows the reliable use of straight collets as well as boring bars and arbors such as face milling cutters.



RUNOUT ADJUSTABLE RA HOLDER

Simple Structure Allows for Easy Adjustment of Runout Accuracy

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

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

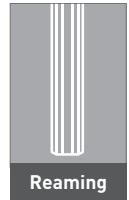


HYDRAULIC CHUCK

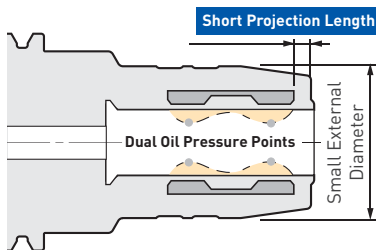
CLAMPING RANGE: ϕ .125"-1.250" (ϕ 3-32mm)

For high precision machining. Ideal tool holders for machining processes that require high accuracy such as drills, reamers, ball mills, end mills, diamond reamers and grinding tools.

**MAX
40,000
RPM**

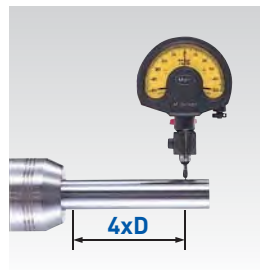


A Wide Variety of Clamping Diameters & Projections Available



INTERNAL STRUCTURE WITH INCREASED ACCURACY AND RIGIDITY

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



RUNOUT ACCURACY LESS THAN .00012"

High precision runout accuracy less than .00012" at 4xD improves the workpiece surface finish and extends tool life.

**HIGH RUNOUT
ACCURACY
<3 μ m**



EASY CLAMPING WITH 1 WRENCH

The cutting tool can be clamped or unclamped easily and securely with just 1 wrench.

Allowable Shank Tolerance of Cutting Tools (h6)

Reference Information "h6" Inch Series		Reference Information "h6" Metric Series	
Cutting Tool Shank ϕ	Allowable Tolerance	Cutting Tool Shank ϕ	Allowable Tolerance (μ m)
1/8, 1/4, 3/8	+0, -.00035	3, 4, 6, 8, 10mm	+0, -8 μ m
1/2, 5/8	+0, -.00043	12, 14, 16, 18mm	+0, -11 μ m
3/4, 1, 1 1/4	+0, -.0005	20, 25, 32mm	+0, -13 μ m

HYDRAULIC CHUCK OVERVIEW



Meets a variety of machining applications. Extensive offering of length and clamping diameters.

SUPER SLIM TYPE

MIN. BODY DIAMETER: ϕ .551"

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

**MAX
60,000
RPM**



**Cylindrical
Shank Series**



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

Ultra-Compact and High Precision

Hydraulic chuck suitable for small machining centers.



**PREBALANCING
HSK-E25
<.5G.MM**

SUPER SLIM UP SERIES (HSK-E25/E32/E40 TYPE)

The Ultimate Precision Hydraulic Chuck

Amazing runout accuracy within $1\mu\text{m}$ at 4D.



**RUNOUT
ACCURACY
 $1\mu\text{m}$ at 4D**

**$1\mu\text{m}$
ULTRA PRECISION**

JET THROUGH TYPE

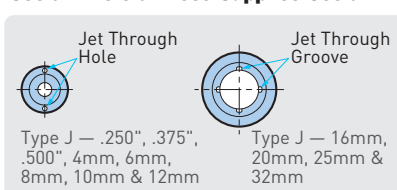
MIN. BODY DIAMETER: .79"

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



**MAX
35,000
RPM**

Coolant Hole at Nose Supplies Coolant



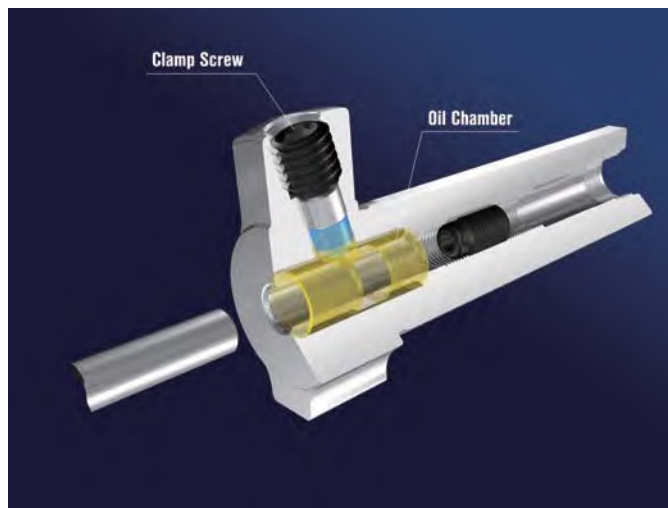
HYDRAULIC CHUCK OVERVIEW

HYDRAULIC CHUCKS FOR SWISS-TYPE AUTOMATIC LATHES

Hydraulic chuck system provides high accuracy and easy tool changes.

IMPROVED ACCURACY AND RIGIDITY

The lathe type hydraulic chuck was developed from decades of knowledge accumulated on milling machines. In addition to high accuracy and rigidity, the slim design helps avoid interference with adjacent tools.



SAFE AND QUICK OPERATION

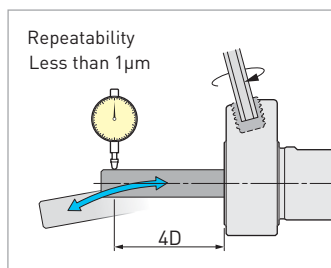
The ability to change cutting tools with a single T-wrench drastically reduces the time required for tool changes.

It also reduces the need to work in extremely limited spaces and improves operator safety.



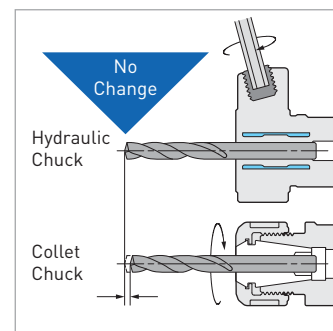
$\pm 1\mu\text{m}$ Repeatability

Even changing the tool, the repeatability at 4D is stable at $\pm 1\mu\text{m}$ or less. In addition, the tightening is completed when the clamping screw hits the bottom, controlling tightening torque is not needed.



No Change in Tool Length

Since the tool projection length does not change after the clamping, it is easy to control the tool projection length in the machine.



THREE TYPES FOR DIFFERENT TOOL POSTS



Standard Type

- Tighten from the tool side
- Coolant delivery is possible with Rc(PT)1/8 screw
- An adjusting screw can also be fitted (some models)
- Length can be adjusted by cutting the shank
- Easy to install in various tool posts



F Type

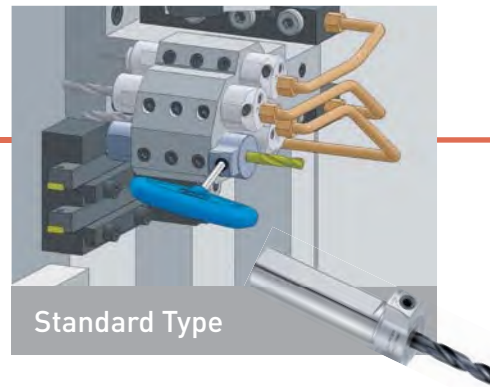
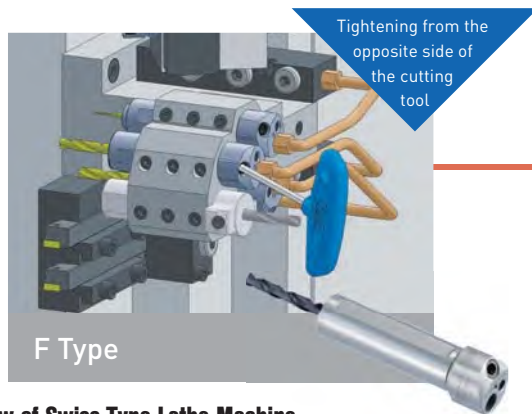
- Tighten from the opposite side of the tool
- Coolant delivery is possible with Rc(PT)1/8 screw
- Optimum overall length for easy use
- Ideal for use on a front tool post



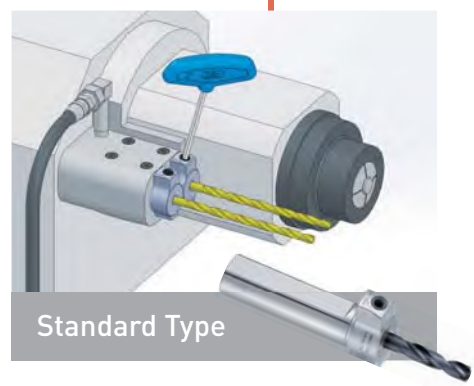
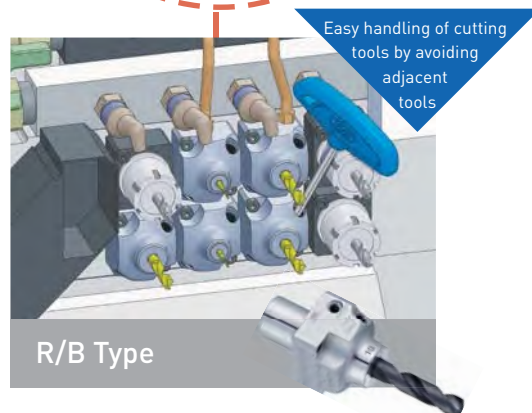
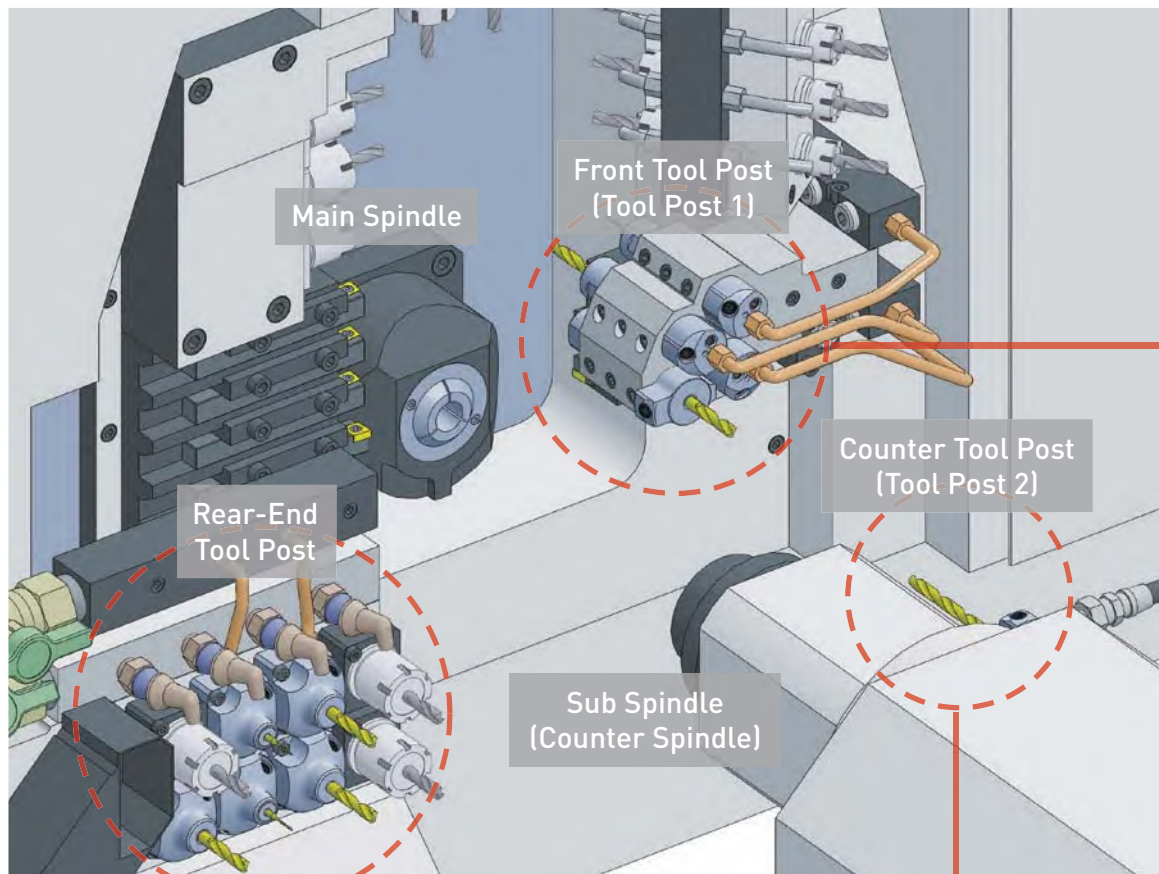
R/B Type

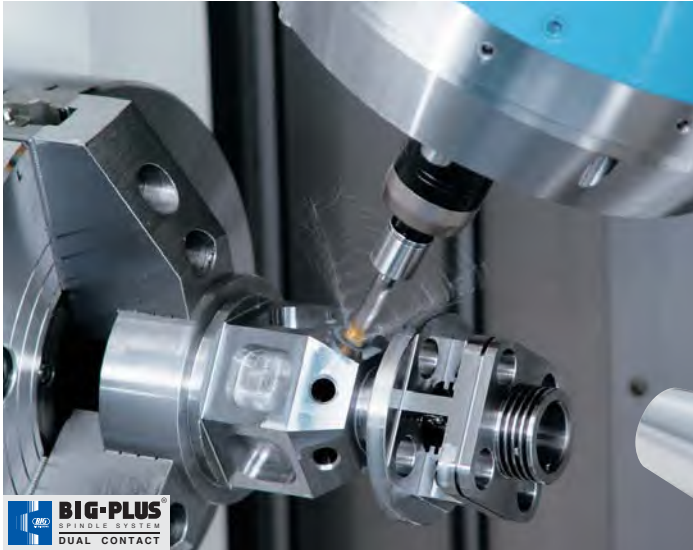
- Unique design for use with both upper and lower sections without interference
- Tightening at an offset position in the tool side
- Coolant delivery with M6 is possible when mounted on the upper section

HYDRAULIC CHUCK OVERVIEW



View of Swiss-Type Lathe Machine



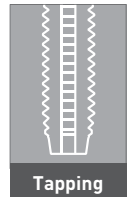


MEGA SYNCHRO[®] Tapping Holder

**TAPPING RANGE: ANSI: No.0-NPT1",
JIS/DIN/ISO: M1-M36**

Tool holder for rigid tapping compensates for synchronization errors during tapping. Improves thread quality and tool life by reducing thrust loads caused by synchronization errors up to 90%.

- Patent is licensed from EMUGE



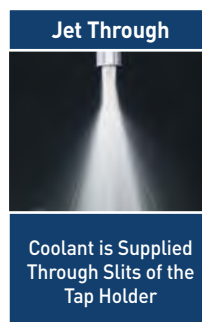
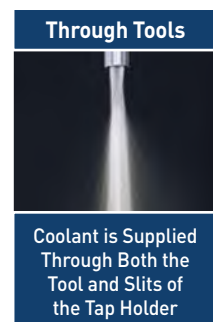
54 Body Models and 276 Tap Holder Models are Available

Large tap series achieves a maximum of NPT1". An extensive variety of bodies suitable for many spindle types. Short, middle & long tap holders are standardized to cover between No.2 and NPT1" (M2 and M36). The slim design avoids interference.



SECURE DRIVE

The body and Tap Holder are fixed with a drive key in the rotation direction as well as the square of the tap.



COOLANT-THROUGH CENTER CAPABILITY FOR ALL MODELS

Coolant is supplied both through the tool and to the tool periphery simultaneously.

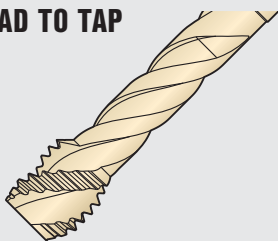
MEGA SYNCHRO TAPPING HOLDER OVERVIEW



BIG MEGA SYNCHRO tapping holder compensates for synchronization errors with any type of tap.

Minimized thrust load to both the tap and workpiece improves thread quality and tap life.

LOAD TO TAP

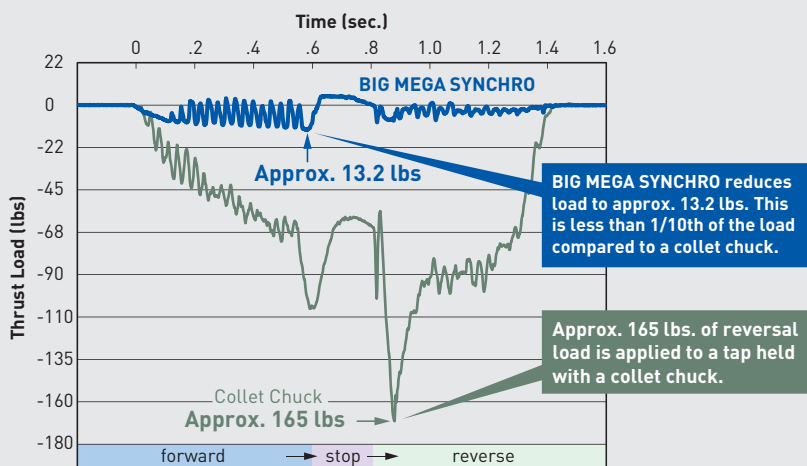


SPIRAL TAP

AU:1/4-20, N=1,000 RPM

Spiral grooves on spiral tap cause loading in the reverse direction, similar to an end mill.

- Measured by Kistler Dynamometer



Cutting Conditions

Spiral Tap
No.10-24
Material: 4130

Collet Chuck



BIG MEGA SYNCHRO



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

Abundant Lineup from Small to Large Diameter Tapping

PATENT #
9446463



MGT3

Wide Range of Tapping Sizes from Small to Large Diameter

TAPPING RANGE: ANSI: No.0-No.6, JIS/DIN/ISO: M1-M3

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

- BBT Shank
- HSK Shank
- Cylindrical Shank
- N/C Lathe Tooling



MGT36

For Large Diameter Tap

TAPPING RANGE:

ANSI: AU13/16-AU1-1/2, JIS/DIN/ISO: M20-M36

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

- BBT Shank
- HSK Shank
- CK Shank



KAISER BORING SYSTEM

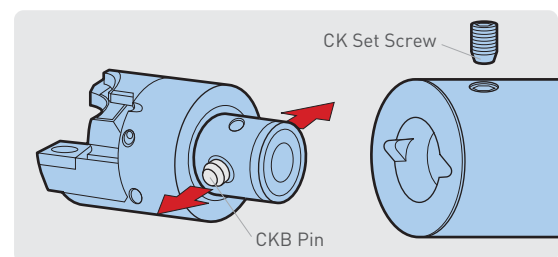
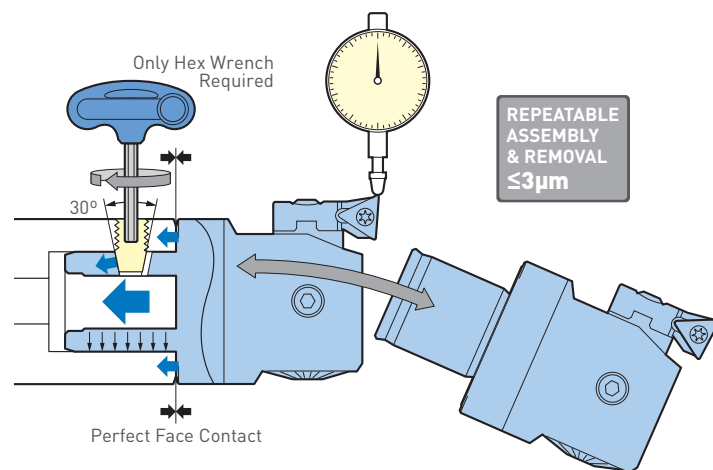
Supports various applications from rough to fine boring with a large assortment of boring heads and accessories. Secure contact using a single wrench.



THE SIMPLEST MODULAR BORING CLAMPING SYSTEM

Secure Contact Using a Single Wrench

The CK modular system is a simple method for securely and powerfully clamping multiple components with a single wrench. Moreover, even if the same boring head is repeatedly attached and removed, the cutting edge position does not vary by 2 microns (.00008"). This accurate clamping allows boring diameter setup to be done with a boring head only, increasing the machine utilization and drastically reducing labor.

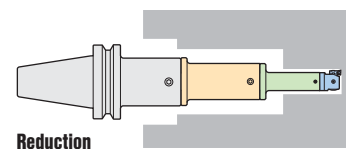
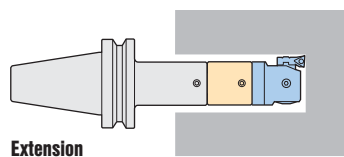
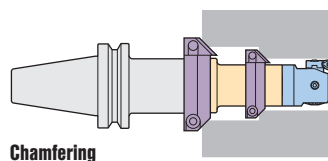


SAFE STRUCTURE AT HIGH TORQUE

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

RAPID ADAPTATION TO SPECIAL TOOLS

Modular system that can be used to assemble special tools with standard items allows for flexibility.



ROUGH BORING HEADS

Designed for Ultimate Performance and Versatility

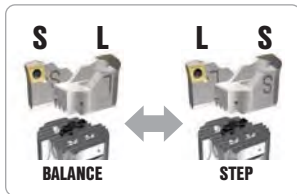


SW BORING HEAD

High Rigidity

RANGE: ϕ .787"-8.000" (ϕ 20-203mm)

- Serrated for high connection rigidity



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



PATENT #
9027720

SW BORING HEAD SMART DAMPER



Roughing Head with Built-In Damper

- Smart Damper with SW head
- Closely adjacent vibrating point and damper achieve a high damping effect.



MW BORING HEAD

Boring Tool for Small-Diameter 2-Flute Roughing

RANGE: ϕ .630"-.827" (ϕ 16-21mm)

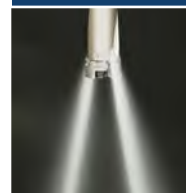
- Versatile straight shank
- Spiral groove for improved chip evacuation



Blind Hole



Through Hole



CENTER THROUGH

In blind hole situations, center-through coolant aids in chip evacuation. The coolant hole can be closed by the stop screw when required.

FINE BORING HEADS (INSERT HOLDER TYPE) Quick Micron-Level Adjustment



EWN BORING HEAD

Prebalanced Design/Multifunction Head

RANGE: ϕ .787"-8.000" (ϕ 20-203mm)

- Prebalanced design supports high-speed boring
- Abundance of insert holders

Back boring available as standard

Supports back boring by simply reversing the Insert Holder.

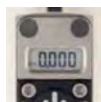


EWE BORING HEAD

Digital Boring Head

RANGE: ϕ 1.614"-8.000" (ϕ 41-203mm)

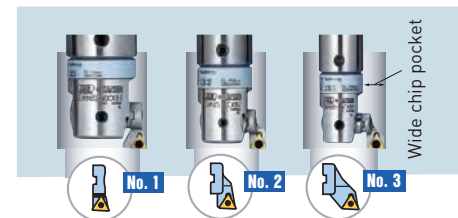
- Digital display allows the adjustment amount to be read at a glance
- Fully waterproof and dustproof structure (IP69K equivalent)



Resolution:
.00005"/ ϕ
(.001mm/ ϕ)

Emphasis on Chip Evacuation Properties

Replacing the Insert Holder makes it possible to secure sufficient clearance for chips.



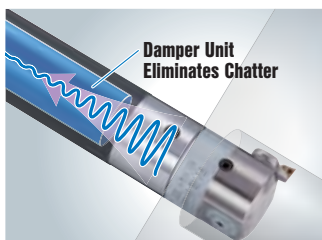
PATENT #
9027720

EWN BORING HEAD SMART DAMPER

Built-In Damper

RANGE: ϕ .787"-8.000" (ϕ 20-203mm)

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



Chatter Suppressing Mechanism

Patented counterweight maximizes effect of the friction damper. Chatter is absorbed effectively and higher machining accuracy is achieved.



EWB BORING HEAD

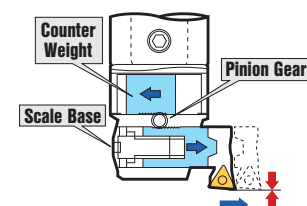
High Speed

RANGE: ϕ 1.260"-4.134" (ϕ 32-105mm)

- .0005"/ ϕ scale

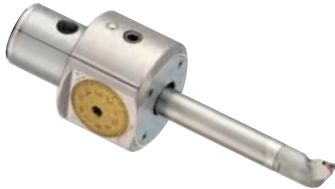
Built-In Automatic Precision Balancing Unit

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



No Change to "Z" Dimension
Even If Diameter is Adjusted

FINE BORING HEADS (CENTRIC BORING BAR TYPE) Expansive Tool Holder Series



EWN BORING HEAD

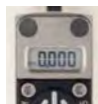
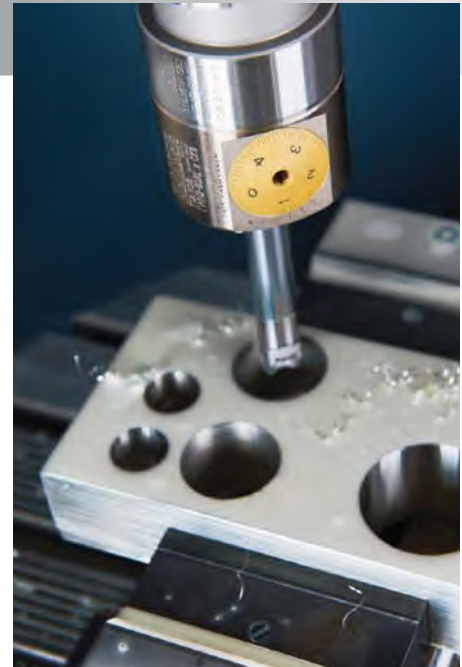
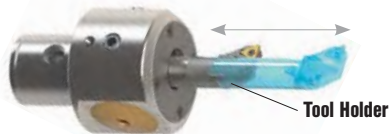
High Precision

RANGE: $\varnothing.039''$ - $2.126''$ ($\varnothing1$ - 54mm)

- $.0002''/\varnothing$ scale plus $.00005''/\varnothing$ vernier
- Combine with carbide shank for stable deep-hole boring

Variable Tool Length Adjustment of the Tool Holder

Best cutting results are only reachable if the tool holder is as short as possible. The EWN features variable length adjustment of the tool holders which ensures the shortest and therefore the most rigid tool assembly.



Resolution:
 $.00005''/\varnothing$
[.001mm/ $\varnothing$]

EWE BORING HEAD

Digital Boring Head

RANGE: $\varnothing.787''$ - $2.126''$ ($\varnothing2$ - 54mm)

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



Electronic Components — Made by KAISER

All electronic components are entirely developed and manufactured in the electronic lab of KAISER in Switzerland. Before shipping, every digital boring head is calibrated and tested.



EWN04-15

Compact High Precision Boring Head

RANGE: $\varnothing.039''$ - $.591''$ ($\varnothing1$ - 15mm)

- O.D. $\varnothing.728''$ ultra-compact design
- Max. 30,000min-1



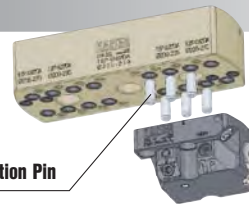
CK7 LARGE DIAMETER BORING SERIES



TW200 BORING HEAD (FOR ROUGHING)

RANGE: ϕ .787"-32.677"

- Large-diameter boring series compatible with high-speed



Position Pin

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



EWN200 BORING HEAD (FOR FINISHING)

RANGE: ϕ .787"-34.646"

- Precision head with outstanding operability
- Back boring available

LIGHTER WEIGHT FOR GREATER SPEED

Aluminum High Speed Type

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

CENTER THROUGH SUPPORTED

Reliable coolant supply to finishing and roughing cutting tool peripheries.



PIN TURNING HEAD



RANGE: ϕ .020"-27.008" (ϕ .5-686mm)

- Achieve finishing accuracy not possible with interpolation.



ACCESSORIES

SMART DAMPER PAT.



Built-In Damper

- Reliable coolant supply to finishing and roughing cutting tool peripheries.
- Unique dynamic damper eliminates chatter.



CK Extension

CK SHANK

Various Shanks and Accessories



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



SMART DAMPER OVERVIEW



SMART DAMPER

UNIQUE DYNAMIC DAMPER ELIMINATES CHATTER

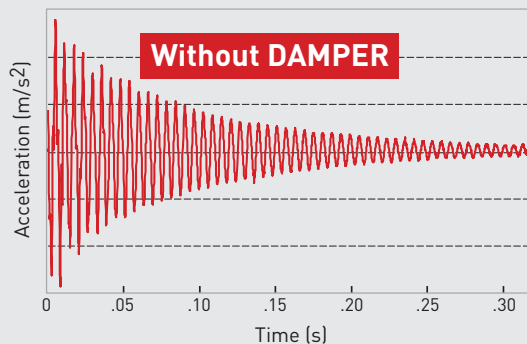
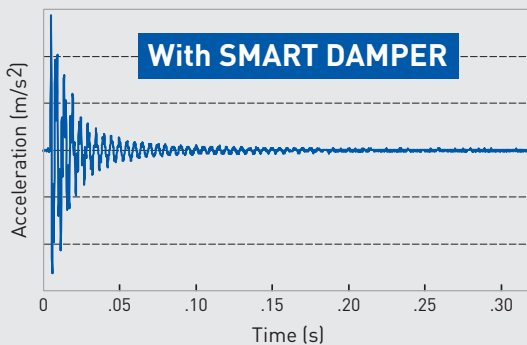
Achieves high speed and high efficiency machining for work requiring a long projection length.

PATENT #
9027720

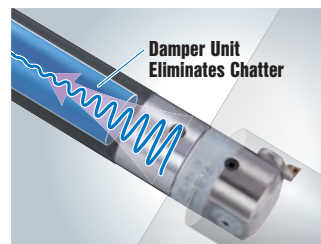


Comparison of Oscillatory Waveforms

The SMART DAMPER incorporates a damping mechanism and reduces chatter instantly. The SMART DAMPER solves various problems caused by chatter due to long projection, such as poor surface roughness, unacceptable cutting time, and shortened tool life.



CHATTER SUPPRESSING MECHANISM



An incorporated unique damper that functions as both a counterdamper and friction damper.

Patented counterweight maximizes effect of the friction damper. Chatter is absorbed effectively and higher machining accuracy is achieved.

FINE BORING OF DUCTILE CAST IRON (FCD500)

Tool Holder	Cutting Speed (SFM)				Result
	80	165	325	500	
Competitor (w/o damping system)	○	×	×	×	Outperforms competitor's holder by 6X higher productivity. Superior surface finish and better tool life due to the increased cutting speed.
SMART DAMPER Built-in damping mechanism	○	○	○	○	

× = Vibration ○ = Acceptable ⊙ = Excellent Surface Finish

Cutting Conditions

Machine: HMC (BBT50) BIG-PLUS
Boring Dia: $\phi 2.677''$
Depth of Hole: 16" (L/D=6:1)
Insert Nose Radius: R .016"
Feed Rate: .008"/rev.
Depth of Cut: .012"/ ϕ

SERIES AVAILABLE FOR VARIOUS MACHINING REQUIREMENTS

CK BORING SERIES (WITH BUILT-IN DAMPER)

High-Efficiency Deep Hole Finish Boring Is Available



EWN BORING HEAD TYPE

The EWN Boring Head functions are maintained, featuring integrated damper.

SW BORING HEAD TYPE PAT.

Damper located closer to the cutting edge provides greater damping effect.

CK SHANK TYPE PAT.

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

CK EXTENSION TYPE PAT.

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

FACE MILL (ARBOR TYPE WITH BUILT-IN DAMPER)

For Face Milling with Long Projection Length



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

INTERNAL TURNING TOOL (BORING BAR WITH BUILT-IN DAMPER)

For Face Milling with Long Projection Length



Cartridges can be exchanged according to the application.



Eliminates Chatter in Internal Turning

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

TURNING TOOLS

45° TILT STYLE, TYPE S OVERVIEW

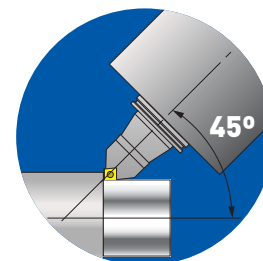


THE FIRST MODULAR TOOLING SYSTEM FOR TURNING APPLICATIONS ON MILL-TURN MACHINES

A modular tooling system offers better efficiency, material selection, heat treatment and optimal tool lengths. Easily replace broken inserts. Boring bar & square tool holder options also available.

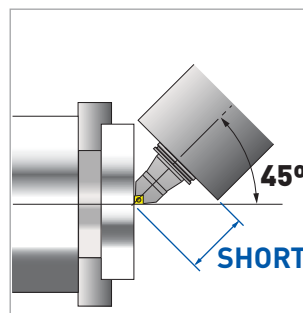
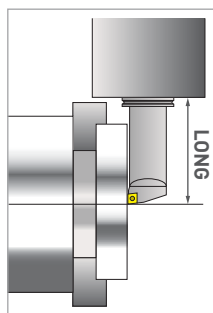


45° TILT STYLE TYPE S



MINIMIZED CUTTING FORCES

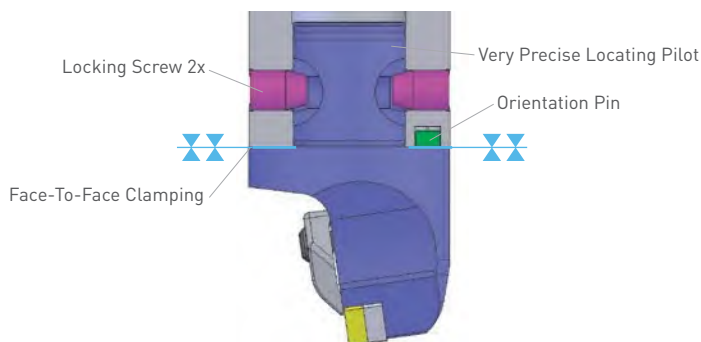
Tilting the B axis 45° helps to minimize the cutting forces transmitted to the machine spindle. This force reduction increases the life of the machine spindle & insert life.



With the B axis at 45°, accessibility problems with the chuck or tailstock are overcome to minimize tool length.

SECURE AND RIGID TYPE S CARTRIDGE CLAMPING SYSTEM

Using highly sophisticated and modern machine tools, Type S cartridges are made to very close tolerances required for turning accuracy and repeatability. The cartridge is located in the basic holder by means of a precision ground pilot and secured by 2 opposing radial screws with a 15° taper. With a slight offset to locating sockets, high face-to-face clamping force of the two components is generated. To maintain precise locations and orientation, an additional locating pin is included for positive transfer of cutting torque.

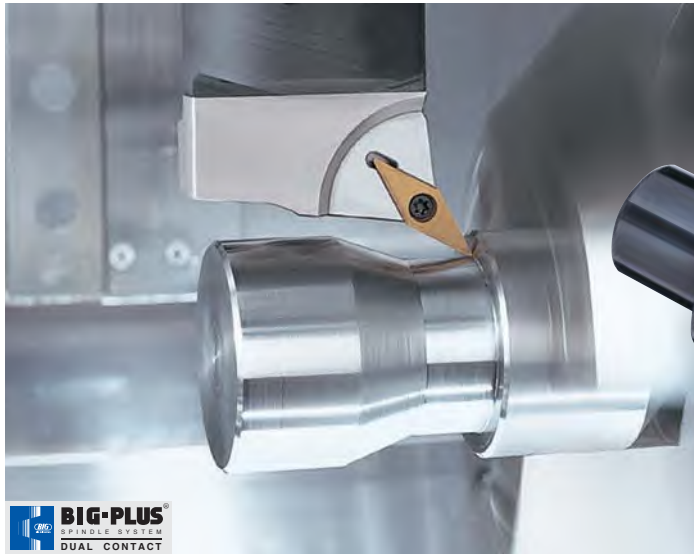


15 Cartridges for 45° Tilt Style Type S

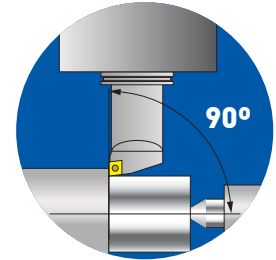


TURNING TOOLS

90° RIGHT ANGLE STYLE, TYPE F OVERVIEW

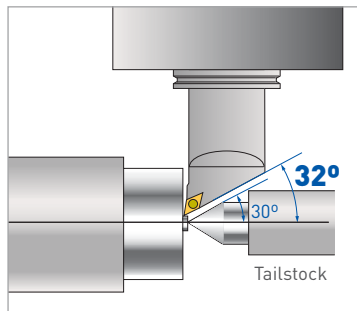
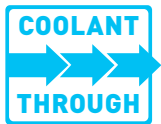


90° RIGHT ANGLE STYLE TYPE F



RIGHT OR LEFT HAND VERSIONS AVAILABLE

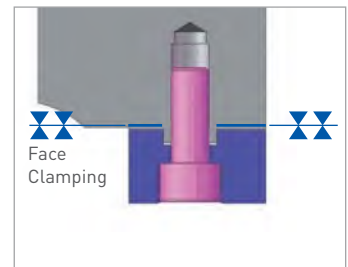
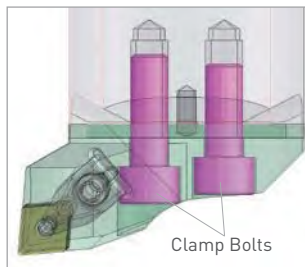
Two different basic holders are available and all can be assembled with either the right or left hand version of cartridges.



Center proximity type cartridge is also available, minimizing tailstock interference.

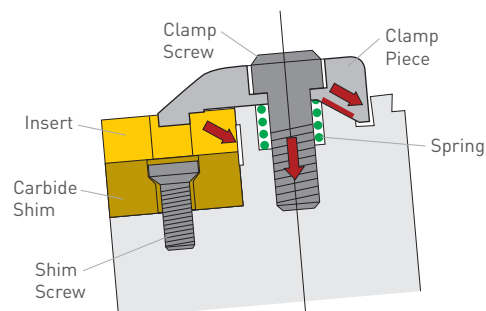
SIMPLE AND POSITIVE CLAMPING

Type F uses two clamping bolts that press the cartridge onto the basic holder. The torque is transmitted by an interlocking drive slot.



SAFE AND EASY CLAMPING OF INSERTS

The double-clamping system simultaneously pushes an insert downward and draws it into the contact faces to achieve secure and rigid clamping.



24 Cartridges for 90° Right Angle Style Type F



ANGLE HEAD OVERVIEW



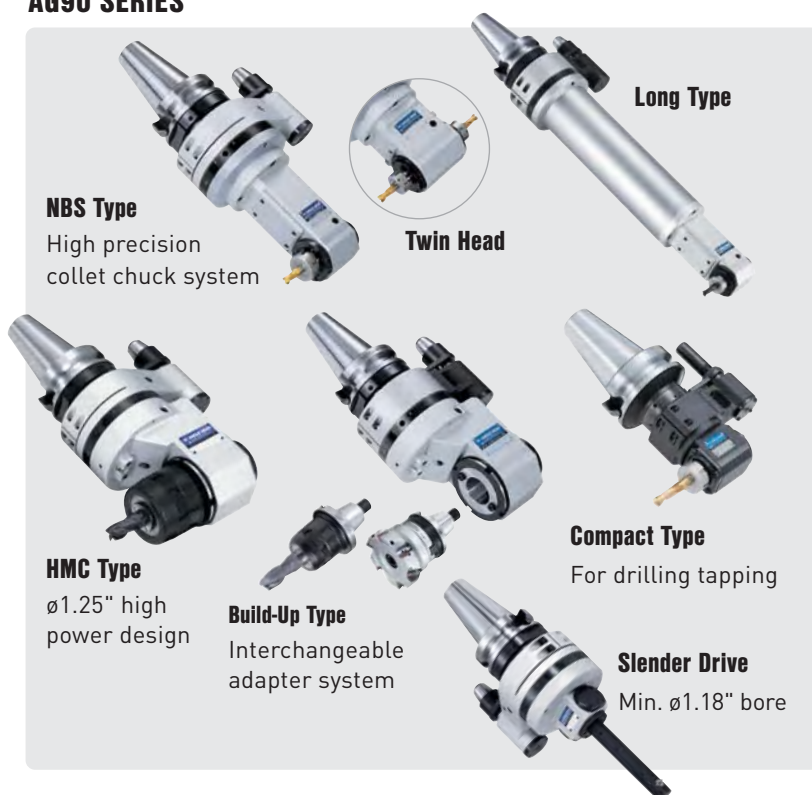
ANGLE HEAD

Eliminate multiple set-ups and combine vertical, horizontal and angular operations on one machine. One original set-up saves time, speeds production and guarantees better accuracy.



A Variety of Compact and Rigid Heads Suitable for all Kinds of Machining Applications

AG90 SERIES



AGU SERIES



AG45 SERIES



Special Versions Available

We are able to design and manufacture special ANGLE HEADS such as custom angles or long type models to address every machining condition.

ANGLE HEAD OVERVIEW

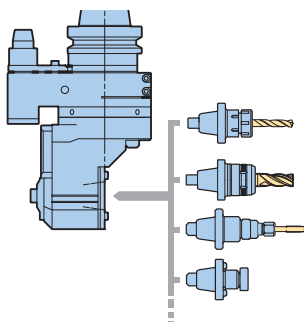


A wide range of compact and rigid heads, from milling chuck types to universal types, suitable for all kinds of machining applications.

BUILD-UP & HMC TYPE

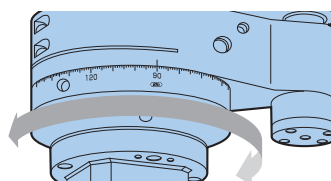
Overhang is minimized for increased strength and rigidity, resulting in a shorter cutting tool projection that reduces load on the angle head and enhances cutting performance. This design also prevents interference with the ATC and tool magazine storage. A High Rigidity S-Type with a steel housing and reinforced locating pin assembly is available.

- ATC may not be utilized for some machining centers.



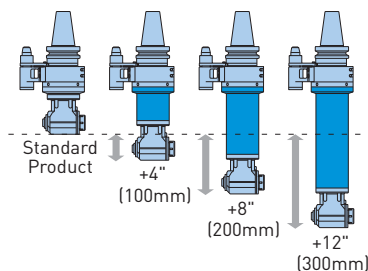
CUTTER HEAD ADJUSTABLE 360°

Reference faces are provided on both sides of all heads for easier setting of cutter directions.



LONG TYPE ANGLE HEADS

Any 50 taper or HSK-A100 size NBS head can be extended for long reach requirements.



SUPERIOR QUALITY COMPONENTS

For smooth and powerful operation and to minimize noise and vibration, all angle heads are equipped with hardened and ground chrome-nickel steel spiral bevel gears, super precision hardened and ground spindles, and high precision angular contact ball bearings.



INNOVATIVE SEALING METHOD

The advanced no contact sealing method prevents coolant and particle contamination better than any other sealing method.



MAX COOLANT PRESSURE
150
PSI

UNIQUE COOLANT JACKET

Jacket allows coolant coming through the stop block to be efficiently directed to the cutting tool edge while simultaneously cooling the angle head.

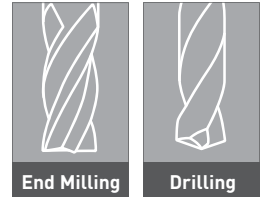
AIR POWER SPINDLE OVERVIEW



AIR POWER SPINDLE Type RBX

ULTRA HIGH-SPEED AND PRECISION

High-speed micro-machining can be done on a normal machining center, eliminating the need for an expensive high-speed machine.



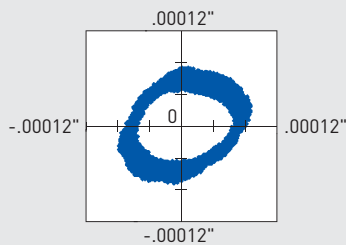
**MAX
80,000
RPM**



DYNAMIC RUNOUT ACCURACY

Most problems associated with micro-machining are caused by poor dynamic runout of a machine spindle. We have established a runout measuring system that can detect spindle movement during rotation at high speed and achieved the best dynamic runout accuracy.

RBX (80,000 RPM)

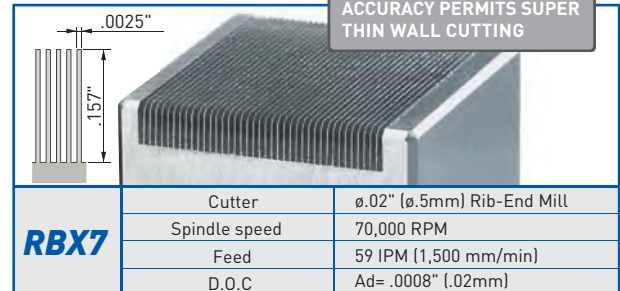


Plotted Position of a Test Bar at the Max Spindle Speed

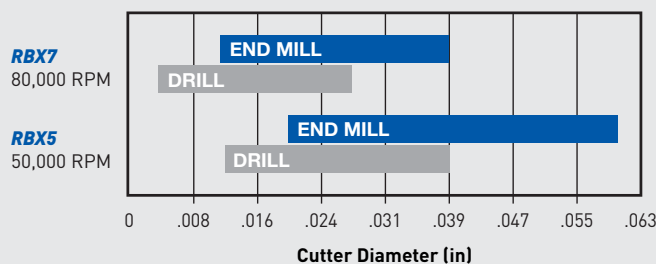
- Improved machining accuracy
- Extended tool life
- Superior surface finish

Application Example

ALUMINUM A2017
OUTSTANDING RUNOUT
ACCURACY PERMITS SUPER
THIN WALL CUTTING



Recommended Clamping Range

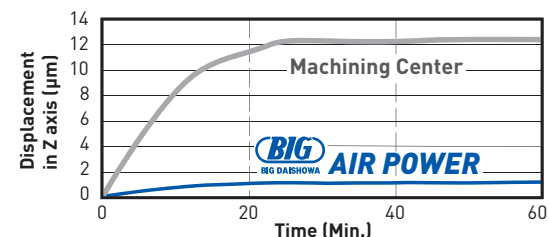


• The table is for reference only. Machining range may change according to material, cutting conditions and cutting tools

MINIMIZED SPINDLE EXPANSION

Air turbine drive prevents thermal expansion of the spindle, essential for high accuracy micro-machining.

Axial Displacement Compared to Operating Time



Automatic Tool Change

ATC type is available by supplying air via a stop block to enhance productivity with unmanned operation.

Air Pressure: 87 PSI
Air Consumption: 10.6 CFM

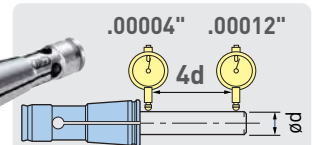
HIGH PRECISION

MEGA MICRO COLLET NBC4S COLLET

Max Cutter
Shank: .157"



Guaranteed Max Runout



HIGH SPINDLE HOLDER OVERVIEW



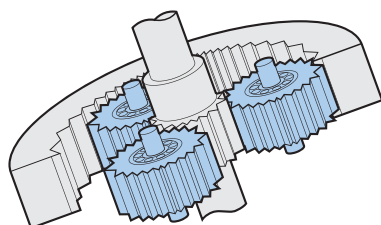
HIGH SPINDLE

HIGH SPINDLE improves drilling and end milling performance on existing machining centers by multiplying the spindle speed 4, 5 or 6 times.

**MAX
20,000
RPM**

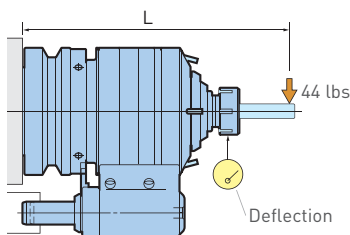
REINFORCED GEAR DRIVING SYSTEM

The planetary gears, which have been constantly upgraded since the development of our first HIGH SPINDLE back in 1970, achieves smooth operation with minimal heat generation and high torque transmission.



RIGIDITY INCREASED 1.7 TIMES

Larger diameter body and spindle with double angular contact bearings and reinforced locating pin assembly greatly increase rigidity.



Catalog Number	L	Deflection	Comparison
BBT40-GTG5-10-140-65	7.87	.0014	58% less
BBT50-GTG6-10-158-80	8.66	.0010	78% less
BBT50-GTG4-16-177-80	9.45	.0004	93% less

REDUCE LOAD TO MACHINE SPINDLE

Continuous use at high spindle speeds will reduce the life of a machine spindle due to the excessive load to the motor and bearings. The HIGH SPINDLE reduces this load and greatly extends the life of a costly machine spindle.

MULTI-DIRECTIONAL COOLANT SUPPLY

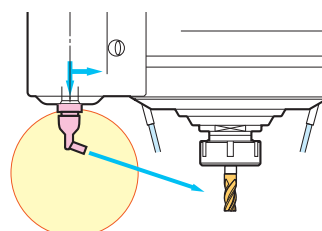
Universal coolant nozzles are capable of being adjusted to suit the length of the cutting tool for maximum coolant delivery to the cutting edge.

- HIGH SPINDLE can be operated without coolant running through the housing



PINPOINT COOLANT JET FOR SHORTER CUTTING TOOLS

A 1/8 pipe tap thread is provided in the HIGH SPINDLE so various types of coolant-jet nozzles can be utilized which will provide pinpoint delivery to the cutting edge of short tools (BCV/BBT taper models only).





HI-JET HOLDER

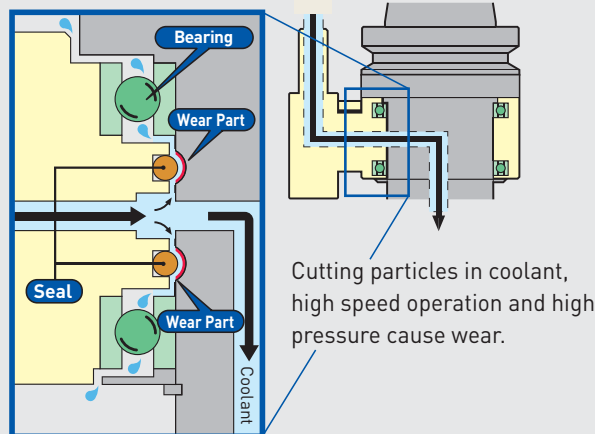
Coolant feed for water-soluble coolant only. Bearings are in a separate housing from the coolant for extended life.



MAX
10,000
RPM

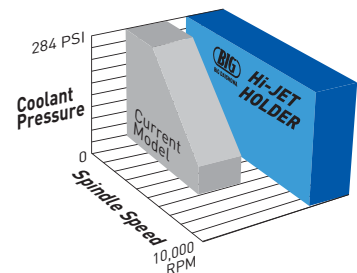
Non-Contact Seal Design Eliminates Wear Damage to Body

Competitor Design



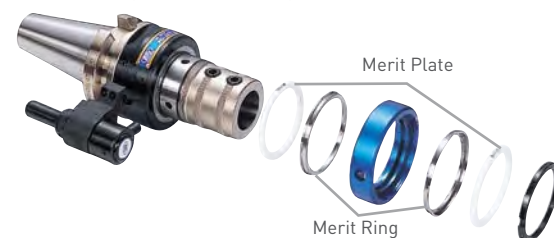
SUITABLE FOR SMALL DIAMETER CUTTERS DUE TO HIGH SPEED AND PRESSURE

Small diameter cutters require high spindle speeds to maintain high cutting speed and high coolant pressure due to their small diameter coolant holes. The Hi-JET HOLDER accepts even smaller diameter shanks, providing high spindle speeds (Max 10,000 RPM) and high coolant pressures (Max 284 PSI).

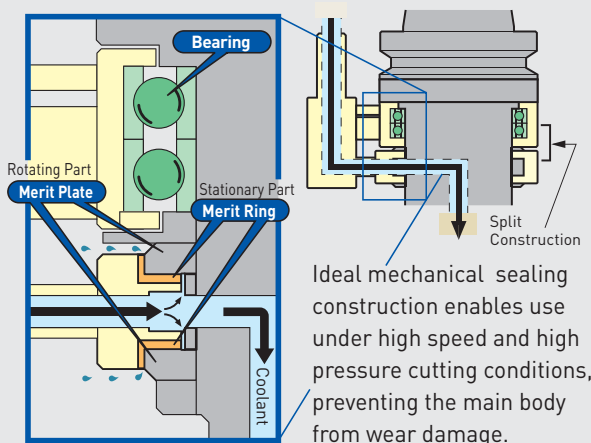


EASY MAINTENANCE

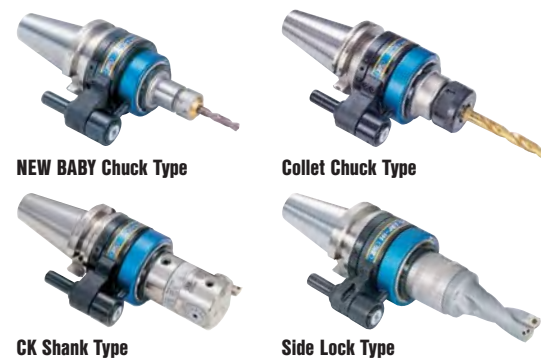
Easily replaceable Merit Sets consist of Merit Plates, Merit Rings and O-Rings.



BIG DAISHOWA Hi-JET HOLDER



A Variety of Hi-JET HOLDERS Available





FULLCUT MILL

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 end milling.

LOW CUTTING RESISTANCE

TYPE FCR

Ramping & Helical Milling Cutter

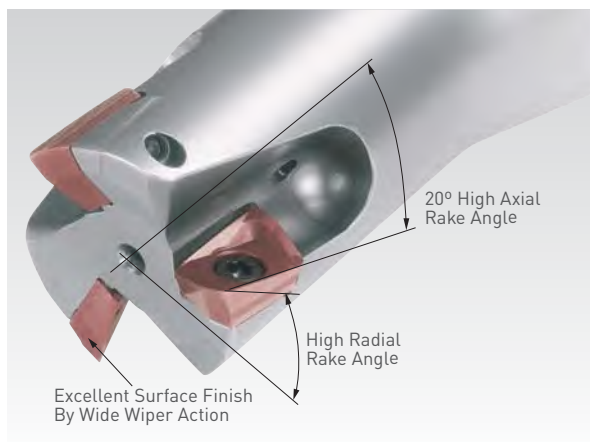
Unique inserts designed for ramping make multi-functional cutting possible. For ramping, helical milling, peck-milling, grooving & shoulder milling.



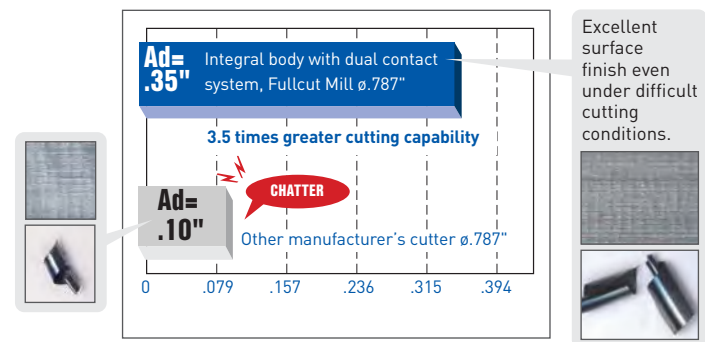
TYPE FCM

Square Shoulder & Slot Milling Cutter

Low resistance, high efficiency cutter especially for cross-feed machining. For grooving & shoulder milling.



Amazing Cutting Performance on a #40 Taper Machine



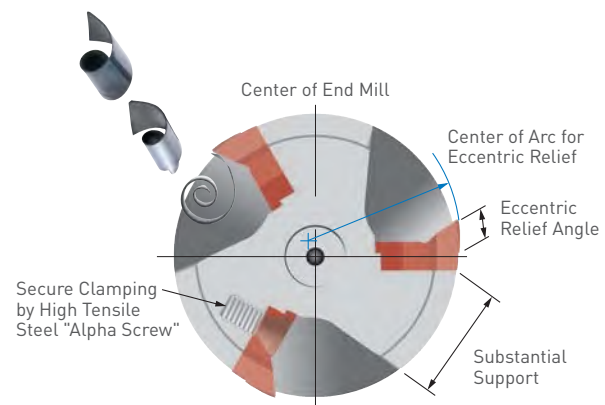
Excellent surface finish even under difficult cutting conditions.



Positive Rake Angle Offers High Toughness—Strong Cutting Edge Reduces Edge Chipping

Conventional	FULLCUT MILL

FIRST INDEXABLE END MILL WITH ECCENTRIC RELIEF ANGLE





SPEED Finisher

CUTTER DIAMETER: $\phi 50$, $\phi 63$, $\phi 80$, $\phi 100$, $\phi 125$, $\phi 160$ mm

HIGH SPEED CUTTER FOR ALUMINUM AND CAST IRON

Greatly Improves the Surface Finish in Ultra-High-Speed Machining

Achieves $R_z = .55\mu\text{m}$ for die-cast aluminum ADC12 and $R_z = .67\mu\text{m}$ for gray cast iron FC250.



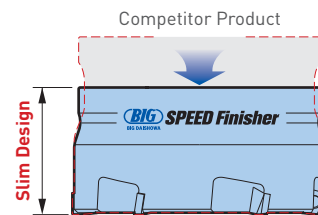
QUICKLY ADJUST THE CUTTING EDGE HEIGHT

It has a simple and highly operable mechanism in which the cutting edge height is adjusted after clamping the insert by turning the lifting nut from the side, then directly pushing up the insert with the lifting screw. Since the lifting screw has a fine pitch (.25mm), accurate adjustment is possible.

COMBINES LIGHT WEIGHT AND HIGH RIGIDITY

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

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



DIRECT COOLANT SUPPLY TO THE CUTTING EDGE

Use in combination with the Face Mill Arbor Type FMH for coolant delivery directly to the cutting edge.

This prevents welding and re-cutting of chips in aluminum workpieces.

Application Advice

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

FULLCUT MILL ARBOR TYPE & SURFACE MILL OVERVIEW



FULLCUT MILL

CUTTER DIAMETER: $\phi 50$, $\phi 63$, $\phi 80$, $\phi 100$ mm

INDEXABLE INSERT END MILL (ARBOR TYPE)

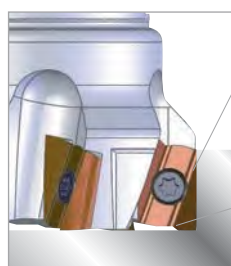
Sharp and Powerful Cutting

Exhibits incredible cutting capacity even with 40 taper machining centers or mill-turn machines.

Compatible with new-standard Face Mill Arbor type FMH.

PERPENDICULARITY AND SURFACE FINISH UNMATCHED IN INDEXABLE INSERT CUTTERS

Machined with holder BBT40-FMH22-47-45 and FULLCUT MILL FMH22-FCM63116-40



Perpendicularity	
Cutting Speed Vc (m/min)	150
Feed Rate fz (mm/blade)	.1
Axial DOC ap (mm)	5
Radial DOC ae (mm)	.1

	10μm
General Cutter	40 μ m

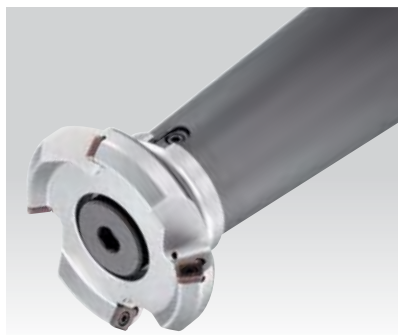
Wiper Flat	
Cutting speed Vc (m/min)	250
Feed rate fz (mm/t)	.2
Axial DOC ap (mm)	.1
Radial DOC ae (mm)	50

	Ra	Rz
	.51	2.89
General Cutter	1.56	7.77

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

Application Advice

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



SURFACE MILL

CUTTER DIAMETER: $\phi 80$

FACE MILL CUTTER

Exhibits difference in the top surface finish of the workpiece.

Surface Finish Comparison with a General Cutter

Workpiece Material	1050
Cutting Speed Vc (SFM)	660
Feed Rate fz (in/insert)	.008"
Axial DOC ap	.118"
Radial DOC ae	3"
Cutting Method	Dry

SURFACE MILL (FM25.4-SFM804-40)		General Cutter	
Rz=1.42		Rz=9.04	

Application Advice

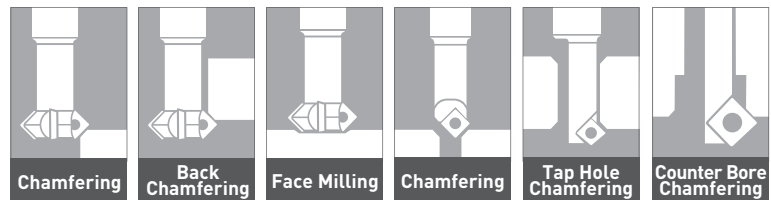
Glossiness of the machined surface with a face cutter is affected by the sharpness of the insert. By using different cutters between roughing and finishing operations, not only can a smooth surface finish be achieved, but the life of the insert can also be easily managed to obtain stable quality.



C-CUTTER mini

ULTRA HIGH FEED CHAMFER MILL

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



A Variety of Interfaces Available

FOUR INSERTS, SMALL DIAMETER AND NEW COATING ACHIEVE A TRIPLE EFFECT

EFFECT 1 – Maverick Design with Ultra High Feed by 4 Inserts

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

EFFECT 2 – Increased Spindle Speed by Ultra Compact Diameter

A smaller tool diameter means faster spindle speeds.

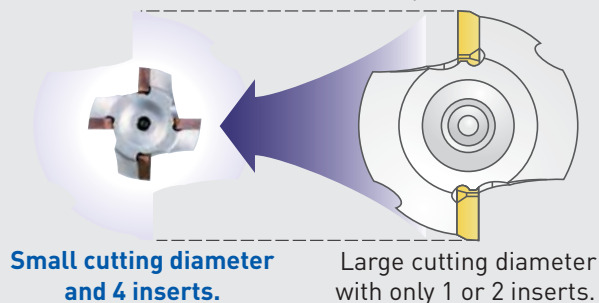
EFFECT 3 – Latest Coatings [ACP200/300] Increases the Cutting Speed

Wear resistant multi-layer PVD coating increases the cutting speed.



C-CUTTER MINI

Competitor's Cutter



Considerably Improved!

$$\text{Feed Rate} = \text{UP Spindle Speed} \times \text{Feed Per Tooth} \times \text{UP No. of Teeth}$$

$$\text{UP Spindle Speed} = \frac{\text{UP Cutting Speed}}{\pi \times \text{Small dia. Cutting Diameter}}$$



**8 TIMES
GREATER CUTTING
EFFICIENCY**

Cutting Conditions

Workpiece: S55C
Chamfering Amount: C1
Feed Per Tooth fz: .1 mm/1

	General Products	C-CUTTER MINI (ST12-C116-45B-25)
Chamfering diameter	ø29	ø13.5 Small Diameter
Number of inserts	2	4 UP
Cutting speed Vc (m/min)	150	300 UP
Spindle speed n (min-1)	1,646	7,040 UP
Feed Vf (mm/min)	329	2,820 Much Higher!



HEX INSERT

Highly-efficient back chamfering from 5mm starting hole diameter.



C-CUTTER

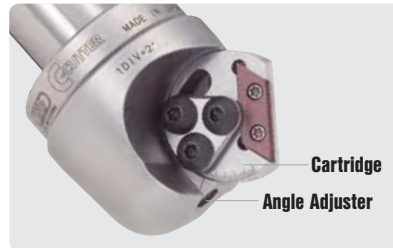
CHAMFERING TOOL

HOLE DIAMETER: ϕ .200"-4.000"

Wide chamfering range reduces number of tools and ATC.

CHAMFERING ANGLE CAN BE EASILY ADJUSTED BY 5° TO 85° (UNIVERSAL TYPE)

The cartridge swings when the angle adjuster is turned.



CK Shank

Universal Type

ST Shank

Cartridge

Angle Adjuster

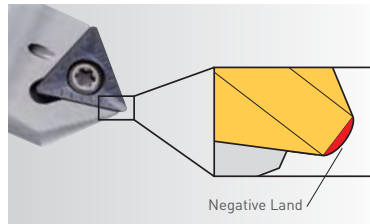
C-CENTERING CUTTER

A multifunction cutter capable of both spot drilling and chamfering. Negative insert tip shape dramatically improves tool life.



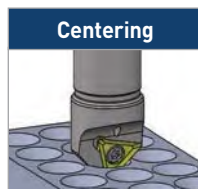
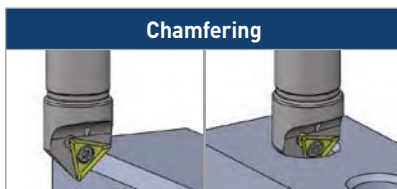
PREVENTS CHIPPING DURING SPOT DRILLING

As the nose radius on the insert forms negative land, it has high chipping resistance, and the tool life is significantly extended.



Negative Land

Capable of Both Spot Drilling and Chamfering



3 INSERT



Immediate Evacuation of Chips with Coolant Supply

By providing coolant holes, it is possible to cool the cutting edge and immediately discharge the chips.

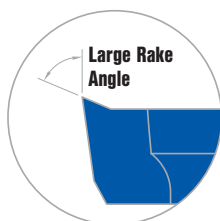
R-CUTTER & CENTER BOY OVERVIEW



R-CUTTER

ULTRA HIGH FEED RADIUS CHAMFER MILL

Automates rounded chamfering for both the front and back.



EXCELLENT SHARPNESS

High Rake Angle with 4 Indexes

Unique insert geometry with excellent sharpness. High rake angle reduces cutting resistance and minimizes the generation of burrs.



Four Corners Can Be Used For Better Economic Efficiency

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

Application Advice

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



CENTER BOY

CENTERING AND CHAMFERING TOOL

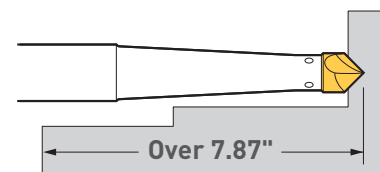
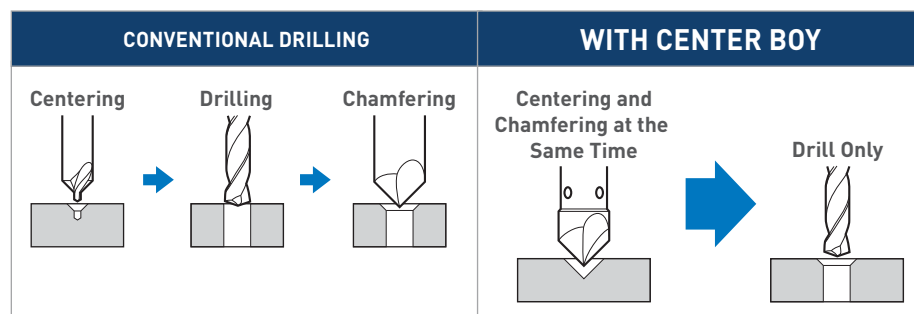
Accurate positioning in drilling and chamfering can be performed simultaneously.



HIGHLY ACCURATE REPLACEABLE INSERT

- Sharp cutting with optimum cutting edge
- No more regrinding
- Minimum interference with a slim, extended shank
- 90° and 120°

EASE OF OPERATION SHORTENS CYCLE TIME



Long Type Avoids Interference

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

Application Advice

Centering before drilling can be considered the most important process in determining the center of the compass. Correct centering has a great effect in extending tool life.

C-CUTTER BOY & BF CUTTER OVERVIEW

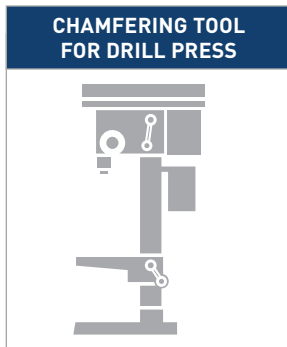


C-CUTTER BOY

CHAMFERING TOOL

HOLE DIAMETER: ϕ .20"-1.00"

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



Carbide Guide

CARBIDE GUIDE ALLOWS STABLE CUTTING

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

Insert Does Not Need to be Reground

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

Application Advice

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



BF-CUTTER

BACK SPOT FACER

CAP BOLT SIZE: M6-M30

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



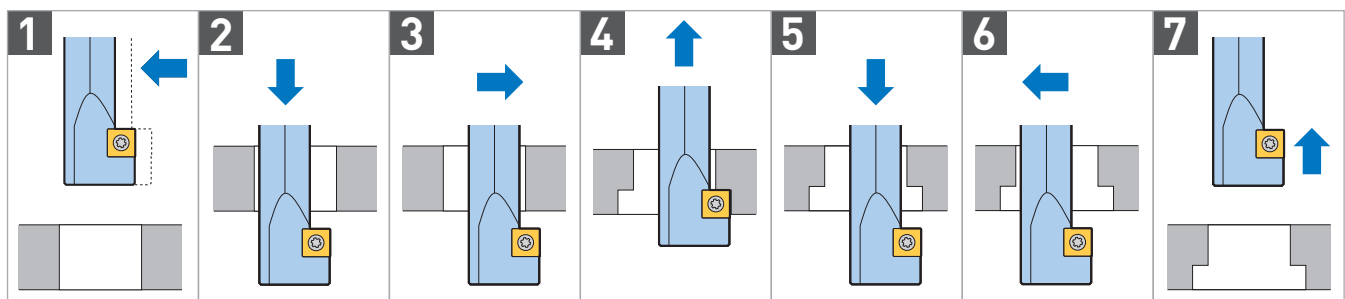
RELIABLE COOLING THROUGH OIL HOLE

Coolant can be Supplied to Cutting Edges

It securely supplies coolant even in places that are hard to reach such as when machining a rear surface, contributing to the extension of tool life.

EASY NC PROGRAMMING

Offset the machine spindle and starting hole centers before inserting the BF-CUTTER into the hole.



Application Advice

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



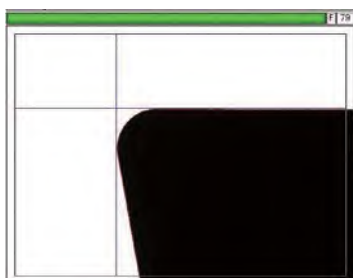
MAGIS *elegantly simple*

The SPERONI MAGIS is a high-precision presetting instrument ideal for precision machining environments looking to optimize workflow and maintain cutting-edge tool performance.



AUTOMATIC DETECTION OF X AND Z MEASUREMENT VALUES

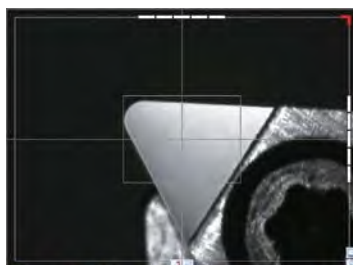
When the cutting edge appears on the screen, the maximum position is displayed. Can automatically detect and measure tool diameter and tool length.



HIGH-PRECISION CAMERA/IMAGE PROCESSING METHOD

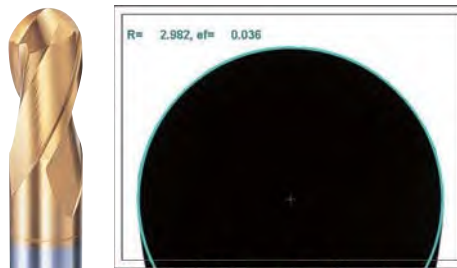
Utilizing non-contact measurement, this method ensures the safety of cutting edges, particularly for small-diameter and diamond tools. The measurement process does not cause any damage to the cutting edge.

(Minimum measurable tool diameter: $\varnothing 1\text{mm}$)



CORNER RADIUS AND CHAMFER ANGLE MEASUREMENT

Our advanced technology effortlessly handles specific and complex measurements, ensuring unparalleled accuracy and efficiency for your tooling needs.



Ball End Mill

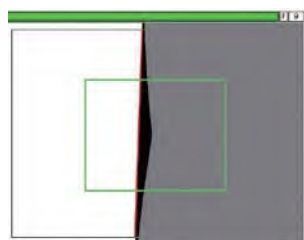
BLADE RUNOUT MEASUREMENT FUNCTION

Simply rotate the tool once, and the system displays the X and Z values for each blade in a graph. Easily monitor the blade runout condition at a glance.

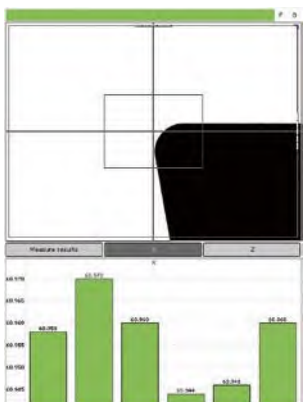




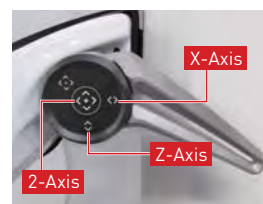
The maximum shadow on the preset screen is automatically measured with high precision using advanced image processing.



The maximum projected image is displayed on the preset screen as a fixed view. This feature allows you to inspect the rotation trajectory of twisted blades and other tools with precision.



The X and Z values of each cutting edge in multi-edged tools are measured and displayed graphically. This visual representation highlights the runout of each blade, allowing you to assess the condition at a glance with ease and precision.



Press the button, turn the handle grip, and move the axis. Enjoy independent movement of the X and Z axes, with the added capability of dynamic and simultaneous 2-axis operation.



The X and Z axes can be zeroed directly on the spindle itself. A dedicated reference edge is provided for setting, eliminating the need for a master gage.

COMPACT SENSOR SERIES OVERVIEW



QUICK DETECTION OF REFERENCE POSITION

Sensor series minimizes machine down time.



3-DIMENSIONAL TOUCH SENSOR SERIES

POINT MASTER PRO

3-D Touch Probe

For all cutting tools, workpieces and machine tools.



POINT MASTER

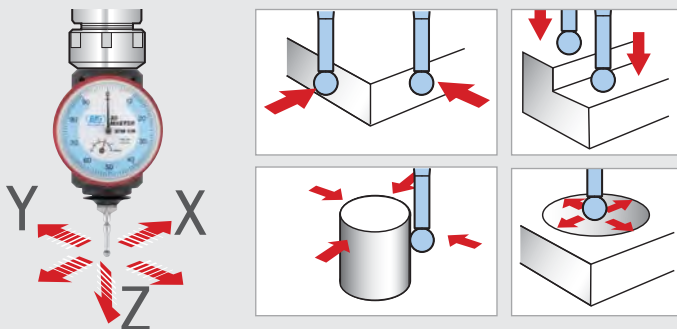
For use with conductive cutting tools, workpieces, and machine tools.

Detection with LED and sound.



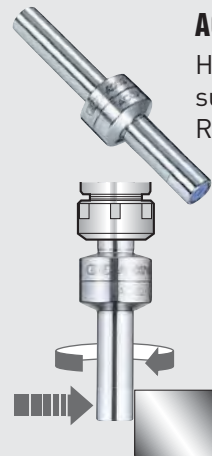
3D MASTER RED

Dial indicator 3-D measuring instrument.



ACCU CENTER

High precision edge finder suitable for all materials. Repeatability within 3 μ m.



Application Advice

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

COMPACT SENSOR SERIES OVERVIEW



INSTANTLY DETECT POSITION OF THE CUTTING EDGE AND THE WORKPIECE

Series available for various tool materials and diameters.



BASE MASTER SERIES

BM-2H / BM-50H

Measures 2" or 50mm from cutting edge and workpiece top surface.

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



BM-2GH / BM-50GH

Electronic detection of cutting edge position.

For all cutting tools, workpieces and machine tools.



BM-2MH / BM-50MH

Cutting edge position detection for $\phi.002"$ tool diameters.

For all cutting tools, workpieces and machine tools.



BMM-20D

World's smallest tool offset sensor with diameter of $\phi.787"$ ($\phi 20\text{mm}$).



BMM-20H

Compact and lightweight design.

For all cutting tools, workpieces and machine tools.



BMM-10H

10mm ultra-thin design

For all cutting tools, workpieces and machine tools.



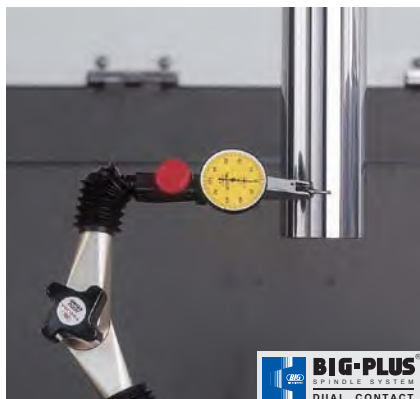
TOOL MASTER

Detects tool position for all materials including non-conductive tools and workpieces.

For all cutting tools, workpieces and machine tools.



MEASURING INSTRUMENTS OVERVIEW



DynaTest



STATIC

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

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

Precision Standards of BIG DAISHOWA Test Arbors

Runout	.002mm (.00008)
Roundness	.001mm (.00004)
Cylindricity	.003mm (.00012)
Roughness	Ra: .1μm (.000004)
Taper Contact	AT1
Diameter Tol.	±.005mm (.0002)



Aluminum Case

An aluminum case is provided to protect and store the test bars.

- BIG DAISHOWA provides high quality test bars produced under a strict quality control system



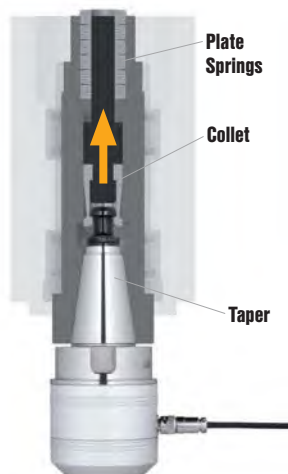
DYNAMIC

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

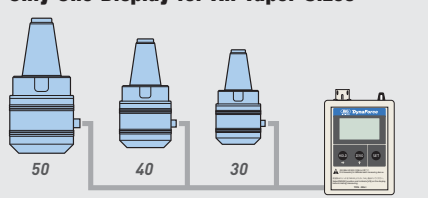
DYNA FORCE

Tool clamp measuring device for measuring pulling force of machine tool spindle, a vital factor of machine tool performance. The pulling force produced by the clamping device of machine tools could deteriorate due to degradation of disc springs or wear of the components of the amplifier.

Pulling force is especially vital when it comes to dual face contact spindle interface, thus regular inspection is recommended.

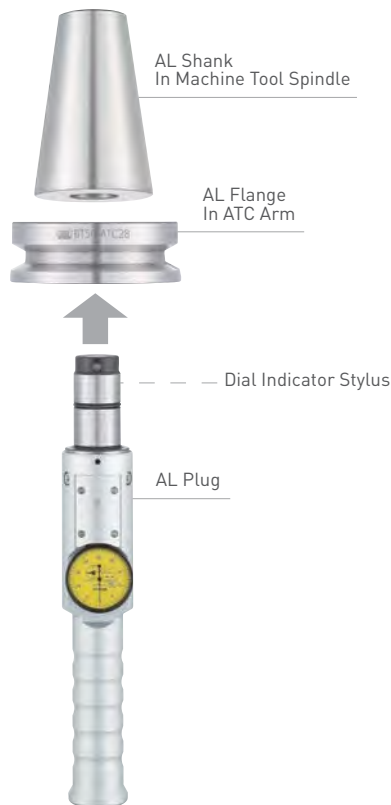


Only One Display for All Taper Sizes



Application Advice

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



ATC ALIGNMENT TOOL

Misalignment of the center between the machine tool spindle and ATC gripper may cause damage to the spindle taper. A clamped tool holder under misalignment leads to increased runout, resulting in shorter life of machine tools and tool holders. The ATC Alignment Tool can also be used for re-aligning the ATC gripper and tool magazine pots.

How To Use

1. Load the AL Shank in the machine spindle and mount the AL Flange on the ATC arm.
2. Insert the AL Plug into the AL Flange.
3. Rotate the AL Plug and read the highest and lowest values of the dial indicator. This direction is the eccentric direction. Half of the gap of the values is the eccentric amount.
4. Adjust the position of the ATC arm so that the front end of the AL Plug will be inserted into the AL Flange fully.

Provided with ATC Alignment Tool & Plastic Storage Case



DYNA CONTACT

CERAMIC TAPER GAGE

Engineered to outperform traditional steel taper gages in machine spindle taper inspection. Lighter, more durable, and resistant to wear, it's the ultimate tool for superior accuracy and longevity.

- Allows even a thin coating of Prussian blue to show up clearly
- Scratch resistance
- Rustproof
- Non-magnetizing
- No aging deterioration
- 10x the wear resistance of steel
- Same linear expansion coefficient as steel



Taper Angle: $8^{\circ} 17' 50'' \pm 1''$

Compatible Spindles

BCV(CV)30/40/50

BBT(BT)30/40/50

Provided with an Aluminum Case



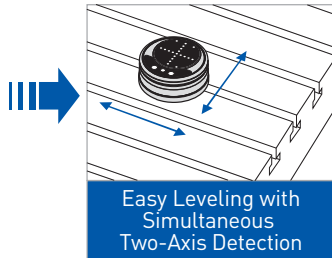


LEVEL MASTER FOR THE LEVELING OF MACHINE TOOL TABLES

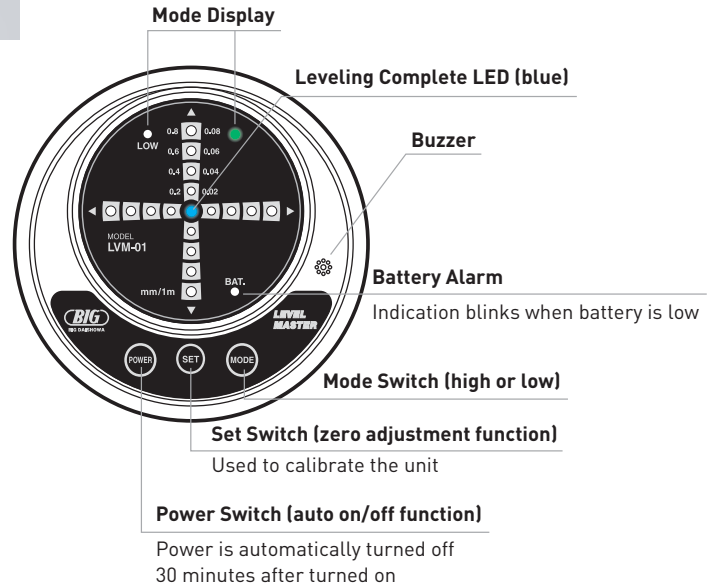
- Simultaneous two-axis detection leveler
- LED and buzzer indication when leveling is complete
- Uses optical level sensor technology
- 10 micron per meter precision (.01mm/m)



Traditional Method
Where Two Levels
Are Used



Easy Leveling with
Simultaneous
Two-Axis Detection

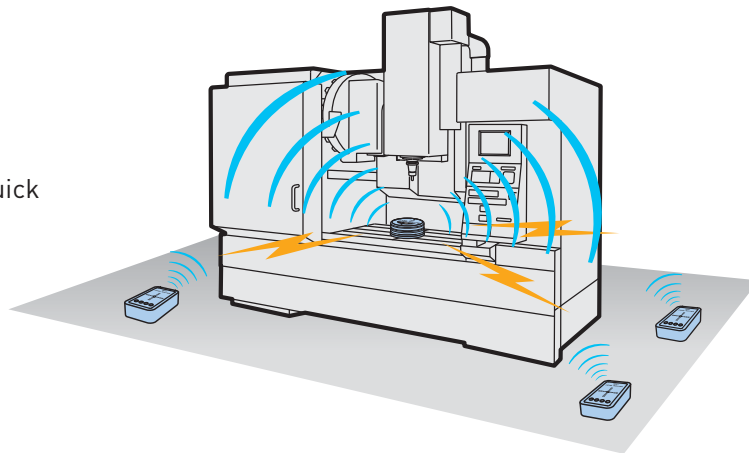


Standard Type



Wireless Type

Remote work solution for easy and quick leveling with a single operator.



Provided with Level Master, Aluminum Storage Case, Manual, Guarantee Certificate & Inspection Sheet. Batteries not included. (Requires 4pcs of AAA)

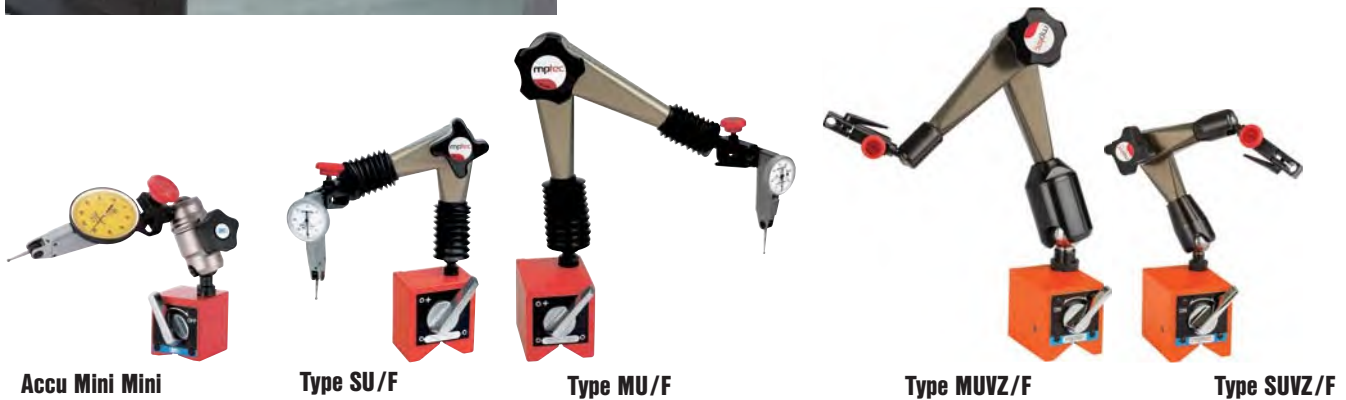




DIAL INDICATOR STANDS

Articulated stands for the demanding user, offering the highest positioning precision and exact measurements in the μm range.

- High clamping force thanks to a strong internal cam structure
- Extremely flexible with 360 degrees freedom of positioning controlled by one progressive clamping star grip
- Ideal design for use in measurement, inspection (quality control) and machining
- Ultra strong earth magnet holds stand firmly in place
- Each stand is equipped standard with (1) magnet, (2) extension arms, (1) dgh dove-tail adapter and (1) cylindrical gage adapter ($\varnothing.375"$)



Standard



TOOL PRO

TOOL HOLDING DEVICE FOR THE ASSEMBLY OF TOOLING

Depressing the large gold button permits the adapter to rotate 180° and lock in 45° increments. Integral taper units and modular taper units for nearly all shank styles.

VARIO



Quick-change system uses one permanently mounted base unit and multiple adapters for different types and sizes of tool shanks.

SPIN



Full 360° radial tool rotation permits easy access to tools.

TOOL ASSEMBLY OVERVIEW

KOMBI GRIP

TWO-WAY CLUTCH AND NEEDLE ROLLER CLAMPING SYSTEM

Ensures secure clamping at the tool flange periphery of HSK and polygon tapers.



TOOLING MATE

Replaceable adapters that feature drive keys to secure steep taper shanks, or a two-way clutch needle and roller clamping system.



ST LOCK

Ideal fixture for the set-up of cylindrical shank tool holders. Clamps $\varnothing 20$, 25 & 32mm shanks by replacing the sleeve.

TORQUE FIT

TIGHTENING FIXTURE FOR COLLET CHUCKS WITH TORQUE INDICATOR

- Torque values of all BIG DAISHOWA collet chucks are preset
- Notification by buzzer near the correct torque
- User Mode allows setting of desired torque value
- Notification by ERROR LED of overtightening
- Exchangeable adapters matched to various holder interfaces

High-Precision Machining Starts With Correct Tightening

Insufficient Tightening

Tool Tip
Position Change



Machining Defects

Dimensional Defects

Over-Tightening

Collet Deformation
Runout Problems



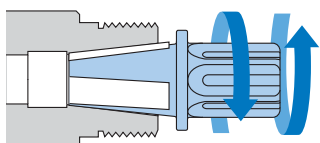
Shortened Tool Life

Shortened Holder Life



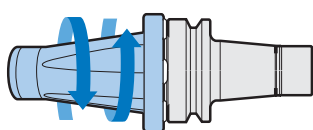
CLEANERS OVERVIEW

TOOLING CLEANERS



α Taper Cleaner

Maintain the accuracy of collet chucks by cleaning the internal collet taper.



α Tooling Cleaner

For the cleaning of both mating surfaces of BIG-PLUS 30 and 40 taper tool holders.



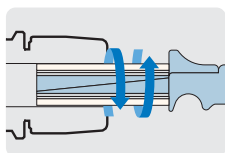
HSK External Taper Cleaner

Cleaning strips will remove even large residual particles.



TK Cleaner

Perfectly cleans the clamping bore of a tool holder.

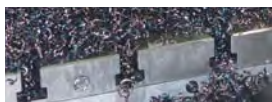


α Wiper Cleaner

Easy cleaning of smaller cylindrical bores.

T-SLOT CLEAN

Save the time required to clean T-slots packed with chips.



T-Slots Packed With Difficult to remove chips



T-Slots Protected & Clear by T-Slot Clean

SPINDLE CLEANERS

Ensures absolute cleanliness of tapered spindles.



CHIP & COOLANT FAN



ChipFan

Fast, safe chip and coolant cleaning without stopping production.

- Made from high strength aluminum

Chip Blower



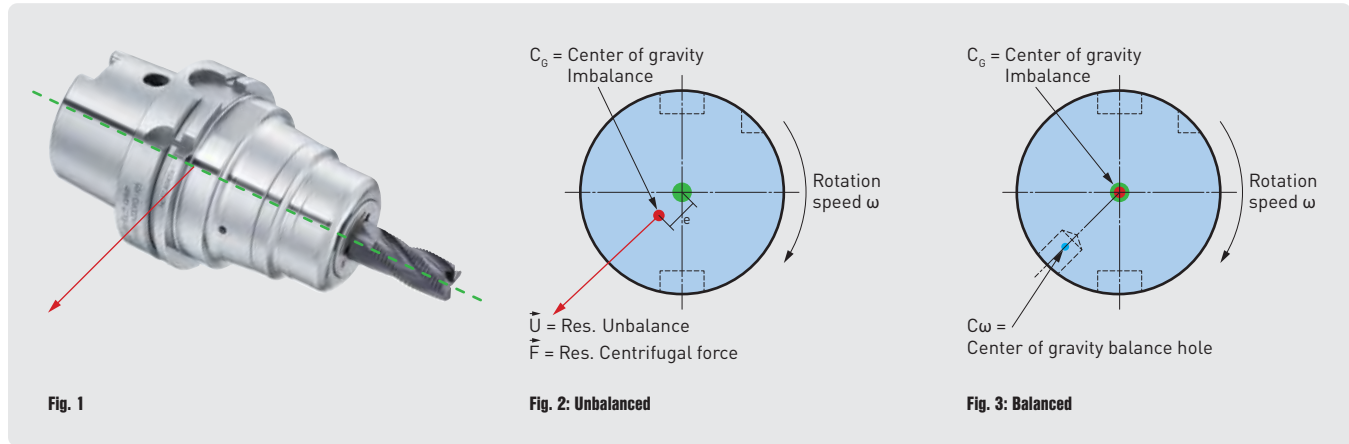
Air pressure removes cutting chips and coolant.

- Can be used with vertical and horizontal machining centers

BIG DAISHOWA BALANCING ACCORDING TO ISO 16084

WHAT DOES BALANCING, UNBALANCE AND BALANCE QUALITY MEAN?

BIG DAISHOWA tool holders are designed for high-speed machines. If a rotating tool holder (Fig. 1) is not rotationally symmetrical, imbalance occurs (Fig. 2). As a result, when the rotational speed is increased, non-symmetrical centrifugal forces occur at the tool holder and the cutting tool, causing vibration and premature spindle bearing failure. To correct for the imbalance, the tool is balanced by various methods such as drilling (Fig. 3), milling, or grinding a flat, moving the center of mass as close as possible to the center of the axis of rotation.



BALANCING REQUIREMENTS IN PRACTICE USING G2.5

The balancing quality G2.5 is widely used in the industry and is described in the ISO 1940-1 standard, issued in 2003. However, this quality class is often overspecified, and, in many cases, not economically or technically feasible, especially when applied to smaller and lighter tools. The standard described above is designed for rigid rotors and is practical in a broader use for balancing. However, it cannot be applied to a complete system of spindles, tool holders and tools adequately and within technical constraints. For example, for a tool to be compliant, it will need to be balanced to less than 1 gmm/kg at a speed of 25,000 rpm, which in turn, corresponds to a mass eccentricity of less than 1 μm . This allowable tolerance is less than the interchange accuracy for even HSK, essentially negating all the cost and time for balancing the tool to such a strict tolerance.

BIG DAISHOWA BALANCING POLICY

For this reason, all BIG DAISHOWA tool holders are balanced according to ISO 16084 (issued in 2017), specifically developed for rotating tool systems. ISO 16084 focuses on the interaction between spindle and tool, factoring in the allowable load on the spindle bearings generated by the tool's imbalance. This load must not exceed 1% of the dynamic load capacity of the spindle bearings. According to ISO 16084, the allowable unbalance tolerance is specified in [gmm], and is not expressed using a special quality grade [G].

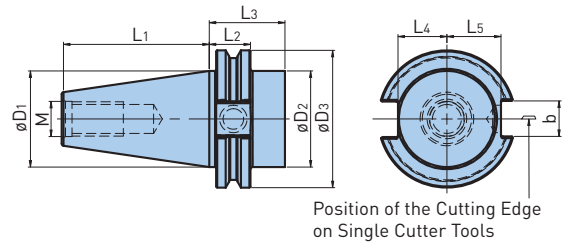
In conclusion, BIG DAISHOWA does not indicate any G-values for balancing quality, but rather the maximum rotational speeds of the individual tool holder. The values shown for each item number in our catalog are in compliance with the requirements for standard balance quality according to ISO 16084.

TAPER STANDARDS

Steep Taper Shanks (ASME B5.50, CV/BCV)

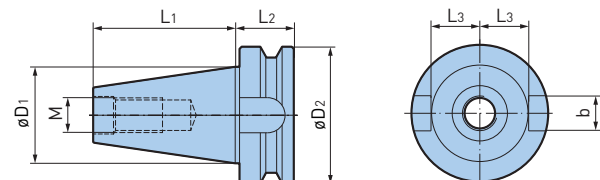
Taper	ϕD_1	ϕD_2	ϕD_3	L_1	L_2	L_3	L_4	L_5	b	M
CV40	2.50	2.50	2.50	2.57	.98	.89	.89	.98	.63	5/8"-11
CV50	2.75	2.75	3.88	4.01	1.38	1.39	1.14	1.23	1.01	1"-8

• For high rigidity information see pg. 84



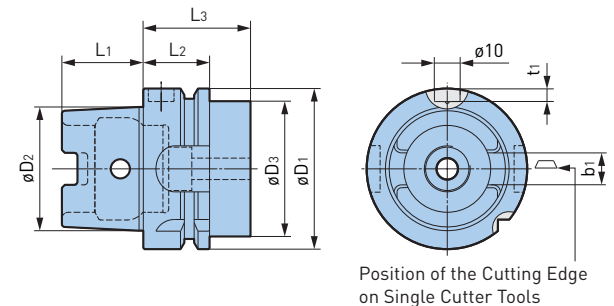
Steep Taper Shanks (JIS B6339, BT/BBT)

Taper	ϕD_1	ϕD_2	L_1	L_2	L_3	b	M
BT30	1.25	1.81	1.91	.79	.64	.63	M12
BT40	1.75	2.48	2.57	.98	.89	.63	M16
BT50	2.75	3.94	4.01	1.38	1.39	1.01	M24



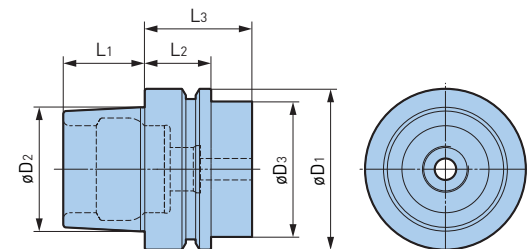
Hollow Taper Shanks (DIN 69893, Form A)

Taper	ϕD_1	ϕD_2	ϕD_3 Max	L_1	L_2	L_3 Min	b_1	t_1
HSK-A32	1.26	9.5	1.02	.63	.79	1.38	.28	.21
HSK-A40	1.57	1.18	1.34	.79	.79	1.38	.32	.20
HSK-A50	1.97	1.50	1.65	.98	1.02	1.65	.41	.20
HSK-A63	2.48	1.89	2.09	1.26	1.02	1.65	.42	.20
HSK-A80	3.15	2.36	2.68	1.57	1.02	1.65	.63	.19
HSK-A100	3.94	2.95	3.46	1.97	1.14	1.77	.79	.19
HSK-A125	4.92	3.74	4.37	2.48	1.14	1.77	.99	.19



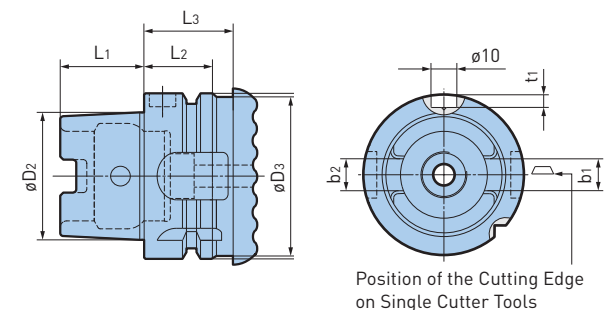
Hollow Taper Shanks (DIN 69893, Form E)

Taper	ϕD_1	ϕD_2	ϕD_3 Max	L_1	L_2	L_3 Min
HSK-E25	.98	.75	.79	.51	.79	.79
HSK-E32	1.26	.95	1.02	.63	.79	1.38
HSK-E40	1.57	1.18	1.34	.79	.79	1.38
HSK-E50	1.97	1.50	1.65	.98	1.02	1.65
HSK-E63	2.48	1.89	2.07	1.26	1.02	1.65



Hollow Taper Shanks (ISO 12164-3, Form T)

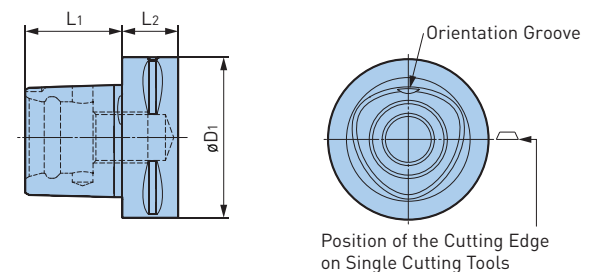
Taper	ϕD_1	ϕD_2	ϕD_3 Max	L_1	L_2	L_3 Min	b_1	b_2	t_1
HSK-T50	1.97	1.50	1.93	.98	1.02	1.18	.41	.41	.20
HSK-T63	2.48	1.89	2.44	1.26	1.02	1.18	.49	.50	.20
HSK-T80	3.15	2.36	3.11	1.57	1.02	1.18	.63	.63	.19
HSK-T100	3.93	2.95	3.90	1.97	1.14	1.34	.78	.78	.19



BIG CAPTO (ISO 26623-1,

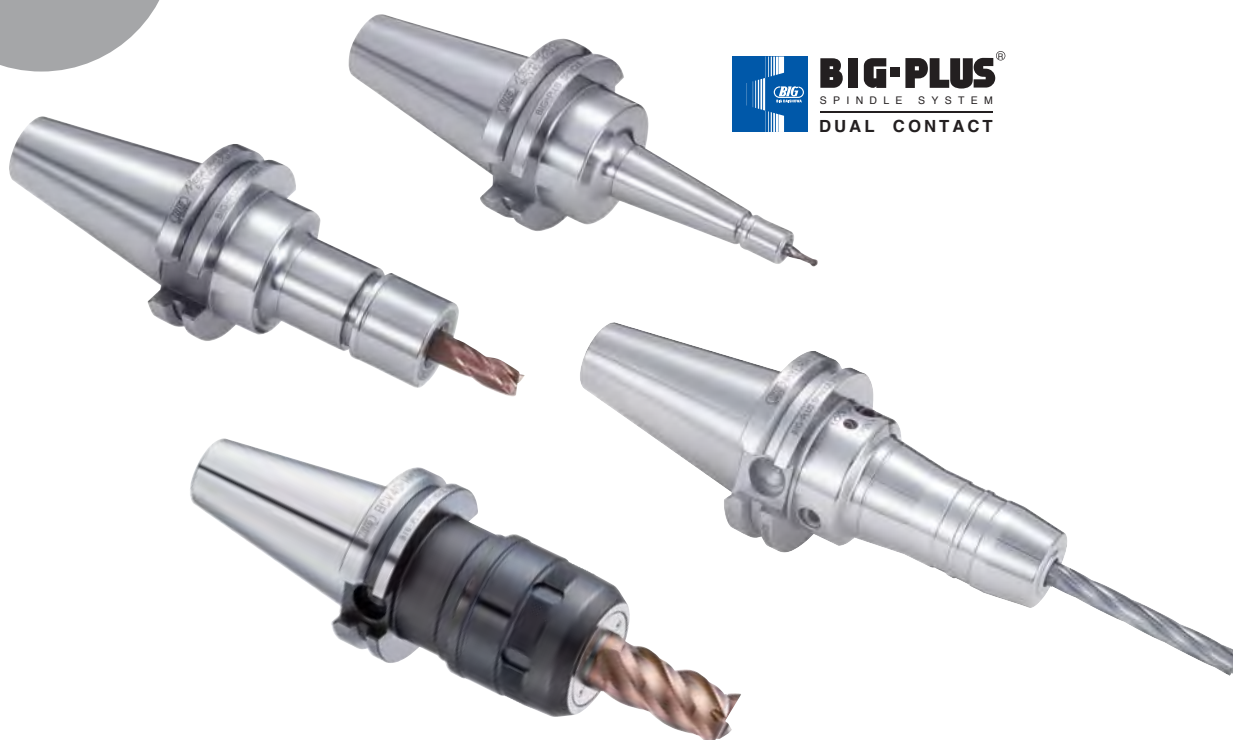
Polygon Hollow Shank Taper with Face Contact)

Taper	ϕD_1	L_1	L_2
C3	1.26	.75	.59
C4	1.57	.94	.79
C5	1.97	1.18	.79
C6	2.48	1.50	.87
C8	3.15	1.89	1.18



BCV/CV SHANKS

A.1



BIG-PLUS[®]
SPINDLE SYSTEM
DUAL CONTACT

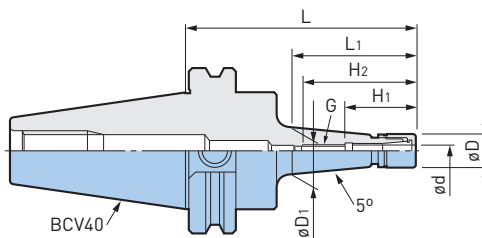
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MILLING CHUCKS	73-77
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COLLET CHUCKS

MEGA MICRO CHUCK (TYPE T)

CLAMPING RANGE: ϕ .018"-.317" For Micro Drill & End Mill Applications

MAX
35,000
RPM



Catalog Number	ϕd	ϕD	$\phi D1$	L	L1	H1	H2	G	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
BCV40-MEGA3S-2.5T	.018-.128	.394	.47	2.50	1.01	.87	1.50	M4 P0.7	NBC3S-□	MGN3S	MGR10	35,000	2.2
BCV40-MEGA3S-4T			.76	4.00	2.38							25,000	2.4
BCV40-MEGA4S-2.5T	.018-.159	.472	.54	2.50	1.01	1.04	1.85	M5 P0.8	NBC4S-□	MGN4S	MGR12	35,000	2.2
BCV40-MEGA4S-4T			.78	4.00	2.38							25,000	2.4
BCV40-MEGA6S-2.5T	.018-.238	.551	.60	2.50	1.01	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	35,000	2.2
BCV40-MEGA6S-4T			.84	4.00	2.38							25,000	2.4
BCV40-MEGA8S-3.5T	.116-.317	.709	.91	3.50	1.93	1.22	1.99	M9 P0.75	NBC8S-□	MGN8S	MGR18	30,000	2.4
BCV40-MEGA8S-6T			1.35	6.00	4.50							15,000	3.1

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

ACCESSORIES

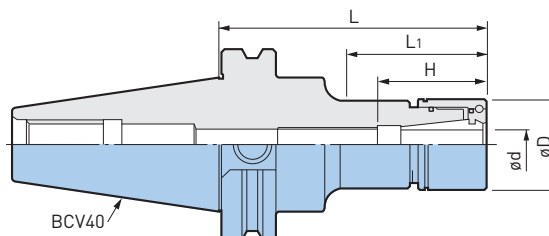
COLLET PG. 354	MEGA NUT PG. 356	SEAL NUT PG. 356	MEGA WRENCH PG. 388

COLLET CHUCKS

MEGA NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-1.000" For Drills, Reamers, Taps & Finishing End Mills

MAX
35,000
RPM



Catalog Number	ød	øD	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
BCV40-MEGA6N-2.5	.010-.236	.787	2.50	1.04	.91-1.69	NBC6-□	MGN6	MGR20	35,000	2.3
BCV40-MEGA6N-4			4.00	2.22					30,000	2.5
BCV40-MEGA6N-5			5.00	3.22					20,000	2.7
BCV40-MEGA6N-6			6.00	4.22					15,000	2.8
BCV40-MEGA8N-2.5	.020-.315	.984	2.50	1.04	1.02-1.77	NBC8-□	MGN8	MGR25	35,000	2.4
BCV40-MEGA8N-4			4.00	2.30					30,000	2.7
BCV40-MEGA8N-5			5.00	3.30					20,000	2.9
BCV40-MEGA8N-6			6.00	4.30					15,000	3.1
BCV40-MEGA10N-2.5	.059-.394	1.181	2.50	1.05	1.50-1.89	NBC10-□	MGN10	MGR30	35,000	2.5
BCV40-MEGA10N-4			4.00	2.38					25,000	3.0
BCV40-MEGA10N-5			5.00	3.38					20,000	3.2
BCV40-MEGA10N-6			6.00	4.38					15,000	3.5
BCV40-MEGA13N-2.5	.098-.512	1.387	2.50	1.17	1.73-2.48	NBC13-□	MGN13	MGR35	30,000	2.7
BCV40-MEGA13N-4			4.00	2.46					25,000	3.2
BCV40-MEGA13N-5			5.00	3.46					20,000	3.5
BCV40-MEGA13N-6			6.00	4.46					15,000	4.0
BCV40-MEGA16N-2.5	.098-.630	1.654	2.50	1.18	1.89-2.48	NBC16-□	MGN16	MGR42	30,000	2.9
BCV40-MEGA16N-4			4.00	2.62	1.89-2.68				20,000	3.6
BCV40-MEGA16N-5			5.00	3.62					15,000	4.2
BCV40-MEGA16N-6			6.00	4.62					12,000	4.7
BCV40-MEGA20N-2.5	.098-.787	1.811	2.50	1.75	2.01	NBC20-□	MGN20	MGR46	30,000	3.0
BCV40-MEGA20N-4			4.00	3.25	2.01-2.68				20,000	4.0
BCV40-MEGA20N-5			5.00	4.25					15,000	4.6
BCV40-MEGA20N-6			6.00	5.25					12,000	5.3
BCV40-MEGA25N-3	.610-1.000	2.362	3.00	2.25	2.52-2.91	NBC25-□	MGN25	MGR60L	25,000	3.2
BCV40-MEGA25N-4			4.00	3.25					20,000	4.1

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

ACCESSORIES

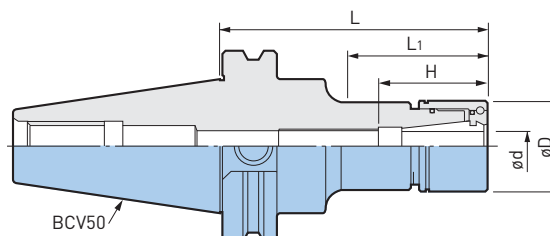


COLLET CHUCKS

MEGA NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-1.000" For Drills, Reamers, Taps & Finishing End Mills

MAX
20,000
RPM



Catalog Number	ød	øD	L	L1	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
BCV50-MEGA6N-3.5	.010-.236	.787	3.50	1.72	.91-1.69	NBC6-□	MGN6	MGR20	20,000	7.0
BCV50-MEGA6N-5			5.00	3.03					20,000	7.1
BCV50-MEGA6N-6			6.00	4.03					15,000	7.3
BCV50-MEGA8N-3.5	.020-.315	.984	3.50	1.72	1.02-1.77	NBC8-□	MGN8	MGR25	20,000	7.1
BCV50-MEGA8N-5			5.00	3.03					20,000	7.4
BCV50-MEGA8N-6			6.00	4.03					15,000	7.6
BCV50-MEGA10N-3.5	.059-.394	1.181	3.50	1.72	1.50-1.89	NBC10-□	MGN10	MGR30	20,000	7.3
BCV50-MEGA10N-5			5.00	3.03					20,000	7.7
BCV50-MEGA10N-6			6.00	4.03					15,000	7.9
BCV50-MEGA10N-8			8.00	6.03					12,000	8.6
BCV50-MEGA13N-3.5	.098-.512	1.378	3.50	1.72	1.73-2.48	NBC13-□	MGN13	MGR35	18,000	7.5
BCV50-MEGA13N-5			5.00	3.22					18,000	8.1
BCV50-MEGA13N-6			6.00	4.03					16,000	8.5
BCV50-MEGA13N-8			8.00	6.03					12,000	9.3
BCV50-MEGA16N-3.5	.098-.630	1.654	3.50	1.72	1.89-2.68	NBC16-□	MGN16	MGR42	17,000	7.8
BCV50-MEGA16N-5			5.00	3.22					17,000	8.7
BCV50-MEGA16N-6			6.00	4.22					16,000	9.3
BCV50-MEGA16N-8			8.00	6.22					13,000	10.4
BCV50-MEGA20N-3.5	.098-.787	1.811	3.50	1.80	2.01-2.68	NBC20-□	MGN20	MGR46	16,000	8.1
BCV50-MEGA20N-5			5.00	3.22					16,000	9.0
BCV50-MEGA20N-6			6.00	4.22					15,000	9.7
BCV50-MEGA20N-8			8.00	6.22					13,000	11.0
BCV50-MEGA25N-4	.610-1.000	2.362	4.00	2.50	2.52-2.91	NBC25-□	MGN25	MGR60L	15,000	8.8
BCV50-MEGA25N-6			6.00	4.50					13,000	10.9

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

ACCESSORIES

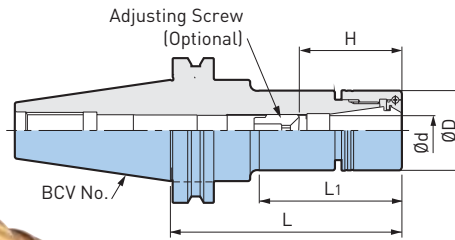
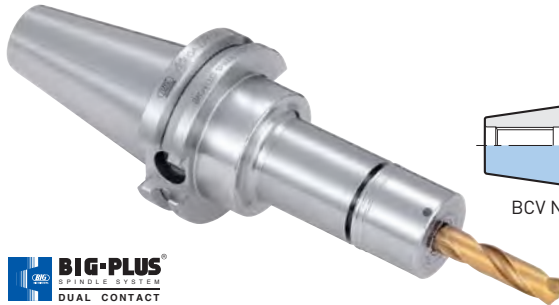


COLLET CHUCKS

MEGA ER GRIP

CLAMPING RANGE: ϕ .075"-.787" For Drills, Reamers, Taps & Finishing End Mills

MAX
35,000
RPM



CAUTION

To maintain the accuracy of the tool assembly, do not use collets and nuts manufactured by another company with the chuck body of BIG's MEGA ER GRIP. We cannot guarantee the accuracy stated for our collets if they are assembled on the chuck body of another manufacturer.

Catalog Number	ød	øD	L	L1	H	Collet	Nut (NOT Included)	Wrench	Max RPM	Weight (lbs.)
BCV40-MEGAER11-4NL	.108-.236	.787	4.00	2.48	.91-1.69	ERC11-□	MERN11*	MGR20	30,000	2.5
BCV40-MEGAER16-3NL	.075-.394	1.181	3.00	1.50	1.38-1.85	ERC16-□	MERN16*	MGR30L	35,000	3.1
BCV40-MEGAER16-4NL			4.00	2.48					25,000	3.3
BCV40-MEGAER16-5NL			5.00	3.46					20,000	3.5
BCV40-MEGAER16-6NL			6.00	4.49					15,000	4.0
BCV40-MEGAER20-3NL			3.00	1.50					30,000	3.3
BCV40-MEGAER20-4NL	.108-.512	1.378	4.00	2.48	1.65-2.44	ERC20-□	MERN20*	MGR35L	25,000	3.5
BCV40-MEGAER20-5NL			5.00	3.50					20,000	4.0
BCV40-MEGAER20-6NL			6.00	4.49					15,000	4.2
BCV40-MEGAER25-3NL			3.00	1.61					1.73-2.56	ERC25-□
BCV40-MEGAER25-4NL	4.00	2.60	1.73-2.64	20,000	4.0					
BCV40-MEGAER25-5NL	5.00	3.58		15,000	4.4					
BCV40-MEGAER25-6NL	6.00	4.61		12,000	4.8					
BCV40-MEGAER32-3.25NL	.108-.787	1.969	3.25	—	1.97-2.68	ERC32-□	MERN32*	MGR50L	30,000	3.7
BCV40-MEGAER32-4NL			4.00						20,000	4.4
BCV40-MEGAER32-5NL			5.00						15,000	5.1
BCV40-MEGAER32-6NL			6.00						12,000	5.9
BCV50-MEGAER16-3.5NL	.075-.394	1.181	3.50	1.85	1.39-1.84	ERC16-□	MERN16*	MGR30L	20,000	8.4
BCV50-MEGAER16-5NL			5.00	3.35					20,000	8.8
BCV50-MEGAER16-6NL			6.00	4.33					15,000	9.0
BCV50-MEGAER20-3.5NL	.108-.512	1.378	3.50	1.85	1.65-2.43	ERC20-□	MERN20*	MGR35L	18,000	8.6
BCV50-MEGAER20-5NL			5.00	3.35					18,000	9.0
BCV50-MEGAER20-6NL			6.00	4.33					16,000	9.5
BCV50-MEGAER25-3.5NL	.108-.630	1.654	3.50	1.85	1.74-2.65	ERC25-□	MERN25*	MGR42L	17,000	8.8
BCV50-MEGAER25-5NL			5.00	3.35					17,000	9.5
BCV50-MEGAER25-6NL			6.00	4.33					16,000	9.9
BCV50-MEGAER32-3.5NL	.108-.787	1.969	3.50	1.89	1.97-2.68	ERC32-□	MERN32*	MGR50L	16,000	9.0
BCV50-MEGAER32-5NL			5.00	3.39					16,000	10.1
BCV50-MEGAER32-6NL			6.00	4.37					15,000	11.0

*Nut, adjusting screw, collet and wrench are NOT included

- Weight does not include collet
- MEGA ER GRIP is not able to use DIN6499 Form-A collets and ESX collets
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw

ACCESSORIES



*MEGA NUT is the recommended nut to achieve high accuracy and clamping force

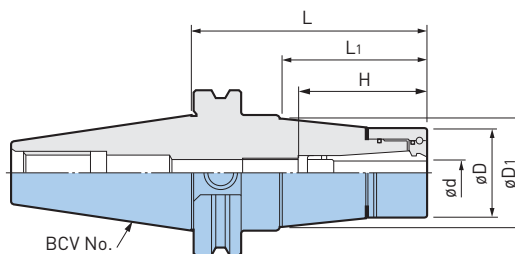
COLLET CHUCKS

MEGA E CHUCK

CLAMPING RANGE: ϕ .125"-.500" (ϕ 3-12mm)

Exclusively for High Speed Finish End Milling

MAX
35,000
RPM



Catalog Number	ϕd	ϕD	ϕD_1	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
BCV40-MEGA6E-3	.125-.250 (3-6mm)	.984	1.09	3.00	1.50	1.45-1.77	MEC6-□	MEN6	MGR25	35,000	2.5
BCV40-MEGA6E-4			1.25	4.00	2.42					29,000	3.0
BCV40-MEGA6E-5			1.45	5.00	3.54					29,000	3.4
BCV40-MEGA6E-6			1.50	6.00	4.54					20,000	3.8
BCV40-MEGA8E-3	.125-.250 (3-8mm)	1.181	1.28	3.00	1.50	1.65-2.00	MEC8-□	MEN8	MGR30	30,000	2.8
BCV40-MEGA8E-4			1.46	4.00	2.54					29,000	3.2
BCV40-MEGA8E-5			1.55	5.00	3.58					29,000	3.6
BCV40-MEGA8E-6			1.69	6.00	4.58					20,000	4.3
BCV40-MEGA10E-3	.125-.375 (3-10mm)	1.378	1.48	3.00	1.54	1.89-2.28	MEC10-□	MEN10	MGR35	30,000	2.9
BCV40-MEGA10E-4			1.65	4.00	2.58					29,000	3.4
BCV40-MEGA10E-5			1.65	5.00	3.58					29,000	3.9
BCV40-MEGA10E-6			1.65	6.00	4.58					22,000	4.5
BCV40-MEGA10E-8	.125-.500 (3-12mm)	1.654	1.65	8.00	6.62	1.96-2.36	MEC13-□	MEN13	MGR42	16,000	5.2
BCV40-MEGA13E-3			1.65	3.00	1.62					30,000	3.2
BCV40-MEGA13E-4			1.65	4.00	2.62					29,000	3.8
BCV40-MEGA13E-5			1.65	5.00	3.62					29,000	4.3
BCV40-MEGA13E-6	.125-.500 (3-12mm)	1.654	1.65	6.00	4.62	1.96-2.36	MEC13-□	MEN13	MGR42	22,000	4.9
BCV40-MEGA13E-8			1.65	8.00	6.62					16,000	6.1
BCV50-MEGA13E-4			1.90	4.00	2.42					18,000	8.5
BCV50-MEGA13E-5			2.07	5.00	3.42					18,000	9.3
BCV50-MEGA13E-6	.125-.500 (3-12mm)	1.654	2.25	6.00	4.42	1.96-2.36	MEC13-□	MEN13	MGR42	16,000	10.6
BCV50-MEGA13E-8			2.42	8.00	6.50					12,000	12.8

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

ACCESSORIES



MILLING CHUCKS

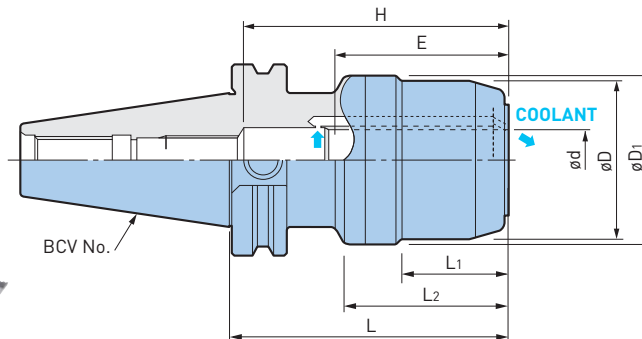


MEGA DOUBLE POWER CHUCK

CLAMPING RANGE: ϕ .500"-1.500"

For Heavy Duty End Milling

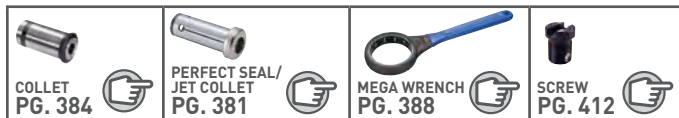
MAX
30,000
RPM



Catalog Number	ϕd	ϕD	ϕD_1	L	L ₁	L ₂	H	Min Clamping Length E	Wrench	Max RPM	Weight (lbs.)
BCV40-MEGA.500DS-2.5	.500	1.500	1.700	2.54	.98	1.77	2.24	1.70	MGR38L	30,000	2.6
BCV40-MEGA.625DS-3.5A	.625	1.654	2.071	3.59	1.06	2.01	2.88	2.13	MGR42L	30,000	3.9
BCV40-MEGA.750DS-3.5A	.750	1.969	2.193	3.59	1.40	2.09	3.44	2.25	MGR50L	30,000	4.0
BCV40-MEGA1.000DS-3.5A	1.000	2.441	2.469	3.59	1.61	2.09	3.44	2.50	MGR62L	27,000	4.6
BCV40-MEGA1.250DS-4A	1.250	2.756	2.783	4.09	1.42	2.36	3.63	2.75	MGR70L	26,000	5.1
BCV50-MEGA.625DS-4	.625	1.811	2.165	4.09	1.02	1.42	2.88	2.13	MGR46L	21,000	8.8
BCV50-MEGA.625DS-6				6.09		1.42				19,000	10.8
BCV50-MEGA.750DS-4	.750	2.362	2.717	4.09	1.10	2.72	3.44	2.25	MGR60L	20,000	9.9
BCV50-MEGA.750DS-6				6.09		4.72				17,000	13.0
BCV50-MEGA1.000DS-4	1.000	2.756	3.031	4.09	1.34	2.58	3.63	2.50	MGR70L	20,000	10.6
BCV50-MEGA1.000DS-6				6.09		4.58				17,000	14.3
BCV50-MEGA1.250DS-4	1.250	3.150	3.386	4.09	1.65	2.53	4.22	2.75	MGR80L	20,000	11.3
BCV50-MEGA1.250DS-6				6.09		4.53				15,000	15.9
BCV50-MEGA1.500DS-4.5	1.500	3.898	3.925	4.58	1.65	2.86	4.29	2.75	MGR99L	15,000	14.6

- Wrench must be ordered separately
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- MEGA.625DS requires the hex socket head screw (M8) for axial adjustment, however, please contact us if using for center-through applications
- DS types have jet-through coolant supply, thus tools with holes cannot be used

ACCESSORIES



MILLING CHUCKS

BCV/CV A.1

MEGA DOUBLE POWER CHUCK

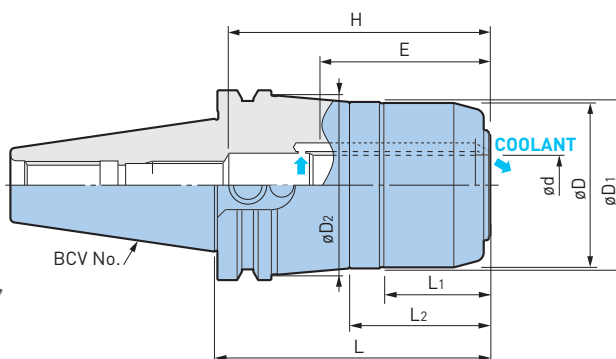
CLAMPING RANGE: ϕ .625"-1.500"

High Rigidity Type for Heavy Duty End Milling

HIGHER
RIGIDITY

MAX
30,000
RPM

COOLANT
THROUGH



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

Catalog Number	ϕd	ϕD	$\phi D1$	$\phi D2$	L	L1	L2	H	Min Clamping Length E	Wrench	Max RPM	Weight (lbs.)
BCV40H-MEGA.625DS-3.5A	.625	1.654	2.071	2.39	3.59	1.06	1.42	2.87	2.25	MGR42L	30,000	3.6
BCV40H-MEGA.750DS-3.5A	.750	1.969	2.193	2.39	3.59	1.40	1.85	3.44	2.29	MGR50L	30,000	4.0
BCV40H-MEGA1.000DS-3.5A	1.000	2.441	2.469	—	3.59	1.61	—	3.42	2.33	MGR62L	27,000	4.6
BCV40H-MEGA1.250DS-4A	1.250	2.756	2.783	—	4.09	1.42	—	3.63	2.64	MGR70L	26,000	5.1
BCV50H-MEGA.750DS-4	.750	2.362	2.717	2.99	4.09	1.10	1.51	3.44	2.29	MGR60L	20,000	9.9
BCV50H-MEGA1.000DS-4	1.000	2.756	3.031	3.32	4.09	1.34	1.87	3.63	2.64	MGR70L	20,000	10.6
BCV50H-MEGA1.250DS-4	1.250	3.150	3.386	3.57	4.09	1.65	2.23	4.22	2.88	MGR80L	20,000	11.3
BCV50H-MEGA1.500DS-4.5	1.500	3.898	3.925	—	4.58	1.65	—	4.29	2.88	MGR99L	15,000	14.6

- Wrench must be ordered separately
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- MEGA.625DS requires the hex socket head screw (M8) for axial adjustment, however, please contact us if using for center-through applications
- DS types have jet-through coolant supply, thus tools with holes cannot be used

ACCESSORIES



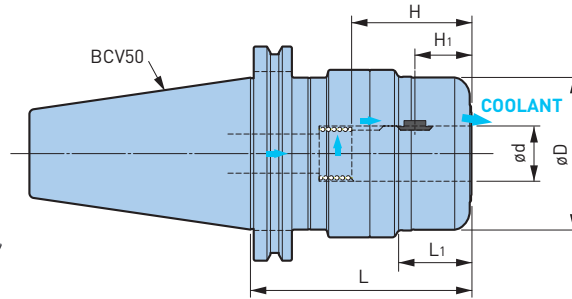
CAUTION

H type conforms to ASME B5.50-2015 standard for safe zone. Interference with tool changer may occur on machines made to an older standard. Consult engineering for specific information about the intended machine.

MILLING CHUCKS

MEGA PERFECT GRIP

CLAMPING RANGE: ϕ .750"-1.250"



Catalog Number	ød	øD	L	L1	H	H1	Wrench	Weight (lbs.)
BCV50-MEGA.750DPG-4	.750	2.362	4.000	1.062	1.929	.913	MGR60L	9.9
BCV50-MEGA1.000DPG-4	1.000	2.756	4.000	1.299	2.165	1.024	MGR70L	10.6
BCV50-MEGA1.250DPG-4.25	1.250	3.150	4.250	1.614	2.244	1.102	MGR80L	12.3

- Key grip and spring are included; wrench must be ordered separately
- "H" indicates the adjustment length with an adjusting screw
- "H1" is the dimension from the center of the Key Grip to the front end of the chuck

CAUTION

Always replace worn or damaged key grips immediately for safe operation.

Clamping ø	Key Grip (2 pcs.)	Spring
.750	PKG.750-2P	PSP1823
1.000	PKG1.000-2P	PSP2420
1.250	PKG1.250-2P	PSP3128

- Spare key grips are available in 2 pcs. per set

CYLINDRICAL SHANK (WITH FLAT SECTION)

The following standard shank is required for MEGA PERFECT GRIP.



øD		L	L ₁	W		K	
Nominal	Tolerance			Nominal	Tolerance	Nominal	Tolerance
.750	-.0001 -.0005	2.032	1.016	.455	+.002 -0	.675	+0 -.016
1.000		2.281	1.141	.515		.925	
1.250						1.156	

- Please contact your cutting tool supplier for conformance to this standard. Reprinted from ASME B94.19-1997, by permission of The American Society of Mechanical Engineers. All rights reserved.

CAUTION

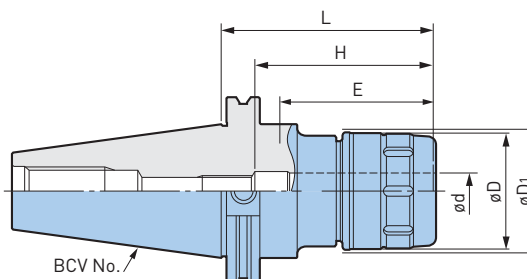
In case you are adding your own flat, the tool projection length in the MEGA PERFECT GRIP will be decided by the flat position. Refer to H1 in the MEGA PERFECT GRIP chart, decide the flat position to add, and then cut the cutter at L1 on cutter shank.

MILLING CHUCKS

NEW HI-POWER MILLING CHUCK

CLAMPING RANGE: ϕ .750"-1.500" (ϕ 20-32mm)

For Heavy Duty End Milling



Catalog Number	ϕd	ϕD	ϕD_1	L	H	Min Clamping Length E	Wrench	Weight (lbs.)
BCV40-HMC.750S-3.5	.750	1.969	2.008	3.50	3.34	2.25	FK45-50L	3.4
BCV40-HMC1.000S-3.5	1.000	2.323	2.362	3.50	3.42	2.50	FK58-62L	4.2
BCV40-HMC1.250S-4	1.250	2.677	2.717	4.00	3.54	2.75	FK68-75L	4.7
BCV40-HMC20S-85	20mm	1.969	1.996	3.35	2.72-3.11	2.20	FK45-50L	3.4
BCV40-HMC32S-100	32mm	2.677	2.705	3.94	3.03-3.42	2.52	FK68-75L	4.4
BCV50-HMC.750-4	.750	2.362	2.402	4.00	3.34	2.25	FK58-62	9.3
BCV50-HMC1.000-4	1.000	2.441	2.480	4.00	3.54	2.50	FK58-62	8.9
BCV50-HMC1.250-4	1.250	3.150	3.189	4.00	4.13	2.75	FK80-90	10.2
BCV50-HMC1.500-4.5	1.500	3.898	3.937	4.50	4.21	2.75	FK92-100	13.2
BCV50-HMC20S-105	20mm	1.969	1.996	4.13	2.72-3.11	2.20	FK45-50L	8.4
BCV50-HMC32S-105	32mm	2.677	2.705	4.13	3.46-3.86	2.83	FK68-75L	9.6

- Wrench and axial adjusting screw must be ordered separately
- "H" indicates the adjustment length with an adjusting screw

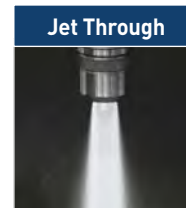
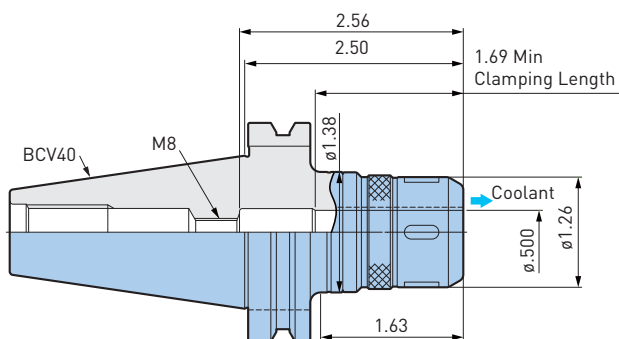
ACCESSORIES



MILLING CHUCKS

NEW HI-POWER MILLING CHUCK

CLAMPING RANGE: ϕ .500"



Catalog Number	Wrench	Weight (lbs.)
BCV40-HMC.500J-2.5	FK31-33	2.4

- Wrench must be ordered separately

ACCESSORIES



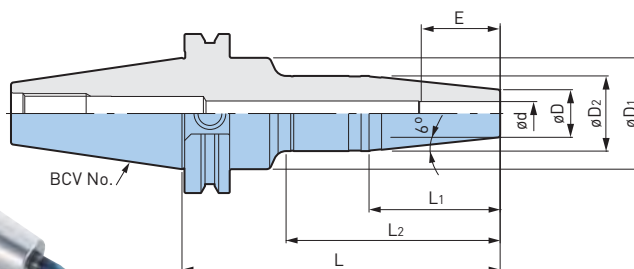
HYDRAULIC CHUCKS

BCV/CV A.1

HYDRAULIC CHUCK (SUPER SLIM TYPE)

CLAMPING RANGE: ϕ .250"-.500" (ϕ 6-12mm)

For Drills, Reamers, Ball Mills, End Mills, Diamond Reamers & Grinding Tools



ACCESSORIES

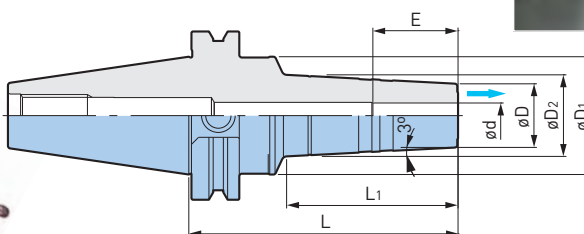


Catalog Number	ød	øD	øD1	øD2	L	L1	L2	Min Clamping Length E	Max RPM	Weight (lbs.)
BCV40-HDC.250S-5	.250	.56	1.75	1.03	5.00	2.24	3.32	.99	30,000	2.8
BCV40-HDC.375S-5	.375	.75		1.99		2.06	3.36	1.30	28,000	3.0
BCV40-HDC.500S-5	.500	.87		1.30			3.44	1.42	28,000	3.1
BCV40-HDC6S-125	6mm	.551		1.024	4.92	2.24	3.34	.99	30,000	2.9
BCV40-HDC8S-125	8mm	.669	1.102	2.05		3.38	1.18	30,000	2.9	
BCV40-HDC10S-125	10mm	.748	1.181				1.26	28,000	3.1	
BCV40-HDC12S-125	12mm	.827	1.260				3.42	1.38	28,000	3.1
BCV50-HDC6S-150	6mm	.551	2.75	1.024	5.91	2.24	3.54	.99	20,000	7.7
BCV50-HDC8S-150	8mm	.669		1.102		2.05		1.18	20,000	7.9
BCV50-HDC10S-150	10mm	.748		1.181			3.66	1.26	20,000	7.9
BCV50-HDC12S-150	12mm	.827		1.260			3.74	1.38	20,000	8.1

- Adjusting screw cannot be used

(JET COOLANT TYPE)

CLAMPING RANGE: ϕ .250"-.500" Coolant Holes Through Body of Holder



Catalog Number	ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	Min Clamping Length E	Weight (lbs)
BCV40-HDC.250J-4	.250	.79	1.75	1.06	4.00	2.50	.99	2.7
BCV40-HDC.375J-4	.375	.95		1.22		2.54	1.30	2.8
BCV40-HDC.500J-4	.500	1.07		1.34		2.57	1.42	2.9

ACCESSORIES



- Adjusting screws cannot be used

CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

HYDRAULIC CHUCKS

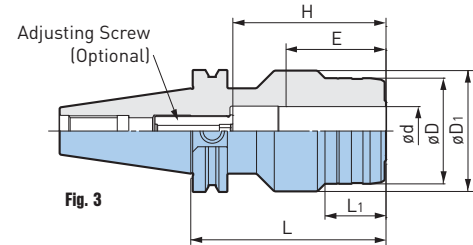
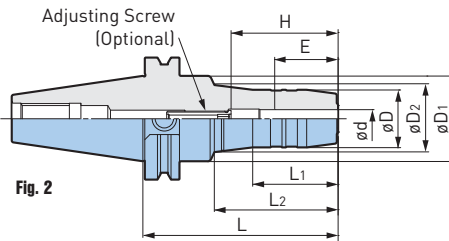
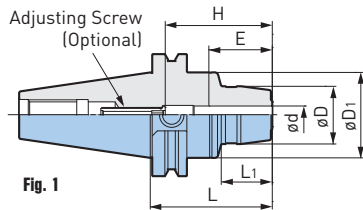
HYDRAULIC CHUCK CLAMPING RANGE: ϕ .250"-1.250" (ϕ 6-20mm)

For Drills, Reamers, Ball Mills, End Mills, Diamond Reamers & Grinding Tools



CAUTION

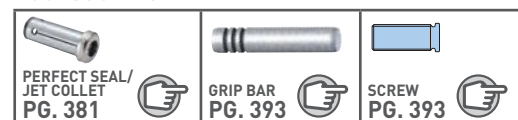
Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".



Catalog Number	Fig.	ød	øD	øD1	ød2	L	L1	L2	H	Min Clamping Length E	Adjusting Screw	Weight (lbs.)
BCV40-HDC.250-2.5	1	.250	1.024	1.750	—	2.50	1.02	—	1.10-1.97	1.10	HDA6-05032	2.4
BCV40-HDC.250-4	2				1.20	4.00	1.75	2.48				3.1
BCV40-HDC.250-5.5					1.75	5.50		4.09				3.8
BCV40-HDC.375-2.5	1	.375	1.181	1.750	—	2.50	1.04	—	1.30-2.17	1.30	HDA10-08032	2.7
BCV40-HDC.375-4	2				1.37	4.00	1.75	2.52				3.1
BCV40-HDC.375-5.5					1.75	5.50		4.09				4.0
BCV40-HDC.500-2.5	1	.500	1.299	1.750	—	2.50	.98	—	1.50-2.36	1.50	HDA12-10032	2.7
BCV40-HDC.500-4	2				1.75	4.00	1.75	2.60				3.3
BCV40-HDC.500-5.5					—	5.50		4.09				4.0
BCV40-HDC.625-3	1	.625	1.496	1.750	1.75	3.00	1.54	—	1.69-2.76	1.69	HDA16-12030	2.9
BCV40-HDC.625-4	2					4.00	2.00	2.60			HDA16-12037	3.3
BCV40-HDC.625-5.5						5.50		—				4.2
BCV40-HDC.750-3	1	.750	1.654	1.750	—	3.00	1.57	2.60	1.69-2.76	1.69	HDA16-12030	3.1
BCV40-HDC.750-4	2				1.75	4.00	2.00	4.09			HDA16-12037	3.6
BCV40-HDC.750-5.5						5.50		4.13				4.4
BCV40-HDC1.000-3	3	1.000	2.165	2.480	—	3.00	.61	—	2.05-3.15	2.05	HDA16-12015	4.0
BCV40-HDC1.000-4						4.00	1.25	—			HDA25-16039	4.7
BCV40-HDC1.000-5						5.00	1.75	—				5.8
BCV40-HDC1.250-4	3	1.250	2.677	2.953	—	4.00	1.25	—	2.20-3.15	2.20	HDA25-16039	5.8
BCV40-HDC6-90	1	6mm	1.024	1.750	—	3.54	1.89	—	1.10-1.97	1.10	HDA6-05032	2.8
BCV40-HDC8-90		8mm	1.102				1.72		1.30-2.17	1.30	HDA8-06032	
BCV40-HDC10-90		10mm	1.181				1.75		1.50-2.36	1.50	HDA10-08032	2.9
BCV40-HDC12-90		12mm	1.260				1.76				HDA12-10032	
BCV40-HDC20-90	2	20mm	1.653	1.750	—	3.54	1.58	—	1.69-2.76	1.69	HDA16-12037	4.4

- Adjustable cutter length H is the adjustable length in the use of adjusting screw

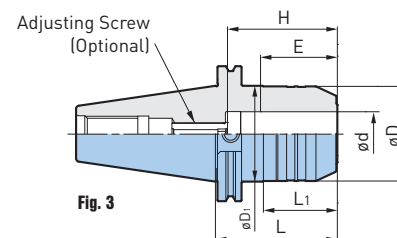
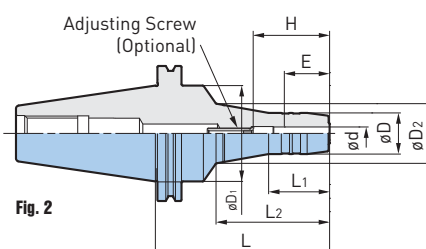
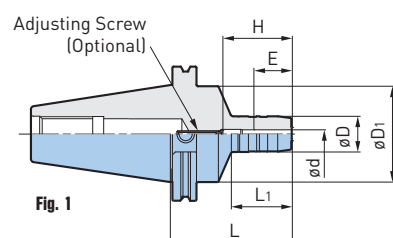
ACCESSORIES



HYDRAULIC CHUCKS

HYDRAULIC CHUCK CLAMPING RANGE: ϕ .250"-1.250" (ϕ 32mm)

For Drills, Reamers, Ball Mills, End Mills, Diamond Reamers & Grinding Tools



Catalog Number	Fig.	ϕd	ϕD	ϕD_1	ϕD_2	L	L_1	L_2	H	Min Clamping Length E	Adjusting Screw	Weight (lbs.)
BCV50-HDC.250-3.5	1	.250	1.024	2.750	—	3.50	1.75	—	1.10-1.97	1.10	HDA6-05032	7.3
BCV50-HDC.250-5	2				1.53	5.00		3.19				8.0
BCV50-HDC.250-6.5					2.13	6.50		4.92				9.1
BCV50-HDC.375-3.5	1	.375	1.181	2.750	—	3.50	1.75	—	1.30-2.17	1.30	HDA10-08032	7.3
BCV50-HDC.375-5	2				1.71	5.00		3.27				8.0
BCV50-HDC.375-6.5					2.31	6.50		4.96				9.3
BCV50-HDC.500-3.5	1	.500	1.299	2.750	—	3.50	1.75	—	1.50-2.36	1.50	HDA12-10032	7.6
BCV50-HDC.500-5	2				1.85	5.00		3.31				8.2
BCV50-HDC.500-6.5					2.45	6.50		5.00				9.6
BCV50-HDC.625-3.5	1	.625	1.496	2.750	—	3.50	1.75	—	1.69-2.76	1.69	HDA16-12037	7.8
BCV50-HDC.625-5	2				1.97	5.00		3.35				8.7
BCV50-HDC.625-6.5					2.57	6.50		—				10.2
BCV50-HDC.750-3.5	1	.750	1.654	2.750	—	3.50	1.75	3.43	1.69-2.76	1.69	HDA16-12037	8.0
BCV50-HDC.750-5	2				2.15	5.00		5.04				8.9
BCV50-HDC.750-6.5					2.75	6.50		5.12				10.7
BCV50-HDC1.000-3.5	3	1.000	2.480	2.750	—	3.50	2.03	—	2.05-3.15	2.05	HDA25-16039	8.9
BCV50-HDC1.000-5						5.00	3.54					10.7
BCV50-HDC1.000-6.5						6.50	5.04					12.7
BCV50-HDC1.250-3.5	3	1.250	2.717	2.750	—	3.50	2.09	—	2.20-3.15	2.20	HDA25-16039	10.6
BCV50-HDC1.250-5						5.00	3.58					11.8
BCV50-HDC1.250-6.5						6.50	5.08					14.4
BCV50-HDC32-90	3	32mm	2.677	2.953	—	3.54	2.13	—	2.20-3.15	2.20	HDA25-16039	9.6

• "H" indicates the adjustment length with an adjusting screw

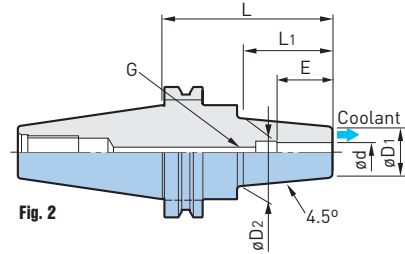
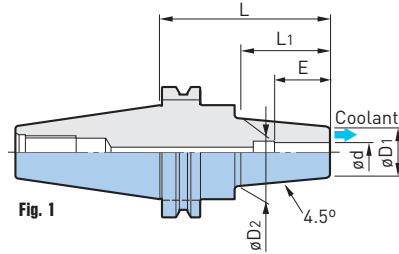
ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

SHRINK FIT HOLDER (JET COOLANT TYPE) CLAMPING RANGE: ϕ .250"-1.250" (ϕ 8-12mm)



Catalog Number	Fig.	ød	øD1	øD2	L	L1	Min Clamping Length E	G	Weight (lbs.)
BCV40-SFC.250-3.5	1	.250	.827	1.06	3.50	1.50	.87	—	2.6
BCV40-SFC.375-3.5		.375	.945	1.26		2.00	1.22		2.7
BCV40-SFC.500-3.5	2	.500			1.063		1.34	6.00	1.42
BCV40-SFC.500-6		.625	1.063	1.34		1.50		1.54	M12 P1
BCV40-SFC.625-3.5					6.00		2.7		
BCV40-SFC.625-6		.750	1.299	1.65	3.50	2.25	1.85	M16 P1	3.6
BCV40-SFC.750-4					6.00				3.1
BCV40-SFC.750-6		1.000	1.732	2.09	4.00	M16 P1	4.2		
BCV40-SFC1.000-4					6.00		3.8		
BCV40-SFC1.000-6		6.00	5.6						
BCV40-SFC8-80	1	8mm	.827	1.06	3.15	2.17	1.02	—	2.2
BCV40-SFC10-80		10mm	.945	1.26	3.15	2.17	1.22		2.4
BCV40-SFC12-80		12mm	.945	1.26	3.15	2.17	1.42		2.4
BCV50-SFC.500-4	2	.500	.945	1.26	4.00	2.00	1.42	M10 P1	7.2
BCV50-SFC.625-4		.625	1.063	1.34	4.00	1.75	1.54	M12 P1	7.5
BCV50-SFC.750-4		.750	1.299	1.65	4.00	2.27	1.61	M16 P1	7.7
BCV50-SFC.750-6					6.00				8.8
BCV50-SFC1.000-4		1.000	1.732	2.09	4.00	2.27	1.85	M16 P1	8.4
BCV50-SFC1.000-6					6.00				10.2
BCV50-SFC1.250-4		1.250	1.732	2.09	4.00	2.01	M16 P1	8.1	
BCV50-SFC1.250-6					6.00			9.8	

- Use a carbide shank cutter within a tolerance of h6
- Center-through coolant supply is available with tools with oil holes

CAUTION

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

BASIC ARBORS

SHELL/FACE MILL HOLDER

BCV/CV A.1

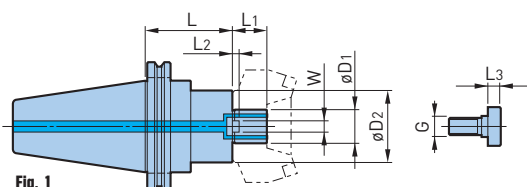
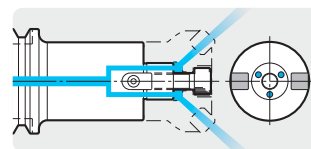


Fig. 1

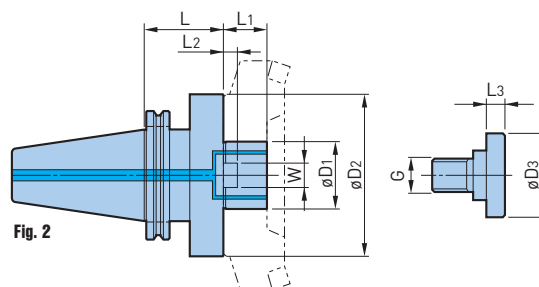


Fig. 2

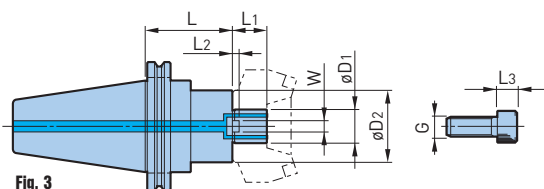


Fig. 3

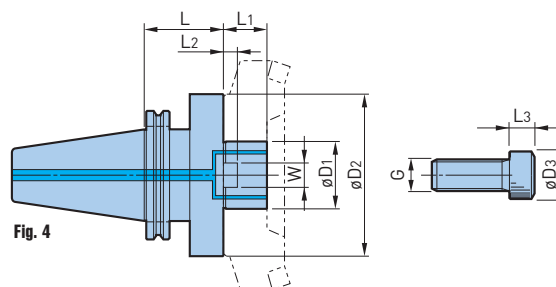


Fig. 4



Catalog Number	Fig.	øD1	øD2	øD3	L	L1	L2	L3	W	G	Weight (lbs.)
BCV40-SMC.750-2	1	.750	1.689	.88	2.00	.69	.16	.38	.313	3/8"-24	2.7
BCV40-SMC.750-4					4.00						4.0
BCV40-SMC.750-6					6.00						5.2
BCV40-SMC1.000-2	2	1.000	2.189	1.12	2.00	.69	.22	.50	.375	1/2"-20	3.1
BCV40-SMC1.000-4					4.00						4.4
BCV40-SMC1.000-6					6.00						5.6
BCV40-SMC1.250-2	3	1.250	2.752	1.50	2.00	.93	.28	.50	.500	5/8"-18	3.6
BCV40-SMC1.500-2		1.500	3.626	1.86			.38		.625	3/4"-16	4.8
BCV40-FMH22-47-50		22mm	1.850	.63			.20		.394	M10x1.5	2.8
BCV40-FMH22-60-50	4		2.362		1.97	.71	.24	.47	.472	M12x1.75	3.1
BCV40-FMH27-76-50		27mm	2.992	.71							3.5
BCV40-FMH32-76-50		32mm	2.992	.94			.28		.551	M16x2	3.5

BASIC ARBORS

Catalog Number	Fig.	øD1	øD2	øD3	L	L1	L2	L3	W	G	Weight (lbs.)	
BCV50-SMC.750-2	1	.750	1.689	.88	2.00	.69	.16		.313	3/8"-24	7.4	
BCV50-SMC.750-4					4.00						8.7	
BCV50-SMC.750-6					6.00						9.9	
BCV50-SMC1.000-2		1.000	2.189	1.12	2.00		.22	.38	.375	1/2"-20	7.6	
BCV50-SMC1.000-4					4.00						9.6	
BCV50-SMC1.000-6					6.00						11.7	
BCV50-SMC1.000-8					8.00						13.7	
BCV50-SMC1.000-10					10.00						15.7	
BCV50-SMC1.000-12					12.00						17.7	
BCV50-SMC1.250-2		1.250	2.752	1.50	2.00		.28		.500	5/8"-18	8.2	
BCV50-SMC1.250-4					4.00						11.4	
BCV50-SMC1.250-6					6.00						14.6	
BCV50-SMC1.250-8					8.00						17.8	
BCV50-SMC1.250-10					10.00						20.5	
BCV50-SMC1.250-12					12.00						23.7	
BCV50-SMC1.500-2	2	1.500	3.626	1.88	2.00	.93	.38	.50	.625	3/4"-16	9.2	
BCV50-SMC1.500-4					4.00						12.8	
BCV50-SMC1.500-6					6.00						16.0	
BCV50-SMC1.500-8					8.00						25.5	
BCV50-SMC1.500-10					10.00						31.1	
BCV50-SMC1.500-12					12.00						37.0	
BCV50-SMC2.000-2.5		2.000	4.874	2.50	2.50		.44			.750	1"-14	11.1
BCV50-SMC2.000-4					4.00							16.0
BCV50-SMC2.000-6					6.00							25.5
BCV50-SMC2.500-2.5		2.500	4.874	3.13	2.50		1.13				1.000	1"-14
BCV50-FMH22-47-50	3	22mm	1.850	.63	1.97	.71	.20	.39	.394	M10x1.5	7.4	
BCV50-FMH22-60-50			2.362								7.7	
BCV50-FMH27-76-50	4	27mm	2.992	.71		.79	.24	.47	.472	M12x1.75	8.0	
BCV50-FMH32-76-50		32mm	2.992	.94		.87	.28	.63	.551	M16x2	8.0	

- Cutter clamping screw is included
- The weight does not include the cutter
- If the provided clamping screw is not compatible, separately select one from the clamping screw table on pg. 413
- øD2 indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor; be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit

ACCESSORIES

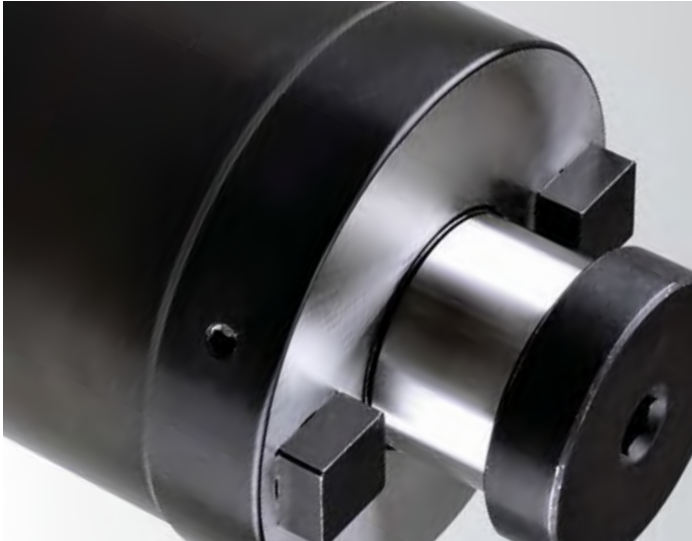


CAUTION

For high speed applications, shell mill holders should be balanced together with the cutters.

BASIC ARBORS

BCV/CV A.1



SHELL MILL HOLDER (HIGH RIGIDITY TYPE)

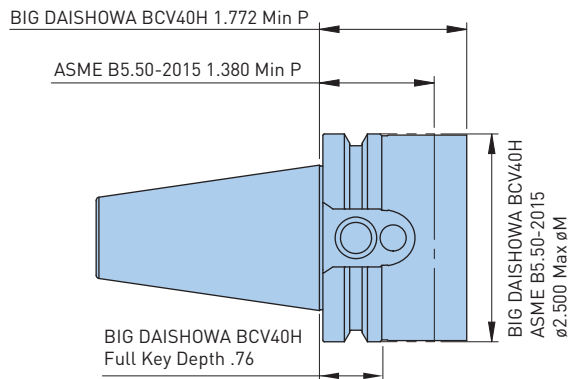
BIG DAISHOWA Offers Tool Holders that are Compatible with the 2015 revision of the ASME B5.50 (CAT) Standard

The elimination of the reduced section past the v-groove greatly improves radial rigidity for higher performance milling applications.

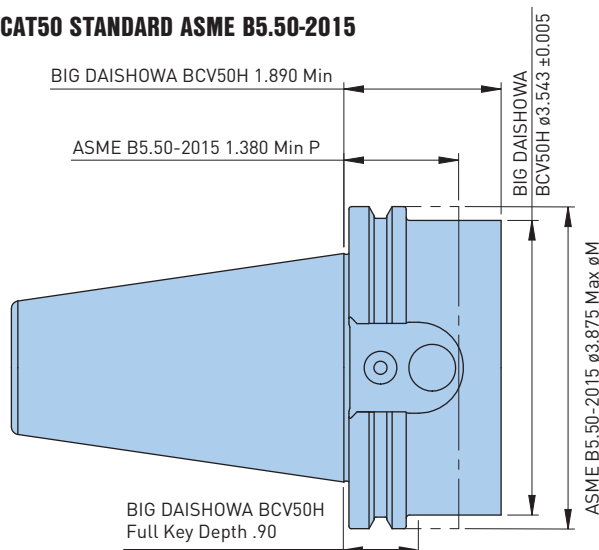
Not all machining centers are capable of accepting the 2015 revision and caution should be taken before installing these high rigidity tool holders. Always consult your machine tool manual or the machine tool builder for information about tool change requirements.

High Rigidity CAT Tapers

CAT40 STANDARD ASME B5.50-2015

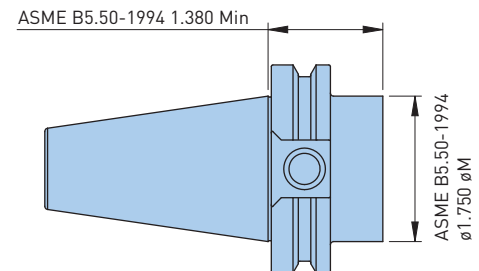


CAT50 STANDARD ASME B5.50-2015

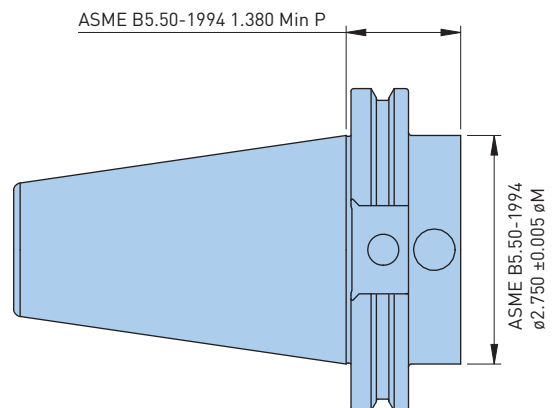


Standard CAT Tapers

CAT40 STANDARD ASME B5.50-1994

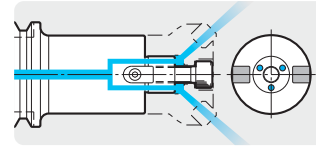


CAT50 STANDARD ASME B5.50-1994



BASIC ARBORS

SHELL MILL HOLDER (HIGH RIGIDITY TYPE)



A.1
BCV/CV

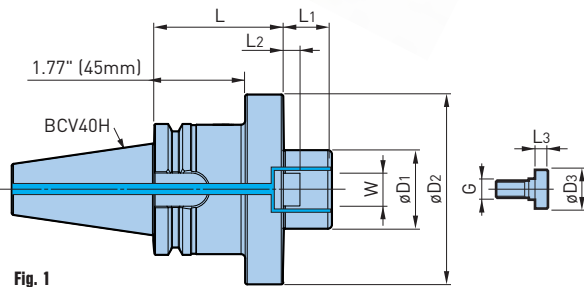


Fig. 1

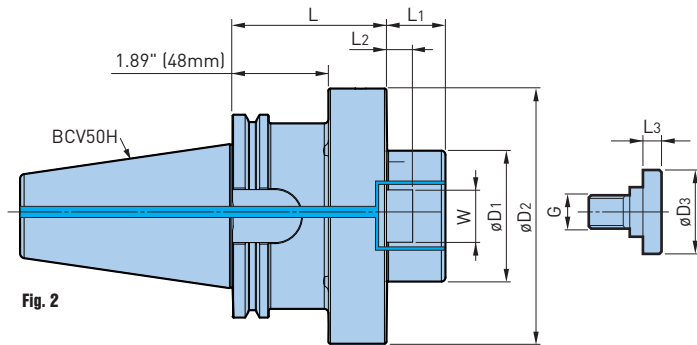


Fig. 2



Catalog Number	Fig.	øD1	øD2	øD3	L	L1	L2	L3	W	G	Weight (lbs.)
BCV40H-SMC1.000-2	1	1.000	2.189	1.12	2.000	.69	.22	.38	.375	1/2"-20	3.3
BCV40H-SMC1.250-2.5		1.250	2.752	1.50	2.500		.28	.50	.500	5/8"-18	4.7
BCV40H-SMC1.500-2.5		1.500	3.626	1.88		.93	.38		.625	3/4"-16	6.0
BCV50H-SMC1.500-4	2	1.500	3.626	1.88	4.000	.93	.38	.50	.625	3/4"-16	15.2
BCV50H-SMC2.000-4		2.000	4.874	2.50			.44		.750	1"-14	19.4
BCV50H-SMC2.500-3		2.500		3.13	3.000	1.13			1.000	1"-14	16.6
BCV50H-FMH60-90		60mm	5.512	—	3.54	1.58	.44	—	1.000	M20 P2.5	20.0

- Cutter clamping screw is included
- The weight does not include the cutter
- If the provided clamping screw is not compatible, separately select one from the clamping screw table on pg. 413
- øD2 indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor; be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit

CAUTION

H Type conforms to ASME B5.50-2015 standard for safe zone. Interference with tool changer may occur on machines made to an older standard. Consult engineering for specific information about the intended machine.

BASIC ARBORS

BCV/CV
A.1

END MILL HOLDER

CLAMPING RANGE: ϕ .375"-2.500"



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

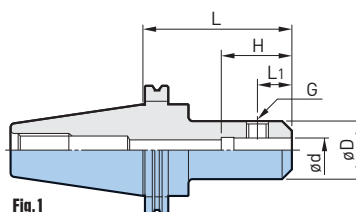


Fig.1

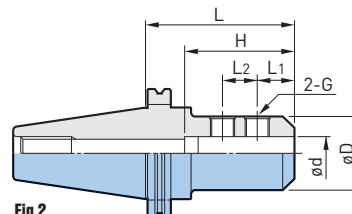


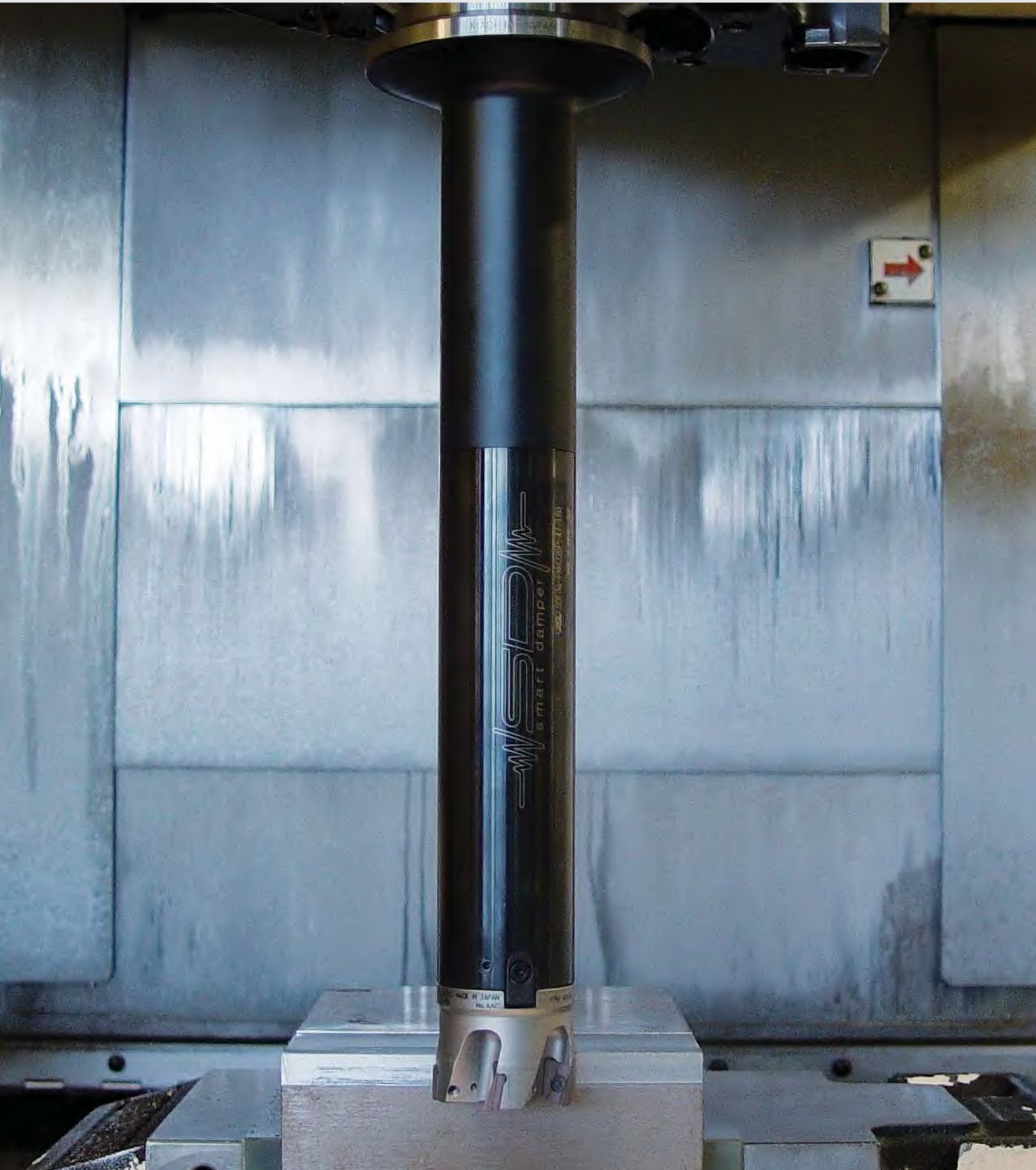
Fig.2

Catalog Number	Fig.	ød	øD	L	L ₁	L ₂	H	G	Weight (lbs.)
BCV40-EM.500-3	1	.500	1.375	3.00	.87	—	3.00	7/16"-20	2.7
BCV40-EM.500-4.5				4.50					3.3
BCV40-EM.625-3		.625	1.625	3.00	.94		3.50	9/16"-18	2.8
BCV40-EM.625-4.5				4.50					3.6
BCV40-EM.750-1.5		.750	1.750	1.50	1.13		2.25	5/8"-18	2.0
BCV40-EM.750-3				3.00	1.00		3.88		2.8
BCV40-EM.750-4.5				4.50					3.8
BCV40-EM1.000-3	2			1.000	2.252	3.00	1.13	1.00	3.13
BCV40-EM1.000-4.5		4.50	4.8						
BCV40-EM1.250-4.5		1.250	2.750	6.1					
BCV40-EM1.500-5		1.500	2.750	5.00	6.4				
BCV50-EM.375-6	1	.375	1.000	6.00	.75	—	3.00	3/8"-24	7.4
BCV50-EM.500-4.5		.500	1.375	4.50	.87		3.00	7/16"-20	7.7
BCV50-EM.500-6				6.00					8.3
BCV50-EM.625-4.5		.625	1.625	4.50	.94		3.50	9/16"-18	8.0
BCV50-EM.625-6				6.00					8.8
BCV50-EM.750-4.5		.750	1.750	4.50	1.00		3.88	5/8"-18	8.2
BCV50-EM.750-6				6.00					9.0
BCV50-EM1.000-4.5	2	1.000	2.252	4.50	1.13	1.00	3.13	3/4"-16	9.1
BCV50-EM1.000-6				6.00					10.5
BCV50-EM1.000-8				8.00					12.5
BCV50-EM1.250-4.5		1.250	2.750	4.50					10.3
BCV50-EM1.250-6				6.00					12.6
BCV50-EM1.250-8				8.00					15.6
BCV50-EM1.500-4.5		1.500	2.750	4.50					9.9
BCV50-EM1.500-6				6.00					12.2
BCV50-EM1.500-8				8.00					15.2
BCV50-EM2.000-6		2.000	3.500	6.00	1.38	1.38	4.33	1"-14	14.4
BCV50-EM2.500-6		2.500	3.937	6.00	1.56	1.56	3.74	1"-14	16.3

• For high speed applications MEGA DOUBLE POWER CHUCKS are recommended instead of End Mill Holders

ACCESSORIES



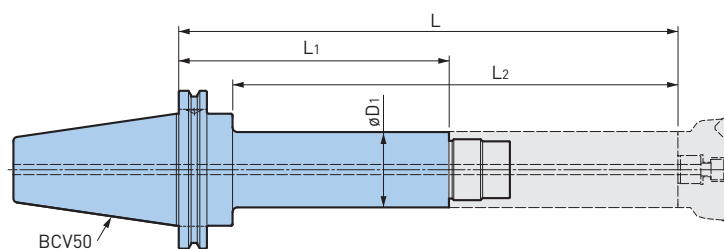


BASIC ARBORS

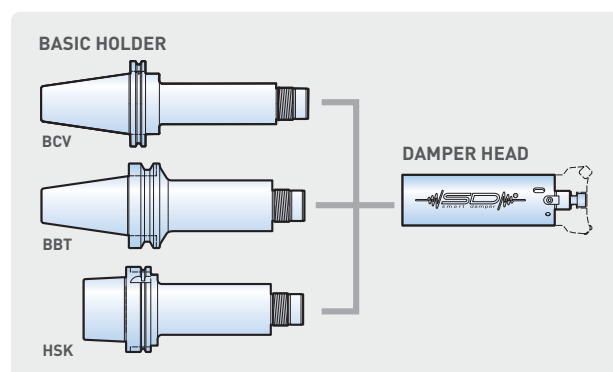
BCV/CV A.1

SMART DAMPER MILLING (FACE MILL ARBOR TYPE)

PATENT #
9027720



Catalog Number	ϕD_1	L	L ₁	L ₂	Weight (lbs.)	Damper Head Model
BCV50-SDF36-47-70	47mm	9.843	2.756	8.465	8.6	FMH□□DP-47
BCV50-SDF36-47-170		13.780	6.693	12.402	12.3	
BCV50-SDF36-60-120	60mm	11.811	4.724	10.433	11.5	FMH□□DP-60
BCV50-SDF36-60-220		15.748	8.661	14.370	17.2	
BCV50-SDF57-72-270	72mm	17.717	10.63	15.63	26.5	SMC□□DP-72





SMART DAMPER MILLING (DAMPER HEAD)

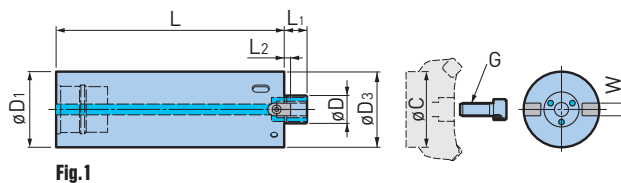


Fig.1

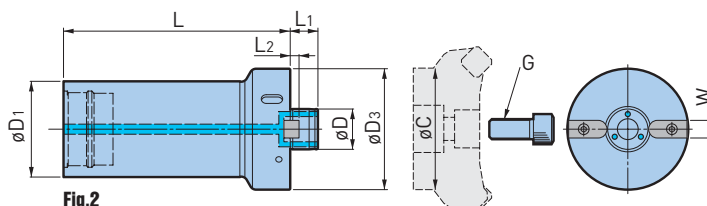


Fig.2

Catalog Number	Fig.	øD	øD1	øD3	L	L1	L2	W	G	Weight (lbs.)	C-Spanner Model	Min. Flange øC
SDF36-FMH22DP-47-180	1	22mm	47mm	47mm	7.087	.709	.197	.394	M10	6.6	FK45-50L	1.417
SDF36-FMH22DP-60-180			60mm	60mm						9.9	FK58-62L	1.929
SDF36-FMH22.225DP-47-180		22.225mm	47mm	47mm	7.087	.669	.138	.315		6.6	FK45-50L	1.535
SDF36-FMH27DP-60-180	1	27mm	60mm	60mm	7.087	.787	.236	.472	M12	9.9	FK58-62L	1.811
SDF57-FMH27DP-76-180	1	27mm	76mm	76mm		.787	.236	.472	M12	17.9	FK68-75L	1.890
SDF57-FMH31.75DP-76-180	1	31.75mm	76mm	76mm	7.087	1.181	.276	.500	M16	17.9	FK92-100	2.205
SDF57-FMH31.75DP-96-180	2			96mm						19.2	FK92-100	2.283
SDF57-FMH32DP-96-180			32mm	76mm	96mm	7.087	.866	.276		.552	M16	19.2
SDF36-SMC.750DP-47-180	1	.750	1.850	1.850	7.087	.689	.160	.313	3/8"-24	6.6	FK45-50L	1.417
SDF36-SMC1.000DP-60-180	1	1.000	2.362	2.362	7.087	.689	.220	.375	1/2"-20	9.9	FK58-62L	1.811
SDF57-SMC1.000DP-72-180			2.835	2.835						16.3	FK68-75L	1.811

- Hook wrench and cutter clamping screw are included
- The weight does not include the cutter
- Refer to the operation manual regarding the mounting method to the basic holder
- If the provided clamping screw is not compatible, separately select one from the clamping screw table on pg. 413
- ϕC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor

CAUTION

Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

TAP HOLDERS

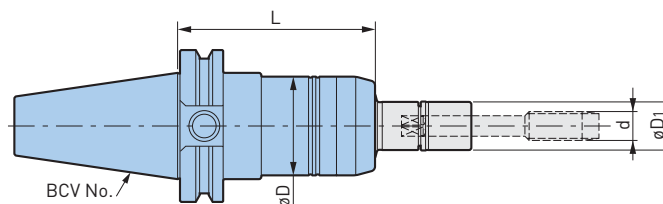
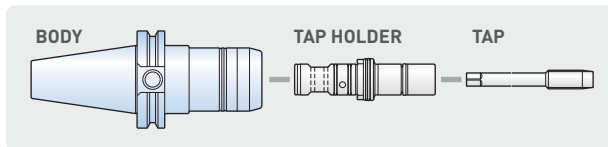
MEGA SYNCHRO TAPPING HOLDER

TAPPING RANGE: No.2-AU3/4



PATENT #
8226337

BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT



Catalog Number	Tapping Range d (Inch)	Tapping Range d (Metric)	ϕD	ϕD_1	L	Weight (lbs.)	Wrench
BCV40-MGT6-3.25	No.2-No.12	M2-M6	1.42	.63	3.25	2.9	MGR16
BCV40-MGT12-3.25	AU1/4-AU7/16	M6-M12	1.61	.79	3.25	3.1	MGR20L
BCV40-MGT20-4.5	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	4.50	4.0	MGR30L
BCV50-MGT6-3.25	No.2-No.12	M2-M6	1.42	.63	3.25	8.6	MGR16
BCV50-MGT12-3.25	AU1/4-AU7/16	M6-M12	1.61	.79	3.25	8.8	MGR20L
BCV50-MGT20-4	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	4.00	9.7	MGR30L

*AU3/8 is included in the MGT20 series

- MGT set screw is included; tap holder and wrench must be ordered separately

ACCESSORIES



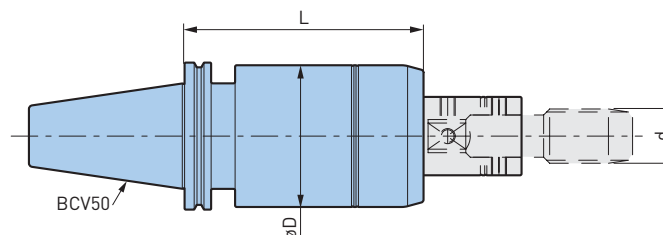
CAUTION

Cannot be used with machining center without synchronized tapping function.

TAP HOLDERS

MEGA SYNCHRO TAPPING HOLDER

TAPPING RANGE: AU13/16-AU1-1/2



Catalog Number	Tapping Range d (Inch)	Tapping Range d (Metric)	øD	L	Weight (lbs.)
BCV50-MGT36-6.5	AU13/16-AU1-1/2 AP3/8-AP1	M20-M36	3.70	6.50	15.8

- MGT set screw is included; tap holder must be ordered separately

ACCESSORIES

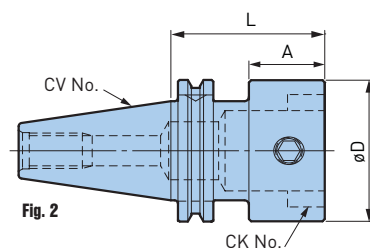
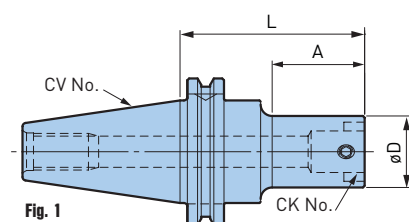
 TAP HOLDER PG. 402	 SYNCHRO ADJUSTER PG. 403	 O-RING PG. 403	 SCREW PG. 403

CAUTION

Cannot be used with machining center without synchronized tapping function.

MODULAR HOLDERS

CKB SHANK



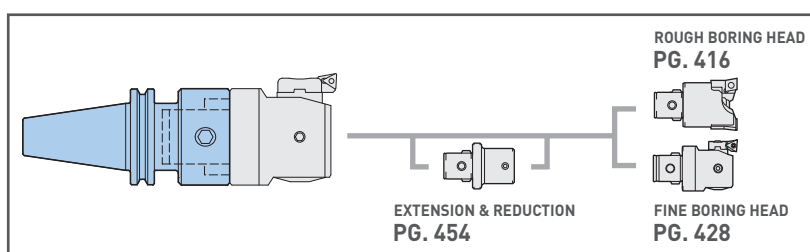
Catalog Number	Reference Number	Fig.	CK No.	ØD	L	A	Weight (lbs.)
CV40-CKB1-48	11.326.410	1	CK1	.748	1.870	.315	2.2
CV40-CKB1-91	11.326.411				3.563	1.988	2.5
CV40-CKB2-53	11.326.420	1	CK2	.945	2.067	.492	2.3
CV40-CKB2-85	11.326.421				3.327	1.752	2.5
CV40-CKB2-105	11.326.422				4.114	2.539	3.0
CV40-CKB3-54	11.326.430	1	CK3	1.220	2.126	.551	2.5
CV40-CKB3-80	11.326.431				3.150	1.575	3.0
CV40-CKB3-130	11.326.433				5.118	3.543	3.5
CV40-CKB4-38	11.326.440	1	CK4	1.535	1.496	.039	2.5
CV40-CKB4-73	11.326.441				2.874	1.417	3.0
CV40-CKB4-153	11.326.444				6.024	4.567	5.0
CV40-CKB5-63	11.326.451	2	CK5	1.969	2.480	1.102	3.0
CV40-CKB5-143	11.326.454				5.630	4.252	6.0
CV40-CKB6-69	11.326.462	2	CK6	2.250	2.717	1.339	3.0
CV40-CKB6-129	11.326.464				5.079	3.701	6.5

MODULAR HOLDERS

Catalog Number	Reference Number	Fig.	CK No.	ØD	L	A	Weight (lbs.)
CV50-CKB1-48	11.326.610	1	CK1	.748	1.870	.295	6.2
CV50-CKB1-91	11.326.611				3.563	1.988	7.0
CV50-CKB2-53	11.326.620	1	CK2	.945	2.067	.492	6.5
CV50-CKB2-105	11.326.622				4.114	2.539	7.5
CV50-CKB2-135	11.326.623				5.295	3.720	7.6
CV50-CKB3-54	11.326.630	1	CK3	1.220	2.126	.551	7.0
CV50-CKB3-100	11.326.632				3.937	2.362	7.5
CV50-CKB3-130	11.326.633				5.118	3.543	7.8
CV50-CKB3-160	11.326.634				6.299	4.724	8.0
CV50-CKB4-93	11.326.642	1	CK4	1.535	3.661	2.087	8.0
CV50-CKB4-153	11.326.644				6.024	4.449	8.3
CV50-CKB4-193	11.326.645				7.598	6.024	8.8
CV50-CKB5-83	11.326.652	1	CK5	1.969	3.268	1.693	7.5
CV50-CKB5-143	11.326.654				5.630	4.055	9.2
CV50-CKB5-183	11.326.655				7.205	5.630	11.0
CV50-CKB5-243	11.326.656				9.567	7.992	12.8
CV50-CKB6-69	11.326.662	1	CK6	2.500	2.717	1.220	7.6
CV50-CKB6-129	11.326.664				5.079	3.583	10.5
CV50-CKB6-169	11.326.665				6.654	5.157	13.0
CV50-CKB6-229	11.326.666				9.016	7.520	15.8
CV50-CKB6-289	11.326.667				11.378	9.882	18.5
CV50-CKB7-83	11.326.674	2	CK7	3.543	3.268	1.890	9.8
CV50-CKB7-135	11.326.675				5.315	3.937	15.7
CV50-CKB7-183	11.326.676				7.205	5.827	21.0

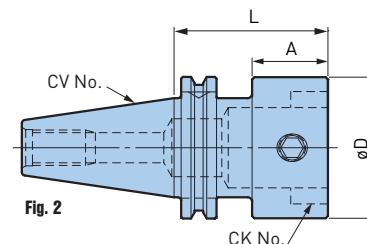
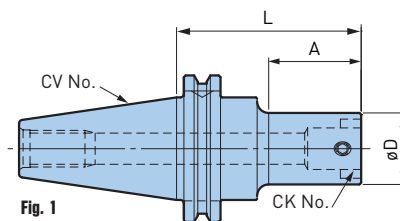
- KL type available for special orientations

ACCESSORIES



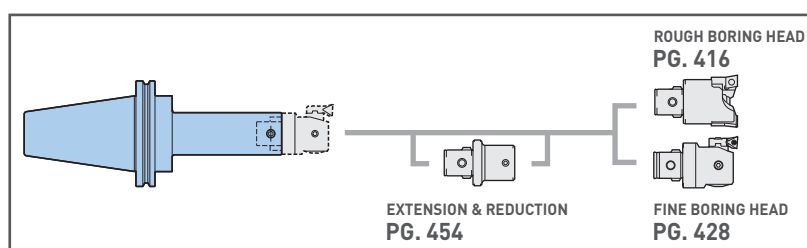
MODULAR HOLDERS

CKB SHANK (BIG-PLUS)



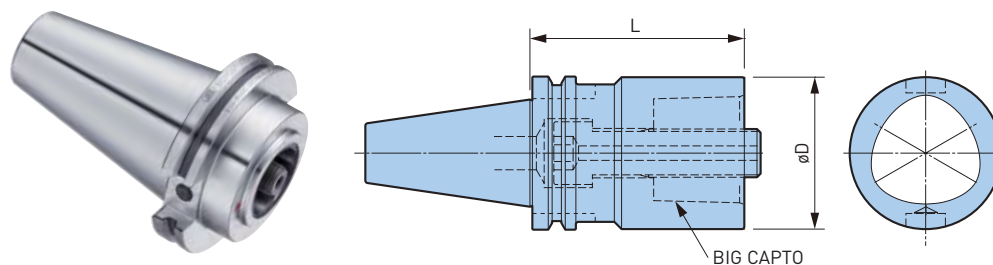
Catalog Number	Reference Number	Fig.	CK No.	øD	L	A	Weight (lbs.)
BCV40-CKB4-73	11.368.441	1	CK4	1.535	2.874	1.417	3.0
BCV40-CKB4-153	11.368.444				6.024	4.567	5.0
BCV40-CKB5-63	11.368.451	2	CK5	1.969	2.480	1.102	3.0
BCV40-CKB5-143	11.368.454				5.630	4.252	6.0
BCV40-CKB6-69	11.368.462	2	CK6	2.520	2.717	1.339	3.0
BCV40-CKB6-129	11.368.464				5.079	3.701	6.5
BCV50-CKB4-93	11.368.642	1	CK4	1.535	3.661	2.087	8.0
BCV50-CKB4-153	11.368.644				6.024	4.449	8.3
BCV50-CKB4-193	11.368.645				7.598	6.024	8.8
BCV50-CKB5-83	11.368.652	1	CK5	1.969	3.268	1.693	7.5
BCV50-CKB5-143	11.368.654				5.630	4.055	9.2
BCV50-CKB5-183	11.368.655				7.205	5.630	11.0
BCV50-CKB5-243	11.368.656	1	CK6	2.520	9.567	7.992	12.8
BCV50-CKB6-69	11.368.662				2.717	1.220	7.6
BCV50-CKB6-129	11.368.664				5.079	3.583	10.5
BCV50-CKB6-169	11.368.665				6.654	5.157	13.0
BCV50-CKB6-229	11.368.666				9.016	7.520	15.8
BCV50-CKB6-289	11.368.667	2	CK7	3.543	11.378	9.882	18.5
BCV50-CKB7-83	11.368.674				3.268	1.890	9.8
BCV50-CKB7-135	11.368.675				5.315	3.937	15.7
BCV50-CKB7-183	11.368.676				7.205	5.827	21.0

ACCESSORIES



MODULAR HOLDERS

BIG CAPTO SHANK



Catalog Number	BIG CAPTO	øD	L	Weight (lbs.)
BCV40Y-C5-3	C5	1.969	3.000	3.6
BCV40Y-C6-3.5	C6	2.480	3.500	4.2
BCV50Y-C5-1.5	C5	1.969	1.500	7.5
BCV50Y-C6-2	C6	2.480	2.000	7.5
BCV50Y-C8-3	C8	3.150	3.000	8.9

- Clamp bolt is included

CAUTION

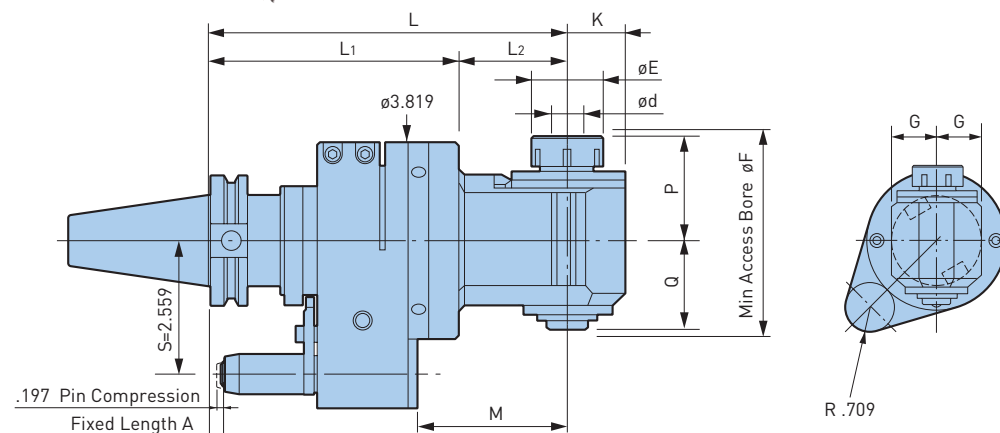
Y Style BCV tool holders include a tight tolerance drive key for turning applications. Does not conform to older ASME B5.50 safe zone standard. Interference with tool change may occur on machines made to an older standard. Consult engineering for specific information about the intended machine.

ANGLE HEADS

AG90 (NBS TYPE)

CLAMPING RANGE: $\phi.010$ "-.787"

MAX
6,000
RPM



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

Catalog Number	ϕd	ϕE	G	K	L	L1	L2	M	P	Q	ϕF	Collet	Max RPM	Weight (lbs.)
BCV40-AG90/NBS6-180	.010-.236	.787	.827	.669	7.09	4.92	2.17	3.03	1.30	1.14	2.638	NBC6-□	6,000	11.2
BCV40-AG90/NBS6-210					8.27		3.35	4.21						11.7
BCV40-AG90/NBS6-240					9.45		4.53	5.39						12.1
BCV40-AG90/NBS6-270					10.63		5.71	6.58						12.5
BCV40-AG90/NBS10-180	.059-.394	1.181	1.181	.984	7.09	4.92	2.17	3.03	1.77	1.69	3.583	NBC10-□	6,000	12.1
BCV40-AG90/NBS10-210					8.27		3.35	4.21						13.0
BCV40-AG90/NBS10-240					9.45		4.53	5.39						13.7
BCV40-AG90/NBS13-180	.098-.512	1.378	1.220	1.102	7.09	4.92	2.17	3.03	2.05	1.77	3.976	NBC13-□	6,000	12.3
BCV40-AG90/NBS13-210					8.27		3.35	4.21						13.2
BCV40-AG90/NBS13-240					9.45		4.53	5.39						13.9
BCV40-AG90/NBS20S-175S	.098-.787	1.811	1.378	1.299	6.89	4.80	2.09	2.84	2.56	2.44	5.197	NBC20-□	3,000	17.6

- Nut and wrench are included; collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A stop block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

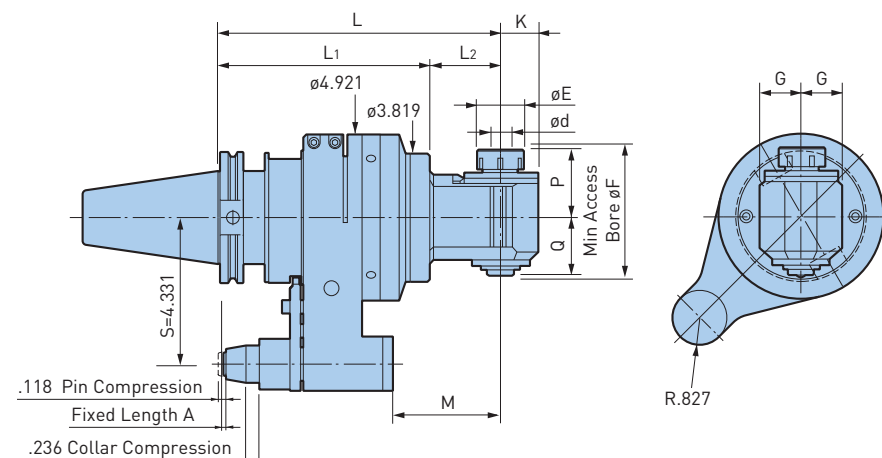
ANGLE HEADS

AG90 (NBS TYPE)

CLAMPING RANGE: ϕ .010"-.787"

MAX
6,000
RPM

A.1
BCV/CV



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

Catalog Number	ϕd	ϕE	G	K	L	L1	L2	M	P	Q	ϕF	Collet	Max RPM	Weight (lbs.)
BCV50-AG90/NBS6-215	.010-.236	.787	.827	.669	8.47	6.30	2.17	3.23	1.30	1.14	2.638	NBC6-□	6,000	27.8
BCV50-AG90/NBS6-245					9.65		3.35	4.41						28.2
BCV50-AG90/NBS6-275					10.83		4.53	5.59						28.7
BCV50-AG90/NBS6-305					12.01		5.71	6.77						29.1
BCV50-AG90/NBS10-215	.059-.394	1.181	1.181	.984	8.47	6.30	2.17	3.23	1.77	1.69	3.583	NBC10-□	6,000	28.7
BCV50-AG90/NBS10-245					9.65		3.35	4.41						29.5
BCV50-AG90/NBS10-275					10.83		4.53	5.59						30.2
BCV50-AG90/NBS13-215	.098-.512	1.378	1.220	1.102	8.47	6.30	2.17	3.23	2.05	1.77	3.976	NBC13-□	6,000	28.9
BCV50-AG90/NBS13-245					9.65		3.35	4.41						29.8
BCV50-AG90/NBS13-275					10.83		4.53	5.59						30.4
BCV50-AG90/NBS20-230	.098-.787	1.811	1.378	1.378	9.06	6.30	2.76	3.82	2.56	2.44	5.197	NBC20-□	3,000	31.3

- Nut and wrench are included; collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



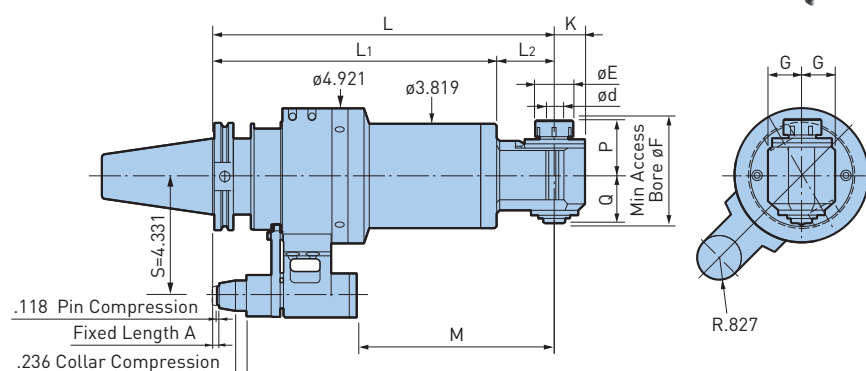
CAUTION

A stop block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

ANGLE HEADS

AG90 (NBS EXTRA LONG TYPE) CLAMPING RANGE: ϕ .010"-.787"

MAX
6,000
RPM



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

Catalog Number	ød	øE	G	K	L	L1	L2	M	P	Q	øF	Collet	Max RPM	Weight (lbs.)
BCV50-AG90/NBS6-315LS	.010-.236	.787	.827	.669	12.40	10.24	2.17	7.17	1.30	1.14	2.638	NBC6-□	6,000	41.7
BCV50-AG90/NBS6-345LS					13.58		3.35	8.35						42.1
BCV50-AG90/NBS6-375LS					14.76		4.53	9.53						42.5
BCV50-AG90/NBS6-405LS					15.95		5.71	10.71						43.0
BCV50-AG90/NBS6-415LS					16.34	14.17	2.17	11.10			2.638			51.4
BCV50-AG90/NBS6-445LS					17.52		3.35	12.28						51.8
BCV50-AG90/NBS6-475LS					18.70		4.53	13.47						52.2
BCV50-AG90/NBS6-505LS					19.88		5.71	14.65						52.7
BCV50-AG90/NBS6-515LS					20.28	18.11	2.17	15.04			2.638			61.1
BCV50-AG90/NBS6-545LS					21.46		3.35	16.22						61.5
BCV50-AG90/NBS6-575LS					22.64		4.53	17.40						61.9
BCV50-AG90/NBS6-605LS					23.82		5.71	18.58						62.4

ANGLE HEADS

Catalog Number	ød	øE	G	K	L	L ₁	L ₂	M	P	Q	øF	Collet	Max RPM	Weight (lbs.)
BCV50-AG90/NBS10-315LS	.059-.394	1.181	1.181	.984	12.40	10.24	2.17	7.17	1.77	1.69	3.583	NBC10-□	6,000	42.5
BCV50-AG90/NBS10-345LS					13.58		3.35	8.35						43.4
BCV50-AG90/NBS10-375LS					14.76		4.53	9.53						44.1
BCV50-AG90/NBS10-415LS					16.34	14.17	2.17	11.10						52.2
BCV50-AG90/NBS10-445LS					17.52		3.35	12.28						53.1
BCV50-AG90/NBS10-475LS					18.70		4.53	13.47						53.8
BCV50-AG90/NBS10-515LS					20.28		2.17	15.04						61.9
BCV50-AG90/NBS10-545LS					21.46	18.11	3.35	16.22						62.8
BCV50-AG90/NBS10-575LS					22.64		4.53	17.40						63.5
BCV50-AG90/NBS13-315LS	.098-.511	1.378	1.220	1.102	12.40	10.24	2.17	7.17	2.05	1.77	3.976	NBC13-□	6,000	42.8
BCV50-AG90/NBS13-345LS					13.58		3.35	8.35						43.7
BCV50-AG90/NBS13-375LS					14.76		4.53	9.53						44.3
BCV50-AG90/NBS13-415LS					16.34	14.17	2.17	11.10						52.5
BCV50-AG90/NBS13-445LS					17.52		3.35	12.28						53.4
BCV50-AG90/NBS13-475LS					18.70		4.53	13.47						54.0
BCV50-AG90/NBS13-515LS					20.28		2.17	15.04						62.2
BCV50-AG90/NBS13-545LS					21.46	18.11	3.35	16.22						63.1
BCV50-AG90/NBS13-575LS					22.64		4.53	17.40						63.7
BCV50-AG90/NBS20-330LS	.098-.787	1.811	1.378	1.378	12.99	10.24	2.76	7.76	2.56	2.44	5.197	NBC20-□	3,000	45.2
BCV50-AG90/NBS20-430LS					16.93	14.17	2.76	11.69						54.9
BCV50-AG90/NBS20-530LS					20.87	18.11	2.76	15.63						64.6

- Nut and wrench are included; collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A stop block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

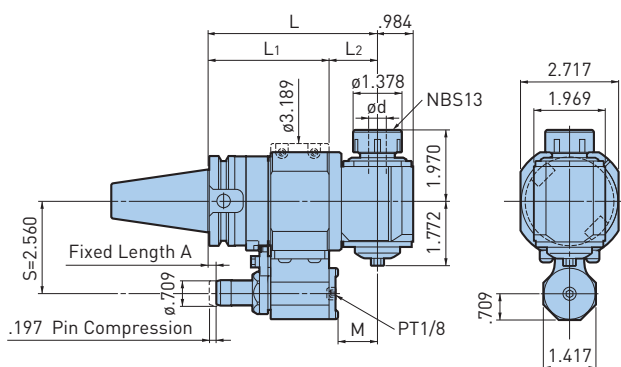
ANGLE HEADS

AG90 (COMPACT TYPE)

CLAMPING RANGE: ϕ .098"-.512"

For Drilling Only—Ideal Size for Small Machining Centers

**MAX
5,000
RPM**



Catalog Number	ϕd	L	L1	L2	M	Collet	Max RPM	Weight (lbs.)
BCV40-AG90-13-120	.098-.512	4.72	3.39	1.34	1.10	NBS13-□	1:1	10.0

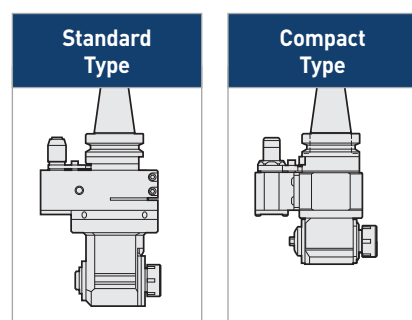
- Nut and wrench are included; collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- A tapped hole (PT1/8) is prepared at the bottom cover of the locating pin housing so that a pipe for coolant can be connected
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A stop block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1). AG90 Compact Type is for drilling only.



Case & Head Sizes are Substantially Reduced

- High precision NEW BABY COLLET
- Spiral bevel gears and angular contact bearings
- Advanced non-contact sealing structure

Application Example



Stable machining is obtained due to high rigidity and good runout.

DRILLING	
Cutter	ϕ .472" (12mm) Carbide Drill
Workpiece	1050 Steel
Cutting Speed	230 SFM
Cutting Feed	14.6 IPM .008 IPR
Spindle Speed	1,860 RPM

ANGLE HEADS

AG90 (TWIN HEAD)

CLAMPING RANGE: ϕ .059"-.394"

Compact design. Symmetrical machining can be performed using one unit.

**MAX
6,000
RPM**

A.1
BCV/CV

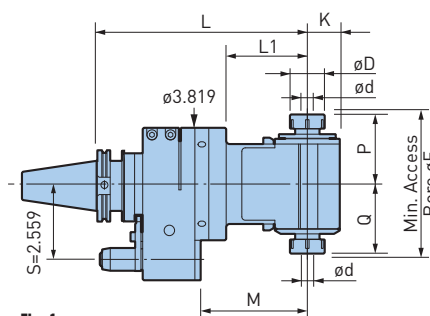


Fig. 1

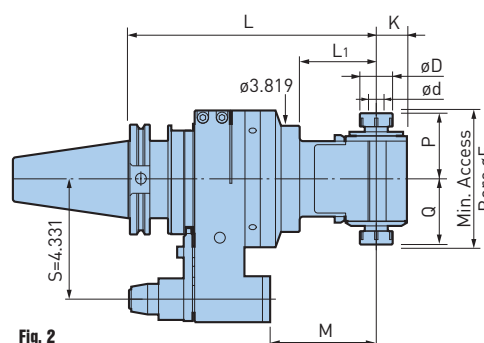
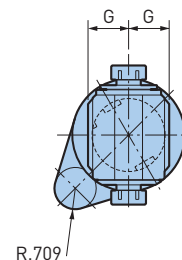
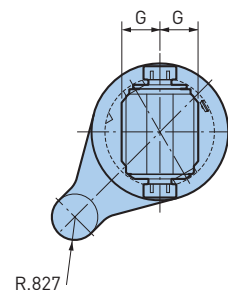


Fig. 2



Catalog Number	Fig.	ϕ d	ϕ D	G	K	L	L1	M	P	Q	ϕ F	Collet	Weight (lbs.)
BCV40-AG90/NBS10W-195	1	.059-.394	1.181	1.220	1.102	7.68	2.76	3.62	2.36	2.36	4.88	NBC10	13.9
BCV50-AG90/NBS10W-230	2	.059-.394	1.181	1.220	1.102	9.06	2.76	3.81	2.36	2.36	4.88	NBC10	30.4

- Nut and wrench are included; collet must be ordered separately
- Output spindles do not rotate in forward direction simultaneously
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A stop block is required. The rotation of one cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

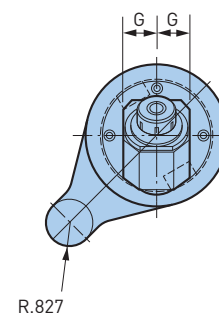
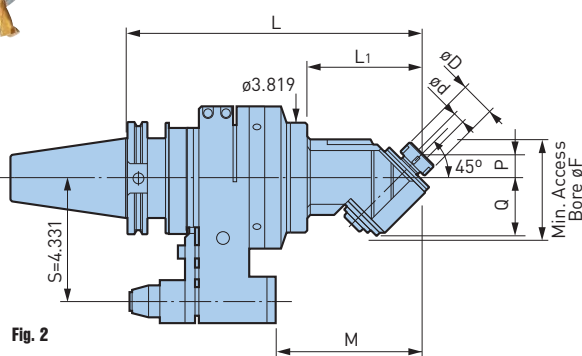
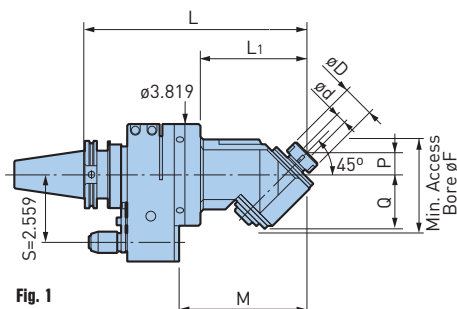
ANGLE HEADS

AG45 (NBS TYPE)

CLAMPING RANGE: $\phi.060$ "-.512"

Exclusive fixing housing allows for secure diagonal machining.

MAX
6,000
RPM



Catalog Number	Fig.	ϕd	ϕD	G	L	L1	M	P	Q	ϕF	Collet	Weight (lbs.)
BCV40-AG45/NBS10-225	1	.060-.394	1.181	1.181	8.86	3.94	4.80	.79	2.03	3.54	NBC10	12.6
BCV40-AG45/NBS13-230		.098-.512	1.378		9.06	4.13	5.00	.98			NBC13	12.8
BCV50-AG45/NBS10-260	2	.060-.394	1.181	1.181	10.24	3.94	5.00	.79	2.03	3.54	NBC10	29.1
BCV50-AG45/NBS13-265		.098-.512	1.378		10.43	4.13	5.20	.98			NBC13	29.3

- Nut and wrench are included; collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

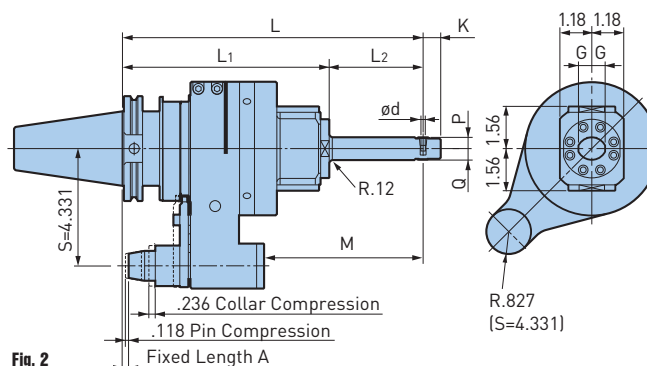
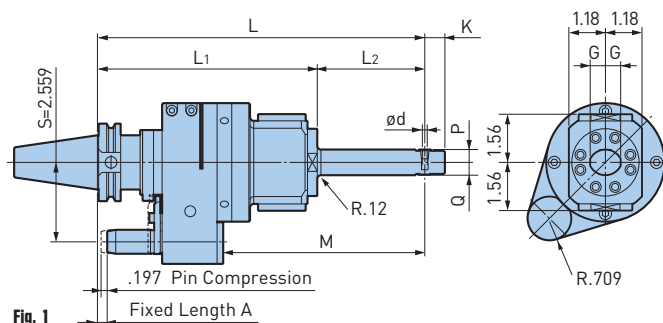
ACCESSORIES



CAUTION

A stop block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

CLAMPING RANGE: $\varnothing$.118"-.236" For Angular Operations within a $\varnothing$ 1.181 Inch Bore



- Collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately

COLLET PG. 411	STOP BLOCK PG. 407	STOP BLOCK PG. 407

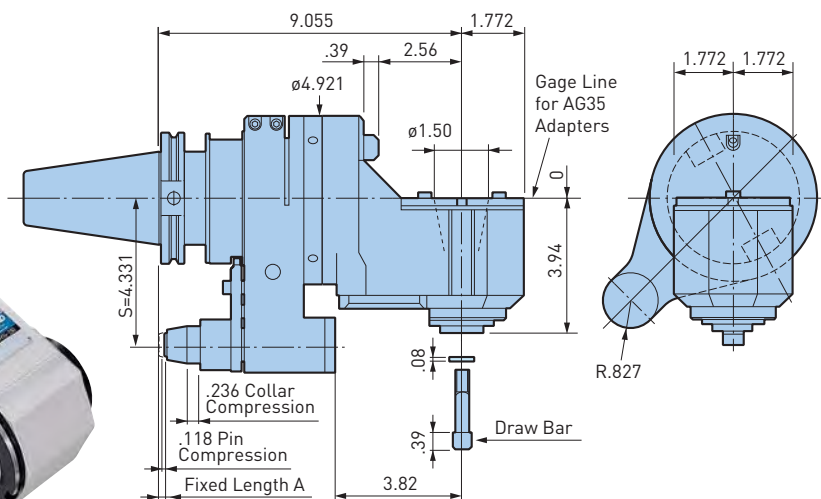
A stop block is required. The rotation of the cutting tool is in same direction of the machine spindle.

ANGLE HEADS

BCV/CV A.1

AG90 (BUILD-UP TYPE)

For All Machinery Applications



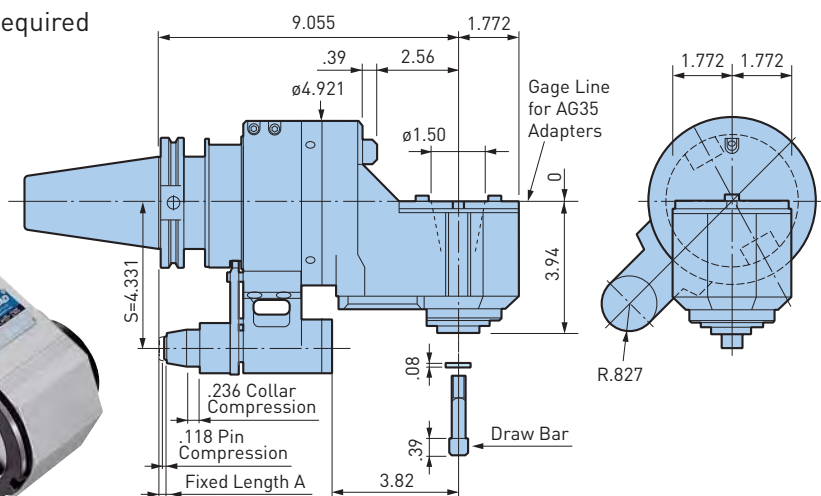
CAUTION

A stop block is required. The rotation of the cutting tool is in same direction of the machine spindle.

- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

Catalog Number	Weight (lbs.)
BCV50-AG90/AGH35-230	33.1

For Application Where Increased Rigidity is Required



CAUTION

A stop block is required. The rotation of the cutting tool is in same direction of the machine spindle.

- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

Catalog Number	Weight (lbs.)
BCV50-AG90/AGH35-230S	35.9

ACCESSORIES

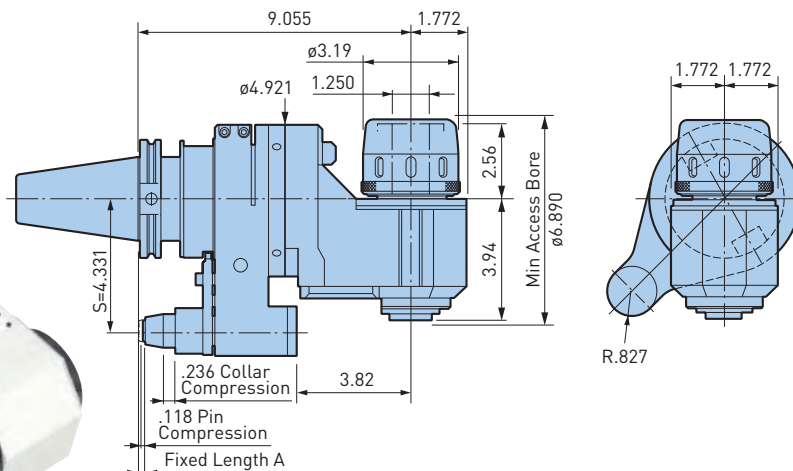


ANGLE HEADS

AG90 (HMC TYPE)

For Heavy Duty End Milling

MAX
3,000
RPM



CAUTION

A stop block is required. The rotation of the cutting tool is in same direction of the machine spindle.

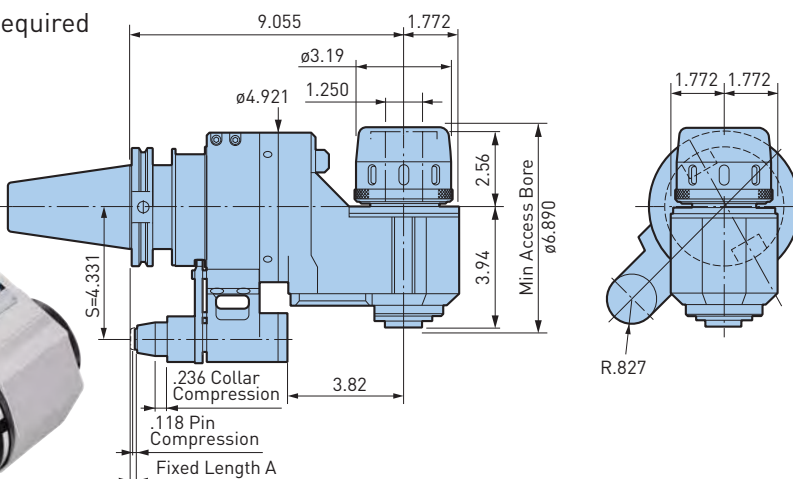


Catalog Number	Weight (lbs.)
BCV50-AG90/HMC1.250-230	37.0

- Wrench is included
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

For Applications Where Increased Rigidity is Required

MAX
3,000
RPM



CAUTION

A stop block is required. The rotation of the cutting tool is in same direction of the machine spindle.



Catalog Number	Weight (lbs.)
BCV50-AG90/HMC1.250-230S	39.9

- Wrench is included
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

ACCESSORIES

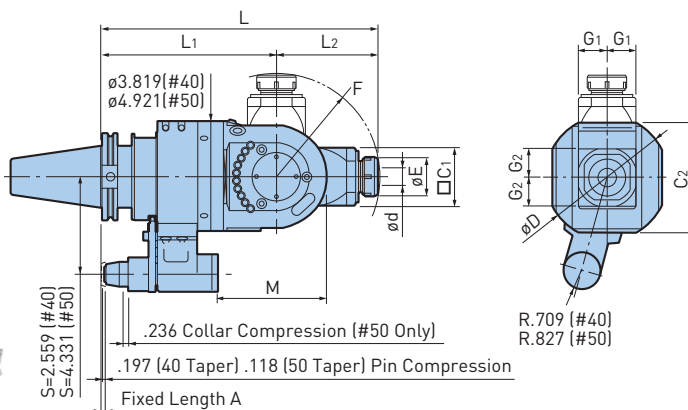


ANGLE HEADS

AGU (UNIVERSAL TYPE)

CLAMPING RANGE: $\phi.098$ "-.787" For Angular Operations

MAX
6,000
RPM



Catalog Number	ϕd	ϕE	ϕD	$\square C1$	$C2$	$G1$	$G2$	L	$L1$	$L2$	M	F	Collet	Max RPM	Weight (lbs.)
BCV40-AGU/NBS13-280	.098-.512	1.378	4.53	2.00	3.82	1.024	1.014	11.02	7.09	3.94	4.88	4.02	NBC13- $\square$	6,000	21.4
BCV50-AGU/NBS20-315	.098-.787	1.811	5.51	2.56	4.92	1.299	1.280	12.40	7.87	4.53	4.92	4.65	NBC20- $\square$	4,000	44.1

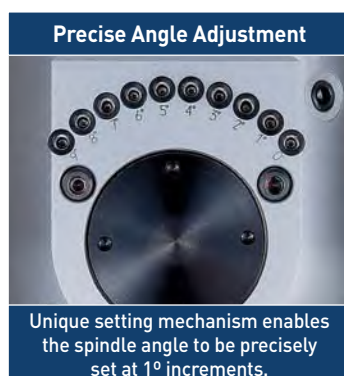
- Nut and wrench are included; collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- Automatic tool change may not be available depending on machine tool models

ACCESSORIES



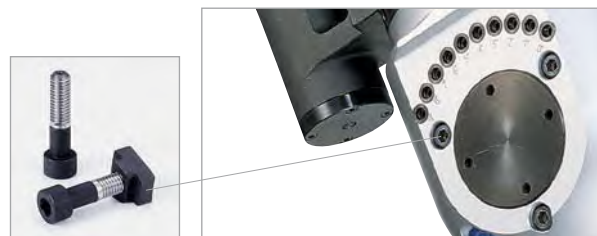
CAUTION

A stop block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).



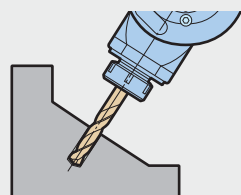
Exclusive Clamping Bolts and Nuts

Specially selected materials and special design for clamping the head guarantees rigidity even for end milling applications.

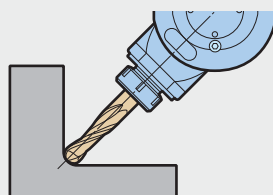


Application Example

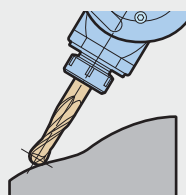
Adjustable AGU Universal Series expands ANGLE HEAD capabilities to accomplish various angular machining applications.



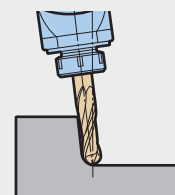
Drilling Or End Milling On An Angled Surface



Corner Rounding



Profiling



Machining Draft Angle Of A Mold

ANGLE HEADS

AGU30

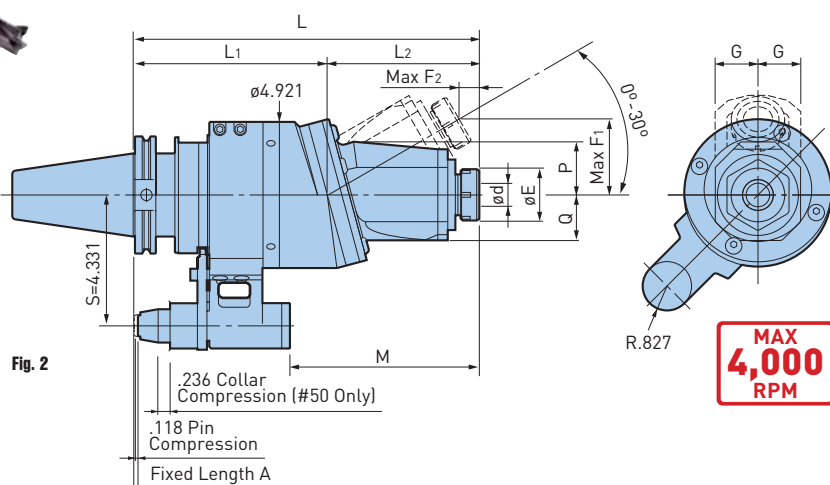
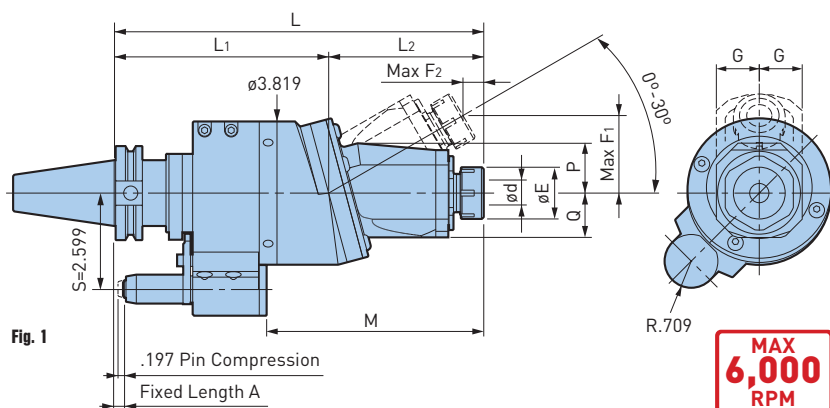
CLAMPING RANGE: ϕ .098"-.787"

For Angular Operations



Angle Adjustment by Aligning Divisions

Spindle angle is easily adjustable from 0° to 30° using the scale indication on the body.



Catalog Number	Fig.	ϕd	ϕE	G	L	L1	L2	M	P	Q	F1	F2	Collet	Max RPM	Weight (lbs.)
BCV40-AGU30/NBS13-250	1	.098-.512	1.378	1.142	9.84	5.71	4.13	5.79	1.34	1.18	2.07	.55	NBC13-□	6,000	15.3
BCV50-AGU30/NBS20-295	2	.098-.787	1.811	1.437	11.61	6.50	5.12	6.38	1.77	1.54	2.56	.67	NBC20-□	4,000	35.8

- Nut and wrench are included; collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- Automatic tool change may not be available depending on machine tool models
- When supplied through the stop block, coolant can be ejected from the housing

ACCESSORIES

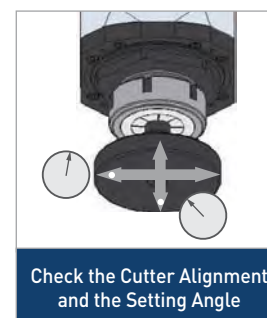
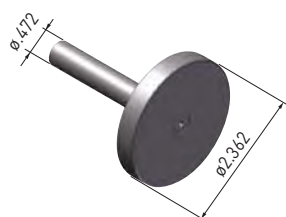


CAUTION

A stop block is required. The rotation of the cutting tool is in same direction of the machine spindle.

SETTING DISC (INCLUDED)

For the precise adjustment of spindle angle or direction.



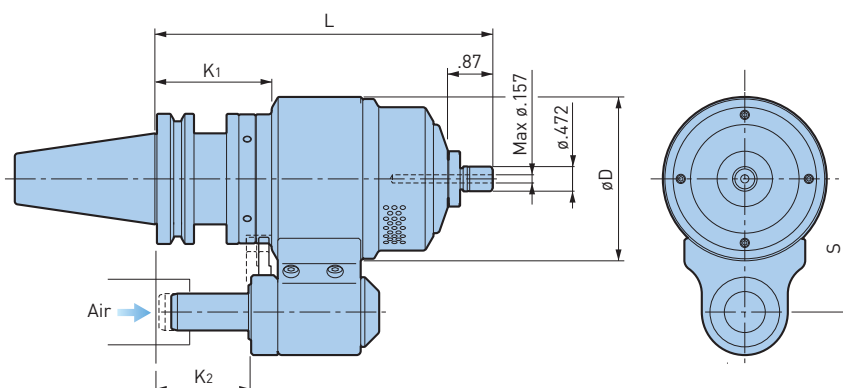
SPEED INCREASERS

AIR POWER SPINDLE (RBX5 & RBX7)

For High Speed Micro Machining with Automatic Tool Change

ZERO
MACHINE SPINDLE
ROTATION

MAX
80,000
RPM



Catalog Number	Practical Spindle Speed (RPM)	Cutting Diameter	L	øD	K1	K2	S	Weight (lbs.)
BCV40-RBX7-4S-165-65	60,000-80,000	ø.039 or smaller	6.50	3.150	2.24	1.85	2.559	8.8
BCV40-RBX5-4S-165-65	40,000-50,000	ø.059 or smaller		3.780				11.0
BCV50-RBX7-4S-170-80	60,000-80,000	ø.039 or smaller	6.69	3.937	2.44	2.05	3.150	19.1
BCV50-RBX5-4S-170-80	40,000-50,000	ø.059 or smaller						21.3

- Nut and wrench are included; collet must be ordered separately
- XF1-NPT (Air Unit) is required; must be ordered separately

ACCESSORIES



CAUTION

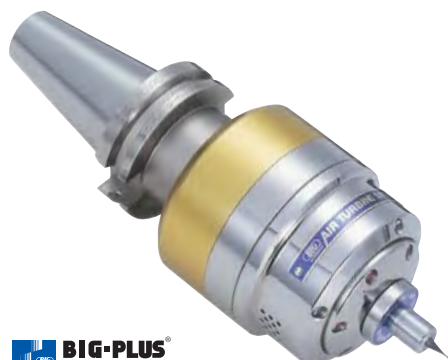
Compressed air to drive the AIR POWER SPINDLE must be clean. Coolant should not be supplied through the spindle on the machine that uses the AIR POWER SPINDLE.

SPEED INCREASERS

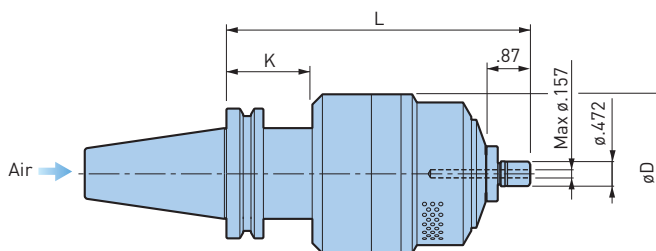
AIR POWER SPINDLE (RBX5 & RBX7)

For High Speed Micro Machining with Compressed Air Through the Machine Spindle

MAX
80,000
RPM



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT



Catalog Number	Practical Spindle Speed (RPM)	Cutting Diameter	L	øD	K ₁	Weight (lbs.)
BCV40H-RBX7C-4S-150	60,000-80,000	ø.039 or smaller	5.91	3.150	1.69	6.8
BCV40H-RBX5C-4S-150	40,000-50,000	ø.059 or smaller		3.780		9.0
BCV50-RBX7C-4S-145	60,000-80,000	ø.039 or smaller	5.71	3.150	1.50	12.8
BCV50-RBX5C-4S-145	40,000-50,000	ø.059 or smaller		3.780		15.0

- Nut and wrench are included; collet must be ordered separately
- XF1-NPT (Air Unit) is required; must be ordered separately

ACCESSORIES



CAUTION

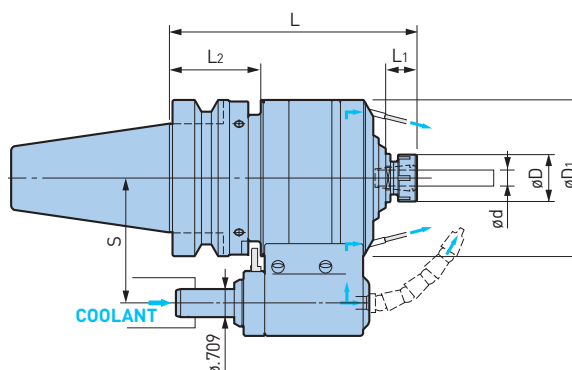
Compressed air to drive the AIR POWER SPINDLE must be clean. Coolant should not be supplied through the spindle on the machine that uses the AIR POWER SPINDLE.

SPEED INCREASERS

HIGH SPINDLE

CLAMPING RANGE: $\phi.059"$ - $.630"$ For Higher Spindle Speeds

MAX
20,000
RPM



Catalog Number	ϕd	ϕD	$\phi D1$	L	L1	L2	S	Collet	Speed Ratio	Max RPM	Weight (lbs.)
BCV40-GTG5-10-155-65	.059-.394	1.181	3.150	6.10	.79	2.28	2.559	NBC10	4.67	20,000	11.0
BCV50-GTG6-10-163-80	.059-.394	1.181	3.937	6.42	.79	2.48	3.150	NBC10	5.67	20,000	19.8
BCV50-GTG4-16-182-80	.098-.630	1.654	4.331	7.17	1.00	2.48	3.150	NBC16	3.80	15,000	23.8

- NEW BABY COLLET, nut and 2 tightening wrenches are included
- The allowable torque is a calculated value of the drive system, and not the actual torque in cutting
- The maximum diameter when using an end mill is $\phi 8\text{mm}$ (GTG5, GTG6) and $\phi 12$ (GTG4)
- A stop block is required when mounting on machines
- For continuous rotation of over 30 minutes, the spindle speed should be set within 80% of the maximum speed

CAUTION

A stop block is required.

ACCESSORIES



Application Example

	GTG5	GTG6	GTG6	GTG4
Cutter	Solid carbide end mill $\phi.315"/2$ flutes	Solid carbide end mill $\phi.236"/2$ flutes	Solid carbide drill $\phi.079"$	Solid carbide end mill $\phi.630"$
Workpiece	Duralumin [A-2017]	1055	Duralumin [A-2017]	Duralumin [A-2017]
Spindle Speed	20,000 RPM	16,000 RPM	20,000 RPM	15,000 RPM
Cutting Feed	118.1 IPM	137.8 IPM	78.7 IPM	39.4 IPM
Results	High metal removal rate 5.5 cu.in./min.	High metal removal rate 137.8 IPM	Extended tool life 1,200 holes by 1 drill	Surface roughness RMS max. .00008"

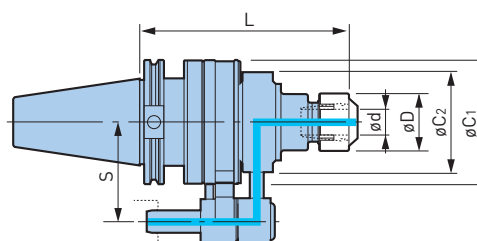
- Results will vary depending on workpiece, cutting tool, machine model and other conditions
- The rigidity and concentricity are often affected by the projection length of a cutting tool; it is recommended to keep the projection as short as possible

COOLANT INDUCERS

HI-JET HOLDER (NBS TYPE)

CLAMPING RANGE: ϕ .118"-.787" For Small Diameter Drills, Gun Drills & End Mills

MAX
10,000
RPM



Catalog Number	ϕd	ϕD	L	$\phi C1$	$\phi C2$	S	Max RPM	Merit Set (2 pcs. of Merit Ring) (2 pcs. of Merit Plate)	Perfect Seal	Weight (lbs.)
CV40-ONBS13N-165	.118-.512	1.378	6.61	3.213	2.87	2.559	10,000	MES-40	BPS13	8.8
CV40-ONBS20N-165	.118-.787	1.811			3.15		8,000	MES-50	BPS20	9.5
CV50-ONBS13N-165	.118-.512	1.378	6.61	3.921	3.15	3.150	8,000	MES-50	BPS13	16.1
CV50-ONBS20N-165	.118-.787	1.811			3.15		8,000		BPS20	16.5

- Collet, adjusting screw and wrench must be ordered separately
- Max coolant pressure is 284 PSI
- Clamping nut is sold separately, please order BABY PERFECT SEAL (BPS) for your application

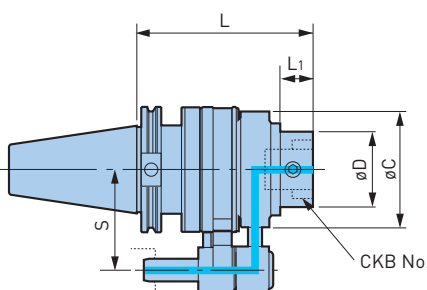
CAUTION

A stop block is required.

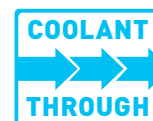
ACCESSORIES



Hi-JET HOLDER (CKB TYPE)



MAX
5,000
RPM



Catalog Number	CK	ϕD	L	L1	ϕC	S	Max RPM	Merit Set (2 pcs. of Merit Ring) (2 pcs. of Merit Plate)	Weight (lbs.)
CV40-OCKB6N-144	CKB6	2.520	5.67	1.102	3.92	2.559	6,000	MES-65	13.4
CV50-OCKB6N-142	CKB6	2.520	5.59	1.063	3.92	3.150	6,000	MES-65	15.9
CV50-OCKB7N-165	CKB7	3.543	6.50	1.358	5.10	3.150	4,000	MES-90	27.0

- Max coolant pressure is 284 PSI

CAUTION

A stop block is required.

ACCESSORIES



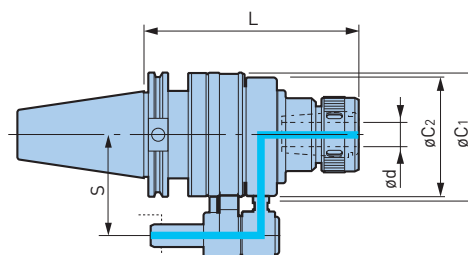
COOLANT INDUCERS

BCV/CV A.1

HI-JET HOLDER (TG TYPE)

CLAMPING RANGE: ϕ .093"-1.000" For TG100 Single Angle Style Collets

MAX
8,000
RPM



ACCESSORIES



Catalog Number	Collet Series	ϕd	L	$\phi C1$	$\phi C2$	S	Max RPM	Merit Set (2 pcs. of Merit Ring) (2 pcs. of Merit Plate)	Weight (lbs.)
CV40-OHC1.000N-175	TG100	.093-1.000	6.89	3.213	3.15	2.559	8,000	MES-50	11.1
CV50-OHC1.000N-172	TG100	.093-1.000	6.77	3.921	3.86	3.150	6,000	MES-65	16.5

- Max coolant pressure is 284 PSI
- Collets and nuts are not included or available from BIG DAISHOWA

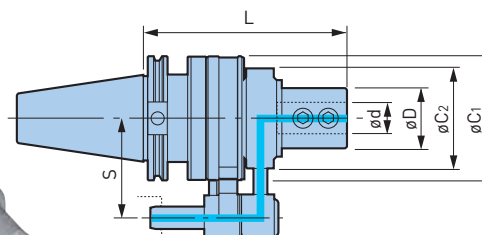
CAUTION

A stop block is required.

HI-JET HOLDER (OSL TYPE)

CLAMPING RANGE: ϕ .750"-2.000" For Straight Shanks with Flat

MAX
8,000
RPM



ACCESSORIES



Catalog Number	ød	øD	L	øC1	øC2	S	Max RPM	Merit Set (2 pcs. of Merit Ring) (2 pcs. of Merit Plate)	Weight (lbs.)
CV40-OSL1.000N-165	1.000	1.890	6.50	3.213	3.15	2.559	8,000	MES-50	9.7
CV40-OSL1.250N-160	1.250	2.283	6.30	3.921	3.86		6,000	MES-65	12.6
CV50-OSL.750N-150	.750	1.890	5.91	3.921	3.15	3.150	8,000	MES-50	16.3
CV50-OSL1.000N-165	1.000		6.50		3.86		6,000	MES-65	16.5
CV50-OSL1.250N-165	1.250	17.4							
CV50-OSL1.500N-165	1.500	2.500							17.6
CV50-OSL2.000N-180	2.000	3.307	7.09	5.079	4.76		4,000	MES-90	26.2

- Max coolant pressure is 284 PSI

CAUTION

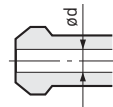
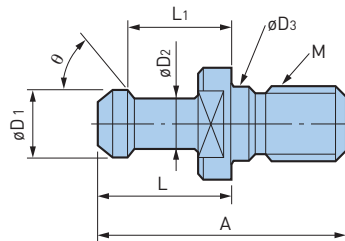
A stop block is required.

ACCESSORIES

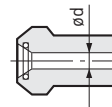
PULLSTUD BOLTS

Before Ordering

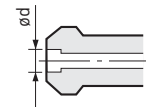
Be sure to check the dimensions of the required pullstud bolt by referring to the specification sheet of the machine tool. In the case of machines with coolant-through spindle capability, provide us a copy of the pullstud bolt drawing, as the sealing method may vary even among machines with the same model number.



Hole Type 1



Hole Type 2



Hole Type 3

CAT40

Catalog Number	ϕD_1	ϕD_2	ϕD_3	A	L	L_1	θ	M	Hole Type	ϕd	Standard or Machine Make
P40T-1CMGHA	.591	.394	—	2.126	1.266	.990	45°	5/8"-11	1	.118	MAS -1 CAT with Hole
P40T-1CMGH2			.641	2.250					2		TOYODA
P40T-1C1MGH				2.250					2		OKUMA
P40T-2CH	.591	.394	—	2.126	1.266	.990	60°		1	.118	MAS-2 CAT with Hole
PVD40CMGH1	.748	.551	.641	2.008	1.024	.787	75°		1	.276	KITAMURA
40PCMGH	.748	.551	.641	2.126	1.029	.793	75°		1	.276	JIS CAT with Hole
PM040CMG	.748	.551	—	1.887	1.029	.793	75°		2	.276	MORI SEIKI
POM40CFMG	.591	.394		2.244	1.266	.990	90°		None	—	MORI SEIKI
PYN40CMG	.740	.490	.641	1.500	.640	.440	45°		1	.276	MAZAK
PMK40CMG	.748	.551	—	1.882	1.024	.787	75°		1	.276	MATSUURA
PCV40MGH2	.740	.490	.641	1.624	.640	.440	45°		1	.158	OKUMA (Ground Face)

- Machine tool builders have used many various shapes and sizes of retention knobs
- The use of the incorrect knob may result in injury or property damage for your machining center

CAT50

Catalog Number	øD1	øD2	øD3	A	L	L1	θ	M	Hole Type	ød	Standard or Machine Make	
P50T-1CH	.906	.669	—	3.346	1.780	1.386	45°	1"-8	1	.315	MAS-1 CAT with Hole	
P50T-1CH4				3.346	1.780	1.386			2	.236	TOYODA	
P50T-2CH	.906	.669	—	3.346	1.780	1.386	60°		1	.315	MAS-2 CAT with Hole	
P50T-2CH2				3.071	1.771	1.377			1	.158	SNK	
P50T-2CH11				3.346					2	.237	OKUMA	
P50T-2CH14	.906	.669	—	3.256	1.780	1.386	60°		2	.237	OKUMA (Ground Face)	
PVD50CH2	1.102	.826	1.031	2.919	1.344	.990	75°		1	.453	KITAMURA	
POM50CH1	.906	.669	—	3.346	1.780	1.386	90°		2	.315	MORI SEIKI	
POM50CF									None	—	MORI SEIKI	
PYN50C5	1.140	.820	1.031	2.303	1.000	.700	45°		1	.394	MAZAK	
PMK50CH	1.102	.827	—	2.598	1.347	.988	75°		1	.394	MATSUURA	
PCV50H1	1.140	.820	1.031	2.300	1.500	.700	45°		2	.237	OKUMA (Ground Face)	

- Machine tool builders have used many various shapes and sizes of retention knobs
- The use of the incorrect knob may result in injury or property damage for your machining center

**TOOL
STEEL**

MEGA PULLSTUD BOLT

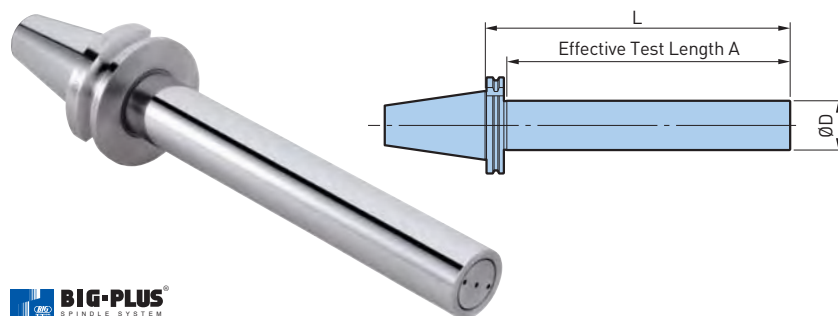
MG in the model numbers stand for MEGA PULLSTUD BOLT. Tensile strength is improved by utilizing tool steel. Especially recommended for BIG-PLUS dual contact applications.

ACCESSORIES

BCV/CV A.1

DYNA TEST

Helps identify potential problems, and can reduce downtime and costly repairs of the machine tool spindle.



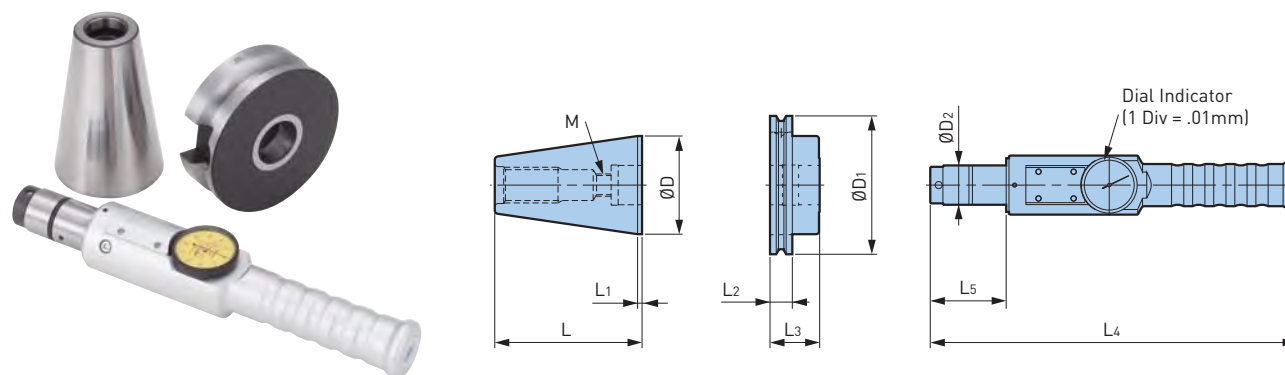
BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

Catalog Number	L	A	ØD
BCV40-2.000-L13.5SD	13.500	12.500	2.000
BCV50-2.000-L13.5SD	13.500	12.500	2.000



ATC ALIGNMENT TOOL

For re-aligning the center between the machine tool spindle and ATC gripper. It can also be used for re-aligning the ATC gripper and tool magazine pots. More detailed information on pg. 571.



Catalog Number	ØD	ØD1	ØD2	L	L1	L2	L3	L4	L5	M
CV40-ATC20	1.750	2.500	.787	2.812	.125	.625	.958	9.882	1.732	1/2"-13
CV50-ATC28	2.750	3.875	1.102	4.125	.125	.625	1.391	10.276	2.126	5/8"-11

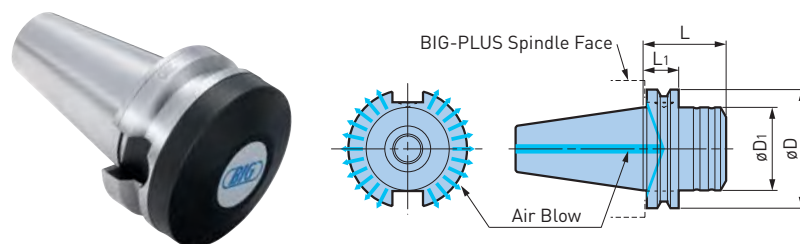
CAUTION

Machine tool builders use various shapes and sizes of retention knobs. The use of the incorrect knob may result in injury or property damage for your machining center

ACCESSORIES

BIG-PLUS CLEANER

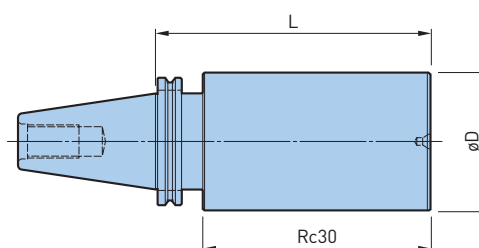
Blowing air cleans the BIG-PLUS machine spindle face of all debris.



Catalog Number	øD	øD1	L	L1
SCV40-ASC-1.75T	2.480	1.750	1.750	.750
SCV50-ASC-2.5T	3.875	2.750	2.500	.750

- When the cleaner is clamped into a BIG-PLUS machine spindle, faces have 1mm (.039") clearance

BLANK BAR



Catalog Number	øD	L
BCV40-BB2.500-8	2.50	8.00
BCV40-BB4.000-6	4.00	6.00
BCV50-BB4.000-8	4.00	8.00
BCV50-BB6.000-8	6.00	

- Do not heat treat after machining

BBT/BT SHANKS

A.2



BIG-PLUS[®]
SPINDLE SYSTEM
DUAL CONTACT

COLLET CHUCKS	118-127
MEGA MICRO CHUCK	118-119
MEGA NEW BABY CHUCK	120-123
NEW BABY CHUCK	124
MEGA ER GRIP	125
MEGA E CHUCK	126-127
MILLING CHUCKS	128-133
MEGA DOUBLE POWER CHUCK	128-129
MEGA PERFECT GRIP	130-131
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MORSE TAPER HOLDER	150-151
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MODULAR HOLDERS	160-163
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COLLET CHUCKS

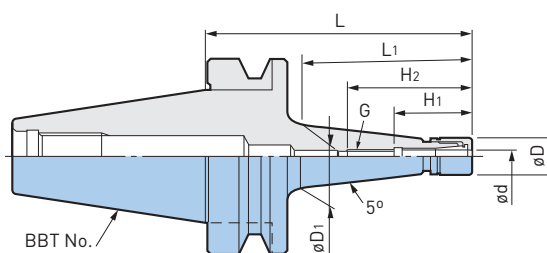
MEGA MICRO CHUCK (TYPE T)

CLAMPING RANGE: ϕ .018"-.317" (ϕ .45-8.05mm)

For Micro Drill & End Mill Applications

HIGHER
RIGIDITY

MAX
40,000
RPM



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

Catalog Number	ϕd	ϕD	ϕD_1	L	L ₁	H ₁	H ₂	G	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
BBT30-MEGA3S-45T	.018-.128	.394	.45	1.77	.79	.87	1.50	M4 P0.70	NBC3S-□	MGN3S	MGR10	40,000	.8
BBT30-MEGA3S-75T			.62	2.95	1.89							40,000	.9
BBT30-MEGA3S-90T			.72	3.54	2.48							35,000	1.0
BBT30-MEGA3S-105T			.83	4.13	3.07							30,000	1.1
BBT30-MEGA4S-60T	.018-.159	.472	.58	2.36	1.30	1.04	1.85	M5 P0.80	NBC4S-□	MGN4S	MGR12	40,000	.9
BBT30-MEGA4S-75T			.69	2.95	1.89							40,000	1.0
BBT30-MEGA4S-90T			.79	3.54	2.48							35,000	1.0
BBT30-MEGA4S-105T			.89	4.13	1.89							30,000	1.1
BBT30-MEGA4S-120T			1.00	4.72	3.66							25,000	1.2
BBT30-MEGA6S-60T	.018-.238	.551	.64	2.36	1.30	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	40,000	.9
BBT30-MEGA6S-75T			.74	2.95	1.89							40,000	1.0
BBT30-MEGA6S-90T			.85	3.54	2.48							35,000	1.0
BBT30-MEGA6S-105T			.95	4.13	3.07							30,000	1.2
BBT30-MEGA6S-120T			1.06	4.72	3.66							25,000	1.3
BBT30-MEGA8S-75T	.116-.317	.709	.89	2.95	1.89	1.22	1.99	M9 P0.75	NBC8S-□	MGN8S	MGR18	40,000	1.1
BBT30-MEGA8S-105T			1.10	4.13	3.07							30,000	1.3
BBT40-MEGA3S-60T	.018-.128	.394	.48	2.36	1.10	.87	1.50	M4 P0.70	NBC3S-□	MGN3S	MGR10	35,000	2.2
BBT40-MEGA3S-90T			.69	3.54	2.28							28,000	2.3
BBT40-MEGA3S-120T			.89	4.72	3.46							22,000	2.5
BBT40-MEGA4S-60T	.018-.159	.472	.55	2.36	1.10	1.04	1.85	M5 P0.80	NBC4S-□	MGN4S	MGR12	35,000	2.2
BBT40-MEGA4S-75T			.65	2.95	1.69							32,000	2.3
BBT40-MEGA4S-90T			.75	3.54	2.28							28,000	2.3
BBT40-MEGA4S-105T			.86	4.13	2.87							25,000	2.4
BBT40-MEGA4S-120T			.96	4.72	3.46							22,000	2.5
BBT40-MEGA4S-135T			1.06	5.31	4.06							20,000	2.7
BBT40-MEGA6S-60T	.018-.238	.551	.61	2.36	1.10	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	35,000	2.2
BBT40-MEGA6S-75T			.71	2.95	1.69							32,000	2.3
BBT40-MEGA6S-90T			.81	3.54	2.28							28,000	2.3
BBT40-MEGA6S-105T			.92	4.13	2.87							25,000	2.4
BBT40-MEGA6S-120T			1.02	4.72	3.46							22,000	2.5
BBT40-MEGA6S-135T			1.13	5.31	4.06							20,000	2.7
BBT40-MEGA8S-90T	.116-.317	.709	.96	3.54	2.28	1.22	1.99	M9 P0.75	NBC8S-□	MGN8S	MGR18	30,000	2.5
BBT40-MEGA8S-120T			1.17	4.72	3.46							22,000	2.6

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

ACCESSORIES



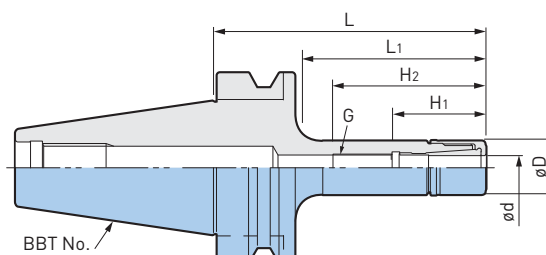
COLLET CHUCKS

MEGA MICRO CHUCK

CLAMPING RANGE: ϕ .018"-.317"

For Micro Drill & End Mill Applications

**MAX
40,000
RPM**



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

Catalog Number	ϕd	ϕD	L	L1	H1	H2	G	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
BBT30-MEGA4S-90	.018-.159	.472	3.54	2.44	1.04	1.85	M5 P.08	NBC4S-□	MGN4S	MGR12	40,000	.9
BBT30-MEGA6S-60	.018-.238	.551	2.36	1.26	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	40,000	.9
BBT30-MEGA6S-90			3.54	2.44							40,000	1.0
BBT30-MEGA6S-105			4.13	2.87							40,000	1.0
BBT30-MEGA8S-90	.116-.317	.709	3.54	2.36	1.22	1.99	M9 P0.75	NBC8S-□	MGN8S	MGR18	35,000	1.1
BBT40-MEGA4S-90	.018-.159	.472	3.54	2.09	1.04	1.85	M5 P0.8	NBC4S-□	MGN4S	MGR12	35,000	2.2
BBT40-MEGA6S-90	.018-.238	.551	3.54	2.09	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	35,000	2.2
BBT40-MEGA8S-90	.116-.317	.709	3.54	2.17	1.22	1.99	M9 P0.75	NBC8S-□	MGN8S	MGR18	30,000	2.4

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

ACCESSORIES



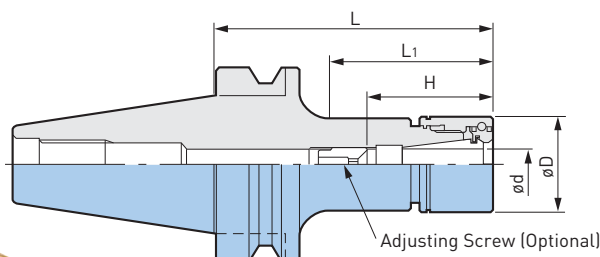
COLLET CHUCKS

MEGA NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-1.000" (ϕ .25-25.4mm)

For Drills, Reamers, Taps & Finishing End Mills

**MAX
40,000
RPM**



Catalog Number	ød	øD	L	L1	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)	
BBT30-MEGA6N-60	.010-.236	.787	2.36	1.26	.91-1.69	NBC6-□	MGN6	MGR20	40,000	1.0	
BBT30-MEGA6N-75			2.95	1.85					35,000	1.1	
BBT30-MEGA6N-90			3.54	2.44					30,000	1.2	
BBT30-MEGA6N-105			4.13	3.03					20,000	1.2	
BBT30-MEGA6N-120			4.72	3.54					18,000	1.3	
BBT30-MEGA8N-60	.059-.394	.984	2.36	1.34	1.02-1.77	NBC8-□	MGN8	MGR25	40,000	1.1	
BBT30-MEGA8N-75			2.95	1.93					35,000	1.2	
BBT30-MEGA8N-90			3.54	2.52					30,000	1.4	
BBT30-MEGA8N-105			4.13	3.11					20,000	1.5	
BBT30-MEGA8N-120			4.72	3.70					18,000	1.6	
BBT30-MEGA10N-60	.059-.394	1.181	2.36	1.34	1.50-1.89	NBC10-□	MGN10	MGR30	40,000	1.2	
BBT30-MEGA10N-75			2.95	1.93					30,000	1.4	
BBT30-MEGA10N-90			3.54	2.52					25,000	1.5	
BBT30-MEGA10N-105			4.13	3.11					18,000	1.7	
BBT30-MEGA10N-120			4.72	3.62					15,000	1.8	
BBT30-MEGA13N-60	.098-.512	1.378	2.36	1.34	1.73-2.48	NBC13-□	MGN13	MGR35	40,000	1.2	
BBT30-MEGA13N-75			2.95	1.93					30,000	1.4	
BBT30-MEGA13N-90			3.54	2.52					25,000	1.6	
BBT30-MEGA13N-105			4.13	3.11					18,000	1.8	
BBT30-MEGA13N-120			4.72	3.70					15,000	2.0	
BBT30-MEGA16N-60	.098-.630	1.654	2.36	1.46	1.89-2.48	NBC16-□	MGN16	MGR42	35,000	1.5	
BBT30-MEGA16N-75			2.95	2.05	1.89-2.68				25,000	1.8	
BBT30-MEGA16N-90			3.54	2.64					20,000	2.1	
BBT30-MEGA16N-105			4.13	3.23					18,000	2.4	
BBT30-MEGA20N-60❖	.098-.787	1.811	2.36	—	2.01	NBC20-□	MGN20	MGR46	30,000	1.6	
BBT30-MEGA20N-75			2.95	—	2.01-2.68				20,000	1.9	
BBT30-MEGA20N-90			3.54	—					15,000	2.2	
BBT30-MEGA20N-105			4.13	—					13,000	2.5	
BBT30-MEGA25N-85❖	.610-1.000	2.362	3.35	—	3.15	NBC25-□	MGN25	MGR60	12,000	2.5	
BBT40-MEGA6N-60	.010-.236	.787	2.36	1.06	1.91-1.69	NBC6-□	MGN6	MGR20	35,000	2.2	
BBT40-MEGA6N-75			2.95	1.50					35,000	2.3	
BBT40-MEGA6N-90			3.54	2.09					35,000	2.4	
BBT40-MEGA6N-105			4.13	2.68					20,000	2.5	
BBT40-MEGA6N-120			4.72	3.27					20,000	2.6	
BBT40-MEGA6N-135			5.31	3.86					20,000	2.7	
BBT40-MEGA6N-165			6.50	5.04					14,000	2.7	
BBT40-MEGA6N-200			7.87	6.42					9,000	2.9	

COLLET CHUCKS

Catalog Number	ød	øD	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
BBT40-MEGA8N-60	.020-.315	.984	2.36	1.06	1.02-1.77	NBC8-□	MGN8	MGR25	35,000	2.2
BBT40-MEGA8N-75			2.95	1.50					35,000	2.3
BBT40-MEGA8N-90			3.54	2.09					35,000	2.4
BBT40-MEGA8N-105			4.13	2.68					20,000	2.5
BBT40-MEGA8N-120			4.72	3.27					20,000	2.6
BBT40-MEGA8N-135			5.31	3.86					20,000	2.9
BBT40-MEGA8N-165			6.50	5.04					14,000	2.9
BBT40-MEGA8N-200			7.87	6.42					9,000	3.1
BBT40-MEGA10N-60	.059-.394	1.181	2.36	1.02	1.50-1.89	NBC10-□	MGN10	MGR30	35,000	2.4
BBT40-MEGA10N-75			2.95	1.50					35,000	2.5
BBT40-MEGA10N-90			3.54	2.09					35,000	2.7
BBT40-MEGA10N-105			4.13	2.68					20,000	2.8
BBT40-MEGA10N-120			4.72	3.27					20,000	3.0
BBT40-MEGA10N-135			5.31	3.86					20,000	3.1
BBT40-MEGA10N-165			6.50	5.04					15,000	3.3
BBT40-MEGA10N-200			7.87	6.50					10,000	3.8
BBT40-MEGA13N-60	.098-.512	1.378	2.36	1.22	1.73-2.48	NBC13-□	MGN13	MGR35	35,000	2.4
BBT40-MEGA13N-75			2.95	1.57					35,000	2.7
BBT40-MEGA13N-90			3.54	2.17					35,000	2.9
BBT40-MEGA13N-105			4.13	2.76					20,000	3.1
BBT40-MEGA13N-120			4.72	3.35					20,000	3.3
BBT40-MEGA13N-135			5.31	3.94					20,000	3.5
BBT40-MEGA13N-165			6.50	5.12					15,000	4.0
BBT40-MEGA13N-200			7.87	6.50					10,000	4.4
BBT40-MEGA16N-60	.098-.630	1.654	2.36	1.22	1.89-2.68	NBC16-□	MGN16	MGR42	30,000	2.7
BBT40-MEGA16N-75			2.95	1.57					30,000	2.9
BBT40-MEGA16N-90			3.54	2.17					30,000	3.1
BBT40-MEGA16N-105			4.13	2.76					20,000	3.5
BBT40-MEGA16N-120			4.72	3.35					20,000	3.8
BBT40-MEGA16N-135			5.31	3.94					20,000	4.0
BBT40-MEGA16N-165			6.50	5.12					15,000	4.4
BBT40-MEGA16N-200			7.87	6.50					10,000	5.1

- MEGA NEW BABY NUT is included; collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not collet
- Center-through coolant supply is available
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- Adjusting screws cannot be used with models marked ❖

ACCESSORIES

 COLLET PG. 358	 MEGA NUT PG. 364	 PERFECT SEAL PG. 366	 MEGA WRENCH PG. 388	 SCREW PG. 411

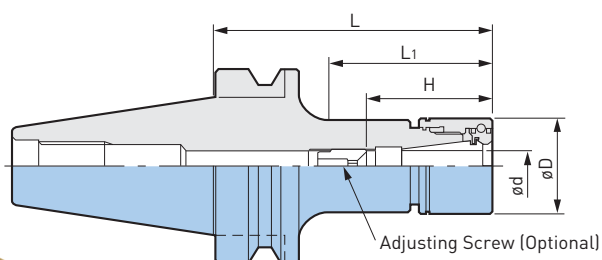
COLLET CHUCKS

MEGA NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-1.000" (ϕ .25-25.4mm)

For Drills, Reamers, Taps & Finishing End Mills

**MAX
40,000
RPM**



Catalog Number	ϕd	ϕD	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
BBT40-MEGA20N-60	.098-.787	1.811	2.36	1.22	2.01-2.68	NBC20-□	MGN20	MGR46	30,000	2.4
BBT40-MEGA20N-75			2.95	1.65					30,000	2.8
BBT40-MEGA20N-90			3.54	2.24					30,000	3.1
BBT40-MEGA20N-105			4.13	2.83					20,000	3.5
BBT40-MEGA20N-120			4.72	3.43					20,000	4.0
BBT40-MEGA20N-135			5.31	4.02					20,000	4.2
BBT40-MEGA20N-165			6.50	5.20					15,000	4.6
BBT40-MEGA20N-200			7.87	6.57					10,000	5.5
BBT40-MEGA25N-75	.610-1.000	2.362	2.95	1.85	2.52-2.91	NBC25-□	MGN25	MGR60L	24,000	3.5
BBT40-MEGA25N- 90			3.54	2.44					20,000	4.2
BBT40-MEGA25N-105			4.13	3.03					19,000	4.8
BBT40-MEGA25N-120			4.72	3.62					17,000	5.5



COLLET CHUCKS

Catalog Number	ød	øD	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
BBT50-MEGA6N-90	.010-.236	.787	3.54	1.06	.91-1.69	NBC6-□	MGN6	MGR20	20,000	8.2
BBT50-MEGA6N-120			4.72	1.50					20,000	8.4
BBT50-MEGA6N-165			6.50	2.09					14,000	8.6
BBT50-MEGA6N-200			7.87	2.68					9,000	8.8
BBT50-MEGA8N-90	.020-.315	.984	3.54	1.06	1.02-1.77	NBC8-□	MGN8	MGR25	20,000	8.4
BBT50-MEGA8N-120			4.72	1.50					20,000	8.6
BBT50-MEGA8N-165			6.50	2.09					16,000	9.0
BBT50-MEGA8N-200			7.87	2.68					11,000	9.3
BBT50-MEGA10N-90	.059-.394	1.181	3.54	1.02	1.50-1.89	NBC10-□	MGN10	MGR30	20,000	8.6
BBT50-MEGA10N-120			4.72	1.50					20,000	8.8
BBT50-MEGA10N-165			6.50	2.09					16,000	9.5
BBT50-MEGA10N-200			7.87	2.68					13,000	10.4
BBT50-MEGA10N-250			9.84	3.27					8,000	10.4
BBT50-MEGA10N-300			11.81	3.86					5,500	10.8
BBT50-MEGA13N-90	.098-.512	1.378	3.54	1.22	1.73-2.48	NBC13-□	MGN13	MGR35	18,000	8.8
BBT50-MEGA13N-120			4.72	1.57					18,000	9.3
BBT50-MEGA13N-165			6.50	2.17					16,000	9.9
BBT50-MEGA13N-200			7.87	2.76					12,000	10.4
BBT50-MEGA13N-250			9.84	3.35					8,000	11.0
BBT50-MEGA13N-300			11.81	3.94					5,500	11.7
BBT50-MEGA16N-75	.098-.630	1.654	2.95	1.22	1.89-2.68	NBC16-□	MGN16	MGR42	17,000	8.8
BBT50-MEGA16N-90			3.54	1.57					17,000	9.3
BBT50-MEGA16N-120			4.72	2.17					17,000	9.7
BBT50-MEGA16N-165			6.50	2.76					16,000	10.6
BBT50-MEGA16N-200			7.87	3.35					13,000	11.2
BBT50-MEGA16N-250			9.84	3.94					10,000	12.1
BBT50-MEGA20N-75	.098-.787	1.811	2.95	1.22	2.01-2.68	NBC20-□	MGN20	MGR46	16,000	9.0
BBT50-MEGA20N-90			3.54	1.65					16,000	9.3
BBT50-MEGA20N-120			4.72	2.24					16,000	9.9
BBT50-MEGA20N-165			6.50	2.83					15,000	10.8
BBT50-MEGA20N-200			7.87	3.43					13,000	11.7
BBT50-MEGA20N-250			9.84	4.02					10,000	12.6
BBT50-MEGA25N-90	.610-1.000	2.362	3.54	1.81	2.52-2.91	NBC25-□	MGN25	MGR60L	19,000	9.5
BBT50-MEGA25N-120			4.72	2.83					17,000	10.8
BBT50-MEGA25N-165			6.50	4.61					15,000	12.8
BBT50-MEGA25N-200			7.87	5.98					13,000	14.1

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

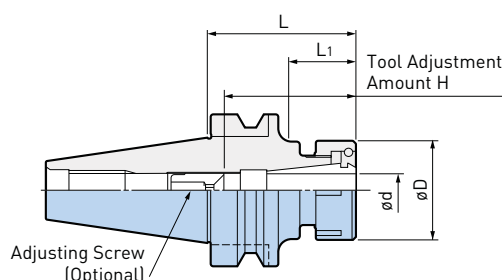
ACCESSORIES

 COLLET PG. 358	 MEGA NUT PG. 364	 PERFECT SEAL PG. 366	 MEGA WRENCH PG. 388	 SCREW PG. 411

COLLET CHUCKS

NEW BABY CHUCK

CLAMPING RANGE: $\varnothing.059"$ - $.630"$ ($\varnothing1.5$ - 16mm)



Catalog Number	$\varnothing d$	$\varnothing D$	L	L1	H	Collet	Weight (lbs.)
BBT30-NBS10-45	.059-.394	1.181	1.772	.787	1.378-1.772	NBC10-□	1.0
BBT30-NBS13-45	.098-.512	1.378		.827	1.614-2.087	NBC13-□	.9
BBT30-NBS16-45	.098-.630	1.654			1.772-2.087	NBC16-□	.9

- NEW BABY NUT is included; collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not collet
- Center-through coolant supply is available
- "H" indicates the adjustment length with an adjusting screw

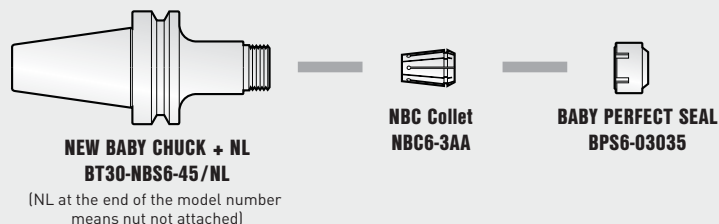
ACCESSORIES



Nut-Less Body Without Standard Nut Attached Available

Ordering Example:

Attach/NL (nut-less) to the end of the holder model number; order NBC Collet and BABY PERFECT SEAL separately.



COLLET CHUCKS

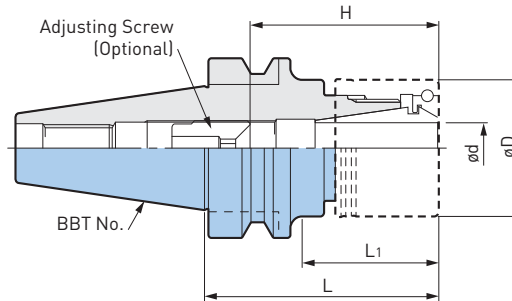
MEGA ER GRIP

CLAMPING RANGE: ϕ .075"-.787" (ϕ 1.9-20mm)

For Drills, Reamers, Taps & Finishing End Mills



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT



Catalog Number	ød	øD	L	L1	H	Collet	Nut (NOT Included)	Wrench
BBT30-MEGAER16-60NL	.075-.394	1.181	2.36	1.38	1.38-1.85	ERC16-□	MERN16*	MGR30L
BBT30-MEGAER16-75NL			2.95	1.93				
BBT30-MEGAER16-90NL			3.54	2.52				
BBT30-MEGAER20-60NL	.108-.512	1.378	2.36	1.38	1.65-2.36	ERC20-□	MERN20*	MGR35L
BBT30-MEGAER20-75NL			2.95	1.97	1.65-2.44			
BBT30-MEGAER20-90NL			3.54	2.56				
BBT30-MEGAER25-60NL	.108-.630	1.654	2.36	1.46	1.73-2.24	ERC25-□	MERN25*	MGR42L
BBT30-MEGAER25-75NL			2.95	2.05	1.73-2.64			
BBT30-MEGAER25-90NL			3.54	2.64				
BBT30-MEGAER32-60NL	.108-.787	1.969	2.36	1.50	1.97	ERC32-□	MERN32*	MGR50L
BBT30-MEGAER32-75NL			2.95	2.09	1.97-2.68			
BBT30-MEGAER32-90NL			3.54	2.68				

***Nut, adjusting screw, collet and wrench are not included**

- Weight does not include collet
- MEGA ER GRIP is not able to use DIN6499 Form-A collets and ESX collets
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw

CAUTION

To maintain the accuracy of the tool assembly, do not use collets and nuts manufactured by another company with the chuck body of BIG's MEGA ER GRIP. We cannot guarantee the accuracy stated for our collets if they are assembled on the chuck body of another manufacturer.

ACCESSORIES



*MEGA NUT is the recommended nut to achieve high accuracy and clamping force

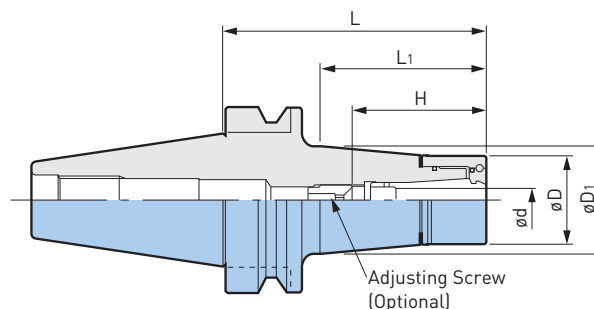
COLLET CHUCKS

MEGA E CHUCK

CLAMPING RANGE: ϕ .125"-.500" (ϕ 3-12mm)

Exclusively for High Speed Finish End Milling

MAX
40,000
RPM



Catalog Number	ød	øD	øD1	L	L1	H		Collet	Nut	Wrench	Max RPM	Weight (lbs.)			
						Min	Max								
BBT30-MEGA6E-50	.125-.250 (3-6mm)	.984	1.01	1.97	.98	1.46	1.77	MEC6-□	MEN6	MGR25	40,000	1.2			
BBT30-MEGA6E-75			1.18	2.95	1.97						35,000	1.4			
BBT30-MEGA6E-90			1.28	3.54	2.56						25,000	1.6			
BBT30-MEGA6E-105			1.38	4.13	3.15						25,000	1.8			
BBT30-MEGA8E-50	.125-.250 (3-8mm)	1.181	1.20	1.97	.98	1.65	2.01	MEC8-□	MEN8	MGR30	40,000	1.2			
BBT30-MEGA8E-75			1.36	2.95	1.97						35,000	1.6			
BBT30-MEGA8E-90			1.47	3.54	2.60						25,000	1.8			
BBT30-MEGA8E-105			1.58	4.13	3.19						25,000	2.1			
BBT30-MEGA10E-50	.125-.375 (3-10mm)	1.378	1.39	1.97	.98	1.89	2.28	MEC10-□	MEN10	MGR35	39,000	1.3			
BBT30-MEGA10E-75			1.56	2.95	2.01						35,000	1.8			
BBT30-MEGA10E-90			1.61	3.54	2.62						25,000	2.1			
BBT30-MEGA10E-105			1.62	4.13	3.23						25,000	2.3			
BBT30-MEGA13E-50	.125-.500 (3-12mm)	1.654	1.67	1.97	1.06	1.97	2.38	MEC13-□	MEN13	MGR42	38,000	1.4			
BBT30-MEGA13E-75			1.65	2.95	2.05	1.97	2.36				34,000	2.0			
BBT30-MEGA13E-90			1.65	3.54	2.64						25,000	2.3			
BBT30-MEGA13E-105			1.65	4.13	3.23						25,000	2.7			
BBT40-MEGA6E-60	.125-.250 (3-6mm)	.984	1.03	2.36	1.10	1.46	1.77	MEC6-□	MEN6	MGR25	30,000	2.4			
BBT40-MEGA6E-75			1.13	2.95	1.69						30,000	2.5			
BBT40-MEGA6E-90			1.23	3.54	2.28						30,000	2.7			
BBT40-MEGA6E-105			1.33	4.13	2.87						29,000	2.9			
BBT40-MEGA6E-120			1.44	4.72	3.46						29,000	3.1			
BBT40-MEGA6E-135			1.54	5.31	4.06						27,000	3.4			
BBT40-MEGA6E-165			1.75	6.50	5.24						20,000	4.1			
BBT40-MEGA6E-200			2.00	7.87	6.65						15,000	5.1			
BBT40-MEGA8E-60	.125-.250 (3-8mm)	1.181	1.22	2.36	1.10	1.65	1.89	MEC8-□	MEN8	MGR30	30,000	2.5			
BBT40-MEGA8E-75			1.31	2.95	1.69	1.65	2.01				30,000	2.7			
BBT40-MEGA8E-90			1.42	3.54	2.28						30,000	2.9			
BBT40-MEGA8E-105			1.52	4.13	2.87						29,000	3.2			
BBT40-MEGA8E-120			1.63	4.72	3.46						29,000	3.6			
BBT40-MEGA8E-135			1.73	5.31	4.06						27,000	3.9			
BBT40-MEGA8E-165			1.93	6.50	5.24						20,000	4.6			
BBT40-MEGA8E-200			2.20	7.87	6.73						15,000	5.6			

COLLET CHUCKS

Catalog Number	ød	øD	øD ₁	L	L ₁	H		Collet	Nut	Wrench	Max RPM	Weight (lbs.)
						Min	Max					
BBT40-MEGA10E-60	.125-.375 (3-10mm)	1.378	1.42	2.36	1.14	1.89	2.28	MEC10-□	MEN10	MGR35	30,000	2.7
BBT40-MEGA10E-75			1.51	2.95	1.69						30,000	3.0
BBT40-MEGA10E-90			1.61	3.54	2.28						30,000	3.2
BBT40-MEGA10E-105			1.72	4.13	2.87						29,000	3.6
BBT40-MEGA10E-120			1.82	4.72	3.46						29,000	3.9
BBT40-MEGA10E-135			1.92	5.31	4.06						27,000	4.4
BBT40-MEGA10E-165			2.14	6.50	5.31						22,000	5.2
BBT40-MEGA10E-200			2.19	7.87	6.73						16,000	6.8
BBT40-MEGA13E-60	.125-.500 (3-12mm)	1.654	1.68	2.36	1.14	1.97	2.36	MEC13-□	MEN13	MGR42	30,000	2.9
BBT40-MEGA13E-75			1.77	2.95	1.69						30,000	3.2
BBT40-MEGA13E-90			1.89	3.54	2.32						30,000	3.6
BBT40-MEGA13E-105			1.99	4.13	2.95						29,000	4.1
BBT40-MEGA13E-120			2.10	4.72	3.58						29,000	4.6
BBT40-MEGA13E-135			2.20	5.31	4.17						26,000	5.2
BBT40-MEGA13E-165			2.26	6.50	5.39						22,000	6.2
BBT40-MEGA13E-200			2.46	7.87	6.77						16,000	8.0
BBT50-MEGA6E-90	.125-.250 (3-6mm)	.984	1.20	3.54	1.85	1.46	1.77	MEC6-□	MEN6	MGR25	20,000	8.4
BBT50-MEGA6E-120			1.40	4.72	3.03						20,000	8.8
BBT50-MEGA6E-165			1.71	6.50	4.80						14,000	9.7
BBT50-MEGA6E-200			1.95	7.87	6.18						9,000	10.8
BBT50-MEGA8E-90	.125-.250 (3-8mm)	1.181	1.38	3.54	1.85	1.65	2.01	MEC8-□	MEN8	MGR30	20,000	5.6
BBT50-MEGA8E-120			1.59	4.72	3.03						20,000	9.0
BBT50-MEGA8E-165			1.90	6.50	4.80						16,000	10.1
BBT50-MEGA8E-200			2.14	7.87	6.18						11,000	11.4
BBT50-MEGA10E-90	.125-.375 (3-10mm)	1.378	1.57	3.54	1.85	1.89	2.28	MEC10-□	MEN10	MGR35	20,000	8.8
BBT50-MEGA10E-120			1.79	4.72	3.03						20,000	9.2
BBT50-MEGA10E-165			2.09	6.50	4.76						16,000	10.8
BBT50-MEGA10E-200			2.33	7.87	6.14						13,000	12.1
BBT50-MEGA13E-90	.125-.500 (3-12mm)	1.654	1.83	3.54	1.85	1.97	2.36	MEC13-□	MEN13	MGR42	18,000	8.8
BBT50-MEGA13E-120			2.05	4.72	3.03						18,000	9.7
BBT50-MEGA13E-165			2.32	6.50	4.76						16,000	11.4
BBT50-MEGA13E-200			2.55	7.87	6.14						12,000	13.2

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

ACCESSORIES

 COLLET PG. 378	 MEGA NUT PG. 379	 PERFECT SEAL PG. 379	 MEGA WRENCH PG. 388	 SCREW PG. 411

MILLING CHUCKS

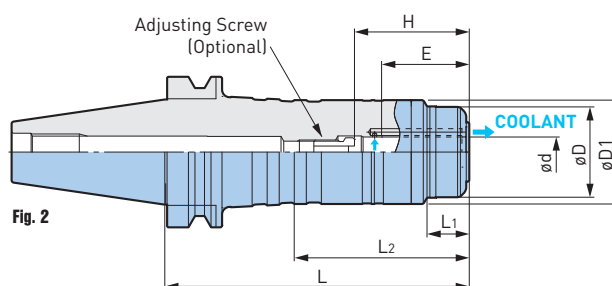
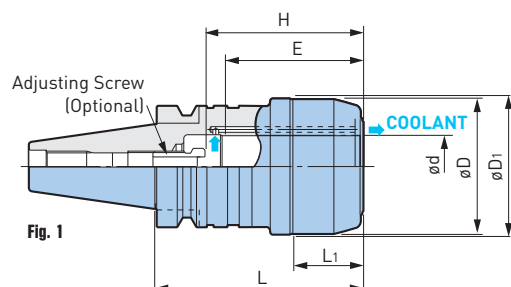
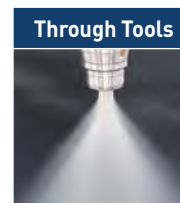
MEGA DOUBLE POWER CHUCK

CLAMPING RANGE: ϕ .625"-1.500" (ϕ 12-50mm)

For Heavy Duty End Milling

MAX
30,000
RPM

COOLANT
THROUGH



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

Catalog Number	Fig.	ϕd	ϕD	ϕD_1	L	L1	L2	H	Min Clamping Length E	Wrench	Max RPM	Weight (lbs.)
BBT30-MEGA.750DS-2.5	1	.750	1.969	2.00	2.59	1.26	1.48	2.36	1.97	MGR50L	30,000	1.8
BBT30-MEGA12DS-58	1	12mm	1.496	1.693	2.32	.98	1.30	2.40	1.69	MGR38L	30,000	1.4
BBT30-MEGA16DS-60		16mm	1.811	1.85	2.46	1.10	—	2.52	1.89	MGR46L	30,000	1.7
BBT30-MEGA20DS-65		20mm	1.969	2.00	2.66	1.30		2.36	1.97	MGR50L	25,000	1.8
BBT40-MEGA.625DS-3A	2	.625	1.654	2.09	3.08	1.06	1.57	2.87	1.89	MGR42L	30,000	3.5
BBT40-MEGA.625DS-5A					5.08						25,000	5.6
BBT40-MEGA.750DS-3A	2	.750	1.969	2.17	3.08	1.42	1.81	2.80-3.19	1.97	MGR50L	30,000	3.5
BBT40-MEGA.750DS-5A					5.08						25,000	5.7
BBT40-MEGA1.000DS-3.5A	1	1.000	2.441	2.48	3.58	1.61	1.85	2.87-3.27	2.20	MGR62L	27,000	4.5
BBT40-MEGA1.000DS-5A					5.08						24,000	6.4
BBT40-MEGA1.250DS-3.5A	1	1.250	2.756	2.78	3.58	1.38	1.87	3.19-3.58	2.36	MGR70L	26,000	4.8
BBT40-MEGA1.250DS-5A					5.08						22,000	6.6
BBT40-MEGA12DS-75	1	12mm	1.496	1.693	2.99	.98	1.30	2.56	1.69	MGR38L	30,000	3.1
BBT40-MEGA12DS-105					4.17						30,000	4.0
BBT40-MEGA16DS-75A	2	16mm	1.654	2.09	3.03	1.06	1.57	2.87	1.89	MGR42L	30,000	3.3
BBT40-MEGA16DS-105A					4.21						30,000	4.6
BBT40-MEGA16DS-135A					5.39						25,000	5.7
BBT40-MEGA16DS-165A					6.57						22,000	7.3
BBT40-MEGA16DS-200A					7.87						18,000	9.0
BBT40-MEGA20DS-75A	2	20mm	1.969	2.17	3.03	1.42	1.81	2.80-3.19	1.97	MGR50L	30,000	3.5
BBT40-MEGA20DS-105A					4.21						30,000	4.4
BBT40-MEGA20DS-120A					4.80						27,000	5.1
BBT40-MEGA20DS-135A					5.39						25,000	5.7
BBT40-MEGA20DS-165A					6.57						22,000	7.0
BBT40-MEGA20DS-200A					7.87						15,000	9.0

MILLING CHUCKS

Catalog Number	Fig.	ød	øD	øD1	L	L1	L2	H	Min Clamping Length E	Wrench	Max RPM	Weight (lbs.)
BBT40-MEGA25DS-75A	1	25mm	2.441	2.48	3.03	1.61	—	2.95-3.35	2.20	MGR62L	27,000	4.4
BBT40-MEGA25DS-105A					4.21			26,000			5.1	
BBT40-MEGA25DS-135A					5.39			24,000			6.6	
BBT40-MEGA25DS-165A					6.57			21,000			8.1	
BBT40-MEGA25DS-200A					7.95			12,000			10.3	
BBT40-MEGA32DS-90A	1	32mm	2.756	2.80	3.62	1.38	—	2.87-3.27	2.36	MGR70L	26,000	4.6
BBT40-MEGA32DS-105A					4.21			26,000			5.3	
BBT40-MEGA32DS-135A					5.39			22,000			6.8	
BBT40-MEGA32DS-165A					6.57			20,000			8.1	
BBT40-MEGA32DS-200A					7.95			10,000			9.9	
BBT50-MEGA.750DS-4	2	.750	2.362	2.72	4.09	1.10	1.50	2.80-3.19	1.97	MGR60L	20,000	10.0
BBT50-MEGA1.000DS-4		1.000	2.756	3.03	4.09	1.34	1.85	3.07-3.46	2.26	MGR70L	20,000	10.6
BBT50-MEGA1.250DS-4		1.250	3.150	3.39	4.09	1.65	2.24	3.03-3.70	2.36	MGR80L	20,000	11.3
BBT50-MEGA1.500DS-4.5	1	1.500	3.898	3.94	4.58	1.65	—	3.54-4.21	2.48	MGR99L	15,000	14.6
BBT50-MEGA12DS-105	1	12mm	1.496	1.693	4.17	.98	1.30	2.56	1.69	MGR38L	23,000	9.3
BBT50-MEGA12DS-135					5.35						21,000	10.4
BBT50-MEGA12DS-165					6.54						19,000	11.5
BBT50-MEGA16DS-105	2	16mm	1.811	2.17	4.23	1.02	1.42	2.87	1.89	MGR46L	21,000	10.1
BBT50-MEGA16DS-135					5.41						21,000	11.4
BBT50-MEGA16DS-165					6.59						19,000	12.5
BBT50-MEGA16DS-200					7.97						15,000	14.5
BBT50-MEGA16DS-250					9.94						13,000	15.4
BBT50-MEGA20DS-105	2	20mm	2.362	2.72	4.23	1.10	1.50	2.79-3.19	1.97	MGR60L	20,000	11.2
BBT50-MEGA20DS-135					5.41						19,000	13.2
BBT50-MEGA20DS-165					6.59						17,000	15.0
BBT50-MEGA20DS-200					7.97		4.57				14,000	16.9
BBT50-MEGA20DS-250					9.94		5.43				12,000	20.0
BBT50-MEGA25DS-105	2	25mm	2.756	3.03	4.23	1.34	1.80	3.07-3.46	2.20	MGR70L	20,000	11.9
BBT50-MEGA25DS-135					5.41						19,000	14.3
BBT50-MEGA25DS-165					6.59						17,000	16.7
BBT50-MEGA25DS-200					7.97		4.76				12,000	19.6
BBT50-MEGA25DS-250					9.94		5.43				10,000	23.8
BBT50-MEGA32DS-90	2	32mm	3.150	3.39	3.72	1.65	2.24	3.15-3.82	2.36	MGR80L	20,000	10.6
BBT50-MEGA32DS-105					4.23						20,000	11.9
BBT50-MEGA32DS-135					5.41						18,000	15.4
BBT50-MEGA32DS-165					6.59						15,000	18.7
BBT50-MEGA32DS-200					7.97		5.16				12,000	21.8
BBT50-MEGA32DS-250					9.94		6.73				10,000	26.6
BBT50-MEGA32DS-300					11.91		7.20				5,000	31.5
BBT50-MEGA42DS-105	1	42mm	3.898	3.93	4.21	1.65	—	3.54-4.21	2.48	MGR99L	15,000	13.2
BBT50-MEGA42DS-135					5.39						15,000	17.2
BBT50-MEGA42DS-165					6.57						14,000	21.1
BBT50-MEGA50DS-120	1	50mm	4.134	4.61	4.80	1.93	—	3.78-4.41	3.03	MGR105L	13,000	16.1

- Wrench must be ordered separately
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- MEGA16DS/MEGA.625DS requires the hex socket head screw (M8) for axial adjustment, however, please contact us if using for center-through applications
- "H" indicates the adjustment length with an adjusting screw
- DS types have jet-through coolant supply, thus tools with holes cannot be used

ACCESSORIES



MILLING CHUCKS

MEGA PERFECT GRIP

CLAMPING RANGE: $\phi 16$ -32mm

The unique key grip locking mechanism prevents the tool from slipping or pulling out during heavy machining.

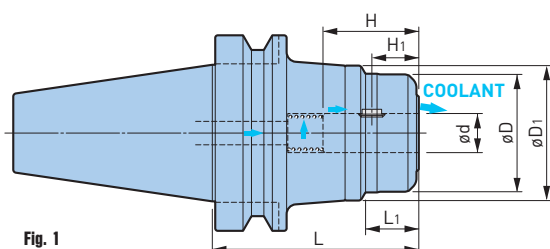


Fig. 1

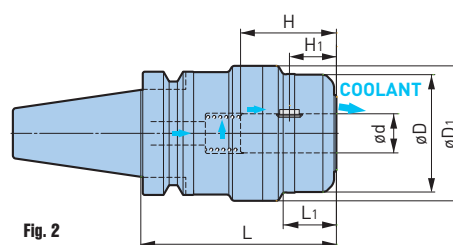


Fig. 2



Catalog Number	Fig.	ϕd	ϕD	$\phi D1$	L	L ₁	H	H ₁	MEGA WRENCH	Weight (lbs.)
BBT40-MEGA16DPG-75	1	16mm	1.811	2.165	2.95	.945	1.85	.91	MGR46L	3.7
BBT40-MEGA20DPG-100	2	20mm	2.362	2.717	3.94	1.063	1.93	.94	MGR60L	5.7
BBT50-MEGA16DPG-105	1	16mm	1.811	2.165	4.13	.945	1.85	.91	MGR46L	10.1
BBT50-MEGA16DPG-165					6.50					12.8
BBT50-MEGA20DPG-105		20mm	2.362	2.717	4.13	1.063	1.93	.94	MGR60L	11.2
BBT50-MEGA20DPG-165					6.50					15.2
BBT50-MEGA25DPG-105		25mm	2.756	3.031	4.13	1.299	2.17	.91	MGR70L	11.9
BBT50-MEGA25DPG-165					6.50					17.0
BBT50-MEGA32DPG-105		32mm	3.150	3.386	4.13	1.614	2.32	.91	MGR80L	12.3
BBT50-MEGA32DPG-165					6.50					18.5

- Key grip and spring are included, wrench must be ordered separately
- H₁ is the dimension from the center of the Key Grip to the front end of the chuck
- When coolant supply is from the cutting edge a seal bush is necessary, use instead of the spring; seal bush must be ordered separately

CAUTION

Always replace worn or damaged key grips immediately for safe operation.

Clamping ϕ	Key Grip (2 pcs.)	Spring
$\phi 16$	PKG16-2P	PSP1519
$\phi 20$	PKG20-2P	PSP1823
$\phi 25$	PKG25-2P	PSP2420
$\phi 32$	PKG32-2P	PSP3128

- Spare key grips are available in 2 pcs. per set

MILLING CHUCKS

CYLINDRICAL SHANK (WITH FLAT SECTION JIS B 4005)

ISO3338-2

The following standard shank is required for MEGA PERFECT GRIP.



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

- JIS Standards require sizes ø25 or higher to be double-flat types. The MEGA PERFECT GRIP does not use a rear flat surface, but is capable of clamping double flat shanks
- JIS B4005 has the same dimensions as International Standard ISO3338-2 and German Standard DIN1835-1

CAUTION

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



MILLING CHUCKS

NEW HI-POWER MILLING CHUCK

CLAMPING RANGE: ϕ .750"-1.250" (ϕ 16-42mm)

For Heavy Duty End Milling



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

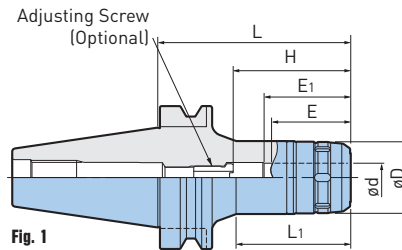


Fig. 1

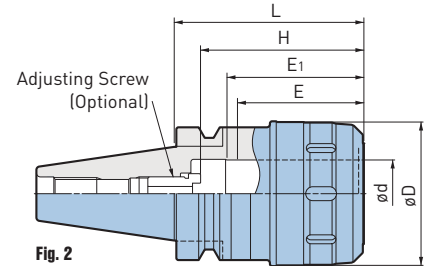


Fig. 2

Catalog Number	Fig.	ød	øD	L	L1	H	Min Clamping Length		Wrench	Weight (lbs.)
							E	E1		
BBT30-HMC.750S-3	2	.750	1.969	3.00	—	2.16-2.55	1.97	2.21	FK45-50L	2.1
BBT30-HMC16S-70❖	1	16mm	1.693	2.76	1.85	2.80	1.89	2.17	FK45-50L	1.5
BBT30-HMC20S-75	2	20mm	1.969	2.95	—	2.20-2.59	1.97	2.21		2.0
BBT30-HMC25S-90		25mm	2.165	3.54	—	2.52-2.91	2.20	2.24	FK52-55	2.6
BBT30-HMC32S-105		32mm	2.441	4.13	—	2.75-3.15	2.28	2.28	FK58-62L	3.3
BBT40-HMC.750S-3.5	1	.750	1.969	3.50	2.31	2.71-3.11	1.97	2.21	FK45-50L	4.1
BBT40-HMC1.000S-3.5		1.000	2.323	3.50	2.42	2.87-3.26	2.20	2.24	FK58-62L	4.7
BBT40-HMC1.250S-4	2	1.250	2.677	4.00	—	3.11-3.50	2.36	2.52	FK68-75L	5.9
BBT40-HMC16S-75❖	1	16mm	1.693	2.95	1.77	2.80	1.89	2.17	FK45-50L	2.9
BBT40-HMC16S-120❖				4.72	3.54					4.0
BBT40-HMC20S-75	1	20mm	1.969	2.95	1.81	2.72-3.11	1.97	2.21		3.1
BBT40-HMC20S-105				4.13	2.95					4.2
BBT40-HMC20S-120				4.72	3.54					4.6
BBT40-HMC25S-75	1	25mm	2.323	2.95	1.85	2.87-3.27	2.20	2.24	FK58-62L	3.3
BBT40-HMC25S-105				4.13	303					4.6
BBT40-HMC25S-135				5.31	4.21					6.2
BBT40-HMC32S-90	2	32mm	2.677	3.54	—	2.80-3.19	2.36	2.52	FK68-75L	4.4
BBT40-HMC32S-105				4.13	—	3.11-3.50				5.1
BBT40-HMC32S-135				5.31	—					6.6
BBT50-HMC.750-4	1	.750	2.360	4.00	2.36	2.71-3.11	1.97	2.21	FK58-62	10.5
BBT50-HMC1.000-4		1.000	2.440	4.00	2.32	2.99-3.38	2.20	2.56	FK58-62	10.7
BBT50-HMC1.250-4		1.250	3.150	4.00	2.48	3.07-3.74	2.96	2.80	FK80-90	12.4
BBT50-HMC16S-105❖	1	16mm	1.693	4.13	2.24	2.80	1.89	2.17	FK45-50L	9.3
BBT50-HMC16S-135❖				5.31	3.15					10.1
BBT50-HMC16S-165❖				6.50	3.94					11.0
BBT50-HMC16S-200❖				7.87	4.72					12.8
BBT50-HMC16S-250❖				9.84	6.10					14.8
BBT50-HMC20S-105	1	20mm	1.969	4.13	2.24	2.72-3.11	1.97	2.21	FK45-50L	9.5
BBT50-HMC20S-135				5.31	3.15					10.6
BBT50-HMC20S-165				6.50	3.94					11.9
BBT50-HMC20S-200				7.87	4.92					13.2
BBT50-HMC20S-250				9.84	6.30					15.7
BBT50-HMC20S-300				11.81	7.87					18.3
BBT50-HMC25S-105	1	25mm	2.323	4.13	2.24	2.99-3.39	2.20	2.24	FK58-62L	9.9
BBT50-HMC25S-135				5.31	3.43					11.5
BBT50-HMC25S-165				6.50	4.13					13.0
BBT50-HMC25S-200				7.87	4.92					16.5
BBT50-HMC25S-250				9.84	6.30					17.9

MILLING CHUCKS

Catalog Number	Fig.	ød	øD	L	L1	H	Min Clamping Length		Wrench	Weight (lbs.)
							E	E1		
BBT50-HMC32S-105	1	32mm	2.677	4.13	2.52	3.46-3.86	2.36	2.83	FK68-75L	10.1
BBT50-HMC32S-135				5.31	3.50					11.9
BBT50-HMC32S-165				6.50	4.13					14.1
BBT50-HMC32S-200				7.87	5.12					16.3
BBT50-HMC32S-250				9.84	6.50					20.1
BBT50-HMC32S-300				11.81	7.87					25.4
BBT50-HMC32S-350				13.78	9.45					26.7
BBT50-HMC42S-105	1	42mm	3.346	4.13	2.56	3.66-4.13	2.48	2.87	FK80-90L	11.5
BBT50-HMC42S-135				5.31	3.70					13.7
BBT50-HMC42S-165				6.50	4.84					16.3
BBT50-HMC42S-200				7.87	5.12					21.2
BBT50-HMC42S-300				11.81	7.87					31.1
BBT50-HMC42S-400				15.75	11.81					40.1

- Wrench and axial adjusting screw must be ordered separately
- When using center-through coolant:
 - Set screw with sealing compound applied (standard accessory) should be used to plug an air bleed hole
 - Oil hole type should be chosen when straight collet is required
- "H" indicates the adjustment length with an adjusting screw
- When using center-through coolant, insert tool shank into E1 or more
- HMC16S requires the hex socket head screw (M8) for axial adjustment, however, please contact us if using for center-through applications; models marked ❖

ACCESSORIES

 COLLET PG. 384	 PERFECT SEAL/ JET COLLET PG. 381	 WRENCH PG. 387	 SCREW PG. 412

(JET COOLANT TYPE)

CLAMPING RANGE: ø.500" (ø12mm)

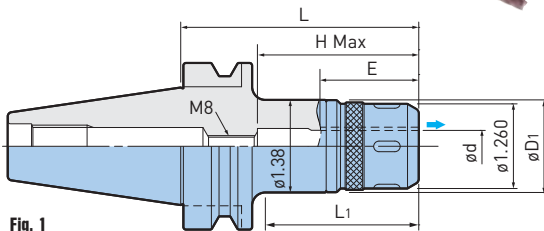


Fig. 1

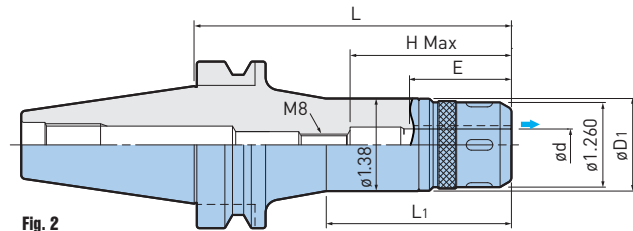
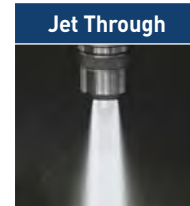


Fig. 2



Catalog Number	Fig.	ød	øD1	L	L1	H Max	Min Clamping Length E	Wrench	Weight (lbs.)
BBT30-HMC.500J-2.5	1	.500	1.38	2.50	1.55	2.56	1.69	FK31-33	1.3
BBT30-HMC12J-60	1	12mm	1.38	2.36	1.50	2.56	1.69	FK31-33	1.3
BBT40-HMC12J-90	1	12mm	1.38	3.54	2.48	2.56	1.69	FK31-33	3.1
BBT40-HMC12J-120	2			4.72	2.75				3.5
BBT50-HMC12J-105	1	12mm	1.38	4.13	2.64	2.56	1.69	FK31-33	8.8
BBT50-HMC12J-135	2			5.31	2.75				9.5
BBT50-HMC12J-165				6.50	3.54				10.3

- Wrench must be ordered separately

HYDRAULIC CHUCKS

HYDRAULIC CHUCK (SUPER SLIM TYPE)

CLAMPING RANGE: ϕ .125" (ϕ 3mm-12mm)

For Drills, Reamers, Ball Mills, End Mills, Diamond Reamers & Grinding Tools

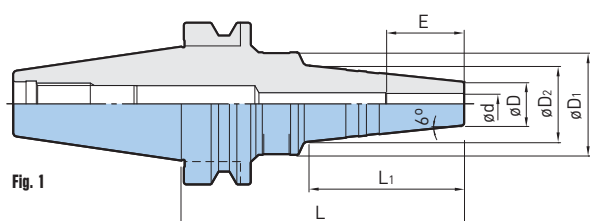


Fig. 1

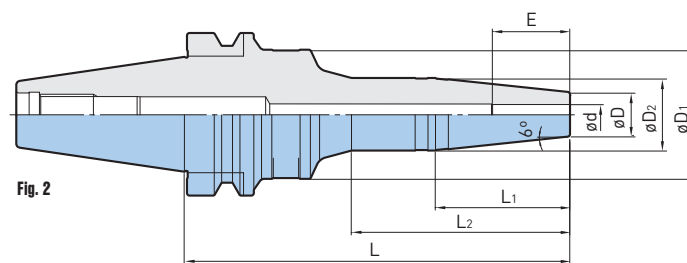


Fig. 2



Catalog Number	Fig.	ød	øD	øD1	øD2	L	L1	L2	Min Clamping Length E	Max RPM	Weight (lbs.)
BBT30-HDC3S-60❖	1	3mm	.551	1.65	.71	2.36	.75	—	.63	35,000	1.3
BBT30-HDC3S-90❖					.98	3.54	1.97			35,000	1.4
BBT30-HDC3.175S-60❖	1	.125	.551	1.63	.71	2.36	.75	—		35000	1.3
BBT30-HDC3.175S-90❖				1.65	.98	3.54	1.97			35,000	1.4
BBT30-HDC4S-60	1	4mm	.551	1.81	.79	2.36	1.10	—	.75	35,000	1.1
BBT30-HDC4S-90				1.65	.98	3.54	1.97	—		35,000	1.4
BBT30-HDC5S-90	1	5mm	.551								
BBT30-HDC6S-60	1	6mm	.551	1.65	.75	2.36	.75	—	.98	35,000	1.3
BBT30-HDC6S-90					.98	3.54	1.97			35,000	1.5
BBT30-HDC6S-120					1.02	4.72	2.24			33,000	1.7
BBT30-HDC8S-90	1	8mm	.669	1.65	1.10	3.54	1.97	—	1.18	35,000	1.5
BBT30-HDC 8S-120						4.72	2.05			33,000	1.8
BBT30-HDC10S-90	1	10mm	.748	1.73	1.18	3.54	1.97	—	1.26	35,000	1.5
BBT30-HDC10S-120						4.72	2.05			33,000	1.9
BBT30-HDC12S-90	1	12mm	.827	1.81	1.26	3.54	1.97	—	1.38	35,000	1.8
BBT30-HDC12S-120						4.72	2.05			33,000	1.9

HYDRAULIC CHUCKS

Catalog Number	Fig.	ød	øD	øD1	øD2	L	L1	L2	Min Clamping Length E	Max RPM	Weight (lbs.)
BBT40-HDC3S-90❖	1	3mm	.551	1.50	.94	3.54	1.73	—	.63	35,000	2.9
BBT40-HDC3S-135❖				1.73	1.02	5.31	2.24	84		30,000	3.1
BBT40-HDC4S-60	1	4mm	.551	1.50	.75	2.36	.87	—	.75	30,000	2.6
BBT40-HDC4S-90					.94	3.54	1.77	3.31		30,000	2.9
BBT40-HDC4S-135	2				1.02	5.31	2.24	3.31		30,000	3.1
BBT40-HDC5S-90	1	5mm	.551	1.50	.94	3.54	1.81	—	.83	30,000	2.9
BBT40-HDC6S-110	1	6mm	.551	1.50	1.06	4.33	2.36	—	.98	30,000	2.9
BBT40-HDC6S-150				1.89	1.02	5.91	2.24	3.35		28,000	3.5
BBT40-HDC6S-180	2					7.09		3.94		25,000	3.7
BBT40-HDC8S-110	1	8mm	.669	1.57	1.18	4.33	2.36	—	1.18	30,000	3.1
BBT40-HDC8S-150				1.97	1.10	5.91	2.05	3.35		28,000	3.8
BBT40-HDC8S-180	2					7.09		3.94		25,000	4.0
BBT40-HDC10S-110	1	10mm	.748	1.65	1.26	4.33	2.36	—	1.26	30,000	3.1
BBT40-HDC10S-150				1.97	1.18	5.91	2.05	3.35		25,000	3.8
BBT40-HDC10S-180	2					7.09		3.94		23,000	4.2
BBT40-HDC12S-110	1	12mm	.827	1.73	1.34	4.33	2.36	—	1.38	30,000	3.1
BBT40-HDC12S-150				1.97	1.26	5.91	2.05	3.35		25,000	4.0
BBT40-HDC12S-180	2					7.09		3.94		23,000	4.4
BBT50-HDC4S-150	2	4mm	.551	2.05	1.02	5.91	2.24	3.27	.75	20,000	9.3
BBT50-HDC4S-200				2.20		7.87		3.94		15,000	10.1
BBT50-HDC6S-150		6mm	.551	2.05	1.02	5.91	2.24	3.27	.98	20,000	9.3
BBT50-HDC6S-200				2.20		7.87		3.94		15,000	10.1
BBT50-HDC8S-150		8mm	.669	2.12	1.10	5.91	2.24	3.27	1.18	20,000	9.5
BBT50-HDC8S-200				2.28		7.87		3.94		15,000	10.4
BBT50-HDC10S-150		10mm	.748	2.20	1.18	5.91	2.05	3.27	1.26	20,000	9.5
BBT50-HDC10S-200				2.36		7.87		3.94		15,000	10.6
BBT50-HDC12S-150		12mm	.827	2.28	1.26	5.91	2.05	3.27	1.38	20,000	9.7
BBT50-HDC12S-200				2.44		7.87		3.94		15,000	10.6

- Adjusting screw cannot be used
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖

ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

HYDRAULIC CHUCKS

HYDRAULIC CHUCK

CLAMPING RANGE: ϕ .250"-1.000" (ϕ 6-32mm)

For Drills, Reamers, Ball Mills, End Mills, Diamond Reamers & Grinding Tools



BBT/BT A.2

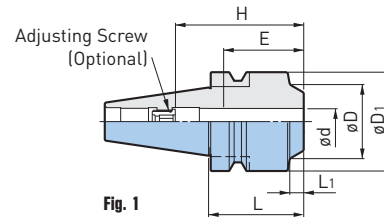


Fig. 1

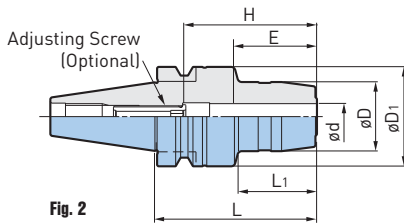


Fig. 2

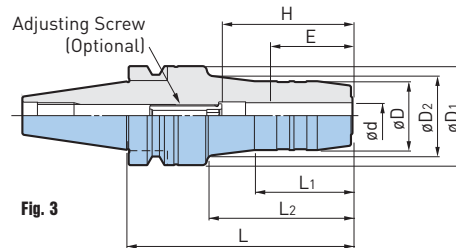


Fig. 3

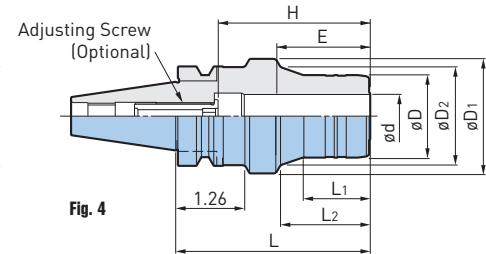


Fig. 4



Catalog Number	Fig.	ød	øD	øD1	øD2	L	L1	L2	H	Min Clamping Length E	Adjusting Screw	Weight (lbs.)
BBT30-HDC.250-2.5	1	.250	1.024	1.79	—	2.50	1.14	—	1.10-1.97	1.10	HDA6-05032	1.3
BBT30-HDC.250-4	2				1.18	4.00	1.69	2.70				1.8
BBT30-HDC.375-2.5	1	.375	1.181	1.81	—	2.50	.96	—	1.77-2.17	1.30	HDA10-08015	1.6
BBT30-HDC.375-4	2				1.34	4.00	1.77	2.48			1.30-2.17	HDA10-08032
BBT30-HDC.500-2.5	1	.500	1.299	1.81	—	2.50	.98	—	1.57-2.36	1.50	HDA12-10025	1.6
BBT30-HDC.500-4	2				1.46	4.00	1.77	2.52			1.50-2.36	HDA12-10032
BBT30-HDC.625-2.5❖	1	.625	1.496	1.81	—	2.50	.94	—	2.83	1.69	—	1.8
BBT30-HDC.625-4	2				1.81	4.00	1.85	2.52			1.69-2.76	HDA16-12037
BBT30-HDC.750-2.5◆	3	.750	1.496	2.09	—	2.50	.55	—	1.69-2.24	1.69	HDA16-12030	2.0
BBT30-HDC.750-4					1.77	4.00	1.22	2.09			1.69-2.95	HDA16-12037
BBT30-HDC1.000-4	3	1.000	2.165	2.48	2.48	4.00	1.61	1.73	2.05-3.15	2.05	HDA25-16039	3.8
BBT30-HDC6-45	1	6mm	1.181	1.81	—	1.77	.28	—	1.38-1.97	1.10	HDA6-05020	1.5
BBT30-HDC6-75	2		1.024	1.79		1.22	2.95		1.57		1.10-1.97	HDA6-05032
BBT30-HDC6-90	3				3.54		1.69	2.24	2.0			
BBT30-HDC6-105					4.13			2.83				
BBT30-HDC7-75	2	7mm	1.063	1.81	—	2.95	1.61	—	1.10-1.97	1.10	HDA6-05032	1.4
BBT30-HDC8-45	1	8mm	1.260	1.81	—	1.77	.28	—	1.38-1.97	1.10	HDA8-06020	1.5
BBT30-HDC8-75	2		1.102	1.79		1.30	2.95		1.61		1.10-1.97	HDA8-06032
BBT30-HDC8-90	3				3.54		1.73	2.24	2.0			
BBT30-HDC8-105					4.13			2.83				
BBT30-HDC9-75	2	9mm	1.142	1.81	—	2.95	1.61	—	1.10-1.97	1.10	HDA8-06032	1.5

HYDRAULIC CHUCKS

Catalog Number	Fig.	ød	øD	øD1	øD2	L	L1	L2	H	Min Clamping Length E	Adjusting Screw	Weight (lbs.)		
BBT30-HDC10-45	1	10mm	1.339	1.81	—	1.77	.28	—	1.77-2.17	1.30	HDA10-08015	1.5		
BBT30-HDC10-75	2		1.181			2.95	1.42		1.30-2.17		HDA10-08032	2.0		
BBT30-HDC10-90	3		1.30			3.54	2.01	2.60				2.2		
BBT30-HDC10-105			1.42			4.13								
BBT30-HDC11-90	3	11mm	1.220	1.81	1.34	3.54	2.01	1.77	1.30-2.17	1.30	HDA10-08032	1.8		
BBT30-HDC12-45	1	12mm	1.417	1.81	—	1.77	.28	—	2.17-2.36	1.50	HDA12-10010●	1.5		
BBT30-HDC12-75	2		1.260			2.95	1.42	1.50-2.36	HDA12-10032		1.8			
BBT30-HDC12-90	3		1.38			3.54	2.01				2.2			
BBT30-HDC12-105			1.50			4.13	2.64					2.2		
BBT30-HDC13-90	3	13mm	1.299	1.81	1.42	3.54	1.77	2.01	1.50-2.36	1.50	HDA12-10032	1.8		
BBT30-HDC14-90	3	14mm	1.339	1.81	1.46	3.54	1.81	2.05	1.50-2.36	1.50	HDA12-10032	2.0		
BBT30-HDC15-90	2	15mm	1.457	1.81	—	3.54	1.85	—	1.69-2.76	1.69	HDA16-12037	1.9		
BBT30-HDC16-45❖	1	16mm	1.654	1.81	—	1.77	.28	—	2.76	1.69	—	1.5		
BBT30-HDC16-75	2		1.496			2.95	1.38		1.69-2.76		HDA16-12030	2.0		
BBT30-HDC16-90	3		3.54			1.85					HDA16-12037	2.2		
BBT30-HDC16-105			4.13				2.3							
BBT30-HDC18-90	4	18mm	1.417	2.01	1.73	3.54	1.22	1.61	1.69-2.76	1.69	HDA16-12037	2.0		
BBT30-HDC20-60◆	4	20mm	1.496	2.09	—	2.36	—	.55	1.69-2.13	1.69	HDA16-12030	2.0		
BBT30-HDC20-75					1.81	2.95	.63	1.02	1.81-2.76					
BBT30-HDC20-90					3.54			1.22	1.61		1.69-2.76	HDA16-12037	2.4	
BBT30-HDC20-105	3			1.81	—	4.13	1.57	—	2.2					
BBT30-HDC25-105	4	25mm	2.165	2.48	—	4.13	1.73	—	2.05-3.15	2.05	HDA25-16039	3.8		
BBT30-HDC32-105	4	32mm	2.362	2.95	—	4.13	1.54	—	2.20-3.15	2.20	HDA25-16039	4.0		

- "H" indicates the adjustment length with an adjusting screw
- Adjusting screws cannot be used with models marked ❖
- Straight collets cannot be used with models marked ◆
- In case the projection length needs to be adjusted from the shank side, add the letter "W" to adjusting screw model number for hexagon sockets on both sides (ex: HDA6-05020W), adjusting screw with ● indication is not available in W type

ACCESSORIES

 PERFECT SEAL/ JET COLLET PG. 381	 GRIP BAR PG. 393	 SCREW PG. 393

CAUTION ⚠

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

HYDRAULIC CHUCKS

HYDRAULIC CHUCK

CLAMPING RANGE: ϕ .250"-1.250" (ϕ 6-20mm)

For Drills, Reamers, Ball Mills, End Mills, Diamond Reamers & Grinding Tools

MAX
40,000
RPM



A.2
BBT/BT

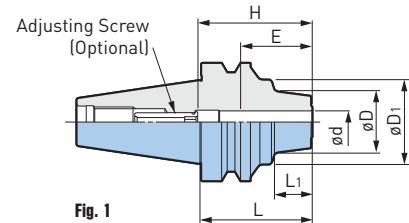


Fig. 1

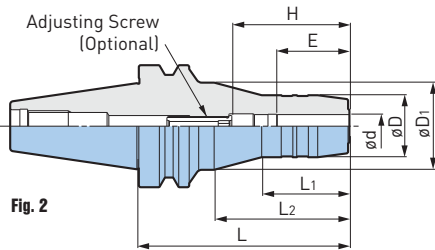


Fig. 2

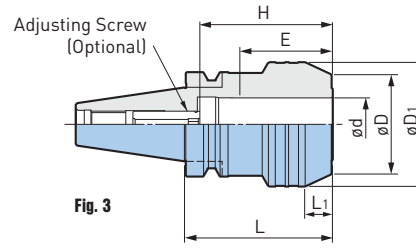


Fig. 3

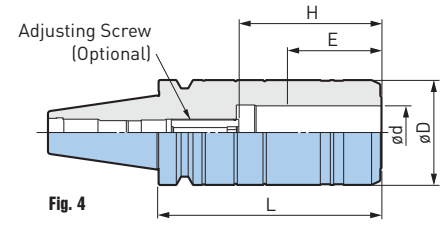


Fig. 4



Catalog Number	Fig.	ød	øD	øD1	L	L1	L2	H	Min Clamping Length E	Adjusting Screw	Weight (lbs.)
BBT40-HDC.250-2.5	1	.250	1.024	1.77	2.50	.91	—	1.10-1.97	1.10	HDA6-05032	2.7
BBT40-HDC.250-4	2				4.00	1.73	2.44				3.3
BBT40-HDC.250-5.5					5.50		3.94				4.0
BBT40-HDC.375-2.5	1	.375	1.260	1.77	2.50	.94	—	1.30-2.17	1.30	HDA10-08032	2.9
BBT40-HDC.375-4	2		1.181		4.00	1.77	2.44				3.3
BBT40-HDC.375-5.5					5.50		3.94				4.2
BBT40-HDC.500-2.5	1	.500	1.299	1.77	2.50	.71	—	1.50-2.36	1.50	HDA12-10032	2.9
BBT40-HDC.500-4	2				4.00	1.81	2.44				3.6
BBT40-HDC.500-5.5					5.50		3.94				4.2
BBT40-HDC.625-3	1	.625	1.496	1.77	3.00	1.42	—	1.69-2.76	1.69	HDA16-12037	3.1
BBT40-HDC.625-4	2				4.00	1.85	2.40				3.6
BBT40-HDC.625-5.5					5.50		3.90				4.2
BBT40-HDC.750-3	2	.750	1.654	2.09	3.00	1.34	—	1.69-2.76	1.69	HDA16-12037	3.3
BBT40-HDC.750-4				1.97	4.00	1.85	2.44				3.8
BBT40-HDC.750-5.5					5.50		3.94				4.7
BBT40-HDC1.000-3	2	1.000	2.165	2.48	3.00	.98	1.10	2.05-3.15	2.05	HDA25-16033	4.2
BBT40-HDC1.000-5					5.00					HDA25-16039	6.4
BBT40-HDC1.250-3.5	3	1.250	2.953	—	3.50	.63	—	2.20-3.15	2.20	HDA25-16039	5.1
BBT40-HDC1.250-5	4		2.480		5.00	—					6.2
BBT40-HDC6-60	1	6mm	1.063	1.77	2.36	.75	—	1.10-1.97	1.10	HDA6-05032	2.7
BBT40-HDC6-90	2		1.024		3.54	1.73	1.97				3.0
BBT40-HDC6-110					4.33		2.76				3.3
BBT40-HDC6-135					5.31		3.74				3.6
BBT40-HDC6-165					6.50		4.69				4.2

HYDRAULIC CHUCKS

Catalog Number	Fig.	ød	øD	øD1	L	L1	L2	H	Min Clamping Length E	Adjusting Screw	Weight (lbs.)
BBT40-HDC7-90	2	7mm	1.063	1.77	3.54	1.73	1.97	1.10-1.97	1.10	HDA6-05032	2.9
BBT40-HDC8-60	1	8mm	1.142	1.77	2.36	.75	—	1.10-1.97	1.10	HDA8-06032	2.7
BBT40-HDC8-90	2		1.102		3.54	1.73	1.97				3.0
BBT40-HDC8-110					4.33		2.76				3.3
BBT40-HDC8-135					5.31		3.74				3.8
BBT40-HDC8-165					6.50		4.69				4.3
BBT40-HDC9-90					2		9mm				1.142
BBT40-HDC10-60	1	10mm	1.220	1.77	2.36	.79	—	1.30-2.17	1.30	HDA10-08032	2.7
BBT40-HDC10-90	2		1.181		3.54	1.77	1.97				3.0
BBT40-HDC10-110					4.33		2.76				3.3
BBT40-HDC10-135					5.31		3.74				3.8
BBT40-HDC10-165					6.50		4.69				4.3
BBT40-HDC11-90					2		11mm				1.220
BBT40-HDC12-60	1	12mm	1.299	1.77	2.36	.79	—	1.50-2.36	1.50	HDA12-10032	2.7
BBT40-HDC12-90	2		1.260		3.54	1.77	1.93				3.0
BBT40-HDC12-110					4.33		2.72				3.4
BBT40-HDC12-135					5.31		3.70				3.9
BBT40-HDC12-165					6.50		4.69				4.3
BBT40-HDC13-90					2		13mm				1.299
BBT40-HDC14-90	2	14mm	1.339	1.77	3.54	1.81	1.93	1.50-2.36	1.50	HDA12-10032	3.0
BBT40-HDC14-110					4.33		2.72				3.4
BBT40-HDC14-135					5.31		3.70				3.9
BBT40-HDC15-90	2	15mm	1.457	1.77	3.54	1.85	1.93	1.69-2.76	1.69	HDA16-12037	3.1
BBT40-HDC16-75	2	16mm	1.496	1.77	2.95	1.38	1.42	1.70-2.76	1.70	HDA16-16037	2.9
BBT40-HDC16-90					3.54	1.85	1.93				3.1
BBT40-HDC16-110					4.33		2.72				3.5
BBT40-HDC16-135					5.31		3.70				4.1
BBT40-HDC16-165					1.97		6.50				4.69
BBT40-HDC18-90				2	18mm		1.575				1.77
BBT40-HDC18-110	4.33	2.72	3.5								
BBT40-HDC18-135	5.31	3.70	4.1								
BBT40-HDC20-90	2	20mm	1.654	1.77	3.54	1.89	1.97	1.70-2.76	1.70	HDA16-12037	3.1
BBT40-HDC20-110				1.97	4.33		2.76				3.8
BBT40-HDC20-135					5.31		3.74				4.3
BBT40-HDC20-165					6.50		4.69				5.2

- In case the projection length needs to be adjusted from the shank side, add the letter "W" to adjusting screw model number for hexagon sockets on both sides

ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

HYDRAULIC CHUCKS

HYDRAULIC CHUCK (HIGH RIGIDITY TYPE)

CLAMPING RANGE: $\varnothing 20$ -32mm

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

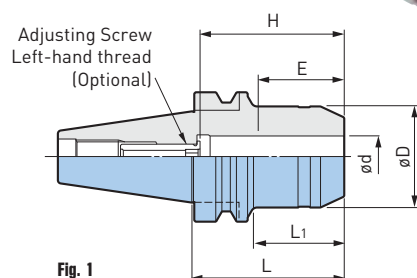


Fig. 1

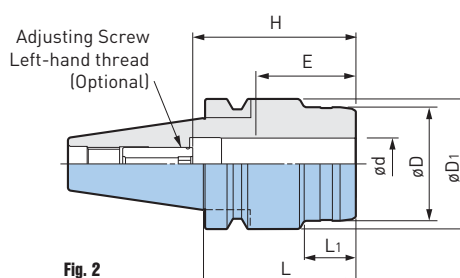


Fig. 2

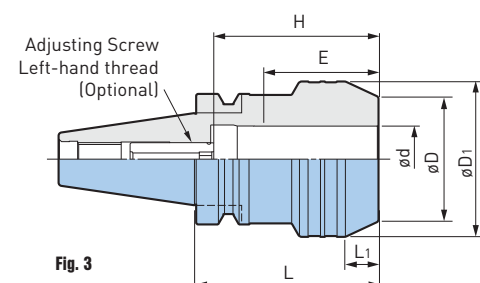


Fig. 3

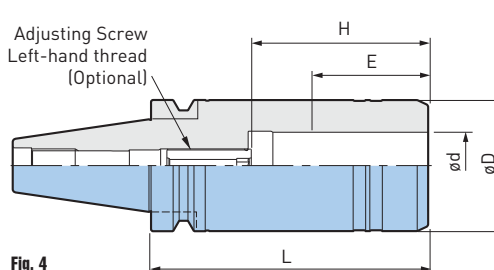


Fig. 4



Catalog Number	Fig.	ød	øD	øD1	L	L1	H	Min Clamping Length E	Adjusting Screw	Weight (lbs.)
BBT40-HDC20E-75	1	20mm	1.929	—	2.95	1.77	1.70-2.76	1.70	HDA16-12037	3.1
BBT40-HDC25E-75	2	25mm	2.165	2.48	2.95	.98	2.05-3.15	2.05	HDA25-16033	4.0
BBT40-HDC25E-110					4.33				HDA25-16039	5.2
BBT40-HDC25E-135					5.31					6.5
BBT40-HDC25E-165					6.50					7.8
BBT40-HDC32E-90	3	32mm	2.362	2.95	3.54	.63	2.20-3.17	2.20	HDA25-16039	4.8
BBT40-HDC32E-110	4.33				5.6					
BBT40-HDC32E-135	4		2.480	—	5.31	—	2.20-3.35			6.2
BBT40-HDC32E-165	2			2.48	6.50					7.1

- "H" indicates the adjustment length with an adjusting screw
- In case the projection length needs to be adjusted from the shank side, add the letter "W" to adjusting screw model number for hexagon sockets on both sides

ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".



HYDRAULIC CHUCKS

HYDRAULIC CHUCK (JET COOLANT TYPE)

CLAMPING RANGE: ϕ .250"-.500" (ϕ 4-32mm)

Coolant Holes Through Body of Holder

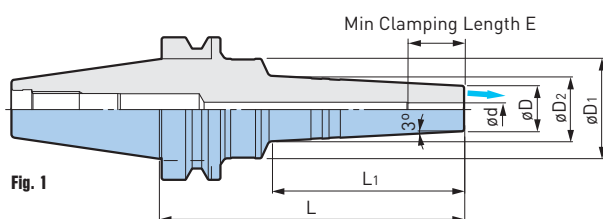
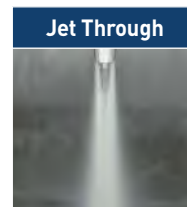


Fig. 1

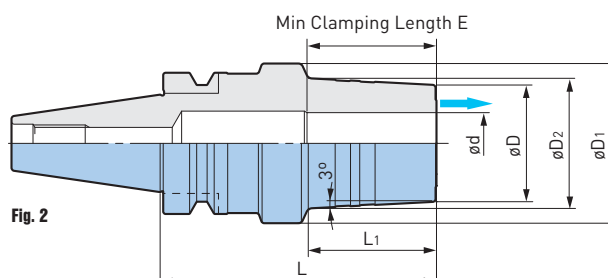


Fig. 2



Catalog Number	Fig.	ϕd	ϕD	$\phi D1$	$\phi D2$	L	L1	E	Weight (lbs.)
BBT30-HDC.250J-3.5	1	.250	.790	1.66	1.00	3.50	1.92	.99	1.5
BBT30-HDC.375J-3.5		.375	.950	1.74	1.16		1.93	1.30	1.6
BBT30-HDC.500J-3.5		.500	1.070	1.82	1.28		1.94	1.42	1.7
BBT30-HDC4J-60		4mm	.787	1.81	.91	2.36	1.10	.75	1.3
BBT30-HDC4J-90		6mm		1.65	1.02	3.54	1.97	.75	1.5
BBT30-HDC6J-90		8mm	.866		1.10			.98	1.5
BBT30-HDC8J-90		10mm	.945	1.73	1.18			1.18	1.5
BBT30-HDC10J-90		12mm	1.024	1.81	1.26			1.26	1.8
BBT30-HDC12J-90		16mm	1.339		1.57		1.93	1.38	1.8
BBT30-HDC16J-90		20mm	1.496	2.05	1.69		1.57	1.65	2.0
BBT30-HDC20J-90	2								2.4

Catalog Number	Fig.	ød	øD	øD1	øD2	L	L1	E	Weight (lbs.)
BBT40-HDC4J-90	1	4mm	.787	1.50	.98	3.54	1.77	.75	2.9
BBT40-HDC4J-135				1.73	1.18	5.31	3.35		3.3
BBT40-HDC6J-90		6mm	.787	1.50	.98	3.54	1.77	.98	2.9
BBT40-HDC6J-135				1.73	1.14	5.31	3.35		3.3
BBT40-HDC6J-165				1.81	1.26	6.50	4.13		3.7
BBT40-HDC8J-90		8mm	.866	1.57	1.06	3.54	1.77	1.18	2.9
BBT40-HDC8J-135				1.81	1.22	5.31	3.35		3.5
BBT40-HDC8J-165				1.89	1.34	6.50	4.13		4.0
BBT40-HDC10J-90		10mm	.945	1.65	1.14	3.54	1.77	1.26	2.9
BBT40-HDC10J-135				1.89	1.30	5.31	3.35		3.5
BBT40-HDC10J-165				1.97	1.42	6.50	4.13		4.2
BBT40-HDC12J-90		12mm	1.024	1.73	1.22	3.54	1.77	1.38	2.9
BBT40-HDC12J-135				1.97	1.38	5.31	3.35		3.7
BBT40-HDC12J-165				2.05	1.50	6.50	4.13		4.4
BBT40-HDC16J-90		16mm	1.339	1.81	1.57	3.54	1.81	1.65	3.1
BBT40-HDC16J-135				1.97	1.73	5.31	3.50		4.2
BBT40-HDC20J-90		20mm	1.496	1.89	1.73	3.54	1.85	1.65	3.3
BBT40-HDC20J-135				2.09	1.89	5.31	3.54		4.4
BBT40-HDC25J-90		25mm	2.008	2.48	2.20	3.54	1.61	1.93	4.2
BBT40-HDC32J-90	2	32mm	2.322	2.95	—		.79	2.20	5.1
BBT50-HDC4J-120	1	4mm	.787	1.89	1.02	4.72	2.17	.75	8.8
BBT50-HDC6J-120		6mm	.787	1.89	1.02			.98	9.0
BBT50-HDC8J-120		8mm	.866	1.97	1.10			1.22	9.0
BBT50-HDC10J-120		10mm	.945	2.05	1.18			1.30	9.3
BBT50-HDC12J-120		12mm	1.024	2.13	1.26			1.42	9.3
BBT50-HDC16J-120		16mm	1.339	2.28	1.61		2.20	1.69	9.7
BBT50-HDC20J-120		20mm	1.496	2.44	1.77			1.69	9.9
BBT50-HDC25J-120		25mm	1.890	2.76	2.28		2.32	1.93	11.5
BBT50-HDC32J-120		32mm	2.283	3.07	2.64		2.36	2.20	12.3

• Adjusting screws cannot be used

ACCESSORIES

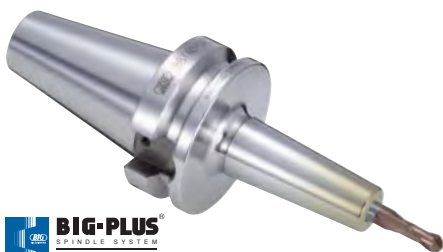


CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

BASIC ARBORS

SHRINK FIT HOLDER CLAMPING RANGE: $\varnothing 4$ -20mm



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

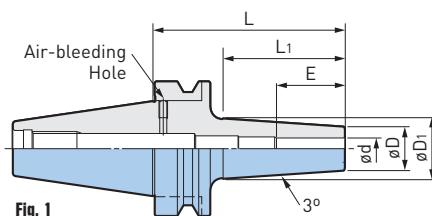


Fig. 1

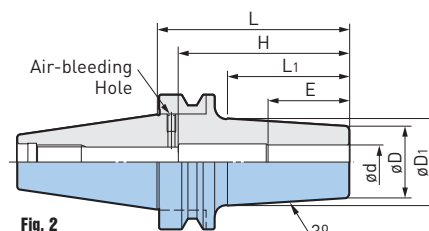


Fig. 2

Catalog Number	Fig.	ød	øD	øD1	L	L1	H	E	G	Weight (lbs.)
BBT30-SRC4-75❖	1	4mm	.394	.57	3.00	1.73	—	.63	—	1.0
BBT30-SRC6-75		6mm	.551	.75		1.85		1.02		1.0
BBT30-SRC8-75		8mm	.709	.91				1.26		1.1
BBT30-SRC10-75	2	10mm	.866	1.06			2.44	1.26	—	1.2
BBT30-SRC12-75		12mm	.945	1.14		2.83	1.42	1.3		
BBT30-SRC16-75		16mm	1.102	1.30		1.89	3.15	1.50		1.4
BBT40-SRC4-90❖	1	4mm	.394	.61	3.54	2.05	—	.63	—	2.3
BBT40-SRC6-90		6mm	.551	.79		2.24		1.02		2.4
BBT40-SRC6-150				1.02	5.91	4.49		2.8		
BBT40-SRC8-90				8mm	.709	.94		3.54		2.24
BBT40-SRC8-150		1.18	5.91			4.49		3.0		
BBT40-SRC10-90		10mm	.866	1.10	3.54	2.24		1.26		2.6
BBT40-SRC10-150				1.34	5.91	4.57		3.3		
BBT40-SRC12-90		12mm	1.102	1.18	3.54	2.24		1.42		2.6
BBT40-SRC12-150				1.42	5.91	4.57		3.4		
BBT40-SRC16-90		2	16mm	1.102	1.34	3.54	2.24	3.15	1.50	—
BBT40-SRC16-165	1.65				6.50	5.20	4.0			
BBT40-SRC20-90	20mm		1.339	1.57	3.54	2.24	3.94	1.65	3.0	
BBT40-SRC20-165				1.89	6.50	5.20			4.6	

(JET THROUGH TYPE)

CLAMPING RANGE: $\varnothing .250$ "-1.000"

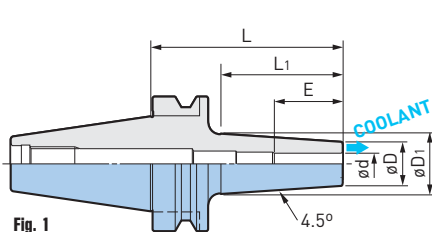


Fig. 1

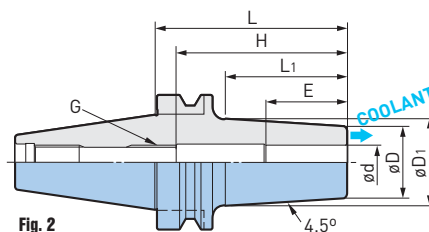


Fig. 2

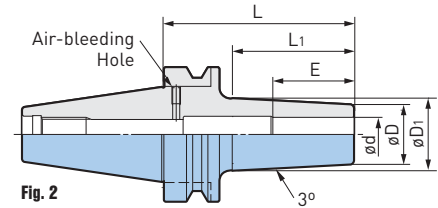
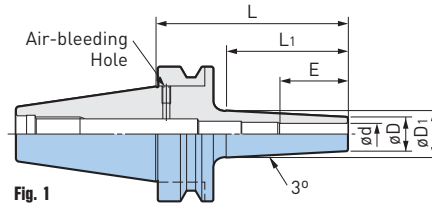
Catalog Number	Fig.	ød	øD	øD1	L	L1	H	E	G	Weight (lbs.)
BBT30-SFC.250-3	1	.250	.827	1.06	3.00	2.06	—	.61	—	1.2
BBT30-SFC.375-3		.375	.945	1.26			1.22	1.3		
BBT30-SFC.500-3	2	.500				1.81	1.42	M10 P1	1.3	
BBT30-SFC.625-3		.625				1.93	1.54	M12 P1	1.3	
BBT30-SFC.750-3		.750				2.24	1.84	M12 P1	1.6	
BBT40-SFC.250-3.5	1	.250	.827	1.06	3.50	2.40	—	.87	—	2.6
BBT40-SFC.375-3.5		.375	.945	1.26			1.22	2.7		
BBT40-SFC.500-3.5	2	.500	.945	1.26		1.81	1.42	M10 P1	2.7	
BBT40-SFC.625-3.5		.625	1.063	1.34		1.93	1.54	M12 P1	2.8	
BBT40-SFC.750-4		.750	1.299	1.65		2.24	1.85	M16 P1	3.2	
BBT40-SFC1.000-4		1.000	1.732	2.09				M16 P1	4.0	

- Use a carbide shank cutter within a tolerance of h6
- Use a carbide shank cutter within a tolerance of h5 with models marked ❖
- Center-through coolant supply is available with tools with oil holes
- "H" dimension is the Max tool shank length that can be inserted into the holder

CAUTION

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

SHRINK FIT HOLDER (SLIM TYPE) CLAMPING RANGE: $\phi 6$ -12mm



Catalog Number	Fig.	ϕd	ϕD	ϕD_1	L	L ₁	E	Weight (lbs.)
BBT30-SRC6S-105	1	6mm	.394	.71	4.13	3.03	1.02	1.1
BBT30-SRC8S-105		8mm	.512	.83				1.1
BBT30-SRC10S-105	2	10mm	.630	.94			1.26	1.2
BBT30-SRC12S-105		12mm	.748	1.06				1.3
BBT40-SRC6S-120	1	6mm	.394	.75	4.72	3.39	1.02	2.4
BBT40-SRC6S-165				.93	6.50	5.00		2.7
BBT40-SRC8S-120				.87	4.72	3.39		2.5
BBT40-SRC8S-165		8mm	.512	1.04	6.50	5.08	1.26	2.8
BBT40-SRC10S-120				.98	4.72	3.39		2.6
BBT40-SRC10S-165		10mm	.630	1.16	6.50	5.08		3.0
BBT40-SRC12S-120				1.10	4.72	3.43	1.42	2.7
BBT40-SRC12S-165		12mm	.748	1.30	6.50	5.16		3.2

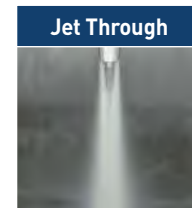
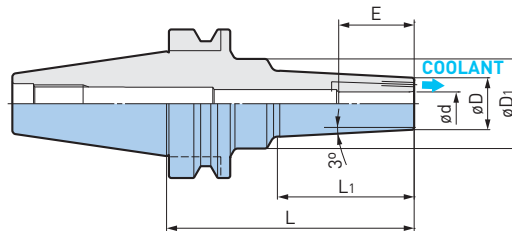
- Use a carbide shank cutter within a tolerance of h6
- Center-through coolant supply is available with tools with oil holes

CAUTION

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

(JET THROUGH TYPE)

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



Catalog Number	ϕd	ϕD	ϕD_1	L	L ₁	E	Weight (lbs.)
BBT40-SRC6J-105	.236	.630	1.26	4.13	2.17	1.02	2.9
BBT40-SRC8J-105	.315	.748	1.38				2.9
BBT40-SRC10J-105	.394	.866	1.50				3.1
BBT40-SRC12J-105	.472	.945	1.57				3.1
BBT50-SRC6J-165	.236	.630	1.65	6.50	3.66	1.02	9.0
BBT50-SRC8J-165	.315	.748	1.77				9.3
BBT50-SRC10J-165	.394	.866	1.89				9.5
BBT50-SRC12J-165	.472	.945	1.97				9.5

- Use a carbide shank cutter within a tolerance of h6

CAUTION

Some shrink fit machines may not be compatible with the shrink chuck. Please refer to the shrink fit machine operation manual.

BASIC ARBORS

END MILL HOLDER

CLAMPING RANGE: ϕ .250"-1.250" (ϕ 6-32mm)

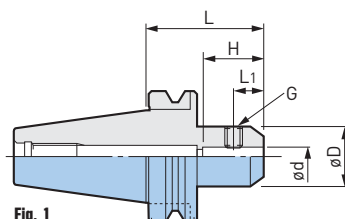


Fig. 1

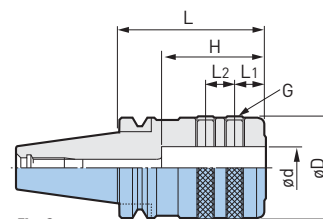


Fig. 2



Catalog Number	Fig.	ød	øD	L	L1	L2	H	G	Weight (lbs.)
BBT30-EM.250-2.5	1	.250	.88	2.50	.44	—	1.10	1/4"-28	1.3
BBT30-EM.375-2.5		.375	1.00		.75		1.77	3/8"-24	1.5
BBT30-EM.500-2.5		.500	1.38		.87		3.00	7/16"-20	1.8
BBT30-EM.625-2.5		.625	1.63		.94		2.69	9/16"-18	1.8
BBT30-EM.750-3		.750	1.75	3.00	1.00		2.75	5/8"-18	1.8
BBT30-ISL6-60	1	6mm	.98	2.36	.71	—	3.35	M6	1.3
BBT30-ISL8-60		8mm	1.10		.71			M8	1.3
BBT30-ISL10-60		10mm	1.38		.79		1.77	M10	1.5
BBT30-ISL12-60		12mm	1.65		.89		1.89	M12	1.8
BBT30-ISL16-60		16mm	1.89		.94		2.09	M14	1.8
BBT40-EM.500-3	1	.500	1.38	3.00	.87	—	3.00	7/16"-20	2.8
BBT40-EM.625-3		.625	1.63		.94		3.50	9/16"-18	2.9
BBT40-EM.750-4		.750	1.75	4.00	1.00		3.88	5/8"-18	3.6
BBT40-EM1.000-4	2	1.000	2.25		1.13	1.00	3.13	3/4"-16	4.5
BBT40-EM1.250-4		1.250	2.75		1.13				5.6
BBT40-ISL6-75	1	6mm	.98	2.95	.71	—	3.54	M6	2.6
BBT40-ISL8-75		8mm	1.10		.71	—		M8	2.6
BBT40-ISL10-75		10mm	1.38		.79	—		M10	2.6
BBT40-ISL12-75		12mm	1.65		.89	—	4.33	M12	3.3
BBT40-ISL16-75		16mm	1.89		.94		2.09	M14	3.3
BBT40-ISL20-75		20mm	2.05		.98		2.17	M16	3.5
BBT40-ISL25-90	2	25mm	2.50	3.54	.94	.98	2.36	M18 P2.0	4.6
BBT40-ISL32-105		32mm	2.83	4.13	.94	1.10	3.23	M20 P2.0	6.4

• For high speed applications MEGA DOUBLE POWER CHUCKS are recommended instead of end mill holders

ACCESSORIES



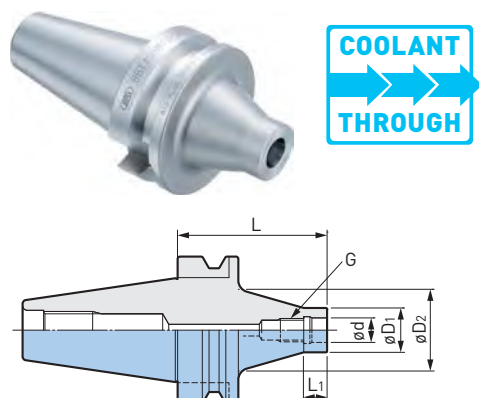
CAUTION

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

BASIC ARBORS

SCREW-ON HOLDER

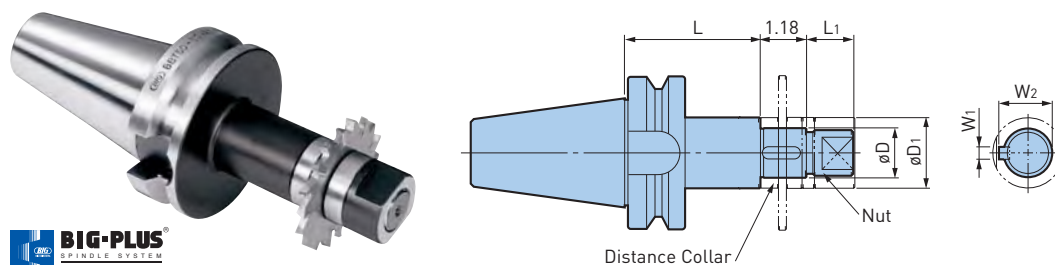
Arbor for JIS Standard Side Cutters and Slitting Saws



Catalog Number	ød	øD1	øD2	L	L2	G	Weight (lbs.)
BBT30-M8-15-50	.335	.591	1.181	1.969	.394	M8	1.0
BBT30-M10-19-45	.413	.748	1.378	1.772		M10	1.0
BBT30-M12-24-40	.492	.945	1.575	1.575		M12	1.0
BBT30-M16-29-35	.669	1.142	1.772	1.378		M16	.9
BBT40-M8-15-70	.335	.591	1.181	2.756	.394	M8	2.4
BBT40-M8-15-115	.335	.591	1.260	4.528			2.9
BBT40-M10-19-65	.413	.748	1.378	2.559		M10	2.4
BBT40-M10-19-110	.413	.748	1.378	4.331			2.9
BBT40-M12-24-60	.492	.945	1.575	2.362		M12	2.4
BBT40-M12-24-105	.492	.945	1.575	4.134			3.1
BBT40-M16-29-55	.669	1.142	1.772	2.165		M16	2.6
BBT40-M16-29-100	.669	1.142	1.772	3.937			3.3

SIDE CUTTER ARBOR

Arbor for JIS Standard Side Cutters and Slitting Saws



Catalog Number	øD (h6)	øD1	W2	W1	L	L1	Weight (lbs.)
BBT40-SCA25.4-75	1.000	1.575	1.094	.250	2.95	.98	4.2
BBT40-SCA25.4-120					4.72		5.1
BBT40-SCA31.75-75	1.250	1.811	1.375	.312	2.95	1.18	5.3
BBT50-SCA25.4-90	1.000	1.575	1.094	.250	3.54	.98	10.4
BBT50-SCA25.4-135					5.31		11.2
BBT50-SCA31.75-90	1.250	1.811	1.375	.312	3.54	1.18	11.2
BBT50-SCA31.75-135					5.31		12.6
BBT50-SCA38.1-90	1.500	2.165	1.656	.375	3.54	1.42	12.8
BBT50-SCA38.1-135					5.31		15.0

- Nut is included
- Distance collars of 5mm, 8mm, 10mm and 12mm are included
- The model, dimensions and accuracy conform to TMT standards

DISTANCE COLLAR

For Side Cutter Arbor

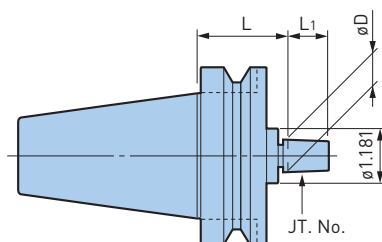
Body Model	SCA25.4	SCA31.75	SCA38.1
Thickness	Distance Collar Model		
.197 (5mm)	SC254C5	SC3175C5	SC381C5
.315 (8mm)	SC254C8	SC3175C8	SC381C8
.394 (10mm)	SC254C10	SC3175C10	SC381C10
.472 (12mm)	SC254C12	SC3175C12	SC381C12

BASIC ARBORS

JACOBS TAPER ARBOR

CLAMPING RANGE: ϕ .630"-1.969" (ϕ 16-50mm)

Holder for mounting keyless chuck or rubber chuck.



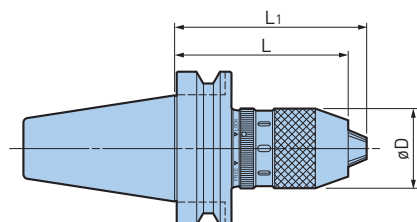
Catalog Number	JT.No.	ϕD	L	L ₁	Weight (lbs.)
BBT30-JTA1-30	.039	.384	1.181	.591	1.0
BBT30-JTA6-30	.236	.676		.945	1.1
BBT40-JTA1-45	.039	.384	1.772	.591	2.6
BBT40-JTA1-105			4.134		3.3
BBT40-JTA6-45	.236	.676	1.772	.945	2.6
BBT40-JTA6-105			4.134		3.5
BBT50-JTA6-45	.236	.676	1.772	.945	8.8
BBT50-JTA6-105			4.134		9.3

- The model, dimensions and accuracy conform to TMT standards
- Drill chuck is not included

SUPER KEYLESS CHUCK (INTEGRAL HOLDER TYPE)

CLAMPING RANGE: ϕ .020"-.512" (ϕ .5-13mm)

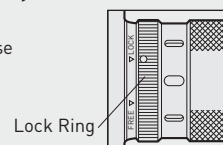
Securely chucks the drill with simple operation.



Reverse Lock Mechanism (SKL13)

No loosening even when the main spindle suddenly stops, by the reverse lock mechanism using a lock ring.

**Runout Accuracy
Within .05mm**



Catalog Number	Clamping Diameter	ϕD	L	L ₁	Weight (lbs.)	Wrench
BBT30-SKL13-110	ϕ .020- ϕ .512	2.008	4.331	4.823	3.2	FS13LC
BBT40-SKL13-105			4.173	4.665	4.2	
BBT50-SKL13-115			4.528	5.020	9.7	
BBT30-KLC6.5-70	ϕ .020- ϕ .256	1.339	2.756	3.012	1.4	FS6.5LC
BBT40-KLC6.5-75			2.953	3.209	2.6	

- Hook wrench is included
- KLC type does not have the reverse lock mechanism

SIDE LOCK DRILL HOLDER

CLAMPING RANGE: ϕ .630"-1.575" (ϕ 16-50mm)

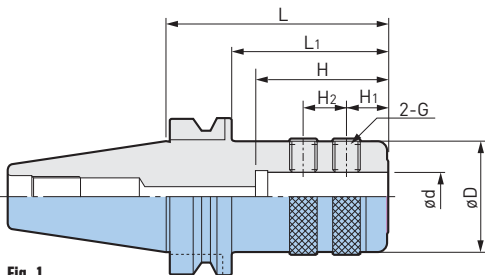


Fig. 1

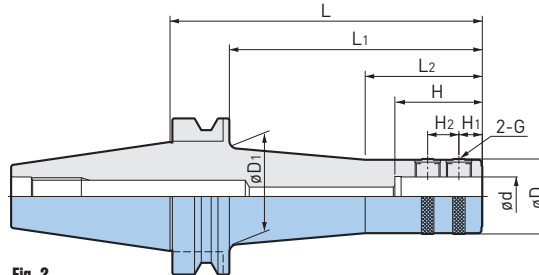


Fig. 2

BIG-PLUS Taper Catalog Number	Standard Taper Catalog Number	Fig.	ød	øD	øD1	L	L1	L2	H	H1	H2	G	Weight (lbs.)
BBT30-TSL16-75	—	1	.630	1.890	—	2.953	—	—	1.890	.551	.551	M10	2.3
BBT30-TSL20-75			.787			3.150			1.969				2.2
BBT30-TSL25-80			.984	3.346		2.205			.591	.787	M16	2.1	
BBT30-TSL32-85			1.260			2.362						3.0	
BBT40-TSL16-90	BT40-TSL16-90	1	.630	1.890	—	3.543	2.480	—	1.890	.551	.551	M10	3.7
BBT40-TSL16-105	—					4.134	3.071						4.2
BBT40-TSL20-90	BT40-TSL20-90		.787	1.890		3.543	2.480		1.969	.551	.551	M10	3.7
BBT40-TSL20-105	—					4.134	3.071						4.2
BBT40-TSL25-90	BT40-TSL25-90		.984	1.890		3.543	2.480		2.205	.591	.787	M16	3.5
BBT40-TSL25-105	BT40-TSL25-105					4.134	3.071						4.0
BBT40-TSL32-105	BT40-TSL32-105		1.260	2.480		4.134	3.071		2.362	.591	.787	M16	5.3
BBT40-TSL32-135	—					5.315	4.252						6.6
BBT40-TSL40-105	BT40-TSL40-105		1.575	2.677		4.314	—		2.756	.591	.984	M16	5.3

- BT shank models with "—" are not available; please choose BBT shank models
- Not compatible with Weldon DIN 1835B

ACCESSORIES



BASIC ARBORS

MORSE TAPER HOLDER

Precise finish of the Morse taper bore provides stable runout accuracy.

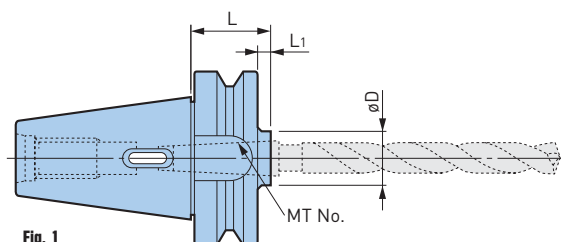


Fig. 1

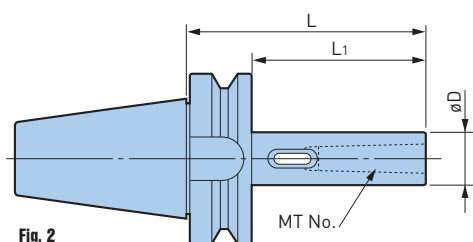


Fig. 2

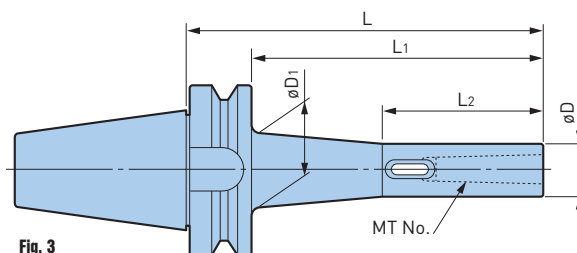


Fig. 3



BIG-PLUS Taper Catalog Number	Standard Taper Catalog Number	Fig.	MT	øD	øD1	L	L1	L2	Weight (lbs.)	Reference Drill Dia. [JIS B4302 1]	
BBT30-MTA1-60	BT30-MTA1-60	1	1	.984	—	2.36	1.50	—	1.1	.118-.551	
BBT30-MTA2-60	BT30-MTA2-60		2	1.260		2.36	1.50		1.2	.571-.906	
BBT30-MTA3-80	BT30-MTA3-80		3	1.575		3.15	2.28		1.6	.925-1.240	
BBT40-MTA1-45	BT40-MTA1-45	1	1	.984	—	1.77	.71	—	2.2	.118-.551	
BBT40-MTA1-120	BT40-MTA1-120	2				4.72	3.66		2.9		
BBT40-MTA2-45	BT40-MTA2-45	1	2	1.260	—	1.77	.71	—	2.2	.571-.906	
BBT40-MTA2-120	BT40-MTA2-120	2				4.72	3.66		3.5		
BBT40-MTA3-75	BT40-MTA3-75	1	3	1.575	—	2.95	1.89	—	2.2	.925-1.240	
BBT40-MTA3-135	BT40-MTA3-135	2				5.31	4.25		3.7		
BBT40-MTA4-90	BT40-MTA4-90	2	4	1.969	—	3.54	2.48	—	3.5	1.260-1.969	
BBT50-MTA1-45	BT50-MTA1-45	1	1	.984	—	1.77	.28	—	8.6	.118-.551	
BBT50-MTA1-120	BT50-MTA1-120	2				4.72	3.23		—		9.3
BBT50-MTA1-180	BT50-MTA1-180					7.09	5.59				9.5
BBT50-MTA1-210	—	3			1.614	8.27	6.77	3.35	9.7		
BBT50-MTA1-250					1.693	9.84	8.35		10.6		
BBT50-MTA2-45	BT50-MTA2-45	1	2	1.260	—	1.77	.28	—	8.6	.571-.906	
BBT50-MTA2-135	BT50-MTA2-135	2				5.31	3.82		—		9.5
BBT50-MTA2-180	BT50-MTA2-180					7.09	5.59				10.1
BBT50-MTA2-210	—	3			1.791	8.27	6.77	3.74	10.6		
BBT50-MTA2-250					1.909	9.84	8.35		11.5		
BBT50-MTA2-300					1.949	11.81	10.31		12.8		

BASIC ARBORS

BIG-PLUS Taper Catalog Number	Standard Taper Catalog Number	Fig.	MT	øD	øD1	L	L1	L2	Weight (lbs.)	Reference Drill Dia. [JIS B4302 1]
BBT50-MTA3-45	BT50-MTA3-45	1	3	1.575	—	1.77	.28	—	8.4	.925-1.240
BBT50-MTA3-75	—					2.95	1.46		8.6	
BBT50-MTA3-150	BT50-MTA3-150	2				5.91	4.41		10.1	
BBT50-MTA3-180	BT50-MTA3-180					7.09	5.59		10.8	
BBT50-MTA3-210	—					8.27	6.77		11.2	
BBT50-MTA3-250		3			1.988	9.84	8.35	12.3		
BBT50-MTA3-300					11.81	10.31	13.9			
BBT50-MTA4-75	BT50-MTA4-75	1	4	1.969	—	2.95	1.46	—	8.6	1.260-1.969
BBT50-MTA4-180	BT50-MTA4-180	2				7.09	5.59		11.9	
BBT50-MTA4-210	—					8.27	6.77		12.3	
BBT50-MTA4-250						9.84	8.35		13.7	
BBT50-MTA4-300						11.81	10.31		15.4	
BBT50-MTA5-105						BT50-MTA5-105	1		4.13	
BBT50-MTA5-210	BT50-MTA5-210	2	5	2.559	—	8.27	6.77	15.9		

- The model, dimensions and accuracy conform to TMT standards

BASIC ARBORS

FACE MILL



Type A



Type B

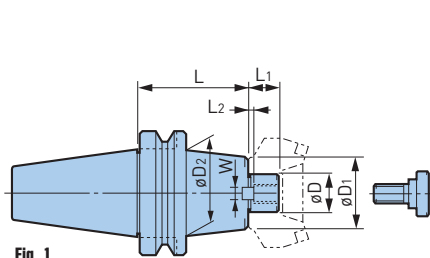


Fig. 1

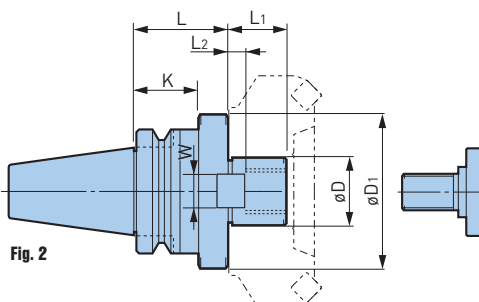


Fig. 2

Figures and shapes may be different depending on the dimension L.

(ARBOR TYPE A)



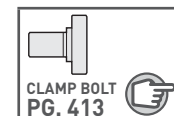
BIG-PLUS Taper Catalog Number	Standard Taper Catalog Number	Fig.	øD (h6)	øD1	øD2	L	L1	Drive Key		Clamping Screw	Weight (lbs.)
								L2	W		
BBT30-FMA22.225-45	—	1	.875	1.654	—	1.772	.709	.157	.327	M10-40L	1.6
BBT30-FMA25.4-45		2	1.000	1.969	—	1.772	.866	.197	.374	MBA-M12	1.9
—	BT30-FMA31.75-45	2	1.250	2.362	—	1.772	1.181	.276	.500	MBA-M16	2.4
BBT40-FMA25.4-45	BT40-FMA25.4-45	1	1.000	1.969	—	1.772	.866	.197	.374	MBA-M12	3.3
BBT40-FMA25.4-90	BT40-FMA25.4-90				2.362	3.543					5.1
BBT40-FMA25.4-150❖	—					5.906					7.5
BBT40-FMA31.75-45	BT40-FMA31.75-45		1.250	2.362	—	1.772	1.181	.276	.500	MBA-M16	3.7
BBT40-FMA31.75-75	BT40-FMA31.75-75					2.953					5.3
BBT40-FMA31.75-105❖	—					4.134					6.6
BBT40-FMA31.75-150○						5.906					8.8
BBT40-FMA38.1-60○	BT40-FMA38.1-60○	2	1.500	3.150	—	2.362	1.339	.354	.626	MBA-M20	5.5

(ARBOR TYPE B)

BIG-PLUS Taper Catalog Number	Fig.	øD (h6)	øD1	L	L1	Drive Key		Clamping Screw	Weight (lbs.)
						L2	W		
BBT40-FMB38.1-60○	2	1.500	3.346	2.362	1.024	.354	.626	MBA-M20	5.1
BBT40-FMB38.1-75				2.953					6.4
BBT40-FMB38.1-105				4.134					7.5
BBT40-FMB40-60○		1.575	3.346	2.362		.335	.630	MBA-M20	5.1
BBT40-FMB40-75				2.953					6.0

- BT shank models with "—" are not standard products
- Models with ❖ do not have a through hole
- These arbors are compatible with the JIS B4113 (1970) face milling cutters
- The weight does not include the cutter
- The model, dimensions and accuracy conform to TMT standards
- Cutter clamp screw is included
- Depending on the cutter, a hex socket head screw may be required for clamping.
- A clamp screw with oil hole must be ordered separately for use with center-through coolant/air
- The ATC arm interference zone K of the model with "O" is 45mm

ACCESSORIES



BASIC ARBORS

FACE MILL (ARBOR TYPE C)

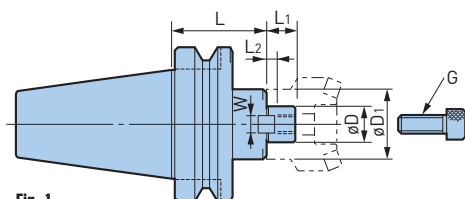


Fig. 1

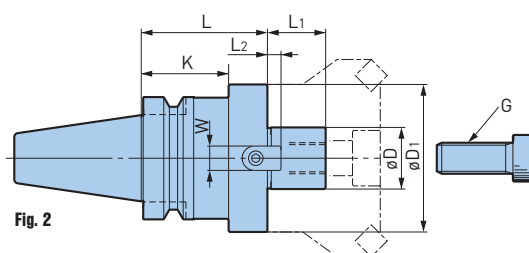


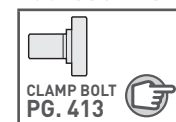
Fig. 2

Figures and shapes may be different depending on the dimension L.

BIG-PLUS Taper Catalog Number	Standard Taper Catalog Number	Fig	øD (h6)	øD1	L	L1	Drive Key		Clamping Screw	Weight (lbs.)
							L2	W		
BBT30-FMC16-45	—	1	.630	1.260	1.772	.630	.197	.315	M8	1.3
BBT30-FMC22-45		1	.866	1.772		.709	.197	.394	M10	1.7
BBT30-FMC27-45		2	1.063	2.756		.787	.236	.472	M12	2.3
BBT40-FMC22-45	BT40-FMC22-45	1	.866	1.772	1.772	.709	.197	.394	M10	2.9
BBT40-FMC22-90	BT40-FMC22-90				3.543					3.7
BBT40-FMC22-150❖	—				5.906					5.5
BBT40-FMC27-60○	—	2	1.063	2.756	2.362	.787	.236	.472	M12	4.4
BBT40-FMC27-90					3.543					5.7
BBT40-FMC27-150❖					5.906					9.0
BBT40-FMC32-60○	—	2	1.260	3.346	2.362	.866	.276	.551	M16	4.6
BBT40-FMC32-75					2.953					5.5
BBT40-FMC32-105					4.134					7.3

- BT shank models with "-" are not available; please choose BBT shank models
- Models with ❖ do not have a through hole
- The weight does not include the cutter
- The model, dimensions and accuracy conform to TMT standards
- Cutter clamp screw is included
- The ATC arm interference zone K of the model with "○" is 45mm

ACCESSORIES



BASIC ARBORS

SHELL/FACE MILL HOLDER

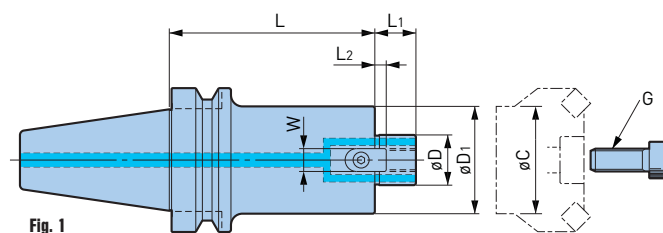
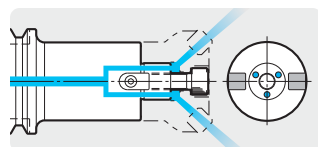


Fig. 1

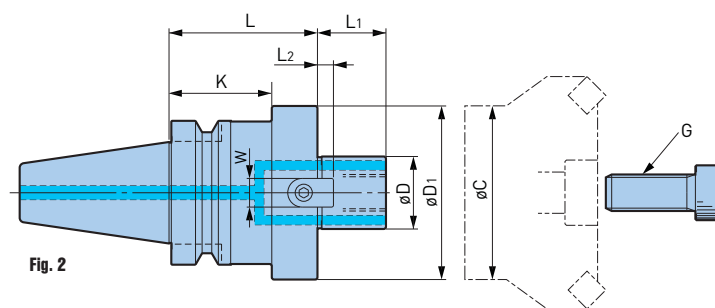


Fig. 2



Catalog Number	Fig.	øD1	øD2	øD3	L	L1	L2	L3	W	G	Weight (lbs.)
BBT30-SMC.750-2	1	.750	1.689	.88	2.00	.69	.16	.38	.313	3/8"-24	1.6
BBT30-SMC1.000-2		1.000	2.189	1.19		.69	.22	.38	.375	1/2"-20	2.0
BBT30-FMH25.4-46-35	1	1.000	1.811	1.50	1.38	.87	.20	.47	.375	M12	1.4
BBT30-FMH25.4-50-45●	2	1.000	1.969	1.88	1.77	.87	.20	.47	.375	M12	1.8
BBT30-FMH31.75-60-45●	2	1.250	2.362	.95	1.77	1.18	.26	.63	.500	M16	2.0
BBT30-FMH16-37-35	2	16mm	1.457	.51	1.38	.63	.20	.32	.315	M8	1.2
BBT30-FMH22-47-45●		22mm	1.850	.63	1.77	.71	.20	.39	.394	M10	1.6
BBT30-FMH22-60-45●			2.362	.63							
BBT30-FMH27-60-45●		27mm	2.362	.71		.79	.24	.47	.472	M12	2.0
BBT40-SMC.750-2	1	.750	1.689	.88	2.00	.69	.16	.38	.313	3/8"-24	2.9
BBT40-SMC1.000-2		1.000	2.189	1.19		.69	.22	.38	.375	1/2"-20	3.3
BBT40-SMC1.250-2		1.250	2.752	1.50		.69	.28	.50	.500	5/8"-18	4.0
BBT40-SMC1.500-2		1.500	3.626	1.88		.93	.38	.50	.625	3/4"-16	5.3

BASIC ARBORS

Catalog Number	Fig.	øD1	øD2	øD3	L	L1	L2	L3	W	G	Weight (lbs.)
BBT40-FMH22.225-47-60	2	22.225mm	1.850	.63	2.36	.67	.14	.39	.315	M10	3.3
BBT40-FMH22.225-47-90					3.54						4.2
BBT40-FMH25.4-70-60●		25.4mm	2.756	.71	2.36	.87	.20	.47	.374	M12	4.4
BBT40-FMH25.4-70-90					3.54						5.9
BBT40-FMH25.4-70-105					4.13						6.8
BBT40-FMH31.75-76-60●		31.75mm	2.992	.95	2.36	1.18	.28	.63	.500	M16	4.8
BBT40-FMH31.75-76-90					3.54						6.4
BBT40-FMH31.75-96-60●		31.75mm	3.780	.95	2.36	1.18	.28	.63	.500	M16	5.5
BBT40-FMH16-37-40	2	16mm	1.457	.51	1.57	.63	.20	.32	.315	M8	2.4
BBT40-FMH22-47-45		22mm	1.850	.63	1.77	.71	.20	.39	.394	M10	2.9
BBT40-FMH22-47-60					2.36						3.3
BBT40-FMH22-47-90					3.54						4.2
BBT40-FMH22-47-150					5.91						5.9
BBT40-FMH22-60-45		22mm	2.362	.63	1.77	.71	.20	.39	.394	M10	3.3
BBT40-FMH22-60-60					2.36						4.0
BBT40-FMH22-60-90					3.54						5.5
BBT40-FMH27-60-45		27mm	2.480	.71	1.77	.79	.24	.47	.472	M12	3.3
BBT40-FMH27-60-60					2.36						4.0
BBT40-FMH27-60-90					3.54						5.5
BBT40-FMH27-76-60●		27mm	2.992	.71	2.36	.79	.24	.47	.472	M12	4.6
BBT40-FMH27-76-90					3.54						6.2
BBT40-FMH32-96-60●		32mm	3.780	.95	2.36	.87	.28	.63	.551	M16	5.3

- Cutter clamping screw is included
- The weight does not include the cutter
- If the provided clamping screw is not compatible, separately select one from the clamping screw table on pg. 413
- When using a cutter without oil holes, an optional clamping screw with a through hole allows coolant supply
- The ATC arm interference zone K is 30mm for BBT30 and 45mm for BBT40 with models marked ●

ACCESSORIES



CAUTION

For high speed applications, shell mill holders should be balanced together with the cutters.

BASIC ARBORS

SMART DAMPER MILLING (FACE MILL ARBOR TYPE)

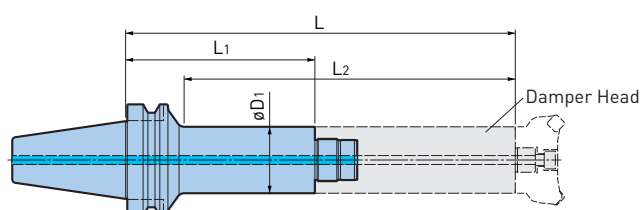
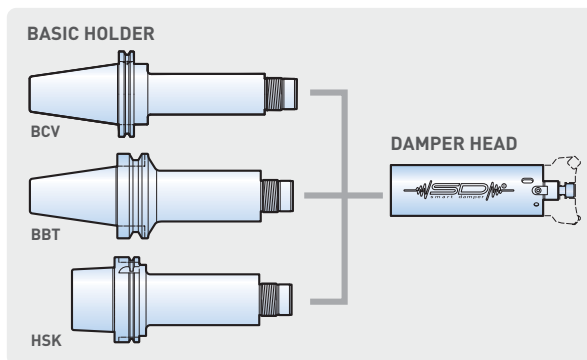


Fig. 1

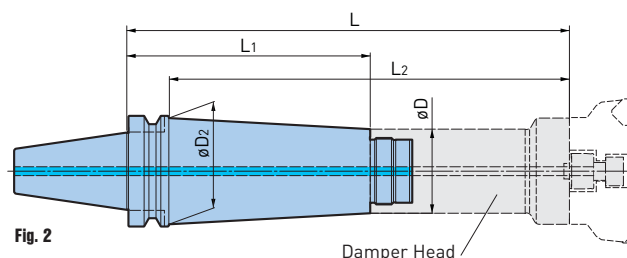
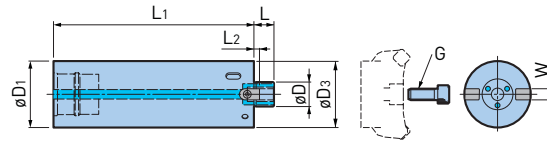


Fig. 2



Catalog Number	Fig.	$\phi D1$	$\phi D2$	L	L1	L2	Weight (lbs.)	Damper Head
BBT50-SDF28-38-80	1	38mm	—	9.843	3.150	7.677	9.3	SDF28-FMH16DP-38
BBT50-SDF28-38-130				11.811	5.118	9.646	10.4	
BBT50-SDF28-38-180				13.780	7.087	11.614	11.2	
BBT50-SDF36-47-70	1	47mm	—	9.843	2.756	7.756	9.5	SDF36-FMH□□DP-47
BBT50-SDF36-47-120				11.811	4.724	9.724	11.0	
BBT50-SDF36-47-170				13.78	6.693	11.693	12.3	
BBT50-SDF36-47-220	1	60mm	—	15.748	8.661	13.661	13.9	SDF36-FMH□□DP-60
BBT50-SDF36-60-70				9.843	2.756	7.756	10.1	
BBT50-SDF36-60-120				11.811	4.724	9.724	12.6	
BBT50-SDF36-60-170	1	76mm	—	13.78	6.693	11.693	14.8	SDF57-FMH□□DP-□□
BBT50-SDF36-60-220				15.748	8.661	13.661	17.2	
BBT50-SDF57-76-70				9.843	2.756	7.756	11.7	
BBT50-SDF57-76-120	1	76mm	—	11.811	4.724	9.724	15.4	SDF57-FMH□□DP-□□
BBT50-SDF57-76-170				13.78	6.693	11.693	19.4	
BBT50-SDF57-76-220				15.748	8.661	13.661	23.1	
BBT50-SDF57-76-170T	2	76mm	3.780	13.780	6.693	12.205	22.5	SDF57-FMH□□DP-□□
BBT50-SDF57-76-220T				15.748	8.661	14.173	27.6	
BBT50-SDF57-76-270T				17.717	10.630	16.142	32.4	

SMART DAMPER MILLING (DAMPER HEAD)



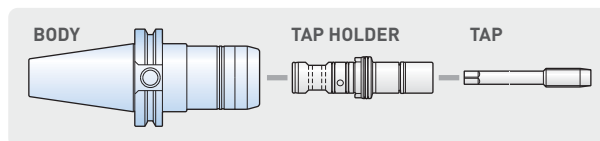
Catalog Number	øD	øD1	øD3	L	L1	L2	W	G	Weight (lbs.)
SDF28-FMH16DP-38-170	16mm	38mm	1.496	6.693	.630	.197	.315	M8	4.2
SDF36-FMH22DP-47-180	22mm	47mm	1.850	7.087	.709	.197	.394	M10	6.6
SDF36-FMH22DP-60-180		60mm	2.362						9.9
SDF36-FMH27DP-60-180	27mm	60mm	2.362	7.087	.787	.236	.472	M12	9.9
SDF57-FMH27DP-76-180		76mm	2.992					M12	17.9
SDF57-FMH38.1DP-100-180	38.1mm		3.937	7.087	1.339	.354	.626	M20 (MBA-) M20H	20.1
SDF57-FMH40DP-100-180	40mm				1.024	.335	.630		
SDF36-SMC.750DP-47-180	.750	47mm	1.850	7.087	.689	.160	.313	3/8"-24	6.6
SDF36-SMC1.000DP-60-180	1.000	60mm	2.362			.220	.375	1/2"-20	9.9
SDF57-SMC1.000DP-72-180		72mm	2.835						16.3

- Hook wrench and cutter clamping screw are included
- The weight does not include the cutter
- Refer to the operation manual regarding the mounting method to the basic holder
- If the provided clamping screw is not compatible, separately select one from the clamping screw table on pg. 413
- The damper head cannot be removed after the basic holder and damper head have been attached and used for processing
- øC indicates the minimum diameter of the cutter's arbor mounting surface

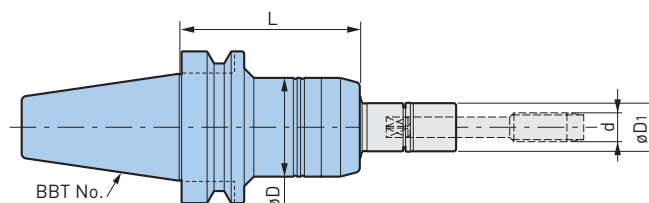
TAP HOLDERS

MEGA SYNCHRO TAPPING HOLDER

TAPPING RANGE: No.2-AU3/4 (M2-M20)



PATENT #
8226337



Catalog Number	Tapping Range d* (Inch)	Tapping Range d* (Metric)	øD	øD1	L	Wrench	Weight (lbs.)
BBT30-MGT6-70	No.2-No.12	M2-M6	1.42	.63	2.76	MGR16	1.5
BBT30-MGT12-70	AU1/4-AU7/16	M6-M12	1.61	.79	2.76	MGR20L	1.8
BBT30-MGT20-110	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	4.33	MGR30L	3.3
BBT40-MGT6-75	No.2-No.12	M2-M6	1.42	.63	2.95	MGR16	2.9
BBT40-MGT12-75	AU1/4-AU7/16	M6-M12	1.61	.79	2.95	MGR20L	3.1
BBT40-MGT20-95	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	3.74	MGR30L	4.0
BBT50-MGT6-90	No.2-No.12	M2-M6	1.42	.63	3.54	MGR16	8.6
BBT50-MGT12-90	AU1/4-AU7/16	M6-M12	1.61	.79	3.54	MGR20L	8.8
BBT50-MGT20-105	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	4.13	MGR30L	9.7

*AU3/8 is included in the MGT20 series

- MGT set screw is included; tap holder and wrench must be ordered separately

ACCESSORIES

TAP HOLDER PG. 394	MEGA NUT PG. 401	SYNCHRO ADJUSTER PG. 401	O-RING PG. 401	MEGA WRENCH PG. 388	SCREW PG. 401

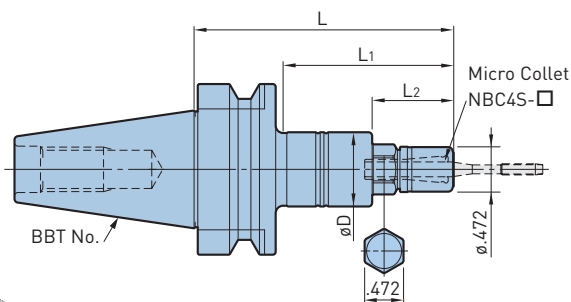
CAUTION

Cannot be used with machining center without synchronized tapping function.

TAP HOLDERS

MEGA SYNCHRO TAPPING HOLDER

TAPPING RANGE: No.0-No.6 (M1-M3)



Catalog Number	Tapping Range d* (Inch)	Tapping Range d* (Metric)	ϕD	L	L1	L2	Wrench	Weight (lbs.)
BBT30-MGT3-70	No.0-No.6	M1-M3	.787	2.76	1.81	.87	MGR12	1.5
BBT40-MGT3-90	No.0-No.6	M1-M3	.787	3.54	2.40	.87	MGR12	2.6

- Nut is included; collet and wrench must be ordered separately
- When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required
- Not capable of supplying coolant through the holder body

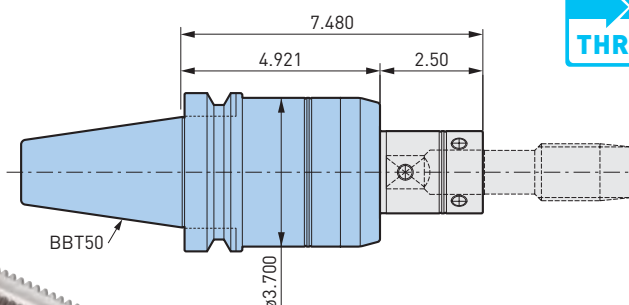
ACCESSORIES



CAUTION

Cannot be used with machining center without synchronized tapping function.

TAPPING RANGE: AU13/16-AU1-1/2 (M20-M36)



Catalog Number	Tapping Range d (Inch)	Tapping Range d (Metric)	Weight (lbs.)
BBT50-MGT36-125	AU13/16-AU1-1/2 AP3/8-AP1	M20-M36	15.8

- MGT set screw is included; tap holder must be ordered separately

ACCESSORIES



CAUTION

Cannot be used with machining center without synchronized tapping function.

MODULAR HOLDERS

CKB SHANK

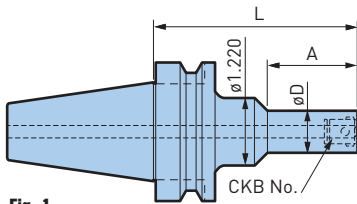


Fig. 1

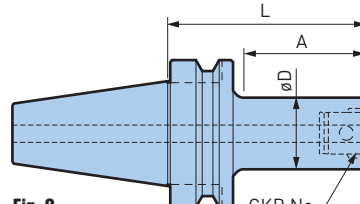


Fig. 2

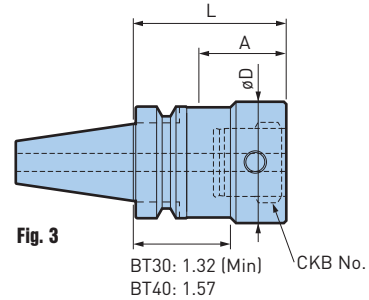


Fig. 3



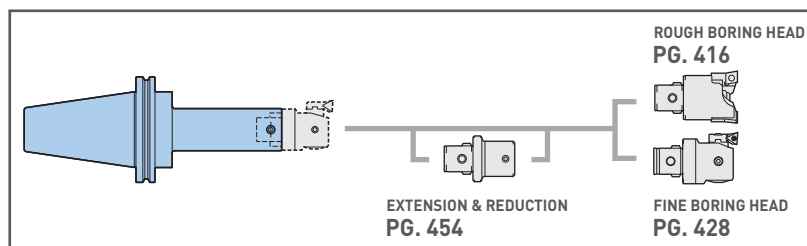
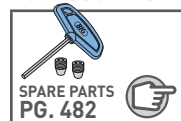
BIG-PLUS BBT Shank Catalog Number	BT Shank Catalog Number	Fig.	CK No.	ϕD	L	A	Weight (lbs.)
BBT30-CKB1-72	BT30-CKB1-72	1	CK1	.748	2.835	1.575	1.1
BBT30-CKB2-38	BT30-CKB2-38	2	CK2	.945	1.476	.433	.9
BBT30-CKB2-83	BT30-CKB2-83				3.248	2.165	1.2
BBT30-CKB3-39	BT30-CKB3-39	2	CK3	1.220	1.535	.512	1.0
BBT30-CKB3-79	BT30-CKB3-79				3.110	2.047	1.4
BBT30-CKB4-38	BT30-CKB4-38	2	CK4	1.535	1.496	.512	1.0
BBT30-CKB4-73	BT30-CKB4-73				2.874	1.890	1.7
BBT30-CKB5-63	BT30-CKB5-63	3	CK5	1.969	2.480	1.614	1.7
BBT30-CKB6-64	BT30-CKB6-64	3	CK6	2.520	2.520	1.654	2.0
BBT40-CKB1-72	BT40-CKB1-72	2	CK1	.748	2.835	1.575	2.4
BBT40-CKB2-43	BT40-CKB2-43	2	CK2	.945	1.673	.413	2.2
BBT40-CKB2-83	BT40-CKB2-83				3.248	1.988	2.6
BBT40-CKB3-44	BT40-CKB3-44	2	CK3	1.220	1.732	.472	2.4
BBT40-CKB3-94	BT40-CKB3-94				3.701	2.441	2.9
BBT40-CKB3-124	—				4.882	3.622	3.3
BBT40-CKB4-43	BT40-CKB4-43	2	CK4	1.535	1.693	.433	2.6
BBT40-CKB4-88	BT40-CKB4-88				3.465	2.205	3.3
BBT40-CKB4-118	—				4.646	3.386	4.0
BBT40-CKB4-148	—				5.827	4.567	4.6
BBT40-CKB5-48	BT40-CKB5-48	2	CK5	1.969	1.890	.630	2.6
BBT40-CKB5-78	BT40-CKB5-78				3.071	1.811	3.5
BBT40-CKB5-108	—				4.252	2.992	4.6
BBT40-CKB5-138	—				5.433	4.173	5.5
BBT40-CKB6-64	BT40-CKB6-64	3	CK6	2.520	2.520	1.457	3.5
BBT40-CKB6-64/90v	—				2.520	1.457	3.5
BBT40-CKB6-94	—				3.701	2.638	5.1
BBT40-CKB6-124	—				4.882	3.819	6.8

MODULAR HOLDERS

BIG-PLUS BBT Shank Catalog Number	BT Shank Catalog Number	Fig.	CK No.	øD	L	A	Weight (lbs.)
BBT50-CKB1-72	—	1	CK1	.748	2.835	.472	8.2
BBT50-CKB1-102	BT50-CKB1-102				4.016	1.535	8.8
BBT50-CKB2-53	BT50-CKB2-53	2	CK2	.945	2.067	.354	8.4
BBT50-CKB2-113	BT50-CKB2-113				4.429	2.717	8.8
BBT50-CKB3-54	BT50-CKB3-54	2	CK3	1.220	2.126	.433	8.6
BBT50-CKB3-124	BT50-CKB3-124				4.882	3.189	9.3
BBT50-CKB3-154	—				6.063	4.370	9.5
BBT50-CKB4-58	BT50-CKB4-58	2	CK4	1.535	2.283	.591	9.5
BBT50-CKB4-118	BT50-CKB4-118				4.646	2.953	9.9
BBT50-CKB4-178	BT50-CKB4-178				7.008	5.315	10.8
BBT50-CKB4-208	—				8.189	6.496	11.2
BBT50-CKB5-63	BT50-CKB5-63	2	CK5	1.969	2.480	.787	8.8
BBT50-CKB5-108	BT50-CKB5-108				4.252	2.559	10.4
BBT50-CKB5-183	BT50-CKB5-183				7.205	5.512	13.0
BBT50-CKB5-228	BT50-CKB5-228				8.976	7.283	14.3
BBT50-CKB5-263	—				10.354	8.661	15.4
BBT50-CKB6-94	BT50-CKB6-94	2	CK6	2.520	3.701	2.008	10.6
BBT50-CKB6-169	BT50-CKB6-169				6.654	4.961	14.8
BBT50-CKB6-229	BT50-CKB6-229				9.016	7.323	18.1
BBT50-CKB6-289	—				11.378	9.685	21.4
BBT50-CKB7-93	BT50-CKB7-93	2	CK7	3.543	3.661	2.047	12.3
BBT50-CKB7-183	BT50-CKB7-183				7.205	5.591	21.8
BBT50-CKB7-243	BT50-CKB7-243				9.567	7.953	28.0

- Cutting edge and drive key grooves are located in the same orientation
- Model with ♣ has a cutting edge and a drive key offset by 90°

ACCESSORIES

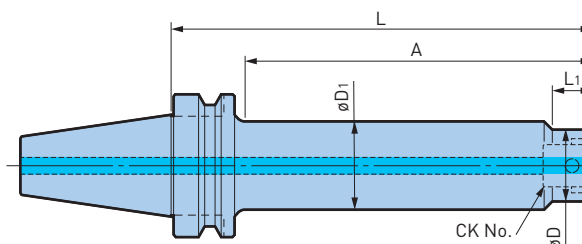


MODULAR HOLDERS

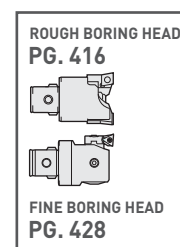
CK LONG SHANK (RIGID TYPE)

For Deep Boring

Designed with a highly rigid structure and an enlarged shank diameter to minimize deflection during operation.



Catalog Number	CK No.	Diameter	øD	øD1	L	L1	A	Weight (lbs.)	
BBT50-CKB4-48-193	CK4	1.969-2.913	1.535	1.890	7.598	.748	5.906	12.1	
BBT50-CKB4-48-238					9.370		7.677	13.4	
BBT50-CKB5-62-243	CK5	2.559-3.740	1.969	2.441	9.567	.945	7.874	17.9	
BBT50-CKB5-62-303					11.929		10.236	20.9	
BBT50-CKB6-72-259	CK6	2.953-7.992	2.520	2.835	10.197	1.142	8.504	22.7	
BBT50-CKB6-72-314					12.362		10.669	26.5	
BBT50-CKB6-80-289		3.346-7.992		3.150	11.378		9.685	28.4	
BBT50-CKB6-80-349					13.740		12.047	33.5	

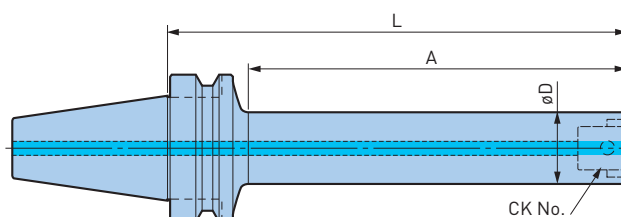


- The diameter range is a reference value when using an EWN Boring Head. Note that due to interference with øD1, this differs from the EWN range
- Cutting edges and drive keys are aligned with boring heads mounted
- Head and inserts must be ordered separately

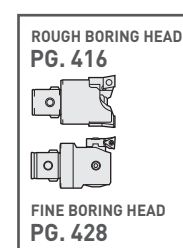
MODULAR HOLDERS

SMART DAMPER BORING (BBT SHANK TYPE)

Built-in damper eliminates chatter in deep hole boring.

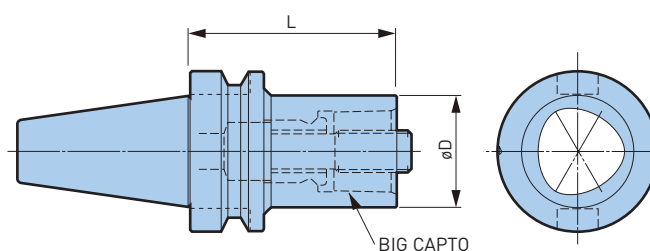


Catalog Number	CK No.	ϕD	L	A	Weight (lbs.)
BBT50-CKB4DP-252	CK4	1.535	9.921	7.835	12.6
BBT50-CKB5DP-314	CK5	1.969	12.362	10.276	17.2
BBT50-CKB6DP-380	CK6	2.520	14.961	13.268	27.1



- Cutting edges and drive keys are aligned with boring heads mounted
- Head and inserts must be ordered separately
- Extension should not be used due to possible chatter

BIG CAPTO SHANK



Catalog Number	BIG CAPTO	ϕD	L	Clamp Bolt			Weight (lbs.)
				Thread Size	Hex	Tightening Torque	
BBT30-C3-30	C3	1.260	1.181	M12 P1.5	8mm	30 ft-lbs	2.2
BBT40-C4-40	C4	1.575	1.575	M14 P1.5	8mm	35 ft-lbs	2.4
BBT40-C5-50	C5	1.969	1.969	M16 P1.5	10mm	70 ft-lbs	4.9
BBT40-C6-75	C6	2.480	2.953	M20 P2		125 ft-lbs	3.7
BBT50-C3-40	C3	1.260	1.575	M12 P1.5	8mm	30 ft-lbs	7.9
BBT50-C4-40	C4	1.575		M14 P1.5		35 ft-lbs	7.9
BBT50-C5-40	C5	1.969		M16 P1.5	10mm	70 ft-lbs	7.7
BBT50-C6-50	C6	2.480	1.969	M20 P2	14mm	125 ft-lbs	7.7
BBT50-C8-70	C8	3.150	2.756				8.8

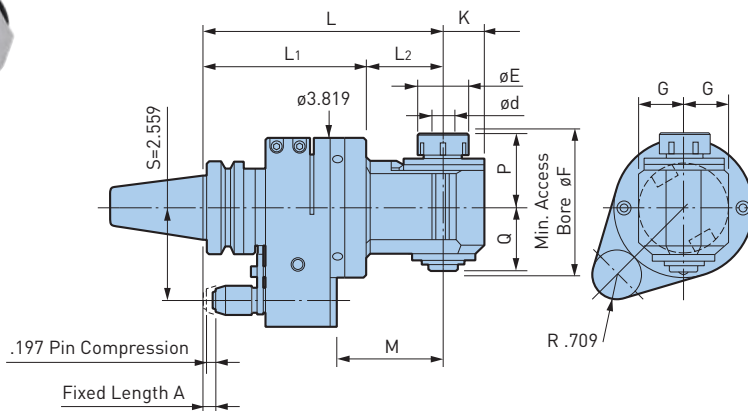
- Clamping screws are included; wrench must be ordered separately

ANGLE HEADS

AG90 (NBS TYPE)

CLAMPING RANGE: .010"-.787"

**MAX
6,000
RPM**



Catalog Number	ød	øE	G	K	L	L1	L2	M	P	Q	øF	Collet	Max RPM	Weight (lbs.)
BBT40-AG90/NBS6-170	.010-.236	.787	.827	.669	6.69	4.53	2.17	3.03	1.30	1.14	2.638	NBC6	6,000	11.2
BBT40-AG90/NBS6-200					7.87		3.35	4.21						11.7
BBT40-AG90/NBS6-230					9.06		4.53	5.39						12.1
BBT40-AG90/NBS6-260					10.24		5.71	6.58						12.5
BBT40-AG90/NBS10-170	.059-.394	1.181	1.181	.984	6.69	4.53	2.17	3.03	1.77	1.69	3.583	NBC10	6,000	12.1
BBT40-AG90/NBS10-200					7.87		3.35	4.21						13.0
BBT40-AG90/NBS10-230					9.06		4.53	5.39						13.7
BBT40-AG90/NBS13-170	.098-.512	1.378	1.220	1.102	6.69	4.53	2.17	3.03	2.05	1.77	3.976	NBC13	6,000	12.3
BBT40-AG90/NBS13-200					7.87		3.35	4.21						13.2
BBT40-AG90/NBS13-230					9.06		4.53	5.39						13.9
BBT40-AG90/NBS20-185	.098-.787	1.811	1.378	1.378	7.28	4.53	2.76	3.62	2.56	2.44	5.197	NBC20	3,000	14.8
BBT40-AG90/NBS20S-165S	.098-.787	1.811	1.378	1.299	6.50	4.41	2.09	2.84	2.56	2.44	5.197	NBC20	3,000	17.6

- Nut and wrench are included, collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- **NEW BABY END MILL COLLETS cannot be used**

ACCESSORIES



CAUTION

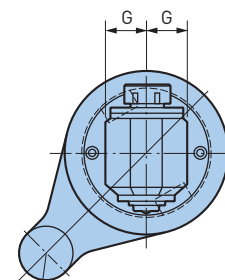
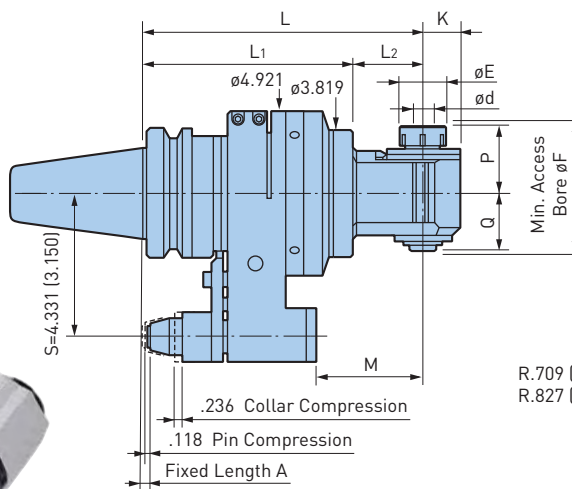
A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

ANGLE HEADS

AG90 (NBS TYPE)

CLAMPING RANGE: ϕ .010"-.787"

MAX
6,000
RPM



R.709 (S=3.150)
R.827 (S=4.331)



Catalog Number	ϕ d	ϕ E	G	K	L	L1	L2	M	P	Q	ϕ F	Collet	Max RPM	Weight (lbs.)
BBT50-AG90/NBS6-215	.010-.236	.787	.827	.669	8.47	6.30	2.17	3.23	1.30	1.14	2.638	NBC6	6,000	27.8
BBT50-AG90/NBS6-245					9.65		3.35	4.41						28.2
BBT50-AG90/NBS6-275					10.83		4.53	5.59						28.7
BBT50-AG90/NBS6-305					12.01		5.71	6.77						29.1
BBT50-AG90/NBS10-215	.059-.394	1.181	1.181	.984	8.47	6.30	2.17	3.23	1.77	1.69	3.583	NBC10	6,000	28.7
BBT50-AG90/NBS10-245					9.45		3.35	4.41						29.5
BBT50-AG90/NBS10-275					10.83		4.53	5.59						30.2
BBT50-AG90/NBS13-215	.098-.512	1.378	1.220	1.102	8.47	6.30	2.17	3.23	2.05	1.77	3.976	NBC13	6,000	28.9
BBT50-AG90/NBS13-245					9.45		3.35	4.41						29.8
BBT50-AG90/NBS13-275					10.83		4.53	5.59						30.4
BBT50-AG90/NBS20-230	.098-.787	1.811	1.378	1.378	9.06	6.30	2.76	3.82	2.56	2.44	5.197	NBC20	3,000	31.3

- Nut and wrench are included, collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

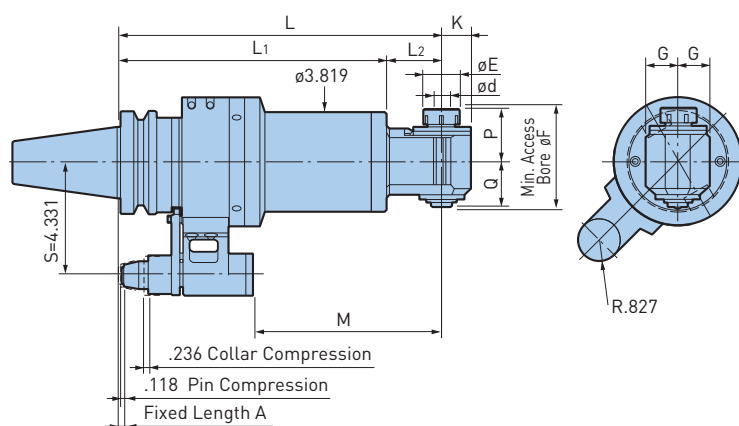
ANGLE HEADS

AG90 (NBS EXTRA LONG TYPE)

CLAMPING RANGE: ϕ .010"-.787"

For Drilling & Key Slotting in Deep Holes of Large Workpieces

MAX
6,000
RPM



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

Catalog Number	ϕd	ϕE	G	K	L	L1	L2	M	P	Q	ϕF	Collet	Max RPM	Weight (lbs.)
BBT50-AG90NBS6-315LS	.010-.236	.787	.827	.669	12.40	10.24	2.17	7.17	1.30	1.14	2.638	NBC6-□	6,000	41.7
BBT50-AG90NBS6-345LS					13.58		3.35	8.35						42.1
BBT50-AG90NBS6-375LS					14.76		4.53	9.53						42.5
BBT50-AG90NBS6-405LS					15.94		5.71	10.71						43.0
BBT50-AG90NBS6-415LS					16.34	14.17	2.17	11.10						51.4
BBT50-AG90NBS6-445LS					17.52		3.35	12.28						51.8
BBT50-AG90NBS6-475LS					18.70		4.53	13.46						52.2
BBT50-AG90NBS6-505LS					19.88		5.71	14.65						52.7
BBT50-AG90NBS6-515LS					20.28	18.11	2.17	15.04						61.1
BBT50-AG90NBS6-545LS					21.46		3.35	16.22						61.5
BBT50-AG90NBS6-575LS					22.64		4.53	17.40						61.9
BBT50-AG90NBS6-605LS					23.82		5.71	18.58						62.4

ANGLE HEADS

Catalog Number	ød	øE	G	K	L	L ₁	L ₂	M	P	Q	øF	Collet	Max RPM	Weight (lbs.)
BBT50-AG90/NBS10-315LS	.059-.394	1.181	1.181	.984	12.40	10.24	2.17	7.17	1.77	1.69	3.583	NBC10-□	6,000	42.5
BBT50-AG90/NBS10-345LS					13.58		3.35	8.35						43.4
BBT50-AG90/NBS10-375LS					14.76		4.53	9.53						44.1
BBT50-AG90/NBS10-415LS					16.34	14.17	2.17	11.10						52.2
BBT50-AG90/NBS10-445LS					17.52		3.35	12.28						53.1
BBT50-AG90/NBS10-475LS					18.70		4.53	13.46						53.8
BBT50-AG90/NBS10-515LS					20.28	18.11	2.17	15.04						61.9
BBT50-AG90/NBS10-545LS					21.46		3.35	16.22						62.8
BBT50-AG90/NBS10-575LS					22.64		4.53	17.40						63.5
BBT50-AG90/NBS13-315LS	.098-.512	1.378	1.220	1.102	12.40	10.24	2.17	7.17	2.05	1.77	3.976	NBC13-□	6,000	42.8
BBT50-AG90/NBS13-345LS					13.58		3.35	8.35						43.7
BBT50-AG90/NBS13-375LS					14.76		6.10	9.53						44.3
BBT50-AG90/NBS13-415LS					16.34	14.17	2.17	11.10						52.5
BBT50-AG90/NBS13-445LS					17.52		3.35	12.28						53.4
BBT50-AG90/NBS13-475LS					18.70		6.10	13.46						54.0
BBT50-AG90/NBS13-515LS					20.28	18.11	2.17	15.04						62.2
BBT50-AG90/NBS13-545LS					21.46		3.35	16.22						63.1
BBT50-AG90/NBS13-575LS					22.64		6.10	17.40						63.7
BBT50-AG90/NBS20-330LS	.098-.787	1.811	1.378	1.378	12.99	10.24	2.76	7.76	2.56	2.44	5.197	NBC20-□	3,000	45.2
BBT50-AG90/NBS20-430LS					16.93	14.17	2.76	11.69						54.9
BBT50-AG90/NBS20-530LS					20.87	18.11	2.76	15.63						64.6

- Nut and wrench are included, collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

ANGLE HEADS

AG90 (COMPACT TYPE)

CLAMPING RANGE: ϕ .098"-.512"

For Drilling Only—Ideal Size for Small Machining Centers

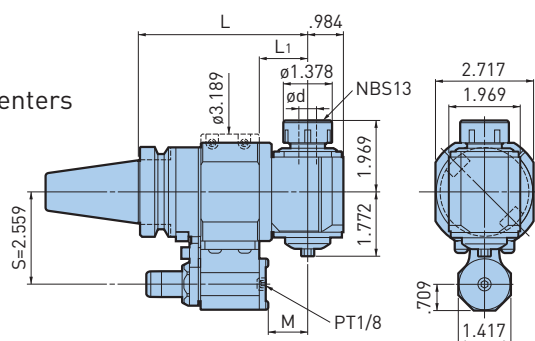


Fig. 1

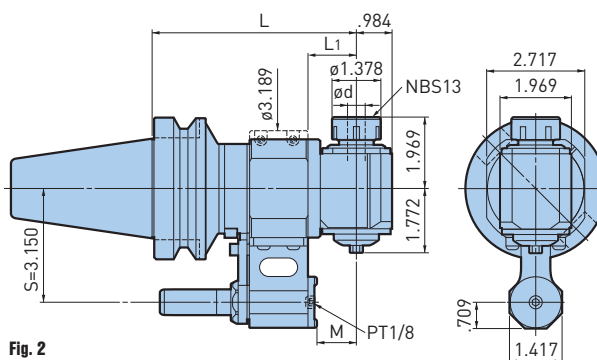


Fig. 2



Catalog Number	Fig.	ϕ d	L	L1	M	Collet	Speed Ratio	Weight (lbs.)
BBT40-AG90-13-120	1	.098-.512	4.72	3.39	1.10	NBC13	1:1	9.9
BBT40-AG90-13-170			6.70	3.31	3.06			12.1
BBT50-AG90-13-145	2	.098-.512	5.71	1.34	1.10	NBC13	1:1	16.8
BBT50-AG90-13-195			7.68	3.31	3.06			19.0

- Nut and wrench are included, collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- A tapped hole (PT1/8) is prepared at the bottom cover of the Locating Pin housing so that a pipe for coolant can be connected
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1). AG90 Compact Type is for drilling only.

Application Example



Stable machining is obtained due to high rigidity and good runout.

DRILLING	
Cutter	ϕ .472" (12mm) Carbide Drill
Workpiece	1050 Steel
Cutting Speed	230 SFM
Cutting Feed	14.6 IPM .008 IPR
Spindle Speed	1,860 RPM

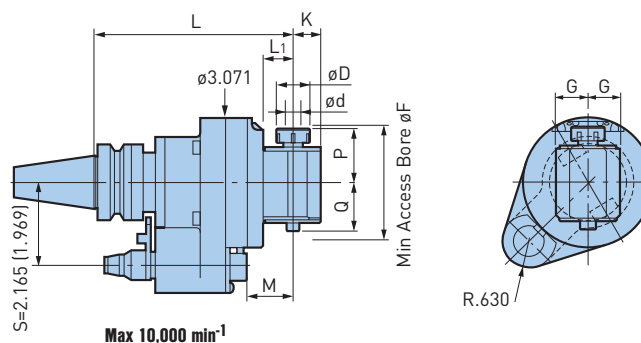
AG90 (NEW BABY CHUCK TYPE)

CLAMPING RANGE: ϕ .010"- .512"

Streamline your workflow with multilateral machining that significantly reduces work time. Achieve exceptional runout accuracy with the high-precision NEW BABY Chuck.



**Compact And Lightweight
High-Speed ATC Enabled**



Tap Collet with tension mechanism can also be used to enable tapping. (NBC10 & 13 only)

Catalog Number	ød	øD	G	K	L	L1	M	P	Q	øF	Collet	Weight (lbs.)
BBT30-AG90-6-120	.010-.236	.787	.768	.669	4.724	.748	1.142	1.299	1.142	2.559	NBC6	5.1
BBT30-AG90-8-125	.020-.315	.984	.846	.827	4.921	.945	1.339	1.654	1.614	3.307	NBC8	5.5
BBT30-AG90-10-125	.059-.394	1.181	.965	.984				1.772	1.693	3.622	NBC10	5.7
BBT30-AG90-13-125	.098-.512	1.378						2.047	1.772	4.016	NBC13	6.0

- Nut and wrench are included, collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the Stop Block; coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

ANGLE HEADS

AG90 (TWIN HEAD)

CLAMPING RANGE: ϕ .059"-.394"

Compact design. Symmetrical machining can be performed using one unit.

**MAX
6,000
RPM**

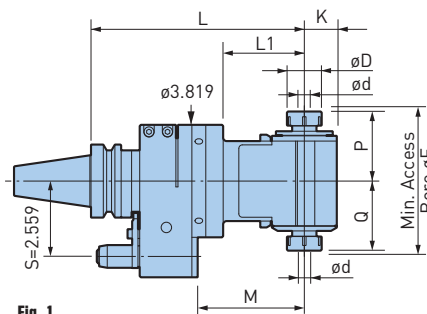


Fig. 1

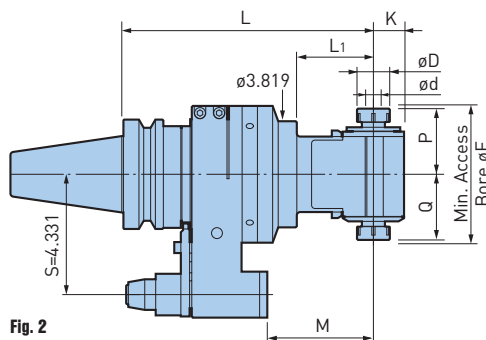
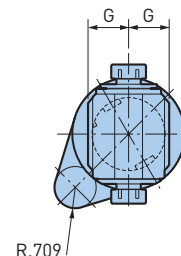
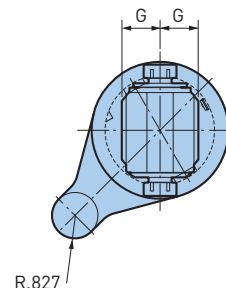


Fig. 2



Catalog Number	Fig.	ϕ d	ϕ D	G	K	L	L1	M	P	Q	ϕ F	Collet	Weight (lbs.)
BBT40-AG90/NBS10W-185	1	.059-.394	1.181	1.220	1.102	7.28	2.76	3.62	2.36	2.36	4.88	NBC10	13.9
BBT50-AG90/NBS10W-230	2	.059-.394	1.181	1.220	1.102	9.06	2.76	3.81	2.36	2.36	4.88	NBC10	30.4

- Nut and wrench are included; collet must be ordered separately
- Output spindles do not rotate in forward direction simultaneously
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of one cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

ANGLE HEADS

AG45 (NBS TYPE)

CLAMPING RANGE: ϕ .060"-.512"

Exclusive fixing housing allows for secure diagonal machining

**MAX
6,000
RPM**

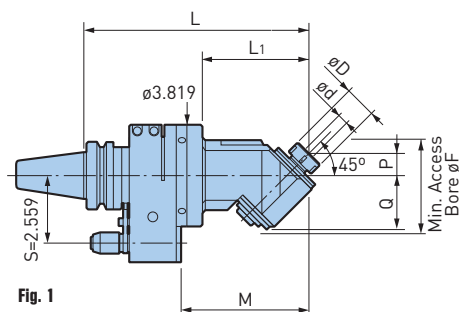


Fig. 1

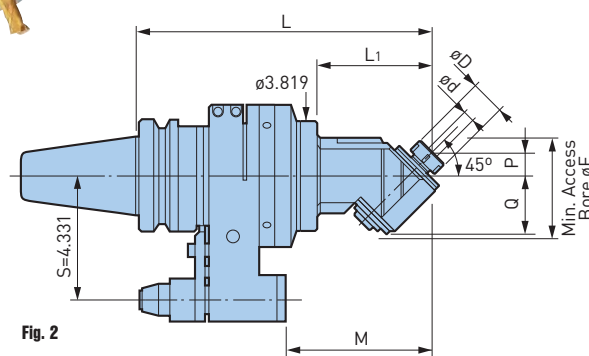
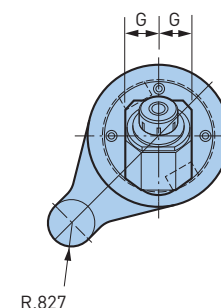


Fig. 2



Catalog Number	Fig.	ϕd	ϕD	G	L	L ₁	M	P	Q	ϕF	Collet	Weight (lbs.)
BBT40-AG45/NBS10-215	1	.060-.394	1.181	1.181	8.46	3.94	4.80	.79	2.03	3.54	NBC10	12.6
BBT40-AG45/NBS13-220		.098-.512	1.378		8.66	4.13	5.00	.98			NBC13	12.8
BBT50-AG45/NBS10-260	2	.060-.394	1.181	1.181	10.24	3.94	5.00	.79	2.03	3.54	NBC10	29.1
BBT50-AG45/NBS13-265		.098-.512	1.378		10.43	4.13	5.20	.98			NBC13	29.3

- Nut and wrench are included; collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).



ANGLE HEADS

AG90 (SLENDER DRIVE)

CLAMPING RANGE: ϕ .118"-.236" For Angular Operations Within a ϕ 1.181 Inch Bore

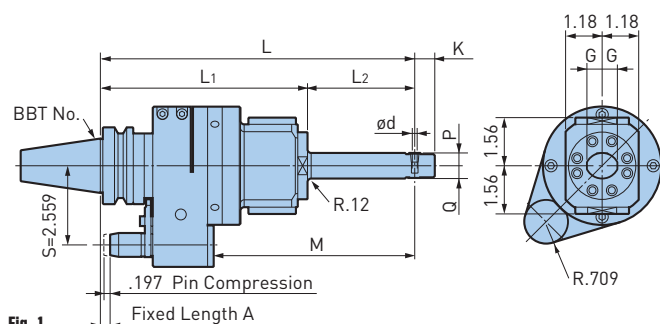
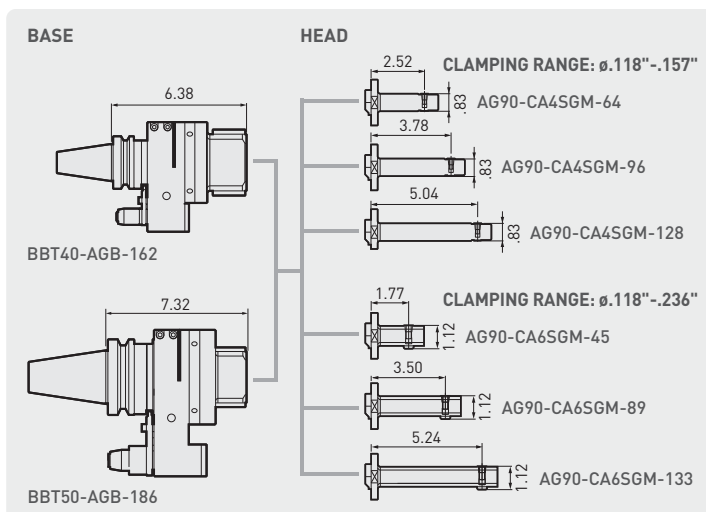


Fig. 1

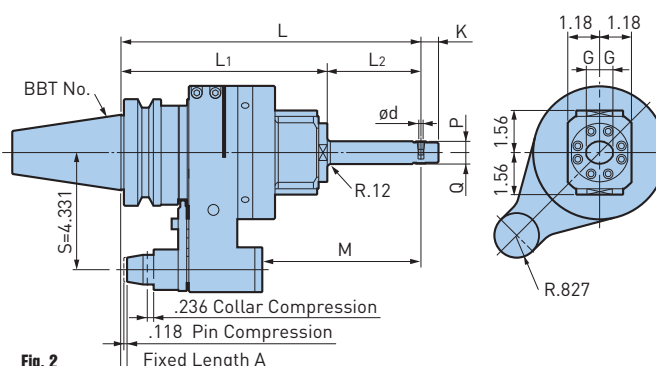


Fig. 2

Base	Head	Fig.	ϕd	G	K	L	L1	L2	M	P	Q	Speed Ratio	Weight (lbs.)
BBT40-AGB-162	AG90-CA4SGM-64	1	.118-.157	.492	.650	8.90	6.69	2.21	5.24	.41	.41	1:1.06 (Increase)	12.3
	AG90-CA4SGM-96					10.16		3.47	6.50				12.6
	AG90-CA4SGM-128					11.42		4.72	7.76				12.9
	AG90-CA6SGM-45	1	.118-.236	.591	.787	8.15	6.69	1.46	4.49	.49	.63	1:0.77 (Decrease)	12.6
	AG90-CA6SGM-89					9.88		3.19	6.22				13.0
	AG90-CA6SGM-133					11.61		4.92	7.95				13.5
BBT50-AGB-186	AG90-CA4SGM-64	2	.118-.157	.492	.650	9.84	7.64	2.21	4.61	.41	.41	1:1.06 (Increase)	26.2
	AG90-CA4SGM-96					11.10		3.47	5.87				26.5
	AG90-CA4SGM-128					12.36		4.72	7.13				26.7
	AG90-CA6SGM-45	2	.118-.236	.591	.787	9.09	7.64	1.46	3.86	.49	.63	1:0.77 (Decrease)	26.5
	AG90-CA6SGM-89					10.83		3.19	5.59				26.9
	AG90-CA6SGM-133					12.56		4.92	7.32				27.3

- Collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

ANGLE HEADS

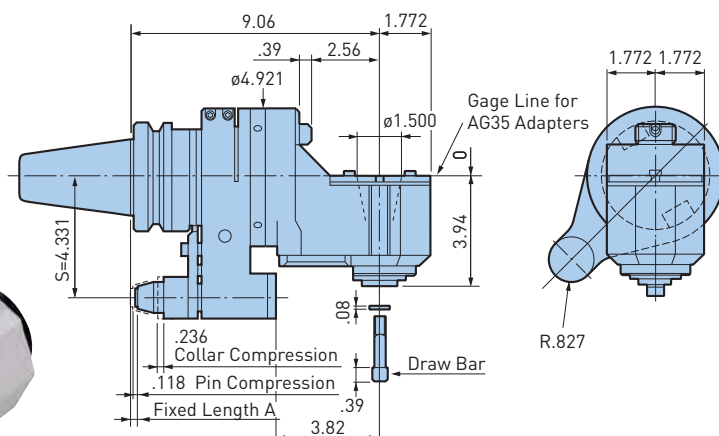
AG90 (BUILD-UP TYPE)

For All Machinery Applications

BBT/BT A.2



**MAX
3,000
RPM**



CAUTION

A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

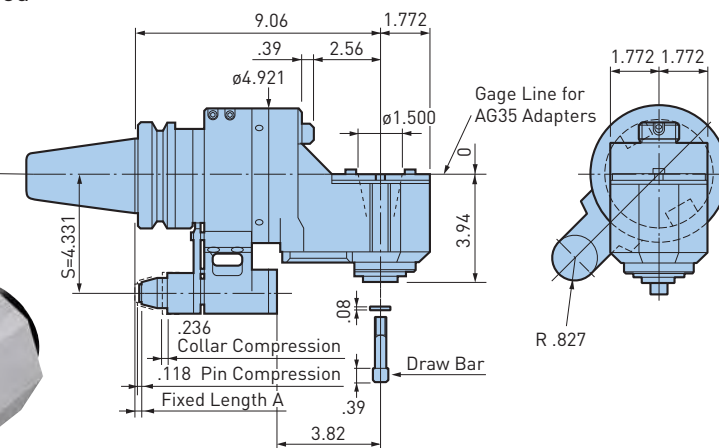
Catalog Number	Weight (lbs.)
BBT50-AG90/AGH35-230	33.1

- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines; must order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

For Application Where Increased Rigidity is Required



**MAX
3,000
RPM**



CAUTION

A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

Catalog Number	Weight (lbs.)
BBT50-AG90/AGH35-230S	35.9

- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

ACCESSORIES

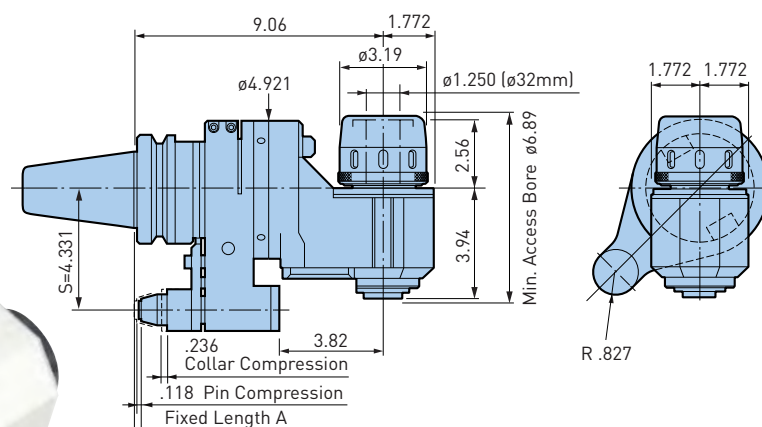


ANGLE HEADS

AG90 (HMC TYPE)

For Heavy Duty End Milling

**MAX
3,000
RPM**



Catalog Number	Weight (lbs.)
BBT50-AG90/HMC1.250-230	37.0
BBT50-AG90/HMC32-230	

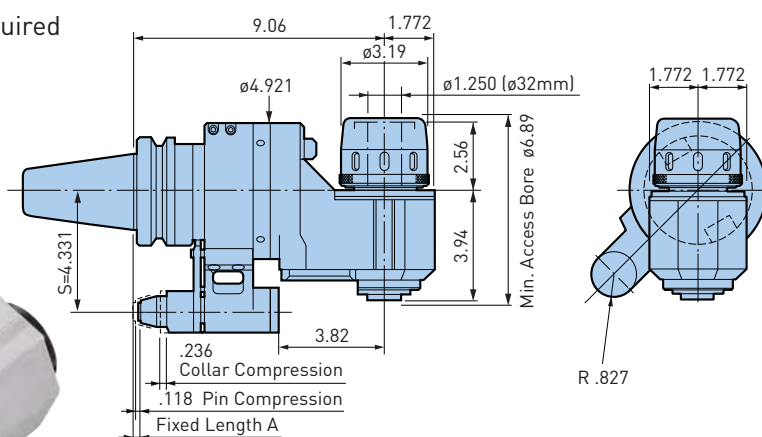
CAUTION

A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

- Wrench is included
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

For Applications Where Increased Rigidity is Required

**MAX
3,000
RPM**



Catalog Number	Weight (lbs.)
BBT50-AG90/HMC1.250-230S	39.9
BBT50-AG90/HMC32-230S	

CAUTION

A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

- Wrench is included
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

ACCESSORIES

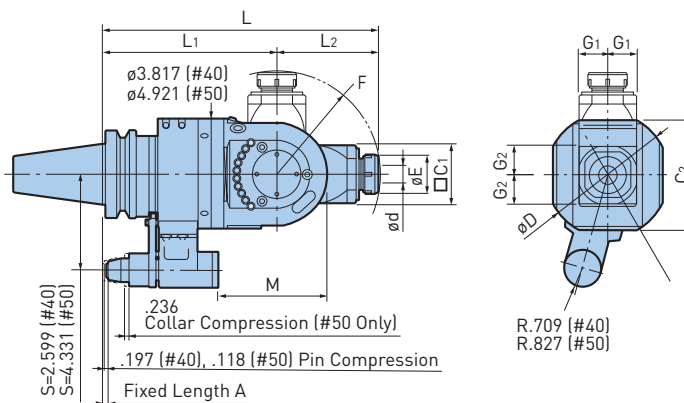


ANGLE HEADS

AGU (UNIVERSAL TYPE)

CLAMPING RANGE: $\phi.098$ "-.787" For Angular Operations

MAX
6,000
RPM



Catalog Number	ϕd	ϕE	ϕD	C1	C2	G1	G2	L	L1	L2	M	F	S	Collet	Max RPM	Weight (lbs.)
BBT40-AGU/NBS13-270	.098-.512	1.378	4.53	2.00	3.82	1.024	1.014	10.63	6.70	3.94	4.88	4.02	2.559	NBC13-□	6,000	21.4
BBT50-AGU/NBS20-315	.098-.787	1.811	5.51	2.56	4.92	1.299	1.280	12.40	7.87	4.53	4.92	4.65	4.331	NBC20-□	4,000	44.1

- Nut and wrench are included, collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- Automatic tool change may not be available depending on machine tool models

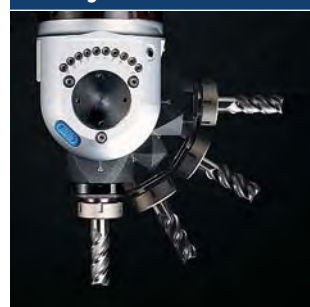
ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

Easily Adjust Spindle Angle From 0° to 90°



Precise Angle Adjustment



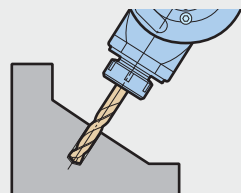
Exclusive Clamping Bolts and Nuts

Specially selected materials and special design for clamping the head guarantees rigidity even for end milling applications.

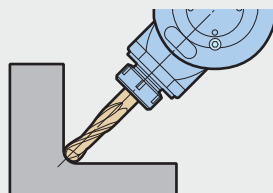


Application Example

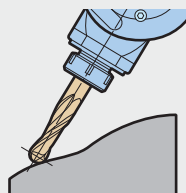
Adjustable AGU Universal Series expands ANGLE HEAD capabilities to accomplish various angular machining applications.



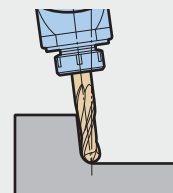
Drilling Or End Milling On An Angled Surface



Corner Rounding



Profiling



Machining Draft Angle Of A Mold

ANGLE HEADS

AGU30

CLAMPING RANGE: $\phi.098$ "-.787" For Angular Operations



Angle Adjustment by Aligning Divisions

Spindle angle is easily adjustable from 0° to 30° using the scale indication on the body.

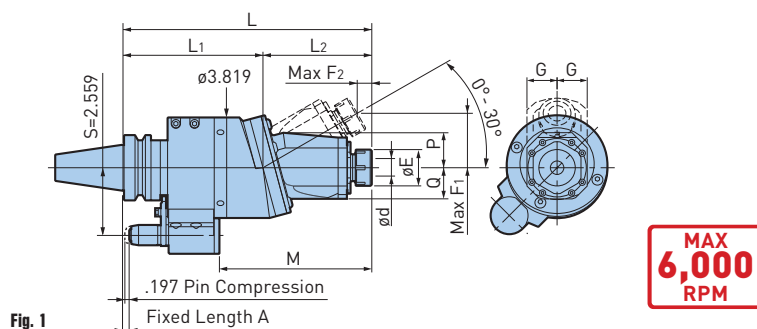


Fig. 1

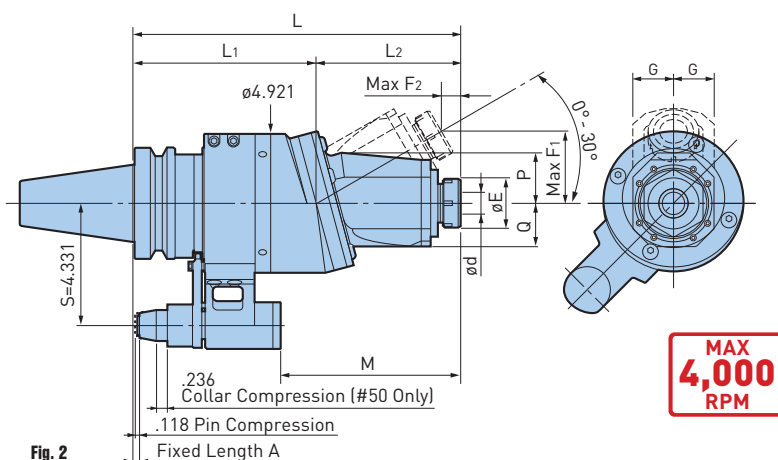


Fig. 2

Catalog Number	Fig.	ϕd	ϕE	G	L	L1	L2	M	P	Q	F1	F2	Collet	Max RPM	Weight (lbs.)
BBT40-AGU30/NBS13-240	1	.098-.512	1.378	1.142	9.45	5.32	4.12	5.79	1.34	1.18	2.07	.55	NBC13-□	6,000	15.3
BBT50-AGU30/NBS20-295	2	.098-.787	1.811	1.437	11.61	6.50	5.12	6.38	1.77	1.54	2.56	.67	NBC20-□	4,000	35.8

- Nut and wrench are included, collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- Automatic tool change may not be available depending on machine tool models
- When supplied through the stop block, coolant can be ejected from the housing

ACCESSORIES

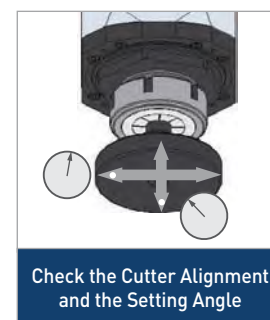
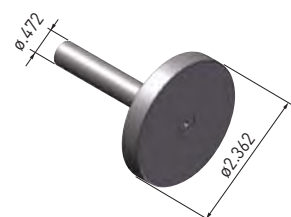


CAUTION

A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

SETTING DISC (INCLUDED)

For the precise adjustment of spindle angle or direction.



SPINDLE SPEEDERS

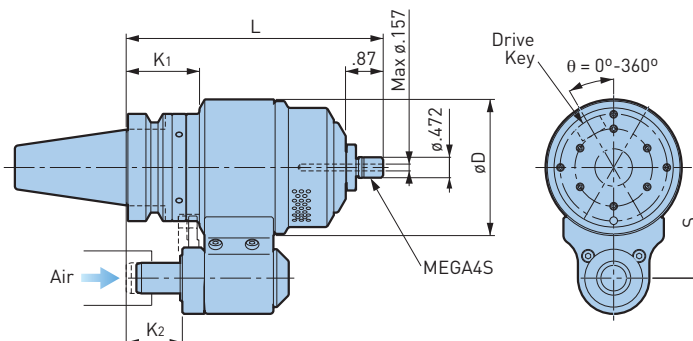
AIR POWER SPINDLE (RBX5 & RBX7)

For High Speed Micro Machining with Automatic Tool Change

ZERO
MACHINE SPINDLE
ROTATION

MAX
80,000
RPM

BBT/BT
A.2



Catalog Number	Practical Spindle Speed (RPM)	Cutting Diameter	L	ØD	K1	K2	S	Weight (lbs.)
BBT30-RBX7-4S-152-55	60,000-80,000	Ø.039 or smaller	5.98	3.150	1.10	1.30	2.165	6.0
BBT40-RBX7-4S-151-65	60,000-80,000	Ø.039 or smaller	5.95	3.150	1.69	1.30	2.559	8.8
BBT40-RBX5-4S-151-65	40,000-50,000	Ø.059 or smaller		3.780				11.0
BBT50-RBX7-4S-166-80	60,000-80,000	Ø.039 or smaller	6.54	3.937	2.28	1.89	3.150	19.2
BBT50-RBX5-4S-166-80	40,000-50,000	Ø.059 or smaller						21.4

- Nut and wrench are included, collet must be ordered separately
- XF1-NPT (Air Unit) is required; must be ordered separately

ACCESSORIES



CAUTION

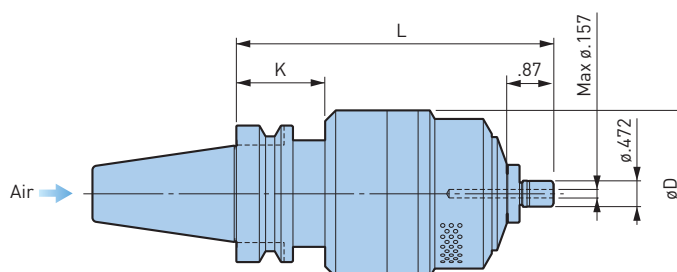
Compressed air to drive the AIR POWER SPINDLE must be clean. Coolant should not be supplied through the spindle on the machine that uses the AIR POWER SPINDLE.

SPINDLE SPEEDERS

AIR POWER SPINDLE (RBX5 & RBX7)

For High Speed Micro Machining with Compressed Air Through the Machine Spindle

MAX
80,000
RPM



Catalog Number	Practical Spindle Speed (RPM)	Cutting Diameter	L	øD	K	Weight (lbs.)
BBT40-RBX7C-4S-150	60,000-80,000	ø.039 or smaller	5.91	3.071	1.69	6.8
BBT40-RBX5C-4S-150	40,000-50,000	ø.059 or smaller		3.780		9.0
BBT50-RBX7C-4S-160	60,000-80,000	ø.039 or smaller	6.30	3.071	2.09	13.9
BBT50-RBX5C-4S-160	40,000-50,000	ø.059 or smaller		3.780		16.1

- Nut and wrench are included, collet must be ordered separately
- XF1-NPT (Air Unit) is required; must be ordered separately

ACCESSORIES



CAUTION

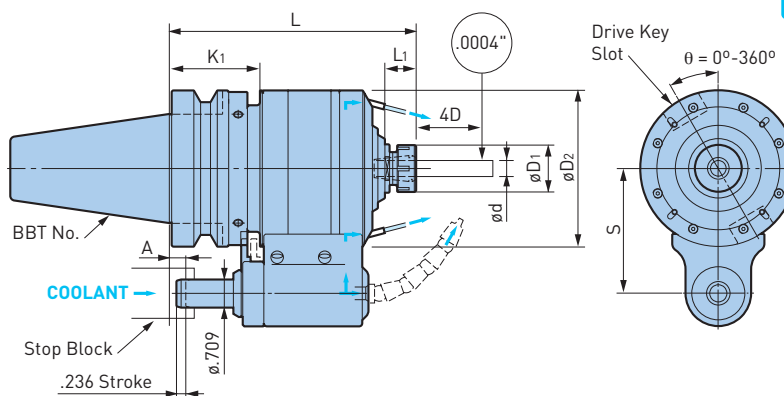
Compressed air to drive the AIR POWER SPINDLE must be clean. Coolant should not be supplied through the spindle on the machine that uses the AIR POWER SPINDLE.

SPINDLE SPEEDERS

HIGH SPINDLE

CLAMPING RANGE: $\phi.059"$ - $\phi.630"$ For Higher Spindle Speeds

MAX
20,000
RPM



Catalog Number	ϕd	L	L ₁	ϕD_1	ϕD_2	K ₁	S	A	Collet	Speed Ratio	Max RPM	Weight (lbs.)
BBT40-GTG5-10-140-65	.059-.394	5.51	.79	1.181	3.150	1.69	2.559	-.354 +.236	NBC10	4.67	20,000	10.6
BBT50-GTG6-10-158-80	.059-.394	6.22	.79	1.181	3.937	2.28	3.150	-.354 +.236	NBC10	5.67	20,000	19.4
BBT50-GTG4-16-177-80	.098-.630	6.97	1.00	1.654	4.331	2.28	3.150	-.354 +.236	NBC16	3.80	15,000	23.4

- NEW BABY COLLET, nut and 2 tightening wrenches are included
- The allowable torque is a calculated value of the drive system, and not the actual torque in cutting
- The maximum diameter when using an end mill [GTG5, GTG6] and $\phi 12$ [GTG4]
- A Stop Block is required when mounting on machines
- For continuous rotation of over 30 minutes, the spindle speed should be set within 80% of the maximum speed

CAUTION

A Stop Block is required.

ACCESSORIES



Application Example

	GTG5	GTG6	GTG6	GTG4
Cutter	Solid carbide end mill $\phi.315"$ / 2 flutes	Solid carbide end mill $\phi.236"$ / 2 flutes	Solid carbide drill $\phi.079"$	Solid carbide end mill $\phi.630"$
Workpiece	Duralumin [A-2017]	1055	Duralumin [A-2017]	Duralumin [A-2017]
Spindle Speed	20,000 RPM	16,000 RPM	20,000 RPM	15,000 RPM
Cutting Feed	118.1 IPM	137.8 IPM	78.7 IPM	39.4 IPM
Results	High metal removal rate 5.5 cu.in./min.	High metal removal rate 2.1 cu.in./min.	Extended tool life 1,200 holes by 1 drill	Surface roughness RMS max. .00008"

- Results will vary depending on workpiece, cutting tool, machine model and other conditions
- The rigidity and concentricity are often affected by the projection length of a cutting tool; it is recommended to keep the projection as short as possible



COOLANT INDUCERS

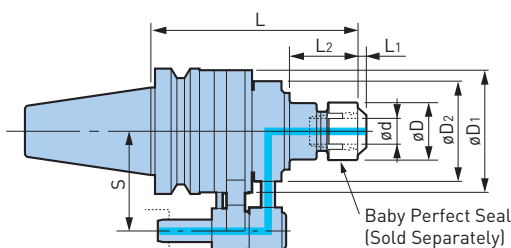
HI-JET HOLDER (NBS TYPE)

CLAMPING RANGE: ϕ .118"-.787" For Small Diameter Drills, Gun Drills & End Mills

**MAX
10,000
RPM**



CAUTION
A Stop Block is required.



Catalog Number	ϕd	ϕD	ϕD_1	ϕD_2	L	L ₂	Max RPM	Merit Set (2 pcs. of Merit Ring) (2 pcs. of Merit Plate)	Weight (lbs.)	Perfect Seal	Collet
BBT30-ONBS10N-135-55	.118-.512	1.378	2.598	2.56	5.43	.709	10,000	MES-40	2.7	BPS10	NBC10
BBT30-ONBS13N-140-55	.118-.787	1.811			5.63	.906				BPS13	NBC13
BBT30-ONBS16N-140-55	.118-.512	1.378				.945			2.6	BPS16	NBC16
BBT30-ONBS20N-140-55	.118-.787	1.811				.945				BPS20	NBC20
BBT40-ONBS13N-165	.118-.512	1.378	3.213	2.87	6.61	1.850	10,000	MES-40	8.8	BPS13	NBC13
BBT40-ONBS20N-165	.118-.787	1.811		3.15		1.890	8,000	MES-50	9.5	BPS20	NBC20
BBT50-ONBS13N-165	.118-.512	1.378	3.921	3.15	6.61	1.850	8,000	MES-50	16.1	BPS13	NBC13
BBT50-ONBS20N-165	.118-.787	1.811		3.15		2.008			16.5	BPS20	NBC20

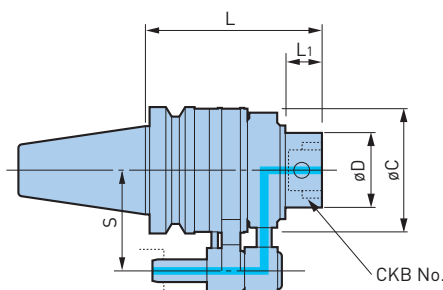
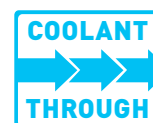
- Collet, adjusting screw, clamping nut and wrench must be ordered separately; order the appropriate size Baby Perfect Seal
- Adjustment screw (included for BBT30)
- Max coolant pressure is 284 PSI
- For L₁ refer to Baby Perfect Seal pg. 368
- The standard S pitch dimensions are BBT40=65, BBT50=80, and BBT30 varies depending on the machine, so please specify.
- Other sizes available upon request

ACCESSORIES



HI-JET HOLDER (CKB TYPE)

**MAX
6,000
RPM**



Catalog Number	CK	ϕD	L	L ₁	ϕC	S	Max RPM	Merit Set (2 pcs. of Merit Ring) (2 pcs. of Merit Plate)	Weight (lbs.)
BBT40-OCKB5N-138	CKB5	1.969	3.213	5.433	.906	2.559	8,000	MES-50	9.3
BBT40-OCKB6N-149	CKB6	2.520	5.87	1.102	3.92	2.559	6,000	MES-65	13.4
BBT50-OCKB6N-139	CKB6	2.520	5.47	1.063	3.92	3.150	6,000	MES-65	15.9
BBT50-OCKB7N-165	CKB7	3.543	6.50	1.358	5.10	3.150	4,000	MES-90	27.0

- Max coolant pressure is 284 PSI

CAUTION
A Stop Block is required.

ACCESSORIES

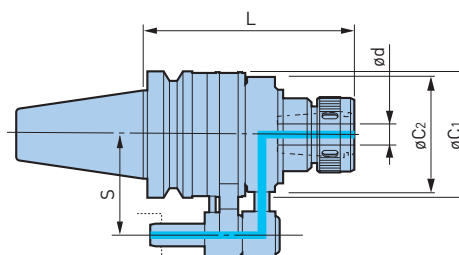


COOLANT INDUCERS

HI-JET HOLDER (TG TYPE)

CLAMPING RANGE: ϕ .093"-1.000" For TG100 Single Angle Style Collets

MAX
8,000
RPM



Catalog Number	Collet Series	ϕd	L	$\phi C1$	$\phi C2$	S	Max RPM	Merit Set (2 pcs. of Merit Ring) (2 pcs. of Merit Plate)	Weight (lbs.)
BT40-OHC1.000N-175	.093-1.000	TG100	6.89	3.213	3.15	2.559	8,000	MES-50	11.1

- Max coolant pressure is 284 PSI
- Collets and nuts are not included or available from BIG DAISHOWA

ACCESSORIES



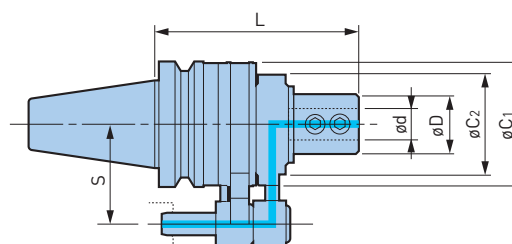
CAUTION

A Stop Block is required.

HI-JET HOLDER (OSL TYPE)

CLAMPING RANGE: ϕ .750"-1.500" For Straight Shanks with Flat

MAX
8,000
RPM



Catalog Number	ød	øD	L	øC1	øC2	S	Max RPM	Merit Set (2 pcs. of Merit Ring) (2 pcs. of Merit Plate)	Weight (lbs.)
BT40-OSL1.000N-165	1.000	1.890	6.50	3.213	3.15	2.559	8,000	MES-50	9.7
BT40-OSL1.250N-165	1.250	2.283		3.921	3.86		6,000	MES-65	12.6
BT50-OSL.750N-150	.750	1.890	5.91	3.921	3.15	3.150	8,000	MES-50	16.3
BT50-OSL1.000N-165	1.000								16.5
BT50-OSL1.250N-165	1.250	2.283	6.50		3.86		6,000	MES-65	17.4
BT50-OSL1.500N-165	1.500	2.500							17.6

- Max coolant pressure is 284 PSI

ACCESSORIES



CAUTION

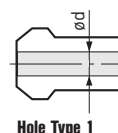
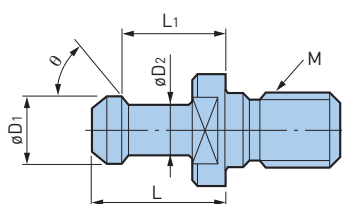
A Stop Block is required.

ACCESSORIES

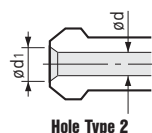
PULLSTUD BOLTS

Before Ordering

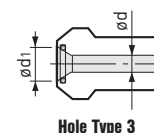
Be sure to check the dimensions of the required pullstud bolt by referring to the specification sheet of the machine tool. In the case of machines with coolant-through spindle capability, provide us a copy of the pullstud bolt drawing, as the sealing method may vary even among machines with the same model number.



Hole Type 1



Hole Type 2



Hole Type 3

Spindle Type	Catalog Number	Standard	ϕD_1	ϕD_2	L	L ₁	θ	ϕd	ϕd_1	Hole Type	Standard or Machine Make
30 [M12]	30PMG	JIS	.472	.31	.92	.724	75	None	—	—	JIS BT30
	30PMGH							.16	—	1	JIS BT30 With Hole
	30PMGH2							.10	.22	3	YASDA
	P30T-1MG	MAS-I	.433	.28	.91	.709	45	None	—	—	MAS-1 BT30
	P30T-1MGH							.10	—	1	MAS-1 BT30 With Hole
	P30T-2MG	MAS-II	.433	.28	.91	.709	60	None	—	—	MAS-2 BT30
	P30T-2MGH							.10	—	1	MAS-2 BT30 With Hole
	30P-1MGH	Original	.433	.31	.91	.709	45	.10	—	1	FANUC
	P30T-2MGH3		.433	.30	.91	.709	60	.16	—	1	BROTHER
	PM030MG		.433	.28	.91	.709	45	.10	.26	3	DMG MORI
40 [M16]	40PMG	JIS	.748	.55	1.14	.906	75	None	—	—	JIS BT40
	40PMGH							.28	—	1	JIS BT40 With Hole
	40PMGH2							.28	—	1	MAKINO (Ground Face)
	40PMGH7							.16	.20	2	OKUMA (Ground Face)
	40PMGH4A							.28	—	1	YASDA $\phi 3$ Side Hole
	40PMGH11							.28	.39	3	YASDA
	40PMGH12							.20	—	1	MITSUMI
	P40T-1MG	MAS-I	.591	.39	1.38	1.102	45	None	—	—	MAS-1 BT40
	P40T-1MGHA							.12	—	1	MAS-1 BT40 With Hole
	P40T-1MGH4							.12	.28	3	OKUMA
	P40T-1MGH1							.14	.22	2	MAS-1 BT40
	P40T-1MGH7							.16	—	1	MAKINO (Ground Face)
	P40T-1MGH11							.12	.28	3	JTEKT
	P40T-2MG	MAS-II	.591	.39	1.38	1.102	60	None	—	—	MAS-2 BT40
	P40T-2MGHA							.12	—	1	MAS-2 BT40 With Hole
	P40T-2MGH8							.14	.22	2	
	P40T-2MGH1							.12	.28	3	OKUMA
	MP40MG	Original	.591	.39	.98	.709	90	None	—	—	MITSUMI SEIKI
	P0M40MG		.591	.39	1.38	1.102	90	None	—	—	DMG MORI Form B
	PM040MG		.748	.55	1.14	.906	75	.28	.39	3	DMG MORI With Hole
	PYN40MG		.740	.57	.75	.552	45	.28	—	1	MAZAK

- Machine tool builders have used various shapes and sizes of retention knobs
- The use of the incorrect knob may result in injury or property damage for your machining center

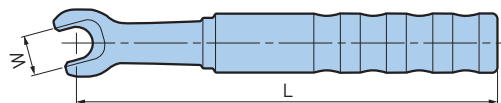
**TOOL
STEEL**

MEGA PULLSTUD BOLT

MG in the model numbers stand for MEGA PULLSTUD BOLT. Tensile strength is improved by utilizing tool steel. Especially recommended for BIG-PLUS dual contact applications.

ACCESSORIES

PULLSTUD WRENCHES



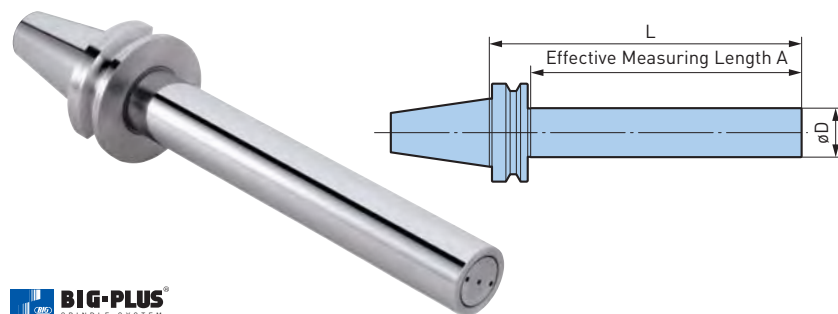
Taper Type & Size	Catalog Number	W	L	Pullstud
BBT30 BT30	PLW30	.512	5.51	JIS, MAS-1, MAS-2 30P-1MGH, P30T-2MGH3, PMO30MG
BBT40 BT40	PLW-40P	.748	7.87	JIS
	PLW-P40T			MAS-1, MAS-2, POM40MG
	PLW-MP40			MP40
	PLW-PMO40			PMO40MG
	PLW-PYN40			PYN40MG
BBT50 BT50	PLW-P50T	1.181	13.78	MAS-I, MAS-II POM50, POM50H, POM50H1, POM50H8
	PLW-PYN50			PYN50-5

- If appearance shape is the same, the specification other than above is also usable

ACCESSORIES

DYNA TEST

Helps identify potential problems, and can reduce downtime and costly repairs of the machine tool spindle.

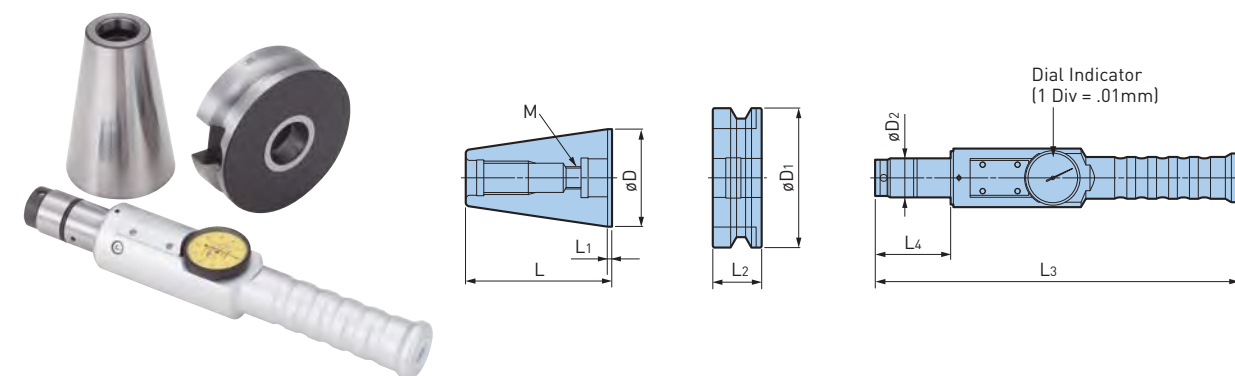


Catalog Number	L	A	øD
BBT30-32-L150	5.906	4.921	32mm
BBT30-32-L235	9.252	8.268	
BBT40-50-L200	7.874	6.693	50mm
BBT40-50-L350	13.780	12.598	
BBT50-50-L200	7.784	6.260	50mm
BBT50-50-L360	14.173	12.559	



ATC ALIGNMENT TOOL

For re-aligning the center between the machine tool spindle and ATC gripper. It can also be used for re-aligning the ATC gripper and tool magazine pots. More detailed information on pg. 571.



Catalog Number	øD	D1	D2	L	L1	L2	L3	L4	M
BT30-ATC18	1.25	1.811	.709	1.984	.079	.787	9.882	1.732	M12
BT40-ATC20	1.75	2.480	.787	2.654	.079	.984	9.882	1.732	M12
BT50-ATC28	2.75	3.937	1.102	4.126	.118	1.378	10.276	2.126	M16

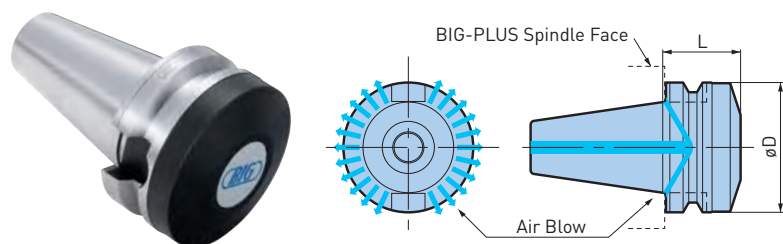
CAUTION

Machine tool builders use various shapes and sizes of retention knobs. The use of the incorrect knob may result in injury or property damage for your machining center

ACCESSORIES

BIG-PLUS CLEANER

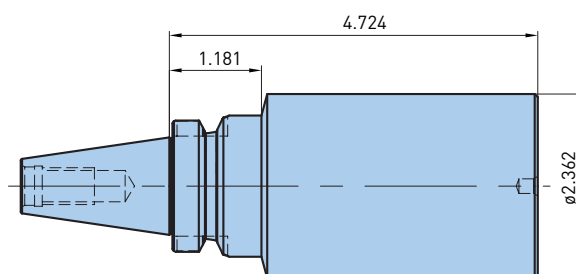
Blowing air cleans the BIG-PLUS machine spindle face of all debris.



Catalog Number	L	øD
SBT30-ASC-30T	1.181	1.811
SBT40-ASC-40T	1.575	2.480
SBT50-ASC-60T	2.362	3.937

- When the cleaner is clamped into a BIG-PLUS machine spindle, faces have 1mm (.039") clearance

BLANK BAR



Catalog Number
BBT30-BB60-120

- Do not heat treat after machining

HSK SHANKS

A.3



HSK INDEX

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COLLET CHUCK

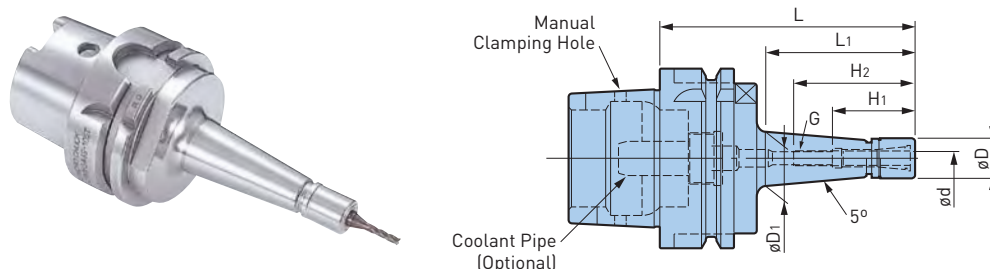
MEGA MICRO CHUCK (TAPERED BODY)

CLAMPING RANGE: ϕ .018"-.317" (ϕ .45-8.05mm)

For Micro Drill & End Mill Applications

**HIGHER
RIGIDITY**

**MAX
45,000
RPM**



Catalog Number	ϕd	ϕD	$\phi D1$	L	L1	H1	H2	G	Collet	Wrench	Max RPM	Weight (lbs.)
HSK-A40-MEGA3S-75T	.018-.128	.394	.57	2.95	1.57	.87	1.50	M4 P0.7	NBC3S-□	MGR10	32,000	.6
HSK-A40-MEGA3S-90T			.68	3.54	2.20						28,000	.7
HSK-A40-MEGA4S-60T	.018-.159	.472	.55	2.36	1.02	1.04	1.73	M5 P0.8	NBC4S-□	MGR12	35,000	.6
HSK-A40-MEGA4S-90T			.76	3.54	2.28		1.85				28,000	.7
HSK-A40-MEGA4S-105T			.87	4.13	2.87						25,000	.8
HSK-A40-MEGA6S-60T✧	.018-.238	.551	.61	2.36	1.06	1.12	[1.57]	M7 P0.75	NBC6S-□	MGR14	35,000	.6
HSK-A40-MEGA6S-75T			.72	2.95	1.69						32,000	.7
HSK-A40-MEGA6S-90T			.83	3.54	2.32		1.93				28,000	.8
HSK-A40-MEGA6S-105T			.94	4.13	2.91						25,000	.9
HSK-A50-MEGA6S-105T	.018-.238	.551	.87	4.13	2.56	1.12	1.93	M7 P0.75	NBC6S-□	MGR14	25,000	1.3
HSK-A63-MEGA3S-75T	.018-.128	.394	.54	2.95	1.38	.87	1.50	M4 P0.7	NBC3S-□	MGR10	32,000	1.8
HSK-A63-MEGA3S-120T			.85	4.72	3.15						25,000	2.0
HSK-A63-MEGA4S-75T	.018-.159	.472	.61	2.95	1.38	1.04	1.85	M5 P0.8	NBC4S-□	MGR12	32,000	1.8
HSK-A63-MEGA4S-90T			.71	3.54	1.97						28,000	1.9
HSK-A63-MEGA4S-120T			.92	4.72	3.15						22,000	2.1
HSK-A63-MEGA6S-60T	.018-.238	.551	.61	2.36	.91	1.12	1.46	M7 P0.75	NBC6S-□	MGR14	35,000	1.8
HSK-A63-MEGA6S-75T			.67	2.95	1.38		1.89				32,000	1.8
HSK-A63-MEGA6S-90T			.77	3.54	1.97						28,000	1.9
HSK-A63-MEGA6S-105T			.87	4.13	2.56		1.93				25,000	2.0
HSK-A63-MEGA6S-120T			.98	4.72	3.15						22,000	2.1
HSK-A63-MEGA6S-135T			1.08	5.31	3.74						20,000	2.2
HSK-A63-MEGA8S-90T	.116-.317	.709	.92	3.54	2.01	1.22	1.99	M9 P0.75	NBC8S-□	MGR18	30,000	2.0
HSK-A63-MEGA8S-120T			1.12	4.72	3.19						23,000	2.3

- MEGA MICRO NUT is included; coolant pipe, collet and wrench must be ordered separately
- Weight includes nut but does not include collet
- For models marked ✧, there is no internal thread, the dimension H2 in () shows how deep a tool can be inserted
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds

ACCESSORIES



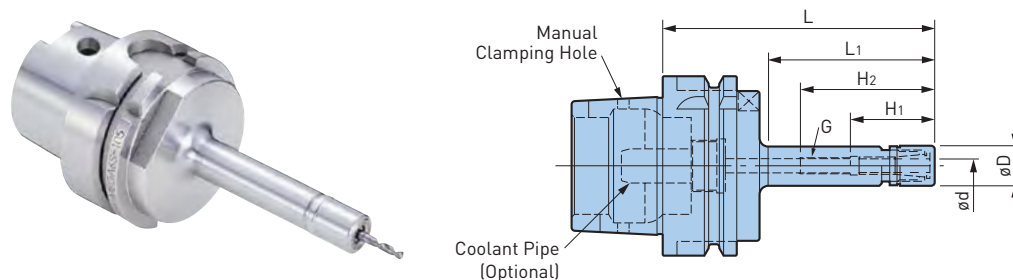
COLLET CHUCK

MEGA MICRO CHUCK

CLAMPING RANGE: ϕ .018"-.317" (ϕ .45-8.05mm)

For Micro Drill & End Mill Applications

**MAX
38,000
RPM**



Catalog Number	ϕd	ϕD	L	L1	H1	H2	G	Collet	Wrench	Max RPM	Weight (lbs.)
HSK-A40-MEGA3S-60	.018-.128	.394	2.36	1.02	.87	1.54	M4 P0.7	NBC3S-□	MGR10	30,000	.6
HSK-A40-MEGA4S-60	.018-.159	.472	2.36	1.06	1.04	1.73	M5 P0.8	NBC4S-□	MGR12	30,000	.6
HSK-A40-MEGA4S-90			3.54	2.24		1.85				25,000	.6
HSK-A40-MEGA6S-60❖	.018-.238	.551	2.36	1.50	—	(1.57)	—	NBC6S-□	MGR14	30,000	.6
HSK-A40-MEGA6S-90			3.54	2.28	1.12	1.93	M7 P0.75			25,000	.7
HSK-A50-MEGA4S-75	.018-.159	.472	2.95	1.42	1.04	1.85	M5 P0.8	NBC4S-□	MGR12	30,000	1.1
HSK-A50-MEGA6S-75	.018-.238	.551	2.95	1.42	1.12	1.93	M7 P0.75	NBC6S-□	MGR14	30,000	1.1
HSK-A63-MEGA4S-75	.018-.159	.472	2.95	1.42	1.04	1.89	M5 P0.8	NBC4S-□	MGR12	30,000	1.8
HSK-A63-MEGA4S-105			4.13	2.40		1.85				25,000	1.8
HSK-A63-MEGA6S-75	.018-.238	.551	2.95	1.42	1.12	1.89	M7 P0.75	NBC6S-□	MGR14	30,000	1.8
HSK-A63-MEGA6S-105			4.13	2.40		1.93				25,000	1.9
HSK-A63-MEGA8S-90	.116-.317	.709	3.54	1.89	1.22	1.99	M9 P0.75	NBC8S-□	MGR18	30,000	2.0

- MEGA MICRO NUT is included; coolant pipe, collet and wrench must be ordered separately
- Weight includes nut but does not include collet
- For models marked ❖, there is no internal thread, the dimension H2 in () shows how deep a tool can be inserted
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds

ACCESSORIES



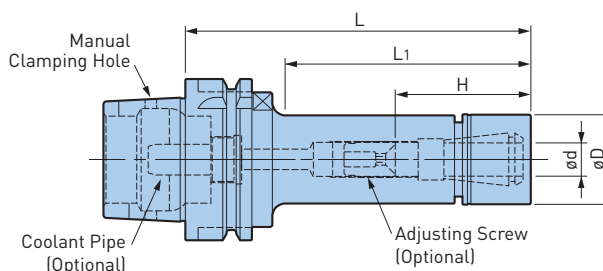
COLLET CHUCK

MEGA NEW BABY CHUCK

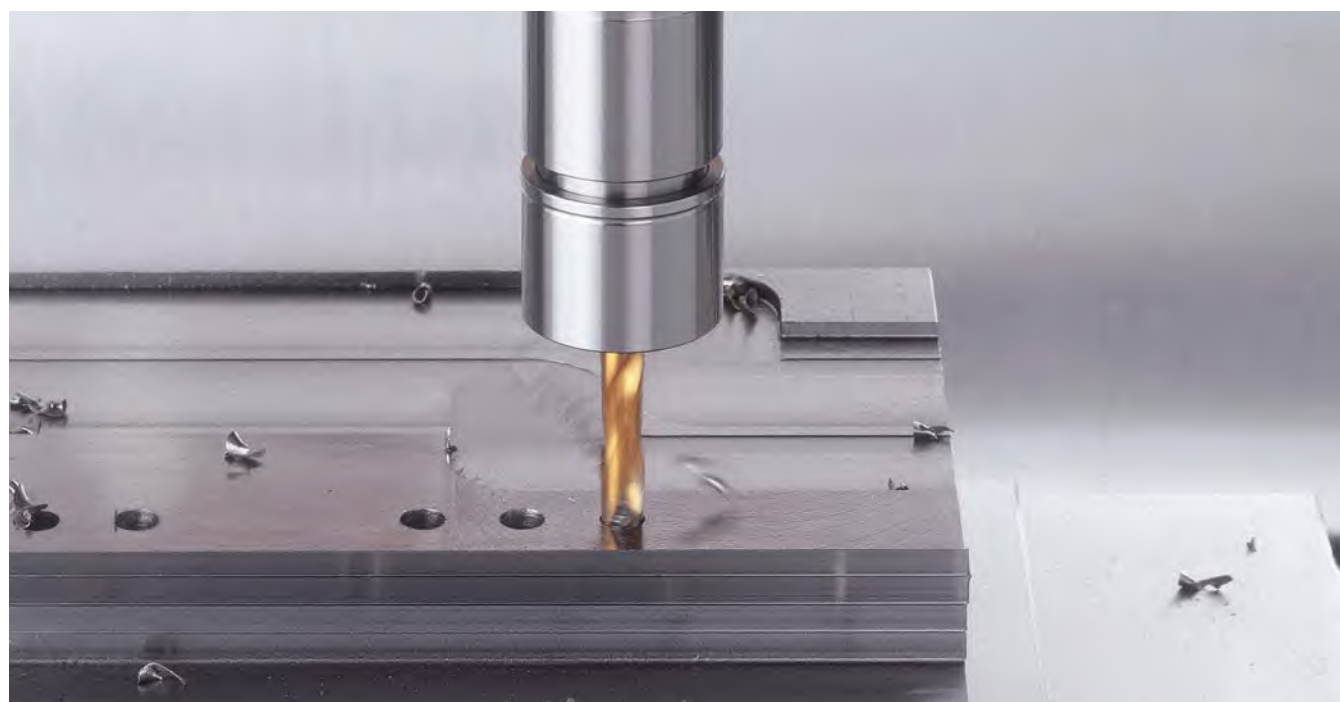
CLAMPING RANGE: ϕ .010"-1.000" (ϕ .25-25.4mm)

For Drills, Reamers, Taps & Finishing End Mills

**MAX
35,000
RPM**



Catalog Number	ϕd	ϕD	L	L1	H	Collet	Nut	Wrench	Max RPM	Weight [lbs.]
HSK-A32-MEGA6N-75	.010-.236	.787	2.95	1.46	.91-1.69	NBC6-□	MGN6	MGR20	30,000	.6
HSK-A32-MEGA8N-50	.020-.315	.984	1.97	1.02	1.26	NBC8-□	MGN8	MGR25	33,000	.5
HSK-A40-MEGA6N-60✧	.010-.236	.787	2.36	1.18	1.30	NBC6-□	MGN6	MGR20	35,000	.7
HSK-A40-MEGA6N-75			2.95	1.77	.91-1.50				30,000	.8
HSK-A40-MEGA6N-90			3.54	2.36	.91-1.69				30,000	.8
HSK-A40-MEGA8N-60✧	.020-.315	.984	2.36	1.18	1.61	NBC8-□	MGN8	MGR25	35,000	.8
HSK-A40-MEGA8N-90			3.54	2.36	1.02-1.73				30,000	1.0
HSK-A40-MEGA10N-60✧	.059-.394	1.181	2.36	1.02	1.57	NBC10-□	MGN10	MGR30	35,000	.9
HSK-A40-MEGA10N-90			3.54	2.13	1.50-1.89				30,000	1.2
HSK-A40-MEGA13N-75✧	.098-.512	1.378	2.95	2.17	2.17	NBC13-□	MGN13	MGR35	25,000	1.2
HSK-A40-MEGA13N-90✧			3.54	2.76	2.52				25,000	1.4
HSK-A40-MEGA16N-75✧	.098-.630	1.654	2.95	2.17	2.09	NBC16-□	MGN16	MGR42	20,000	1.4
HSK-A40-MEGA16N-90✧			3.54	2.76	2.48				15,000	1.7
HSK-A40-MEGA20N-90✧	.098-.787	1.811	3.54	2.76	2.60	NBC20-□	MGN20	MGR46	15,000	1.9



COLLET CHUCK

Catalog Number	ød	øD	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-A50-MEGA6N-75	.010-.236	.787	2.95	1.46	.91-1.69	NBC6-□	MGN6	MGR20	30,000	1.3
HSK-A50-MEGA6N-100			3.94	2.76					25,000	1.3
HSK-A50-MEGA6N-135			5.31	3.66					20,000	1.5
HSK-A50-MEGA6N-165			6.50	4.84					14,000	1.8
HSK-A50-MEGA8N-75	.020-.315	.984	2.95	1.46	1.02-1.46	NBC8-□	MGN8	MGR25	30,000	1.3
HSK-A50-MEGA8N-100			3.94	2.44					28,000	1.5
HSK-A50-MEGA8N-135			5.31	3.78					20,000	1.8
HSK-A50-MEGA8N-165			6.50	4.92					14,000	2.0
HSK-A50-MEGA10N-75❖	.059-.394	1.181	2.95	1.50	1.81	NBC10-□	MGN10	MGR30	33,000	1.5
HSK-A50-MEGA10N-100			3.94	2.48					25,000	1.8
HSK-A50-MEGA10N-135			5.31	3.86					20,000	2.2
HSK-A50-MEGA10N-165			6.50	5.04					14,000	2.4
HSK-A50-MEGA13N-75❖	.098-.512	1.378	2.95	1.57	1.81	NBC13-□	MGN13	MGR35	28,000	1.5
HSK-A50-MEGA13N-100			3.94	2.56					25,000	2.0
HSK-A50-MEGA13N-135			5.31	3.94					18,000	2.4
HSK-A50-MEGA13N-165			6.50	5.12					12,000	2.9
HSK-A50-MEGA16N-75❖	.098-.630	1.654	2.95	1.93	1.89	NBC16-□	MGN16	MGR42	28,000	2.2
HSK-A50-MEGA16N-100			3.94	2.91					20,000	2.4
HSK-A50-MEGA16N-135			5.31	4.29					15,000	3.1
HSK-A50-MEGA16N-165			6.50	5.47					10,000	3.7
HSK-A50-MEGA20N-75❖◆	.098-.787	1.811	2.95	1.93	1.85	NBC20-□	MGN20	MGR46	20,000	2.0
HSK-A50-MEGA20N-100			3.94	2.91					15,000	2.4
HSK-A50-MEGA20N-135			5.31	4.29					10,000	3.3
HSK-A50-MEGA20N-165			6.50	5.47					8,000	4.0
HSK-A50-MEGA25N-95❖	.610-1.000	2.326	3.74	2.72	2.56	NBC25-□	MGN25	MGR60L	12,000	2.9

- MEGA NEW BABY NUT is included; coolant pipe, collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not collet
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- Tool adjustment amount "H" indicates the adjustment length with an adjusting screw
- Adjusting screws cannot be used with models marked ❖
- NEW BABY END MILL COLLETS cannot be used with models marked ◆

ACCESSORIES

 COLLET PG. 358	 MEGA NUT PG. 364	 PERFECT SEAL PG. 366	 MEGA WRENCH PG. 388	 SCREW PG. 411

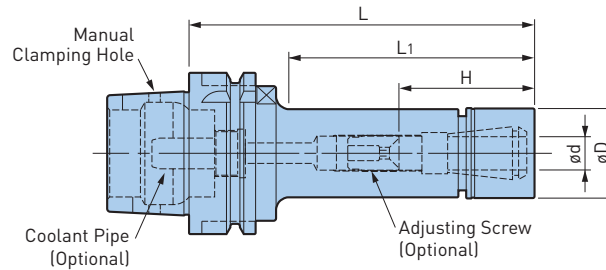
COLLET CHUCK

MEGA NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-1.000" (ϕ .25-25.4mm) For Drills, Reamers, Taps & Finishing End Mills



**MAX
35,000
RPM**



Catalog Number	ød	øD	L	L1	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-A63-MEGA6N-75	.010 -.236	.787	2.95	1.38	.91-1.50	NBC6-□	MGN6	MGR20	35,000	2.0
HSK-A63-MEGA6N-90			3.54	1.89	.91-1.69				30,000	2.0
HSK-A63-MEGA6N-105			4.13	2.48					2.0	
HSK-A63-MEGA6N-120			4.72	2.99					25,000	2.2
HSK-A63-MEGA6N-135			5.31	3.58					20,000	2.2
HSK-A63-MEGA6N-165			6.50	4.76					15,000	2.2
HSK-A63-MEGA8N-75			.020-.315	.984	2.95				1.38	1.02-1.50
HSK-A63-MEGA8N-90	3.54	1.97			1.02-1.77	30,000	2.2			
HSK-A63-MEGA8N-105	4.13	2.48				2.2				
HSK-A63-MEGA8N-120	4.72	2.99				25,000	2.4			
HSK-A63-MEGA8N-135	5.31	3.58				20,000	2.4			
HSK-A63-MEGA8N-165	6.50	4.76				15,000	2.6			
HSK-A63-MEGA10N-75❖	.059-.394	1.181	2.95	1.42	1.97	NBC10-□	MGN10	MGR30	33,000	2.2
HSK-A63-MEGA10N-90			3.54	1.97	1.50-1.77				2.2	
HSK-A63-MEGA10N-105			4.13	2.56	1.50-1.89				25,000	2.4
HSK-A63-MEGA10N-120			4.72	3.15					2.6	
HSK-A63-MEGA10N-135			5.31	3.66					20,000	2.9
HSK-A63-MEGA10N-165			6.50	4.84					15,000	3.1
HSK-A63-MEGA13N-75❖	.098-.512	1.378	2.95	1.46	1.93	NBC13-□	MGN13	MGR35	30,000	2.2
HSK-A63-MEGA13N-90❖			3.54	2.01	2.52				2.4	
HSK-A63-MEGA13N-105			4.13	2.60	1.73-2.20				25,000	2.6
HSK-A63-MEGA13N-120			4.72	3.19	1.73-2.48				20,000	2.9
HSK-A63-MEGA13N-135			5.31	3.78					3.1	
HSK-A63-MEGA13N-165			6.50	4.92					15,000	3.7
HSK-A63-MEGA16N-75❖	.098-.630	1.654	2.95	1.54	1.89	NBC16-□	MGN16	MGR42	30,000	2.4
HSK-A63-MEGA16N-90❖			3.54	2.13	2.48				25,000	2.9
HSK-A63-MEGA16N-105			4.13	2.72	1.89-2.13				20,000	3.1
HSK-A63-MEGA16N-120			4.72	3.31	1.89-2.68				15,000	3.3
HSK-A63-MEGA16N-135			5.31	3.90					3.7	
HSK-A63-MEGA16N-165			6.50	5.08					10,000	4.4
HSK-A63-MEGA16N-200			7.87	6.46					8,000	5.3
HSK-A63-MEGA20N-75❖	.098-.787	1.811	2.95	1.54	2.01	NBC20-□	MGN20	MGR46	30,000	2.6
HSK-A63-MEGA20N-90❖			3.54	2.13	2.40				25,000	3.1
HSK-A63-MEGA20N-105			4.13	2.72	2.01-2.13				20,000	3.3
HSK-A63-MEGA20N-120			4.72	3.31	2.01-2.68				15,000	3.7
HSK-A63-MEGA20N-135			5.31	3.90					4.0	
HSK-A63-MEGA20N-165			6.50	5.08					10,000	5.1
HSK-A63-MEGA20N-200			7.87	6.46					8,000	6.0
HSK-A63-MEGA25N-90❖	.610-1.000	2.362	3.54	—	2.48	NBC25-□	MGN25	MGR60L	20,000	3.5
HSK-A63-MEGA25N-120❖			4.72	—	3.54				12,000	4.8

COLLET CHUCK

Catalog Number	ød	øD	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-A100-MEGA6N-90	.010-.236	.787	3.54	1.69	.91-1.69	NBC6-□	MGN6	MGR20	20,000	5.5
HSK-A100-MEGA6N-105			4.13	2.28					18,000	5.5
HSK-A100-MEGA6N-120			4.72	2.87					14,000	5.5
HSK-A100-MEGA6N-135			5.31	3.46					12,000	5.7
HSK-A100-MEGA6N-165			6.50	4.45						
HSK-A100-MEGA8N-90	.020-.315	.984	3.54	1.69	1.02-1.77	NBC8-□	MGN8	MGR25	20,000	5.5
HSK-A100-MEGA8N-105			4.13	2.28					18,000	5.7
HSK-A100-MEGA8N-120			4.72	2.87					14,000	6.0
HSK-A100-MEGA8N-135			5.31	3.46						
HSK-A100-MEGA8N-165			6.50	4.45						
HSK-A100-MEGA10N-90	.059-.394	1.181	3.54	1.69	1.50-1.77	NBC10-□	MGN10	MGR30	20,000	5.7
HSK-A100-MEGA10N-105			4.13	2.28	1.50-1.89				18,000	6.0
HSK-A100-MEGA10N-120			4.72	2.87					14,000	6.0
HSK-A100-MEGA10N-135			5.31	3.46						6.2
HSK-A100-MEGA10N-165			6.50	4.45						6.6
HSK-A100-MEGA13N-90❖	.098-.512	1.378	3.54	1.69	2.17	NBC13-□	MGN13	MGR35	18,000	6.0
HSK-A100-MEGA13N-105❖			4.13	2.28	2.76				16,000	6.2
HSK-A100-MEGA13N-120			4.72	2.87	1.73-2.48					6.4
HSK-A100-MEGA13N-135			5.31	3.46					14,000	6.6
HSK-A100-MEGA13N-165			6.50	4.65						7.1
HSK-A100-MEGA13N-200			7.87	5.83					10,000	7.7
HSK-A100-MEGA16N-90❖	.098-.630	1.654	3.54	1.85	2.17	NBC16-□	MGN16	MGR42	15,000	6.2
HSK-A100-MEGA16N-105❖			4.13	2.28	2.76				14,000	6.4
HSK-A100-MEGA16N-120			4.72	2.87	1.89-2.68					6.8
HSK-A100-MEGA16N-135			5.31	3.46					13,000	7.1
HSK-A100-MEGA16N-165			6.50	4.65						7.9
HSK-A100-MEGA16N-200			7.87	5.94					10,000	8.8
HSK-A100-MEGA20N-90❖	.098-.787	1.811	3.54	1.85	2.17	NBC20-□	MGN20	MGR46	15,000	6.4
HSK-A100-MEGA20N-105❖			4.13	2.28	2.76				14,000	6.6
HSK-A100-MEGA20N-120			4.72	2.87	2.01-2.68					7.1
HSK-A100-MEGA20N-135			5.31	3.46					13,000	7.3
HSK-A100-MEGA20N-165			6.50	4.65						8.4
HSK-A100-MEGA20N-200			7.87	6.02					10,000	9.5
HSK-A100-MEGA25N-120❖	.610-1.000	2.362	4.72	307	3.35	NBC25-□	MGN25	MGR60L	12,000	8.4
HSK-A100-MEGA25N-165			6.50	4.84	2.52-2.91				10,000	10.1
HSK-A125-MEGA20N-120	.098-.787	1.811	4.72	3.07	2.01-2.68	NBC20-□	MGN20	MGR46	12,000	10.3
HSK-A125-MEGA20N-165			6.50	4.65					10,000	11.4

- MEGA NEW BABY NUT is included; coolant pipe, collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not collet
- Center-through coolant supply is available
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- Adjusting screws cannot be used with models marked ❖

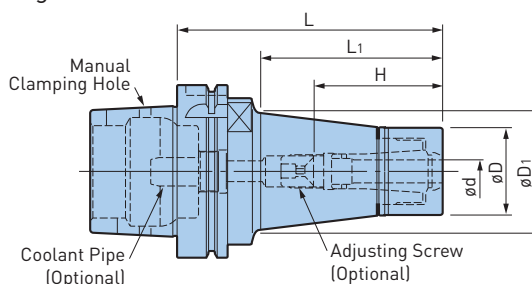
ACCESSORIES



Exclusively for High Speed Finish End Milling



COOLANT
THROUGH



Catalog Number	ød	øD	øD ₁	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-A40-MEGA6E-60❖	.125-.250 (3-6mm)	.984	1.02	2.36	.94	1.61	MEC6-□	MEN6	MGR25	35,000	.9
HSK-A40-MEGA6E-75❖			1.12	2.95	1.54	2.17					1.0
HSK-A40-MEGA8E-65❖	.125-.250 (3-8mm)	1.181	1.34	2.56	1.18	1.73	MEC8-□	MEN8	MGR30	35,000	1.0
HSK-A40-MEGA8E-75❖			1.34	2.95	1.57	2.13				30,000	1.1
HSK-A40-MEGA10E-70❖	.125-.375 (3-10mm)	1.378	1.38	2.76	1.38	1.89	MEC10-□	MEN10	MGR35	30,000	1.2
HSK-A40-MEGA10E-90			1.38	3.54	2.17	1.89-2.05				25,000	1.5
HSK-A40-MEGA13E-70❖	.125-.500 (3-12mm)	1.654	1.65	2.76	1.38	1.97	MEC13-□	MEN13	MGR42	30,000	1.4
HSK-A40-MEGA13E-90❖			1.65	3.54	2.17	2.64				25,000	1.8
HSK-A50-MEGA6E-75	.125-.250 (3-6mm)	.984	1.12	2.95	1.46	1.46-1.69	MEC6-□	MEN6	MGR25	30,000	1.3
HSK-A50-MEGA8E-75❖	.125-.250 (3-8mm)	1.181	1.30	2.95	1.57	1.65	MEC8-□	MEN8	MGR30	30,000	1.5
HSK-A50-MEGA10E-75❖	.125-.375 (3-10mm)	1.378	1.50	2.95	1.57	1.89	MEC10-□	MEN10	MGR35	30,000	1.8
HSK-A50-MEGA13E-75❖	.125-.500 (3-12mm)	1.654	—	2.95	1.93	1.97	MEC13-□	MEN13	MGR42	30,000	2.0
HSK-A50-MEGA13E-100			—	3.94	2.91	1.97-2.17				25,000	2.4
HSK-A63-MEGA6E-65❖	.125-.250 (3-6mm)	.984	1.04	2.56	1.10	1.77	MEC6-□	MEN6	MGR25	30,000	2.0
HSK-A63-MEGA6E-90			1.18	3.54	2.01	1.46-1.77				29,000	2.2
HSK-A63-MEGA6E-105			1.30	4.13	2.60					2.4	
HSK-A63-MEGA6E-120			1.42	4.72	3.23					2.6	
HSK-A63-MEGA6E-135			1.54	5.31	3.90					27,000	3.1
HSK-A63-MEGA8E-67❖	.125-.250 (3-8mm)	1.181	1.24	2.64	1.18	1.77	MEC8-□	MEN8	MGR30	30,000	2.0
HSK-A63-MEGA8E-90			1.38	3.54	2.05	1.46-1.77				29,000	2.4
HSK-A63-MEGA8E-105			1.50	4.13	2.68	1.65-2.01				28,000	2.6
HSK-A63-MEGA8E-120			1.59	4.72	3.27					3.1	
HSK-A63-MEGA8E-135			1.73	5.31	3.94					27,000	3.5
HSK-A63-MEGA10E-75❖	.125-.375 (3-10mm)	1.378	1.48	2.95	1.46	1.89	MEC10-□	MEN10	MGR35	30,000	2.4
HSK-A63-MEGA10E-90❖			1.57	3.54	2.09	2.52				29,000	2.6
HSK-A63-MEGA10E-105			1.69	4.13	2.72	1.89-2.28				28,000	3.1
HSK-A63-MEGA10E-120			1.81	4.72	3.35					3.3	
HSK-A63-MEGA10E-135			1.69	5.31	3.90					27,000	3.7
HSK-A63-MEGA13E-75❖	.125-.500 (3-12mm)	1.654	1.73	2.95	1.22	1.93	MEC13-□	MEN13	MGR42	30,000	2.6
HSK-A63-MEGA13E-90❖			.77	3.54	1.81	2.52				3.1	
HSK-A63-MEGA13E-105			1.81	4.13	2.40	1.97-2.24				29,000	3.5
HSK-A63-MEGA13E-120			1.87	4.72	3.03					28,000	4.0
HSK-A63-MEGA13E-135			1.85	5.31	3.62					26,000	4.2

COLLET CHUCK

Catalog Number	ød	øD	øD1	L	L1	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-A100-MEGA6E-75❖	.125-.250 (3-6mm)	1.984	1.10	2.95	1.30	1.81	MEC6-□	MEN6	MGR25	24,000	5.5
HSK-A100-MEGA6E-90			1.16	3.54	1.89	1.46-1.77					20,000
HSK-A100-MEGA6E-105			1.28	4.13	2.48					6.0	
HSK-A100-MEGA6E-120			1.38	4.72	3.07						18,000
HSK-A100-MEGA6E-135			1.48	5.31	3.66					14,000	
HSK-A100-MEGA6E-165			1.69	6.50	4.84	7.1					
HSK-A100-MEGA8E-75❖	.125-.250 (3-8mm)	1.181	1.30	2.95	1.30	1.81	MEC8-□	MEN8	MGR30	24,000	5.5
HSK-A100-MEGA8E-90			1.36	3.54	1.89	1.65-2.01					20,000
HSK-A100-MEGA8E-105			1.46	4.13	2.48					6.2	
HSK-A100-MEGA8E-120			1.56	4.72	3.07						18,000
HSK-A100-MEGA8E-135			1.67	5.31	3.66					16,000	
HSK-A100-MEGA8E-165			1.87	6.50	4.84	7.5					
HSK-A100-MEGA10E-80❖	.125-.375 (3-10mm)	1.378	1.48	3.15	1.50	2.01	MEC10-□	MEN10	MGR35	22,000	5.7
HSK-A100-MEGA10E-90❖			1.56	3.54	1.89	2.40					6.0
HSK-A100-MEGA10E-105			1.65	4.13	2.48	1.89-2.28				20,000	
HSK-A100-MEGA10E-120			1.75	4.72	3.07						18,000
HSK-A100-MEGA10E-135			1.85	5.31	3.66					7.3	
HSK-A100-MEGA10E-165			2.07	6.50	4.84						8.2
HSK-A100-MEGA13E-90❖	.125-.500 (3-12mm)	1.654	1.81	3.54	1.89	1.97	MEC13-□	MEN13	MGR42	20,000	6.4
HSK-A100-MEGA13E-105			1.91	4.13	2.48	1.97-2.40				18,000	6.8
HSK-A100-MEGA13E-120			2.03	4.72	3.07					16,000	7.3
HSK-A100-MEGA13E-135			2.13	5.31	3.66						7.9
HSK-A100-MEGA13E-165			2.32	6.50	4.84					14,000	9.3

- MEGA E NUT is included; coolant pipe, collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not collet
- Center-through coolant supply is available
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- Adjusting screws cannot be used with models marked ❖

ACCESSORIES

 COLLET PG. 378	 MEGA NUT PG. 379	 PERFECT SEAL PG. 379	 MEGA WRENCH PG. 388	 SCREW PG. 411

MILLING CHUCK

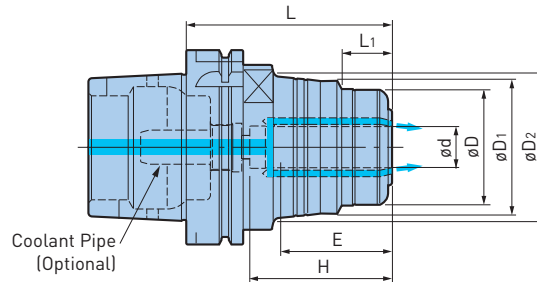
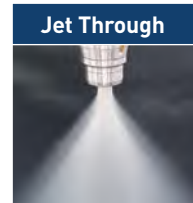
MEGA DOUBLE POWER CHUCK

CLAMPING RANGE: ϕ .625"-1.250" (ϕ 12-42mm)

For Heavy Duty End Milling

MAX
28,000
RPM

COOLANT
THROUGH



Catalog Number	ϕd	ϕD	ϕD_1	ϕD_2	L	L ₁	H	Min Clamping Length E	Wrench	Max RPM	Weight (lbs.)
HSK-A40-MEGA16DS-80	16mm	1.811	—	—	3.25	1.10	2.48	1.89	MGR46L	12,000	1.7
HSK-A50-MEGA16DS-85	16mm	1.811	—	—	3.44	1.10	2.52	1.89	MGR46L	25,000	2.2
HSK-A50-MEGA20DS-85	20mm	1.969	—	—	3.48	1.30	2.56	1.97	MGR50L	20,000	2.3
HSK-A63-MEGA.625DS-3.5A	.625	1.650	2.07	—	3.58	1.06	2.59	1.89	MGR42L	28,000	3.4
HSK-A63-MEGA.750DS-3.5A	.750	2.170	2.19	—	3.59	1.40	2.61	1.97	MGR55L	28,000	3.7
HSK-A63-MEGA.750DS-5A	.750	2.170	2.19	—	5.09	1.40	3.44	1.97	MGR55L	25,000	4.8
HSK-A63-MEGA1.000DS-4A	1.000	2.440	2.47	—	4.08	1.61	3.09	2.20	MGR62L	24,000	4.4
HSK-A63-MEGA1.250DS-4.5A	1.250	2.760	2.75	—	4.59	1.42	3.61	2.35	MGR70L	24,000	4.9
HSK-A63-MEGA12DS-75	12mm	1.496	1.69	1.77	2.99	.98	2.01	1.69	MGR38	30,000	2.4
HSK-A63-MEGA12DS-105	12mm	1.496	1.69	1.89	4.17	.98	2.56	1.69	MGR38	28,000	3.3
HSK-A63-MEGA16DS-80A	16mm	1.654	2.08	—	3.23	1.06	2.24	1.89	MGR42L	25,000	2.9
HSK-A63-MEGA20DS-90A	20mm	2.165	2.16	—	3.62	1.42	2.64	1.97	MGR50L	25,000	3.7
HSK-A63-MEGA20DS-120A●	20mm	2.165	2.16	—	4.80	1.42	3.43	1.97	MGR50L	23,000	4.8
HSK-A63-MEGA25DS-100A	25mm	2.441	—	—	4.02	1.61	3.03	2.20	MGR62L	22,000	4.4
HSK-A63-MEGA32DS-105A	32mm	2.756	—	—	4.21	1.38	3.23	2.36	MGR70L	22,000	4.8
HSK-A100-MEGA.750DS-4	.750	2.362	2.72	2.91	4.09	1.10	2.85	1.89	MGR60L	18,000	9.0
HSK-A100-MEGA1.000DS-4	1.000	2.756	3.03	3.35	4.09	1.34	2.87	2.20	MGR70L	18,000	10.0
HSK-A100-MEGA1.250DS-4.5	1.250	3.150	3.39	3.35	4.59	1.65	3.35	2.36	MGR80L	13,000	11.0
HSK-A100-MEGA12DS-105	12mm	1.496	1.69	2.01	4.17	.98	2.56	1.69	MGR38	18,000	6.6
HSK-A100-MEGA12DS-135	12mm	1.496	1.69	2.24	5.35	.98	2.56	1.69	MGR38	18,000	7.7
HSK-A100-MEGA16DS-105	16mm	1.811	2.17	2.48	4.23	1.02	2.87	1.89	MGR46L	18,000	7.7
HSK-A100-MEGA16DS-135●	16mm	1.811	2.17	2.48	5.41	1.02	2.87	1.89	MGR46L	16,000	9.0
HSK-A100-MEGA20DS-105	20mm	2.362	2.72	2.91	4.23	1.10	2.95	1.97	MGR60L	18,000	9.0
HSK-A100-MEGA20DS-135■	20mm	2.362	2.72	2.91	5.41	1.10	3.43	1.97	MGR60L	16,000	11.0
HSK-A100-MEGA20DS-165❖	20mm	2.362	2.72	2.91	6.59	1.10	2.80-3.19	1.97	MGR60L	15,000	13.0
HSK-A100-MEGA25DS-105	25mm	2.756	3.03	3.35	4.23	1.35	2.95	2.20	MGR70L	18,000	9.9
HSK-A100-MEGA25DS-135■	25mm	2.756	3.03	3.35	5.41	1.35	3.62	2.20	MGR70L	16,000	12.3
HSK-A100-MEGA25DS-165❖	25mm	2.756	3.03	3.35	6.59	1.35	3.07-3.46	2.20	MGR70L	15,000	15.0
HSK-A100-MEGA32DS-115	32mm	3.150	3.39	3.35	4.62	1.65	3.35	2.36	MGR80L	18,000	11.0
HSK-A100-MEGA32DS-135	32mm	3.150	3.39	3.35	5.41	1.65	4.13	2.36	MGR80L	16,000	12.8
HSK-A100-MEGA32DS-165	32mm	3.150	3.39	3.35	6.59	1.65	4.21	2.36	MGR80L	14,000	15.6
HSK-A100-MEGA42DS-115	42mm	3.898	3.93	3.93	4.61	1.65	3.39	2.48	MGR99L	14,000	12.1

MILLING CHUCK

Catalog Number	ød	øD	øD1	øD2	L	L1	H	Min Clamping Length E	Wrench	Max RPM	Weight (lbs.)
HSK-A125-MEGA20DS-135	20mm	2.362	2.72	3.15	5.41	1.10	3.43	1.97	MGR60L	8,000	14.7
HSK-A125-MEGA20DS-165❖				3.11	6.59		2.80-3.19			7,000	16.7
HSK-A125-MEGA25DS-135	25mm	2.756	3.03	3.27	5.41	1.34	3.62	2.20	MGR70L	8,000	15.6
HSK-A125-MEGA32DS-135	32mm	3.150	3.39	3.66	5.41	1.65		2.36	MGR80L	8,000	17.2
HSK-A125-MEGA32DS-165					6.59		4.21			6,000	20.0
HSK-A125-MEGA42DS-120	42mm	3.898	3.93	3.93	4.82		3.35	2.76	MGR99L	7,000	17.4

- Coolant pipe and wrench must be ordered separately
- Center-through coolant supply is available
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" dimension is the Max tool shank length that can be inserted into the holder
- Tools with flats should not be used in MEGA DOUBLE POWER CHUCKS
- Optional axial adjusting screw can be used with models marked ❖
- M8 hex screw is required with models marked ● please contact us if using for center-through applications
- M12 hex screw is required with models marked ■

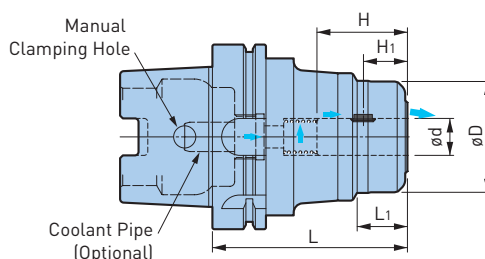
ACCESSORIES

 COLLET PG. 384	 PERFECT SEAL/ JET COLLET PG. 381	 MEGA WRENCH PG. 388	 SCREW PG. 412

MILLING CHUCK

MEGA PERFECT GRIP

CLAMPING RANGE: ϕ .750"-1.250" (ϕ 16-32mm)



Catalog Number	ϕd	ϕD	L	L ₁	H	H ₁	Wrench	Weight (lbs.)
HSK-A63-MEGA16DPG-90	16mm	1.811	3.543	.945	1.850	.906	MGR46L	3.5
HSK-A63-MEGA20DPG-100	20mm	2.362	3.543	1.063	1.929	.945	MGR60L	4.4
HSK-A100-MEGA.750DPG-4	.750	2.362	4.000	1.072	1.929	.913	MGR60L	9.0
HSK-A100-MEGA1.000DPG-4	1.000	2.756	4.000	1.318	2.165	1.024	MGR70L	9.9
HSK-A100-MEGA1.250DPG-4.5	1.250	3.150	4.500	1.622	2.244	1.102	MGR80L	11.0
HSK-A100-MEGA20DPG-105	20mm	2.362	4.134	1.063	1.929	.945	MGR60L	9.0
HSK-A100-MEGA25DPG-105	25mm	2.756	4.134	1.299	2.165	.906	MGR70L	9.9
HSK-A100-MEGA32DPG-115	32mm	3.150	4.528	1.614	2.322	.906	MGR80L	11.0
HSK-A125-MEGA1.000DPG-4.5	1.000	2.756	4.500	1.299	2.165	1.024	MGR70L	14.0
HSK-A125-MEGA1.250DPG-5	1.250	3.150	5.000	1.622	2.244	1.102	MGR80L	15.5
HSK-A125-MEGA16DPG-135	16mm	1.811	5.315	.945	1.850	.906	MGR46L	13.0
HSK-A125-MEGA20DPG-135	20mm	2.362	5.315	1.063	1.929	.945	MGR60L	14.7
HSK-A125-MEGA25DPG-135	25mm	2.756	5.315	1.299	2.165	.906	MGR70L	16.0
HSK-A125-MEGA32DPG-135	32mm	3.150	5.315	1.614	2.322	.906	MGR80L	17.2

- Key grip and spring are included; wrench must be ordered separately
- Cylindrical shank with flat section JIS B 4005 (ISO3338-2) is required, for inch shank refer to pg. 75, for metric shank refer to pg. 131
- H₁ is the dimension from the center of the Key Grip to the front end of the chuck
- When coolant supply is from the cutting edge a seal bush is necessary, use instead of the spring; seal bush must be ordered separately

CAUTION

Always replace worn or damaged key grips immediately for safe operation.

INCH

Clamping ϕ	Key Grip (2 pcs.)	Spring
.750	PKG.750-2P	PSP1823
1.000	PKG1.000-2P	PSP2420
1.250	PKG1.250-2P	PSP3128

- Spare Key Grips are available in 2 pcs. per set

METRIC

Clamping ϕ	Key Grip (2 pcs.)	Spring
ϕ 16	PKG16-2P	PSP1519
ϕ 20	PKG20-2P	PSP1823
ϕ 25	PKG25-2P	PSP2420
ϕ 32	PKG32-2P	PSP3128

- Spare Key Grips are available in 2 pcs. per set



MILLING CHUCK

NEW HI-POWER MILLING CHUCK

CLAMPING RANGE: ϕ .750"-2.000" (ϕ 20-42mm) For Heavy Duty End Milling

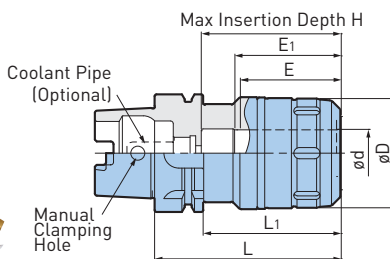


Fig. 1

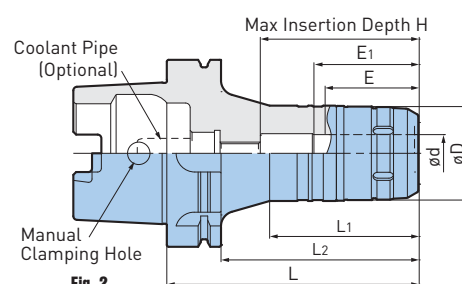


Fig. 2

Catalog Number	Fig.	ød	øD	L	L1	L2	H	Min Clamping Length		Wrench	Weight (lbs.)			
								E	E1					
HSK-A40-HMC20S-85	1	20mm	1.969	3.35	2.56	—	2.60	2.20	1.97	FK45-50L	2.0			
HSK-A50-HMC20S-90	1	20mm	1.969	3.54	2.20	—	2.60	2.20	1.97	FK45-50L	2.6			
HSK-A50-HMC32S-115◆		32mm	2.44	4.53	3.50		2.72		2.28	FK58-62L	3.5			
HSK-A63-HMC.750S-3.5	1	.750	1.97	3.5	2.47	—	2.51	1.97	2.20	FK45-50L	3.2			
HSK-A63-HMC.750S-5				5.0	3.97		3.34				4.4			
HSK-A63-HMC1.000S-4		1.000	2.33	4.0	2.97		2.95	2.20	2.24	FK58-62L	4.1			
HSK-A63-HMC1.000S-5				5.0	3.97		3.34				5.2			
HSK-A63-HMC1.250S-4.5		1.250	2.68	4.5	3.47		3.11-3.50	2.36	2.52	FK68-75L	5.0			
HSK-A63-HMC1.250S-6				6.0	4.97						6.8			
HSK-A63-HMC20S-90	1	20mm	1.969	3.54	2.52	—	2.56	2.20	1.97	FK45-50L	3.3			
HSK-A63-HMC20S-120●				4.72	3.70		3.35				4.2			
HSK-A63-HMC25S-100	1	25mm	2.323	3.94	2.91	—	2.95	2.24	2.20	FK58-62L	4.2			
HSK-A63-HMC25S-135◇				5.31	4.29		2.60-2.99				5.5			
HSK-A63-HMC32S-110	1	32mm	2.677	4.33	3.31	—	3.35	2.52	2.36	FK68-75L	5.1			
HSK-A63-HMC32S-135●				5.31	4.29		3.54				5.7			
HSK-A63-HMC32S-165◇				6.50	5.47		3.11-3.50				7.1			
HSK-A100-HMC.750S-4	1	.750	1.97	4.0	2.85	—	2.75	1.97	2.21	FK45-50L	6.5			
HSK-A100-HMC.750S-6	2			6.0	4.85	3.54	2.72-3.11				8.5			
HSK-A100-HMC1.000S-4	1	1.000	2.33	4.0	2.85	—	2.75	2.20	2.24	FK58-62L	7.2			
HSK-A100-HMC1.000S-6	2			6.0	4.85	3.74	3.54				9.8			
HSK-A100-HMC1.250S-4.5	1	1.250	2.68	4.5	3.35	—	3.22	2.36	2.83	FK68-75L	8.5			
HSK-A100-HMC1.250S-6	2			6.0	4.85	3.93	4.13				10.7			
HSK-A100-HMC20S-105	1	20mm	1.969	4.13	2.99	—	2.87	2.20	1.97	FK45-50L	6.6			
HSK-A100-HMC20S-135■	2			5.31	3.15	4.17	3.35				7.7			
HSK-A100-HMC20S-165◇				6.50	3.94	5.35	2.72-3.11				9.0			
HSK-A100-HMC25S-105	1	25mm	2.323	4.13	2.99	—	2.87	2.24	2.20	FK58-62L	7.3			
HSK-A100-HMC25S-135■				5.31	4.17		—				3.54	8.6		
HSK-A100-HMC25S-165◇	2			6.50	4.13	5.35	2.99-3.39				10.6			
HSK-A100-HMC32S-115	1	32mm	2.677	4.53	3.39	—	3.27	2.83	2.36	FK68-75L	8.6			
HSK-A100-HMC32S-135				5.31	4.17		—				4.06	9.7		
HSK-A100-HMC32S-165■	2			6.50	4.13	136	4.13				3.54-3.94			11.0
HSK-A100-HMC32S-200◇				7.87	5.12	6.73	14.1							
HSK-A100-HMC32S-300◇				11.81	7.87	10.67	20.5							
HSK-A100-HMC42S-115	1	42mm	3.346	4.53	3.39	—	3.27	2.87	2.48	FK80-90L	10.8			
HSK-A100-HMC42S-135				5.31	4.17		—				4.06	12.1		
HSK-A100-HMC42S-165■				6.50	5.35		—				4.21	15.0		

MILLING CHUCK

Catalog Number	Fig.	ød	øD	L	L1	L2	H	Min Clamping Length		Wrench	Weight (lbs.)
								E	E1		
HSK-A125-HMC.750J-4	2	.750	2.36	4.09	2.15	2.95	2.64	2.28	1.97	FK58-62	12.1
HSK-A125-HMC1.000J-5		1.000	2.44	5.09	2.27	3.95	3.63	2.64	2.20		12.3
HSK-A125-HMC1.250J-5		1.250	3.15		2.59			2.83	2.36	FK80-90	15.0
HSK-A125-HMC1.500J-5	1	1.500	3.90		3.31	—		4.54	2.87	2.48	FK92-100
HSK-A125-HMC2.000J-6		2.000	4.13	6.09	4.94		3.50		3.50	FK110-115	20.5

- Wrench and axial adjusting screw must be ordered separately
- When using center-through coolant:
 - Set screw with sealing compound applied (standard accessory) should be used to plug an air bleed hole
 - Oil hole type should be chosen when straight collet is required
- "H" dimension is the Max tool shank length that can be inserted into the holder
- Optional adjusting screw can be used with models marked ❖
- Straight collet model C32-□□ can only be used with models marked ◆
- M8 hex screw is required with models marked ● please contact us if using for center-through applications
- M12 hex screw is required with models marked ■
- Through tool coolant for HSK-A125 is Jet type delivery

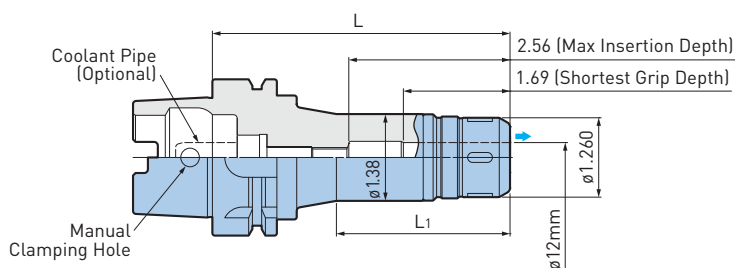
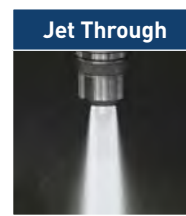
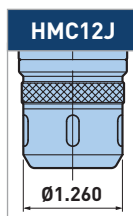
ACCESSORIES

COLLET PG. 384	PERFECT SEAL/ JET COLLET PG. 381	WRENCH PG. 387	SCREW PG. 412

(JET COOLANT TYPE)

CLAMPING RANGE: ø12mm

A slim yet highly rigid milling chuck with ø32 outer diameter nut for reduced interference.



Catalog Number	L	L1	Wrench	Weight (lbs.)
HSK-A63-HMC12J-90	3.54	2.08	FK31-33	2.4
HSK-A63-HMC12J-120●	4.72	2.75		3.1

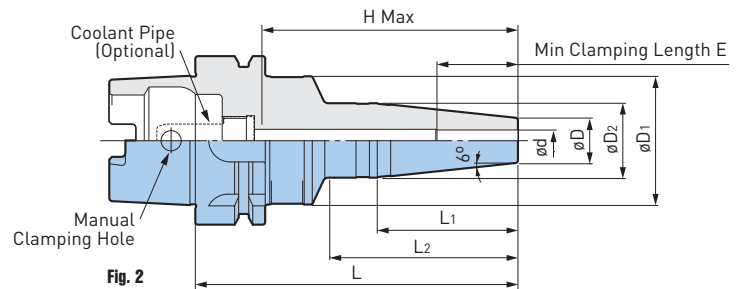
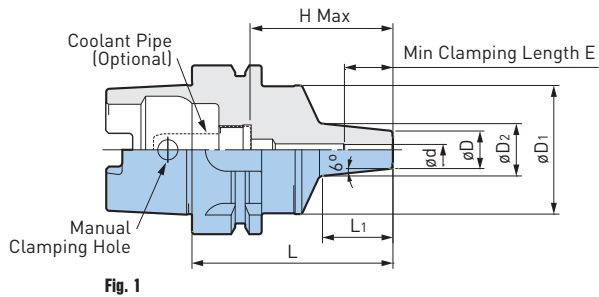
- Wrench must be ordered separately
- M8 hex screw is required with models marked ● please contact us if using for center-through applications

HYDRAULIC CHUCKS

HYDRAULIC CHUCK (SUPER SLIM TYPE)

CLAMPING RANGE: $\varnothing 3$ -12mm

For Drills, Reamers, Ball Mills, End Mills, Diamond Reamers & Grinding Tools



Catalog Number	Fig.	ød	øD	øD1	øD2	L	L1	L2	E	H Max	Max RPM	Weight (lbs.)
HSK-A40-HDC3S-55❖	1	3mm	.551	1.30	.71	2.165	.71	—	1.54	.63	42,000	.64
HSK-A40-HDC4S-65		4mm			.83	2.559	1.10		1.93	.75	42,000	.73
HSK-A40-HDC6S-75		6mm			.91	2.95	1.54			.98	40,000	.75
HSK-A40-HDC8S-75		8mm	.669		1.02		1.57	1.85	1.22	38,000	.79	
HSK-A40-HDC10S-75		10mm	.748		1.10	1.30			.82			
HSK-A40-HDC12S-80		12mm	.827		1.22	3.15	1.77		1.42	35,000	.88	
HSK-A50-HDC4S-75	1	4mm	.551	1.57	.83	2.953	1.22	—	2.17	.75	35,000	1.8
HSK-A63-HDC3S-90❖	1	3mm	.551	1.89	.83	3.543	1.69	—	2.68	.63	30,000	2.4
HSK-A63-HDC3S-120❖	2				1.02	4.016	2.24	2.83	3.86	.63	30,000	1.1
HSK-A63-HDC4S-75	1	4mm	.551	1.89	.79	2.953	1.02	—	2.09	.75	30,000	2.2
HSK-A63-HDC4S-90					.91	3.543	1.69	—	2.68		30,000	2.2
HSK-A63-HDC4S-120	2				1.02	4.724	2.24	2.83	3.86		30,000	2.4
HSK-A63-HDC5S-120		5mm	.551	1.89	1.02	4.724	2.24		3.86	.87	30,000	2.4
HSK-A63-HDC6S-120		6mm	.551	1.89	1.02	4.724	2.24	2.76	3.86	.98	30,000	2.4
HSK-A63-HDC6S-150						5.910		3.35	5.04		28,000	2.9
HSK-A63-HDC6S-180						7.087		3.94	6.22		25,000	3.3
HSK-A63-HDC8S-120		8mm	.669	1.89	1.10	4.724	2.05	2.76	3.74	1.22	30,000	2.7
HSK-A63-HDC8S-150						5.910		3.35	4.92		28,000	2.9
HSK-A63-HDC8S-180						7.087		3.94	4.92		25,000	3.3
HSK-A63-HDC10S-120		10mm	.748	1.89	1.18	4.724	2.05	2.76	3.70	1.30	30,000	2.7
HSK-A63-HDC10S-150						5.910		3.43	4.88		25,000	3.1
HSK-A63-HDC10S-180						7.087		3.94	4.88		23,000	3.5
HSK-A63-HDC12S-120		12mm	.827	1.89	1.26	4.724	2.05	2.76	3.66	1.42	30,000	2.7
HSK-A63-HDC12S-150						5.910		3.43	4.84		25,000	3.1
HSK-A63-HDC12S-180						7.087		3.94	4.84		23,000	3.5

Catalog Number	Fig.	ød	øD	øD1	øD2	L	L1	L2	E	H Max	Max RPM	Weight (lbs.)
HSK-A100-HDC4S-150	2	4mm	.551	2.05	1.02	5.910	2.25	3.54	.75	4.76	20,000	5.6
HSK-A100-HDC6S-150		6mm							.98		20,000	5.6
HSK-A100-HDC8S-150		8mm	.669	2.13	1.10		2.05		1.22		20,000	6.2
HSK-A100-HDC10S-150		10mm	.748	2.20	1.18				1.30	20,000	6.2	
HSK-A100-HDC12S-150		12mm	.827	2.28	1.26				1.42	4.53	20,000	6.4

- Coolant pipe must be ordered separately
- Adjusting screws cannot be used
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖

ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".



HYDRAULIC CHUCKS

HYDRAULIC CHUCK (JET COOLANT TYPE)

CLAMPING RANGE: $\phi 4$ -32mm

Coolant Holes Through Body of Holder

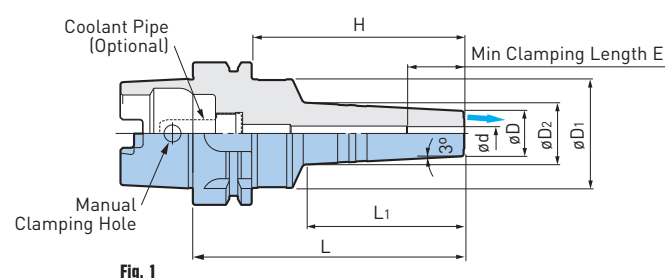
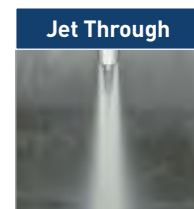


Fig. 1

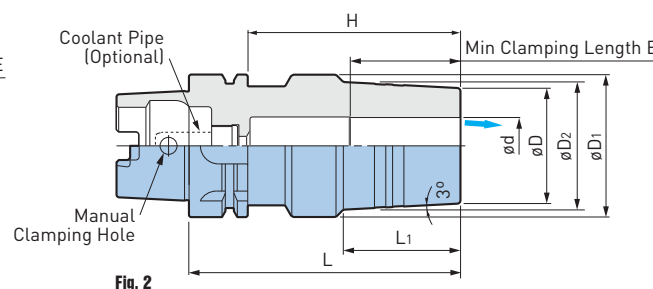


Fig. 2

Catalog Number	Fig.	ϕd	ϕD	ϕD_1	ϕD_2	L	L1	H	E	Weight (lbs.)
HSK-A63-HDC4J-75	1	4mm	.787	1.89	.91	2.95	1.14	.75	2.09	2.2
HSK-A63-HDC4J-120					1.10	4.72	2.76		3.86	2.6
HSK-A63-HDC6J-90		6mm	.787	1.89	.98	3.54	1.54	.98	2.68	2.2
HSK-A63-HDC6J-120					1.10	4.72	2.76		3.86	2.6
HSK-A63-HDC6J-165				1.97	1.26	6.50	4.13		5.63	3.3
HSK-A63-HDC8J-90		8mm	.866	1.89	1.06	3.54	1.57	1.18	2.56	2.4
HSK-A63-HDC8J-120					1.18	4.72	2.76		3.74	2.6
HSK-A63-HDC8J-165				1.97	1.34	6.50	4.13		4.33	3.5
HSK-A63-HDC10J-90		10mm	.945	1.89	1.14	3.54	1.57	1.26	2.52	2.4
HSK-A63-HDC10J-120					1.26	4.72	2.76		3.70	2.9
HSK-A63-HDC10J-165				1.97	1.42	6.50	4.17		4.29	3.5
HSK-A63-HDC12J-90		12mm	1.024	1.89	1.22	3.54	1.57	1.38	2.48	2.4
HSK-A63-HDC12J-120					1.34	4.72	2.76		3.66	2.9
HSK-A63-HDC12J-165				1.97	1.50	6.50	4.17		4.25	3.7
HSK-A63-HDC16J-120		16mm	1.339	1.89	1.69	4.72	2.99	1.65	3.62	3.3
HSK-A63-HDC20J-120		20mm	1.496	1.89		4.72			6.58	3.3
HSK-A63-HDC25J-120	2	25mm	2.008	2.48	2.24	4.72	1.97	1.93	3.66	4.6
HSK-A63-HDC32J-120		32mm	2.362	2.72	—	4.72	2.09	2.20		5.1

- Coolant pipe must be ordered separately
- Adjusting screws cannot be used

ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".



HYDRAULIC CHUCKS

HYDRAULIC CHUCK

CLAMPING RANGE: ϕ .750"-1.250" (ϕ 6-32mm)

For Drills, Reamers, Ball Mills, End Mills, Diamond Reamers & Grinding Tools

**MAX
17,000
RPM**

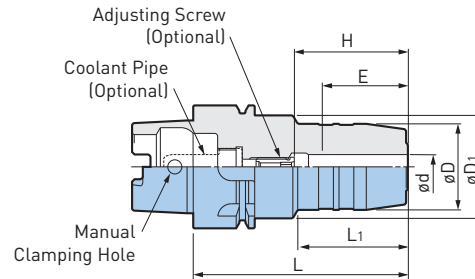


Fig. 1

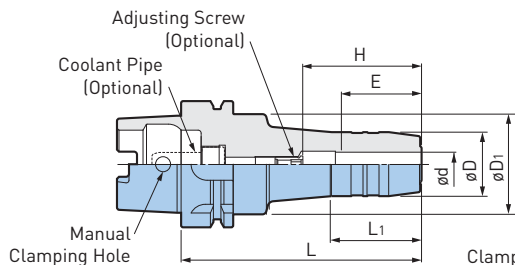


Fig. 2

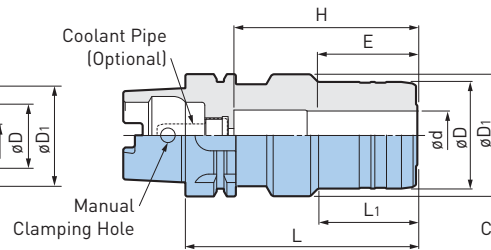


Fig. 3

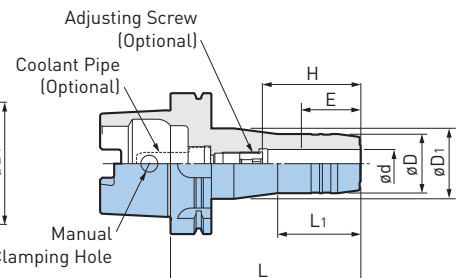


Fig. 4

Catalog Number	Fig.	ød	øD	øD1	L	L1	H	Min Clamping Length E	Adjusting Screw	Max RPM	Weight (lbs.)	
HSK-A40-HDC6-70	1	6mm	1.020	1.32	2.76	1.42	1.10-1.42	1.10	HDA6-05013	17,000	1.0	
HSK-A40-HDC8-70		8mm	1.100		2.95	1.61	1.30-1.61	1.30	HDA8-06013	15,000	1.1	
HSK-A40-HDC10-75		10mm	1.180		3.15	1.81	1.50-1.77	1.50			1.1	
HSK-A40-HDC12-80		12mm	1.260						1.2			
HSK-A50-HDC6-75	1	6mm	1.020	1.64	2.95	1.56	1.10-1.46	1.10	HDA6-05013	17,000	1.5	
HSK-A50-HDC8-75		8mm	1.100		3.15	1.46	1.30-1.61	1.30	HDA8-06013	15,000	1.5	
HSK-A50-HDC10-80		10mm	1.180		3.35	1.65	1.50-1.81	1.50	HDA10-08015		1.5	
HSK-A50-HDC12-85		12mm	1.260							1.8		
HSK-A50-HDC16-90◆		16mm	1.500	1.64	3.54	1.89	1.69-2.01	1.69	13,000	2.0		
HSK-A50-HDC20-90◆		20mm	1.650			2.52				2.0		
HSK-A50-HDC25-90◆◆	3	25mm	2.170	2.48		.91	2.44	2.05	—	10,000	2.9	
HSK-A63-HDC.750-4	2	.750	1.654	1.97	4.00	2.00	1.69-2.76	1.69	HDA16-12037	13,000	3.5	
HSK-A63-HDC1.000-4	3	1.000	2.165	2.48	4.00	1.25	2.05-3.15	2.05	HDA25-16039	13,000	4.6	
HSK-A63-HDC1.250-4.5	3	1.250	2.677		4.00	1.25	2.20-3.15	2.20	HDA25-16039	12,000	5.3	
HSK-A63-HDC6-70◆	2	6mm	1.020	1.97	2.76	.99	1.81	1.10	—	17,000	2.2	
HSK-A63-HDC6-120					4.72	1.73	1.10-1.89		HDA6-05032		2.6	
HSK-A63-HDC6-150					5.90						3.1	
HSK-A63-HDC7-120		7mm	1.063		4.724			1.10	—	15,000	2.9	
HSK-A63-HDC8-70◆		8mm	1.100		2.76	.94	1.81		2.2			
HSK-A63-HDC8-120					4.72	1.73	1.10-1.89		HDA8-06032		2.9	
HSK-A63-HDC8-150					5.90			1.1				
HSK-A63-HDC9-120		9mm	1.142		4.724			2.9				
HSK-A63-HDC10-80◆		10mm	1.180		3.15	1.38	2.17	1.30	—	15,000	2.4	
HSK-A63-HDC10-120					4.72	1.77	1.30-2.09		HDA10-08032		2.9	
HSK-A63-HDC10-150					5.90						3.5	
HSK-A63-HDC11-120					11mm	1.220	4.724					3.1

HYDRAULIC CHUCKS

Catalog Number	Fig.	ød	øD	øD1	L	L1	H	Min Clamping Length E	Adjusting Screw	Max RPM	Weight (lbs.)	
HSK-A63-HDC12-85❖	2	12mm	1.260	1.97	3.35	1.57	2.36	1.50	—	15,000	2.4	
HSK-A63-HDC12-120					4.72	1.77	1.50-2.28		HDA12-10025		3.1	
HSK-A63-HDC12-150											5.90	3.5
HSK-A63-HDC13-120		13mm	1.299		4.724	1.77	1.50-2.28		1.50		3.1	
HSK-A63-HDC14-85❖	2	14mm	1.340	1.97	3.35	1.57	2.36	1.50	—	15,000	2.6	
HSK-A63-HDC14-120					4.72	1.77	1.50-2.28		HDA12-10025		3.1	
HSK-A63-HDC14-150											5.90	3.7
HSK-A63-HDC15-120		15mm	1.457		4.724	1.77	1.50-2.28		1.50		3.3	
HSK-A63-HDC16-90❖		16mm	1.500		3.54	1.81	2.56	1.69	—	13,000	2.9	
HSK-A63-HDC16-120					4.72		2.28-2.68		HDA16-12015		3.3	
HSK-A63-HDC16-150					5.90		1.69-2.68		HDA16-12037		4.2	
HSK-A63-HDC18-90❖		18mm	1.570		3.54	2.56	HDA16-12037		2.9			
HSK-A63-HDC18-120					4.72	2.28-3.68	HDA20-16015		3.5			
HSK-A63-HDC18-150					5.90	1.69-2.68	HDA25-16039		4.4			
HSK-A63-HDC20-90❖		20mm	1.650		3.54	1.89	2.56	—	2.9			
HSK-A63-HDC20-120					4.72		2.28-2.68	HDA20-16015	3.5			
HSK-A63-HDC20-150					5.90		1.69-2.68	HDA25-16039	4.4			
HSK-A63-HDC25-120❖		3	25mm		2.170	2.48	4.72	2.01	3.74		2.05	—
HSK-A63-HDC32-125❖			32mm		2.360	2.95	4.92	2.32	3.94	2.20	12,000	
HSK-A100-HDC.750-4		2	.750		1.654	1.97	4.00	2.00	1.69-2.76	1.69	HDA16-12037	13,000
HSK-A100-HDC1.000-4	1.000		2.480	2.48	4.00	3.54	2.05-3.15	2.05	HDA25-16039	13,000	7.3	
HSK-A100-HDC1.250-4.5	1.250		2.717		4.50	3.58	2.20-3.15	2.20	HDA25-16039	12,000	8.2	
HSK-A100-HDC6-75❖	4	6mm	1.020	1.97	2.95	1.02	1.81	1.10	—	17,000	5.3	
HSK-A100-HDC6-120					4.72	1.73	1.10-1.89		HDA6-05032		5.7	
HSK-A100-HDC6-165											6.50	6.4
HSK-A100-HDC8-75❖		8mm	1.100		2.95	1.02	1.81	1.10	—	15,000	5.3	
HSK-A100-HDC8-120					4.72	1.73	1.10-1.89		HDA8-06032		5.7	
HSK-A100-HDC8-165											6.50	6.6
HSK-A100-HDC10-90❖		10mm	1.188		3.54	1.65	2.40	1.30	—		5.5	
HSK-A100-HDC10-120					4.72	1.77	1.30-2.09		HDA10-08032		6.0	
HSK-A100-HDC10-165											6.50	6.8
HSK-A100-HDC12-95❖		12mm	1.260		3.74	1.85	2.48	1.50	—	13,000	5.5	
HSK-A100-HDC12-120					4.72		1.50-2.28		HDA12-10025		6.0	
HSK-A100-HDC12-165									6.50		HDA12-10032	6.8
HSK-A100-HDC16-100❖		16mm	1.500		3.94	2.09	2.68	1.69	—		5.7	
HSK-A100-HDC16-135					5.31		1.69-2.68		HDA16-12030		6.6	
HSK-A100-HDC16-165					6.50				HDA16-12037		7.3	
HSK-A100-HDC20-105❖		20mm	1.650		4.13	2.32	2.87	1.69	—		6.0	
HSK-A100-HDC20-135					5.31		2.28-2.68		HDA20-16015		6.8	
HSK-A100-HDC20-165					6.50		1.69-2.68		HDA25-16039		7.9	
HSK-A100-HDC25-110❖		25mm	2.240	2.48	4.33	2.44	3.07	2.05	—	12,000	7.3	
HSK-A100-HDC32-110❖		32mm	2.520	2.95				2.20			8.2	

- Coolant pipe must be ordered separately
- "H" indicates the adjustment length with an adjusting screw
- Do not attempt to balance before first consulting BIG DAISHOWA
- In case the projection length needs to be adjusted from the shank side, add the letter "W" to adjusting screw model number for hexagon sockets on both sides (ex: HDA6-05020W)

- Adjusting screws cannot be used with models marked ❖
- Straight collet cannot be used with models marked ◆

ACCESSORIES

 PERFECT SEAL/ JET COLLET PG. 381	 GRIP BAR PG. 393	 SCREW PG. 393

CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

BASIC ARBORS

SHRINK FIT HOLDER

CLAMPING RANGE: $\varnothing 4$ -20mm

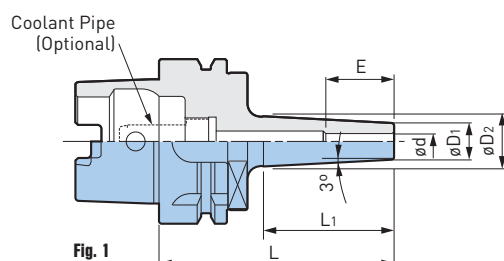


Fig. 1

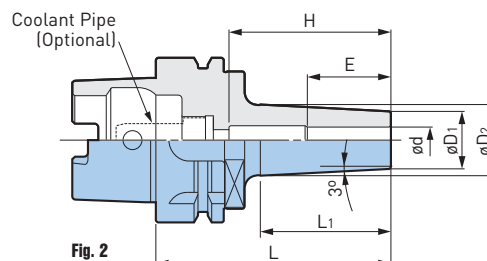


Fig. 2

Catalog Number	Fig.	$\varnothing d$	$\varnothing D_1$	$\varnothing D_2$	L	L ₁	Min Clamping Length E	Max Insertion Length H	Weight (lbs.)
HSK-A63-SRC4-90❖	1	4mm	.394	.58	3.54	1.81	1.02	[2.68]	1.9
HSK-A63-SRC6-90		6mm	.551	.75		2.01		[2.68]	2.0
HSK-A63-SRC6-150				.98	5.91	4.25		[5.04]	2.3
HSK-A63-SRC8-90	2	8mm	.709	.91	3.54	2.01	1.26	[2.68]	2.0
HSK-A63-SRC8-150				1.14	5.91	4.33		[5.04]	2.5
HSK-A63-SRC10-90		10mm	.866	1.06	3.54	2.01	1.42	2.44	2.2
HSK-A63-SRC10-150				1.32	5.91	4.37		2.8	2.8
HSK-A63-SRC12-90		12mm	.945	1.14	3.54	2.01	1.50	2.56	2.2
HSK-A63-SRC12-150				1.42	5.91	4.41		2.83	2.9
HSK-A63-SRC16-90		16mm	1.102	1.30	3.54	2.01	1.65	2.56	2.2
HSK-A63-SRC16-165				1.59	6.50	4.69		3.15	3.7
HSK-A63-SRC20-90		20mm	.945	1.56	3.54	2.09	1.65	2.56	2.4
HSK-A63-SRC20-165				1.83	6.50	4.80		3.94	4.2

- Coolant pipe must be ordered separately
- "H" dimensions in () are reference length up to the coolant pipe
- Use carbide cutter within a tolerance of h6
- Use carbide cutter within a tolerance of h5 with models marked ❖
- Center-through coolant supply is available with tools with oil holes

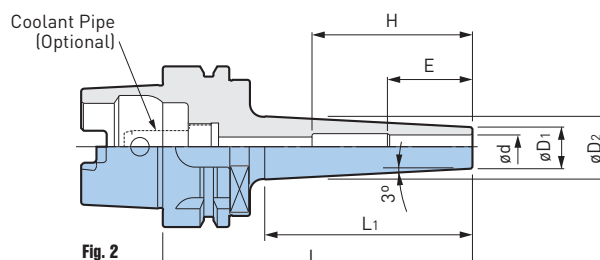
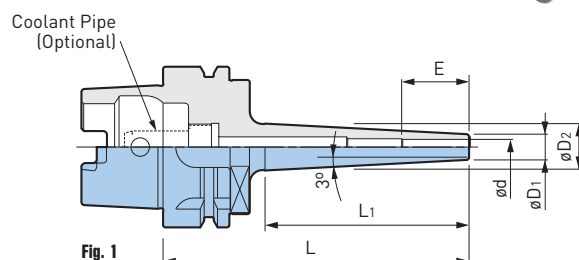
CAUTION

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

BASIC ARBORS

SHRINK FIT HOLDER (SLIM TYPE)

CLAMPING RANGE: $\phi 6$ -12mm



Catalog Number	Fig.	ϕd	$\phi D1$	$\phi D2$	L	L ₁	Min Clamping Length E	Max Insertion Length H	Weight (lbs.)
HSK-A63-SRC6S-120	1	6mm	.394	.73	4.72	3.19	1.02	(3.85)	2.0
HSK-A63-SRC6S-165				.89	6.50	4.76		(5.63)	2.2
HSK-A63-SRC8S-120	2	8mm	.512	.85	4.72	3.19		(3.85)	2.0
HSK-A63-SRC8S-165				1.02	6.50	4.84		(5.63)	2.4
HSK-A63-SRC10S-120		10mm	.630	.96	4.72	3.19	1.26	2.44	2.2
HSK-A63-SRC10S-165				1.14	6.50	4.84			2.4
HSK-A63-SRC12S-120		12mm	.748	1.08	4.72	3.19	1.42	2.83	2.2
HSK-A63-SRC12S-165				1.26	6.50	4.92			2.6

- Coolant pipe must be ordered separately
- "H" dimensions in () are reference length up to the coolant pipe
- Use carbide cutter within a tolerance of h6
- Center-through coolant supply is available with tools with oil holes

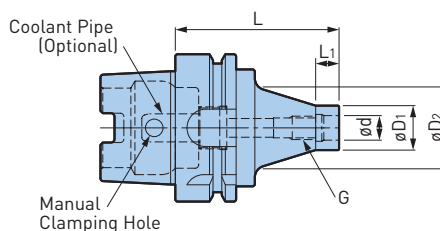
CAUTION

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

BASIC ARBORS

SCREW-ON HOLDER

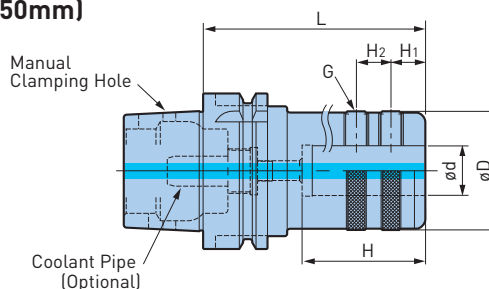
Arbor for JIS Standard Side Cutters and Slitting Saws



Catalog Number	ød	øD1	øD2	L	L1	G	Weight (lbs.)
HSK-A63-M8-15-75	.335	.591	1.181	2.953	.394	M8	2.0
HSK-A63-M10-19-70	.413	.748	1.378	2.756		M10	
HSK-A63-M12-24-65	.472	.945	1.575	2.559		M12	
HSK-A63-M16-29-60	.669	1.142		2.362		M16	

SIDE LOCK DRILL HOLDER

CLAMPING RANGE: ø.630"-1.575" (ø16-50mm)



Catalog Number	ød	øD	L	H	H1	H2	G	Weight (lbs.)
HSK-A63-TSL16-90	.630	1.890	3.543	1.890	.551	.551	M10	3.3
HSK-A63-TSL20-90	.787			1.969				3.1
HSK-A63-TSL25-90	.984			2.205				3.1
HSK-A63-TSL32-105	1.260	2.480	4.134	2.362	.591	.787	M16	4.4
HSK-A63-TSL40-120	1.575	2.677	4.724	2.756				5.3

ACCESSORIES

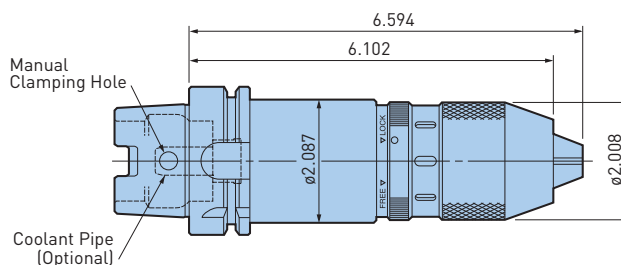


- Coolant pipe must be ordered separately
- Center-through coolant supply is available

SUPER KEYLESS CHUCK (INTEGRAL HOLDER TYPE)

CLAMPING RANGE: ø.020"-ø.512" (ø.5-13mm)

Securely chucks the drill with simple operation.



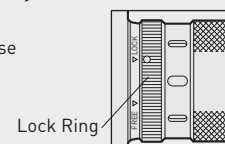
Catalog Number	Clamping Diameter	Weight (lbs.)	Wrench
HSK-A63-SKL13-155	ø.020-ø.512	5.3	FS13LC

- Hook wrench is included
- Coolant pipe is not included (cannot be used with center through)

Reverse Lock Mechanism (SKL13)

No loosening even when the main spindle suddenly stops, by the reverse lock mechanism using a lock ring.

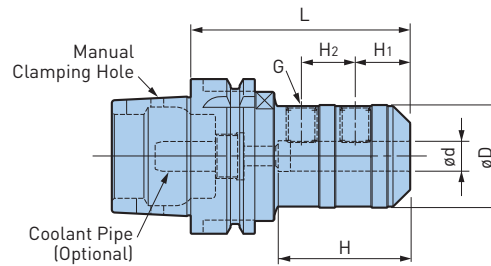
Runout Accuracy Within .05mm



BASIC ARBORS

END MILL HOLDER

CLAMPING RANGE: ϕ .750"-2.000" (ϕ 6-50mm)



Catalog Number	ϕd	ϕD	L	H	H1	H2	G	Weight (lbs.)
HSK-A63-ISL6-80	6mm	.984	3.15	2.28	.71	—	M6	2.0
HSK-A63-ISL8-80	8mm	1.102				—	M8	2.2
HSK-A63-ISL10-80	10mm	1.378				—	M10	2.4
HSK-A63-ISL12-80	12mm	1.654				—	M12	2.6
HSK-A63-ISL16-80	16mm	1.890				—	M14	3.1
HSK-A63-ISL20-80	20mm	2.047				—	M16	3.3
HSK-A63-ISL25-105	25mm	2.559	4.13	2.36	.94	.98	M18	5.1
HSK-A63-ISL32-115	32mm	2.835	4.53	2.52		1.10	M20	6.0
HSK-A100-ISL20-90	20mm	2.047	3.54	2.13	.98	—	M16	7.5
HSK-A100-ISL20-135			5.31					9.0
HSK-A100-ISL20-195			7.68					11.0
HSK-A100-ISL25-105	25mm	2.559	4.13	2.36	.94	.98	M18	9.5
HSK-A100-ISL25-135			5.31					11.0
HSK-A100-ISL25-195			7.68					14.1
HSK-A100-ISL32-125	32mm	2.835	4.92	3.54	.94	1.10	M20	10.8
HSK-A100-ISL32-165			6.50					13.9
HSK-A100-ISL32-195			7.68					15.9
HSK-A100-ISL40-125	40mm	3.543	4.92	3.54	1.18	1.26	M20	12.8
HSK-A100-ISL40-165			6.50					17.9
HSK-A100-ISL40-210			8.27					22.5
HSK-A100-ISL50-135	50mm	3.917	5.31	3.54	1.38	1.38	M24	14.8
HSK-A100-ISL50-165			6.50					18.7
HSK-A100-ISL50-210			8.27					24.2
HSK-A125-EM.750-4	.750	1.750	4.00	2.54	1.00	—	5/8"-18	10.4
HSK-A125-EM1.000-5	1.000	2.252	5.00	3.13	1.13	1.00	3/4"-16	12.2
HSK-A125-EM1.250-5	1.250	2.750						13.6
HSK-A125-EM1.500-5	1.500	2.750						13.1
HSK-A125-EM2.000-6	2.000	3.500	6.00	4.33	1.38	1.38	1"-14	17.1

- Coolant pipe must be ordered separately
- Center-through coolant supply is available
- For high speed applications MEGA DOUBLE POWER CHUCKS are recommended instead of End Mill Holders

CAUTION

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

ACCESSORIES



BASIC ARBORS

SHELL/FACE MILL HOLDER

For Cutters that Require a Coolant Hole Through the Pilot

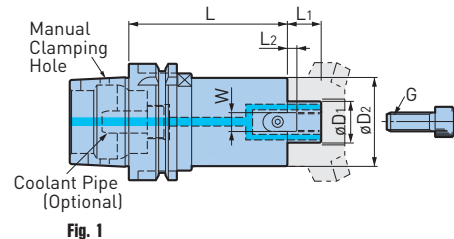
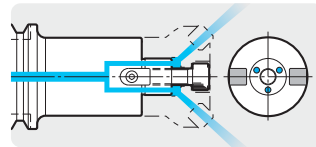


Fig. 1

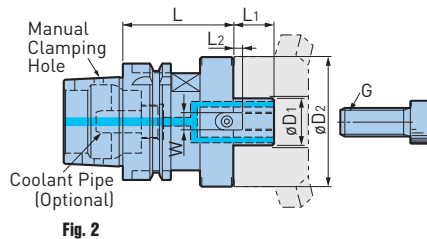


Fig. 2

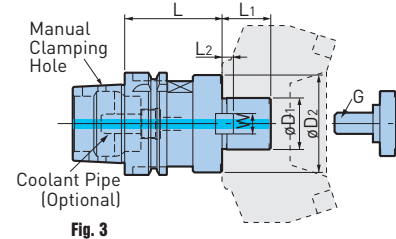


Fig. 3

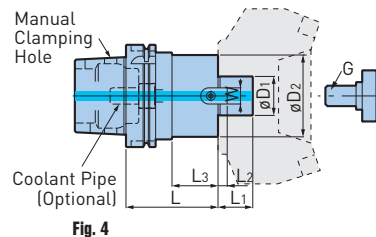


Fig. 4

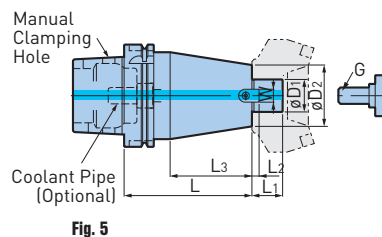


Fig. 5

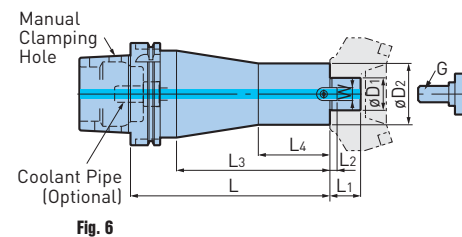


Fig. 6

Catalog Number	Fig.	øD1	øD2	L	L1	Drive Keys		G	Weight (lbs.)
						L2	W		
HSK-A50-FMH22-47-60	2	22mm	1.850	2.36	.709	.20	.394	M10	1.8
HSK-A50-FMH22-47-90				3.54					2.6
HSK-A50-FMH25.4-50-60	2	25.4mm	1.969	2.36	.87	.20	.37	M12	2.0
HSK-A50-FMH27-60-60	2	27mm	2.362	2.36	.787	.24	.472	M12	2.2
HSK-A50-FMH27-60-90				3.54					2.9
HSK-A40-FMA25.4-50	4	25.4mm	1.969	1.97	.87	.20	.37	M12	1.3
HSK-A50-FMA25.4-60	5			2.36					2.2
HSK-A50-FMA25.4-90				3.54					2.9
HSK-A50-FMA31.75-60				31.75mm	2.362	2.36	1.18	.28	.50
HSK-A63-FMH16-37-45	1	16mm	1.457	1.77	.63	.20	.31	M8	2.2
HSK-A63-FMH22-47-60	1	22mm	1.850	2.36	.71	.20	.39	M10	2.9
HSK-A63-FMH22-47-90				3.54					3.7
HSK-A63-FMH22-47-150				5.91					5.5
HSK-A63-FMH22-60-60	2	22mm	2.362	2.36	.71	.20	.39	M10	3.1
HSK-A63-FMH22-60-90				3.54					4.0
HSK-A63-FMH25.4-70-60	2	25mm	2.756	2.36	.87	.20	.37	M12	4.0
HSK-A63-FMH25.4-70-90				3.54					5.5
HSK-A63-FMH25.4-70-150				5.91					9.0
HSK-A63-FMH27-60-60	2	27mm	2.362	2.36	.79	.24	.47	M12	3.5
HSK-A63-FMH27-60-90				3.54					5.1
HSK-A63-FMH31.75-76-60	2	31.75mm	2.992	2.36	1.18	.28	.50	M16	4.4
HSK-A63-FMH31.75-76-90				3.54					6.0

BASIC ARBORS



A.3
HSK

Catalog Number	Fig.	øD1	øD2	L	L1	Drive Keys		G	Weight (lbs.)
						L2	W		
HSK-A63-FMA25.4-60	4	25.4mm	1.969	2.36	.87	.20	.37	M12	2.9
HSK-A63-FMA25.4-90				3.54					3.7
HSK-A63-FMA31.75-60	4	31.75mm	2.362	2.36	1.18	.28	.50	M16	3.3
HSK-A63-FMA38.1-60	4	38.1mm	3.150	2.36	1.34	.35	.63	M20	5.1
HSK-A100-FMH16-37-105	1	16mm	1.457	4.13	.63	.20	.31	M8	6.2
HSK-A100-FMH16-37-150				5.91					6.9
HSK-A100-FMH16-37-200				7.87					7.6
HSK-A100-FMH22-47-105	1	22mm	1.850	4.13	.71	.20	.39	M10	7.5
HSK-A100-FMH22-47-150				5.91					8.8
HSK-A100-FMH22-47-200				7.87					10.4
HSK-A100-FMH22-47-250				9.84					11.9
HSK-A100-FMH22-60-60	1	22mm	2.362	2.36	.71	.20	.39	M10	6.4
HSK-A100-FMH22-60-105				4.13					8.6
HSK-A100-FMH22-60-150				5.91					11.9
HSK-A100-FMH22-60-200				7.87					13.4
HSK-A100-FMH22-60-250				9.84					15.9
HSK-A100-FMH25.4-70-150	1	25.4mm	2.756	3.54	.87	.20	.37	M12	9.0
HSK-A100-FMH25.4-70-200				5.91					12.9
HSK-A100-FMH25.4-70-90				7.87					16.1
HSK-A100-FMH27-60-60	1	27mm	2.362	2.36	.79	.24	.47	M12	6.4
HSK-A100-FMH27-60-90				3.54					8.2
HSK-A100-FMH27-60-150				5.91					11.0
HSK-A100-FMH27-60-200				7.87					13.0
HSK-A100-FMH27-60-250				9.84					15.4
HSK-A100-FMH27-76-60	1	27mm	2.992	2.36	.79	.24	.47	M12	7.1
HSK-A100-FMH27-76-90				3.54					9.5
HSK-A100-FMH27-76-150				5.91					14.3
HSK-A100-FMH31.75-76-105	1	31.75mm	2.992	4.13	1.18	.28	.50	M16	10.9
HSK-A100-FMH31.75-76-150				5.91					14.4
HSK-A100-FMH31.75-76-200				7.87					18.2
HSK-A100-FMH32-96-60	2	32mm	3.780	2.36	.87	.28	.55	M16	8.4
HSK-A100-FMH32-96-90				3.54					12.1
HSK-A100-FMH32-96-150				5.91					19.6
HSK-A100-FMH38.1-100-105	2	38.1mm	3.917	4.13	1.34	.35	.63	M20 (NBA-M20)	14.1
HSK-A100-FMH38.1-100-150				5.91					20.1
HSK-A100-FMH40-100-75	2	40mm	3.937	2.95	1.02	.33	.63	M20 (MBA-M20)	10.8
HSK-A100-FMH40-100-105				4.13					15.0
HSK-A100-FMA25.4-105	5	25.4mm	1.969	4.13	.87	.20	.37	M12	9.9
HSK-A100-FMA25.4-135				5.31					11.7
HSK-A100-FMA25.4-195				7.68					15.6
HSK-A100-FMA31.75-105	5	31.75mm	2.362	4.13	1.18	.28	.50	M16	10.6
HSK-A100-FMA31.75-135	6			5.31					12.3
HSK-A100-FMA31.75-195				7.68					15.4
HSK-A100-FMA38.1-90	4	38.1mm	3.150	3.54	1.34	.35	.63	M20	10.8
HSK-A100-FMA5.8-75	4	5.8mm	3.937	2.95	1.42	.39	.75	M24	11.7

BASIC ARBORS

SHELL/FACE MILL HOLDER (CONT.)

For Cutters that Require a Coolant Hole Through the Pilot

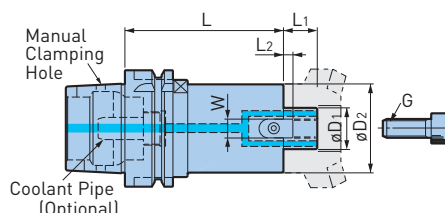
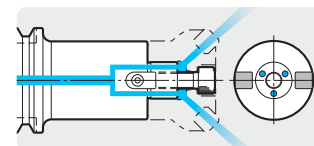


Fig. 1



Catalog Number	Fig.	øD1	øD2	L	L1	Drive Keys		G	Weight (lbs.)
						L2	W		
HSK-A125-SMC1.000-4	1	1.000	2.189	4.00	.69	.20	.37	1/2"-20	12.5
HSK-A125-SMC1.250-4	1	1.250	2.752	4.00		.28	.49	5/8"-18	13.6
HSK-A125-SMC1.500-4	1	1.500	3.626	4.00	.94	.35	.62	3/4"-16	17.3
HSK-A125-FMH22A-49-50	1	22mm	1.929	1.97	.71	.71	.39	M10	9.0
HSK-A125-FMH22A-49-100				3.94					10.6
HSK-A125-FMH22A-49-150				5.91					11.9
HSK-A125-FMH22A-49-200				7.87					14.8
HSK-A125-FMH27A-60-90	1	27mm	2.362	3.54	.79	.24	.47	M12	11.2
HSK-A125-FMH27A-60-150				5.91					13.9
HSK-A125-FMH32A-78-60	1	32mm	3.071	2.36	.87	.26	.55	M16	10.6
HSK-A125-FMH32A-96-105	1		3.780	4.13					17.2
HSK-A125-FMH40A-80-90	1	40mm	3.150	3.54	1.02	.33	.63	M20 (MBA-M20H)	13.2

- Lock screw is included; coolant pipe must be ordered separately
- A clamping screw with oil hole must be ordered separately for use with center-through coolant/air

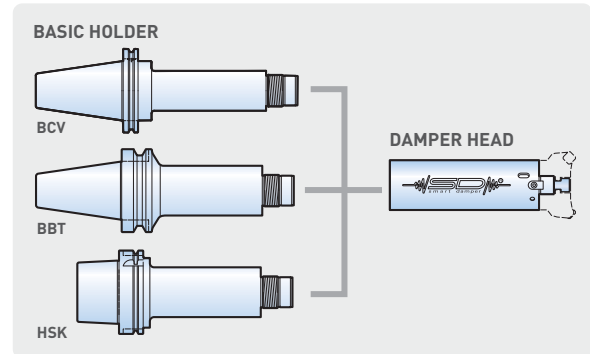
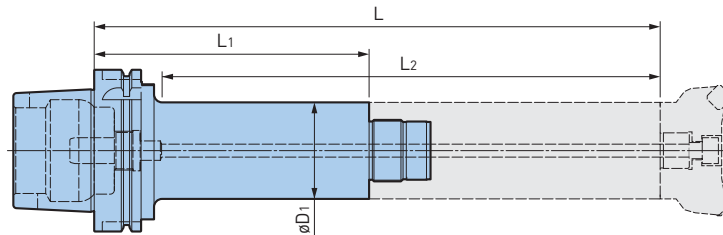
CAUTION

For high speed applications, shell mill holders should be balanced together with the cutters.

ACCESSORIES



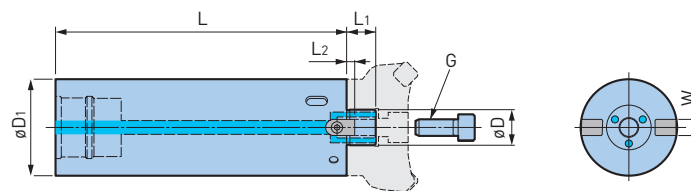
SMART DAMPER MILLING (FACE MILL ARBOR TYPE)



Catalog Number	ϕD_1	L	L1	L2	Weight (lbs.)	Damper Head Model
HSK-A100-SDF36-47-170	47mm	13.780	6.693	12.205	9.7	FMH□□DP-47
HSK-A100-SDF36-47-220		15.748	8.661	14.173	11.0	
HSK-A100-SDF36-60-170	60mm	13.780	6.693	12.205	12.1	FMH□□DP-60
HSK-A100-SDF36-60-220		15.748	8.661	14.173	14.3	
HSK-A100-SDF57-76-170	76mm	13.780	6.693	12.205	17.0	FMH□□DP-76
HSK-A100-SDF57-76-220	76mm	15.748	8.661	14.173	20.7	FMH□□DP-76
HSK-A125-SDF36-47-250	47mm	16.929	9.843	14.96	15.2	FMH□□DP-47
HSK-A125-SDF36-60-250	60mm				17.6	FMH□□DP-60

- Coolant pipe must be ordered separately

SMART DAMPER MILLING (DAMPER HEAD)



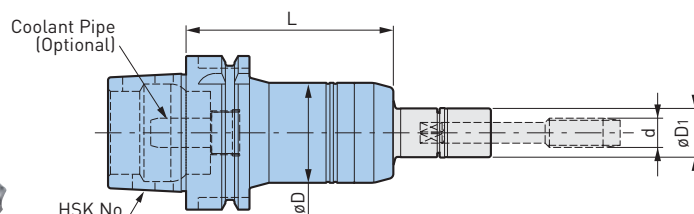
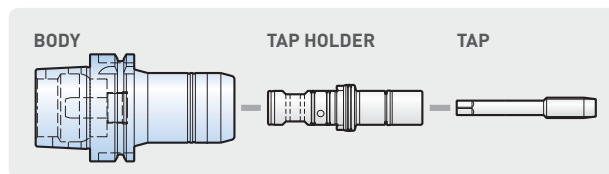
Catalog Number	ϕD	ϕD_1	L	L1	L2	W	G	Weight (lbs.)	C-Spanner Model
SDF36-FMH22DP-47-180	22mm	47mm	7.087	.709	.197	.394	M10	6.6	FK45-50L
SDF36-FMH22DP-60-180		60mm						9.9	FK58-62L
SDF36-FMH27DP-60-180	27mm	60mm	7.087	.787	.236	.472	M12	9.9	FK58-62L
SDF57-FMH27DP-76-180		76mm						17.8	FK68-75L
SDF36-SMC.750DP-47-180	.750	47mm	7.087	.689	.160	.313	3/8"-24	6.6	FK45-50L
SDF36-SMC1.000DP-60-180	1.000	60mm			.220	.375	1/2"-20	9.9	FK58-62L
SDF57-SMC1.000DP-72-180		72mm						16.3	FK68-75L

- Hook wrench and cutter clamping screw are included
- The weight does not include the cutter
- Refer to the operation manual regarding the mounting method to the basic holder
- If the provided clamping screw is not compatible, separately select one from the clamping screw table on pg. 413
- The damper head cannot be removed after the basic holder and damper head have been attached and used for processing

TAP HOLDERS

MEGA SYNCHRO TAPPING HOLDER

TAPPING RANGE: No.2-AU3/4 (M2-M20)



Catalog Number	Tapping Range d* (Inch)	Tapping Range d* (Metric)	øD	øD1	L	Wrench	Weight (lbs.)
HSK-A40-MGT6-80	No.2-No.12	M2-M6	1.42	.63	3.15	MGR16	1.3
HSK-A40-MGT12-85	AU1/4-AU7/16	M6-M12	1.61	.79	3.35	MGR20L	1.5
HSK-A50-MGT6-85	No.2-No.12	M2-M6	1.42	.63	3.35	MGR16	1.8
HSK-A50-MGT12-85	AU1/4-AU7/16	M6-M12	1.61	.79	3.35	MGR20L	2.0
HSK-A50-MGT20-125	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	4.92	MGR30L	3.5
HSK-A63-MGT6-85	No.2-No.12	M2-M6	1.42	.63	3.35	MGR16	2.4
HSK-A63-MGT12-85	AU1/4-AU7/16	M6-M12	1.61	.79	3.35	MGR20L	2.6
HSK-A63-MGT20-110	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	4.33	MGR30L	4.0
HSK-A100-MGT6-95	No.2-No.12	M2-M6	1.42	.63	3.74	MGR16	5.7
HSK-A100-MGT12-95	AU1/4-AU7/16	M6-M12	1.61	.79	3.74	MGR20L	5.9
HSK-A100-MGT20-115	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	4.53	MGR30L	7.3
HSK-A125-MGT12-105	AU1/4-AU7/16	M6-M12	1.61	.79	3.74	MGR20L	9.4
HSK-A125-MGT20-120	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	4.53	MGR30L	10.6

*AU3/8 is included in the MGT20 series

- Coolant pipe, tap holder and wrench must be ordered separately
- Rigid tapping function is required on the machine tool

ACCESSORIES

TAP HOLDER PG. 394	MEGA NUT PG. 401	SYNCHRO ADJUSTER PG. 401	O-RING PG. 401	MEGA WRENCH PG. 388	SCREW PG. 401

CAUTION

Cannot be used with machining center without synchronized tapping function.

TAP HOLDERS

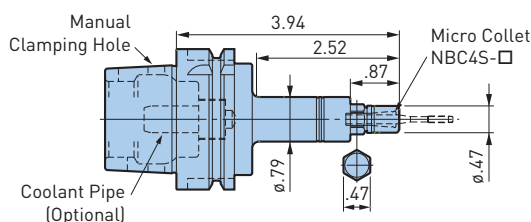
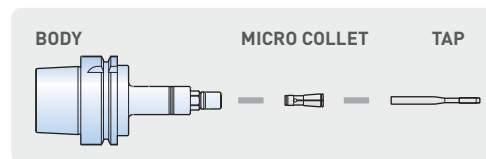
MEGA SYNCHRO TAPPING HOLDER

TAPPING RANGE: No.0-No.6 (M1-M3)



Catalog Number	Weight (lbs.)
HSK-A63-MGT3-100	2.2

- Nut is included; collet and wrench must be ordered separately
- When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required
- Not capable of supplying coolant through the holder body



ACCESSORIES

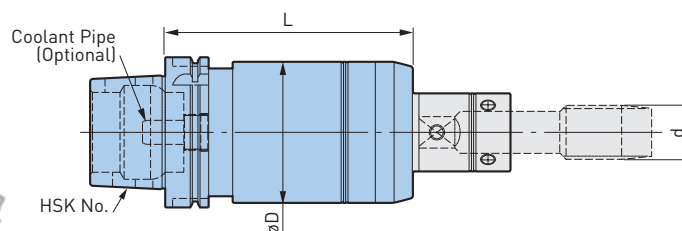
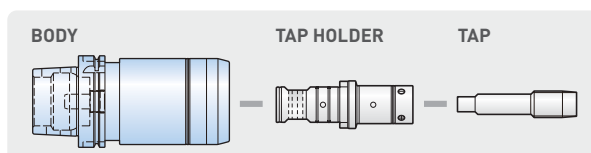


CAUTION

Cannot be used with machining center without synchronized tapping function.

MEGA SYNCHRO TAPPING HOLDER

TAPPING RANGE: AU13/16-AU1-3/8 (M20-M36)



Catalog Number	Tapping Range d (Inch)	Tapping Range d (Metric)	øD	L	Weight (lbs.)
HSK-A100-MGT36-165	AU13/16-AU1-3/8 AP3/8-AP1	M20-M36	3.70	6.50	18.0
HSK-A125-MGT36-170	AU13/16-AU1-3/8 AP3/8-AP1	M20-M36	3.70	6.69	22.4

- MGT Set Screw and adjust screw are included; coolant pipe, tap holder must be ordered separately

ACCESSORIES

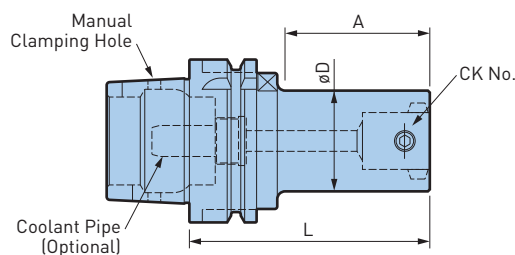


CAUTION

Cannot be used with machining center without synchronized tapping function.

MODULAR HOLDERS

CKB SHANK

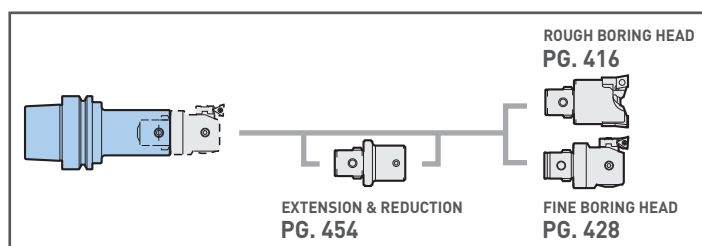


Catalog Number	CK No.	øD	L	A	Weight (lbs.)
HSK-A40-CKB1-73	CK1	.748	2.854	1.614	.7
HSK-A40-CKB2-85	CK2	.945	3.327	2.205	.9
HSK-A40-CKB3-80	CK3	1.220	3.150	1.732	1.1
HSK-A40-CKB4-73	CK4	1.535	2.874	2.087	1.3
HSK-A50-CKB1-73	CK1	.748	2.854	1.299	1.1
HSK-A50-CKB2-85	CK2	.945	3.327	1.772	1.3
HSK-A50-CKB3-80	CK3	1.220	3.150	1.772	1.5
HSK-A50-CKB4-73	CK4	1.535	2.874	1.181	1.8
HSK-A50-CKB5-83	CK5	1.969	3.268	2.244	2.2
HSK-A63-CKB1-78	CK1	.748	3.051	1.496	2.0
HSK-A63-CKB2-90	CK2	.945	3.524	1.969	2.2
HSK-A63-CKB3-80	CK3	1.220	3.150	1.614	2.2
HSK-A63-CKB3-100			3.937	2.402	2.4
HSK-A63-CKB3-130			5.118	3.583	2.9
HSK-A63-CKB4-93	CK4	1.535	3.661	2.244	2.6
HSK-A 63-CKB4-123			4.843	3.425	3.3
HSK-A63-CKB5-63	CK5	1.969	2.480	.787	2.4
HSK-A63-CKB5-83			3.268	1.575	2.9
HSK-A63-CKB5-113			4.449	2.756	4.0
HSK-A63-CKB6-79	CK6	2.520	3.110	2.087	3.3
HSK-A63-CKB6-109			4.291	3.268	5.1

Catalog Number	CK No.	øD	L	A	Weight (lbs.)
HSK-A100-CKB1-103	CK1	.748	4.035	2.362	5.5
HSK-A100-CKB2-115	CK2	.945	4.508	2.835	5.7
HSK-A100-CKB3-125	CK3	1.220	4.921	3.268	6.2
HSK-A100-CKB4-118	CK4	1.535	4.646	2.992	6.6
HSK-A100-CKB4-148			5.827	4.173	7.3
HSK-A100-CKB4-178			7.008	5.354	7.7
HSK-A100-CKB5-108	CK5	1.969	4.252	2.598	7.3
HSK-A100-CKB5-183			7.205	5.551	9.7
HSK-A100-CKB5-228			8.976	7.323	11.0
HSK-A100-CKB6-79	CK6	2.520	3.110	1.535	6.6
HSK-A100-CKB6-94			3.701	2.126	7.5
HSK-A100-CKB6-169			6.654	5.079	11.7
HSK-A100-CKB6-229			9.016	7.441	14.8
HSK-A100-CKB7-93	CK7	3.543	3.661	2.520	9.5
HSK-A100-CKB7-123			4.843	3.701	12.8
HSK-A100-CKB7-213			8.386	7.244	22.5
HSK-A100-CKB7-273			10.748	9.606	29.1
HSK-A125-CKB6-94	CK6	2.520	3.701	2.047	10.8
HSK-A125-CKB7-123	CK7	3.543	4.843	2.953	16.5

• Cutting edge and drive key grooves are located in the same orientation

ACCESSORIES

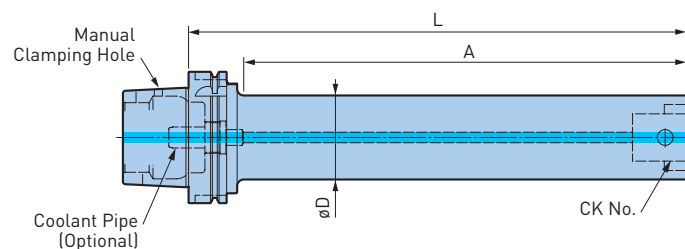


MODULAR HOLDERS



SMART DAMPER BORING (HSK SHANK TYPE)

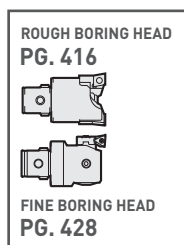
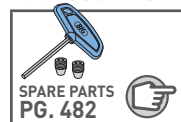
Built-in damper eliminates chatter in deep hole boring.



Catalog Number	CK No.	øD	L	A	Weight (lbs.)
HSK-A100-CKB4DP-241	CK4	1.535	9.488	7.835	9.5
HSK-A100-CKB5DP-303	CK5	1.969	11.929	10.276	14.3
HSK-A100-CKB6DP-379	CK6	2.520	14.921	13.268	24.7

- Cutting edges and drive keys are aligned with boring heads mounted
- Head and inserts must be ordered separately
- Extension should not be used due to possible chatter

ACCESSORIES

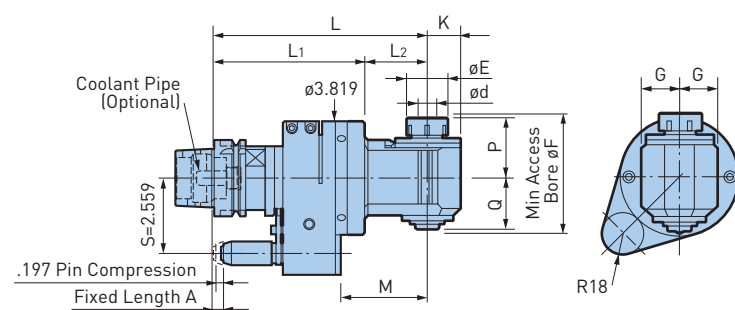


ANGLE HEADS

AG90 (NBS TYPE)

CLAMPING RANGE: ϕ .010"-.787"

MAX
6,000
RPM



Catalog Number	ϕd	ϕE	G	K	L	L1	L2	M	P	Q	ϕF	Collet	Max RPM	Weight (lbs.)
HSK-A63-AG90/NBS6-185	.010-.236	.787	.827	.669	7.28	5.12	2.17	3.03	1.30	1.14	2.638	NBC6-□	6,000	13.0
HSK-A63-AG90/NBS6-215					8.46		3.35	4.21						13.5
HSK-A63-AG90/NBS6-245					9.65		4.53	5.39						13.9
HSK-A63-AG90/NBS6-275					10.83		5.71	6.57						14.3
HSK-A63-AG90/NBS10-185	.059-.394	1.181	1.181	.984	7.28	5.12	2.17	3.03	1.77	1.69	3.583	NBC10-□	6,000	13.9
HSK-A63-AG90/NBS10-215					8.46		3.35	4.21						14.8
HSK-A63-AG90/NBS10-245					9.65		4.53	5.39						15.4
HSK-A63-AG90/NBS13-185	.098-.472	1.378	1.220	1.102	7.28	5.12	2.17	3.03	2.05	1.77	3.976	NBC13-□	6,000	14.1
HSK-A63-AG90/NBS13-215					8.46		3.35	4.21						15.0
HSK-A63-AG90/NBS13-245					9.65		4.53	5.39						15.7
HSK-A63-AG90/NBS20-200	.098-.787	1.811	1.378	1.378	7.87	5.12	2.76	3.62	2.56	2.44	5.197	NBC20-□	3,000	16.5
HSK-A63-AG90/NBS20S-180S				1.299	7.09	5.00	2.09							17.4

- Nut and wrench are included; coolant pipe and collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



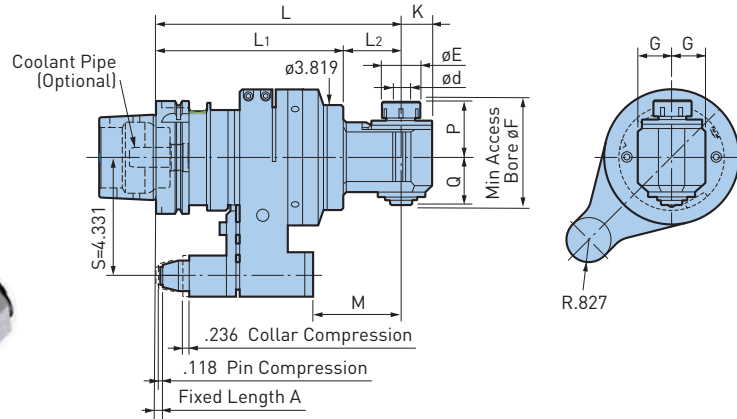
CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

ANGLE HEADS

AG90 (NBS TYPE)

CLAMPING RANGE: ϕ .010"-.787"



MAX
6,000
RPM

A.3
HSK

Catalog Number	ϕd	ϕE	G	K	L	L1	L2	M	P	Q	ϕF	Collet	Max RPM	Weight (lbs.)
HSK-A100-AG90/NBS6-225	.010-.236	.787	.827	.669	8.86	6.69	2.17	3.23	1.30	1.14	2.638	NBC6-□	6,000	26.0
HSK-A100-AG90/NBS6-255					10.04		3.35	4.41						26.5
HSK-A100-AG90/NBS6-285					11.22		4.53	5.59						27.3
HSK-A100-AG90/NBS6-315					12.40		5.71	6.77						26.9
HSK-A100-AG90/NBS10-225	.059-.394	1.181	1.181	.984	8.86	6.69	2.17	3.23	1.77	1.69	3.583	NBC10-□	6,000	27.8
HSK-A100-AG90/NBS10-255					10.04		3.35	4.41						28.4
HSK-A100-AG90/NBS10-285					11.22		4.53	5.59						27.1
HSK-A100-AG90/NBS13-225	.098-.512	1.378	1.220	1.102	8.86	6.69	2.17	3.23	2.05	1.77	3.976	NBC13-□	6,000	28.0
HSK-A100-AG90/NBS13-255					10.04		3.35	4.41						28.6
HSK-A100-AG90/NBS13-285					11.22		4.53	5.59						29.5
HSK-A100-AG90/NBS20-240	.098-.787	1.811	1.378	1.378	9.45	6.69	2.76	3.82	2.44	2.44	5.197	NBC20-□	3,000	30.4

- Nut and wrench are included; coolant pipe and collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES

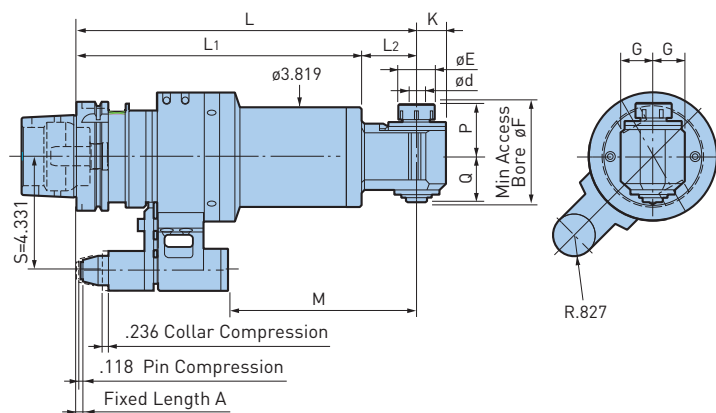


CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

AG90 (NBS EXTRA LONG TYPE)
CLAMPING RANGE: $\varnothing$.010"-.787"

**MAX
6,000
RPM**



Catalog Number	ød	øE	G	K	L	L1	L2	M	P	Q	øF	Collet	Max RPM	Weight (lbs.)
HSK-A100-AG90/NBS6-325LS	.010-.236	.787	.827	.669	12.80	10.63	2.17	7.17	1.30	1.14	2.638	NBC6-□	6,000	39.9
HSK-A100-AG90/NBS6-355LS					13.98		3.35	8.35						40.3
HSK-A100-AG90/NBS6-385LS					15.16		4.53	9.53						40.8
HSK-A100-AG90/NBS6-415LS					16.34		5.71	10.71						41.2
HSK-A100-AG90/NBS6-425LS	.010-.236	.787	.827	.669	16.73	14.57	2.17	11.10	1.30	1.14	2.638			49.6
HSK-A100-AG90/NBS6-455LS					17.91		3.35	12.28						50.0
HSK-A100-AG90/NBS6-485LS					19.09		4.53	13.46						50.5
HSK-A100-AG90/NBS6-515LS					20.28		5.71	14.65						50.9
HSK-A100-AG90/NBS6-525LS	.010-.236	.787	.827	.669	20.67	18.50	2.17	15.04	1.30	1.14	2.638			59.3
HSK-A100-AG90/NBS6-555LS					21.85		3.35	16.22						59.7
HSK-A100-AG90/NBS6-585LS					23.03		4.53	17.40						60.2
HSK-A100-AG90/NBS6-615LS					20.28		5.71	18.58						60.6

ANGLE HEADS

Catalog Number	ød	øE	G	K	L	L1	L2	M	P	Q	øF	Collet	Max RPM	Weight (lbs.)
HSK-A100-AG90/NBS10-325LS	.059-.394	1.181	1.181	.984	12.80	10.63	2.17	7.17	1.77	1.69	3.583	NBC10-□	6,000	40.8
HSK-A100-AG90/NBS10-355LS					13.98		3.35	8.35						41.7
HSK-A100-AG90/NBS10-385LS					15.16		4.53	9.53						42.3
HSK-A100-AG90/NBS10-425LS	.059-.394	1.181	1.181	.984	16.73	14.57	2.17	11.10	1.77	1.69	3.583			50.5
HSK-A100-AG90/NBS10-455LS					17.91		3.35	12.28						51.4
HSK-A100-AG90/NBS10-485LS					19.09		4.53	13.46						52.0
HSK-A100-AG90/NBS10-525LS	.059-.394	1.181	1.181	.984	20.67	18.50	2.17	15.04	1.77	1.69	3.583			60.2
HSK-A100-AG90/NBS10-555LS					21.85		3.35	16.22						61.1
HSK-A100-AG90/NBS10-585LS					23.03		4.53	17.40						61.7
HSK-A100-AG90/NBS13-325LS	.098-.512	1.378	1.220	1.102	12.80	10.63	2.17	7.17	2.05	1.77	3.976	NBC13-□	6,000	41.0
HSK-A100-AG90/NBS13-355LS					13.98		3.35	8.35						41.9
HSK-A100-AG90/NBS13-385LS					15.16		6.10	9.53						42.5
HSK-A100-AG90/NBS13-425LS	.098-.512	1.378	1.220	1.102	16.73	14.57	2.17	11.10	2.05	1.77	3.976			50.7
HSK-A100-AG90/NBS13-455LS					17.91		3.35	12.28						51.6
HSK-A100-AG90/NBS13-485LS					19.09		6.10	13.46						52.2
HSK-A100-AG90/NBS13-525LS	.098-.512	1.378	1.220	1.102	20.67	18.50	2.17	15.04	2.05	1.77	3.976			60.4
HSK-A100-AG90/NBS13-555LS					21.85		3.35	16.22						61.3
HSK-A100-AG90/NBS13-585LS					23.03		6.10	17.40						61.9
HSK-A100-AG90/NBS20-340LS	.098-.787	1.811	1.378	1.378	13.39	10.30	2.76	7.76	2.56	2.44	5.197	NBC20-□	3,000	43.4
HSK-A100-AG90/NBS20-440LS	.098-.787	1.811	1.378	1.378	17.32	14.57	2.76	11.69	2.56	2.44	5.197			53.1
HSK-A100-AG90/NBS20-540LS	.098-.787	1.811	1.378	1.378	21.26	18.50	2.76	15.63	2.56	2.44	5.197			62.8

- Nut and wrench are included; coolant pipe and collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

ANGLE HEADS

AG90 (COMPACT TYPE)

CLAMPING RANGE: ϕ .098"-.512"

For Drilling Only

Ideal Size for Small Machining Centers



**MAX
5,000
RPM**

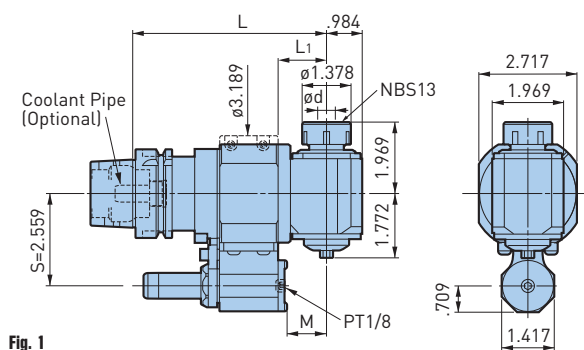


Fig. 1

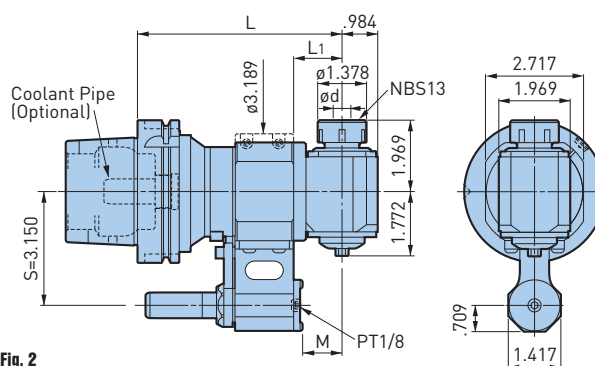


Fig. 2

Catalog Number	Fig.	ϕ d	L	L1	M	Collet	Speed Ratio	Weight (lbs.)
HSK-A63-AG90-13-135	1	.098-.512	5.31	1.34	1.10	NBC13	1:1	4.4
HSK-A63-AG90-13-185			7.28	3.31	3.06			5.4
HSK-A100-AG90-13-145	2	.098-.512	5.71	1.34	1.10	NBC13	1:1	6.8
HSK-A100-AG90-13-195			7.68	3.31	3.06			7.8

- Nut and wrench are included; coolant pipe and collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- A tapped hole (PT1/8) is prepared at the bottom of the Locating Pin housing so that a pipe for coolant can be connected
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1). AG90 Compact Type is for drilling only.

Application Example



Stable machining is obtained due to high rigidity and good runout.

DRILLING	
Cutter	ϕ .472" (12mm) Carbide Drill
Workpiece	1050 Steel
Cutting Speed	230 SFM
Cutting Feed	14.6 IPM
	.008 IPR
Spindle Speed	1,860 RPM

ANGLE HEADS

AG90 (TWIN HEAD)

CLAMPING RANGE: ϕ .059"-.394"

Compact design. Symmetrical machining can be performed using one unit.

**MAX
6,000
RPM**

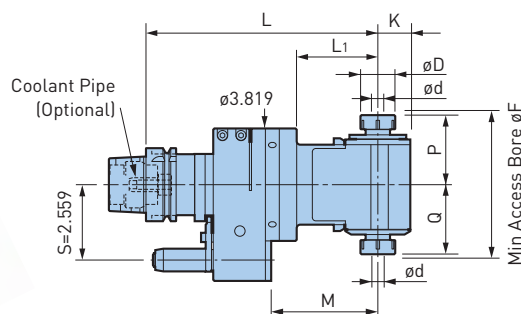


Fig. 1

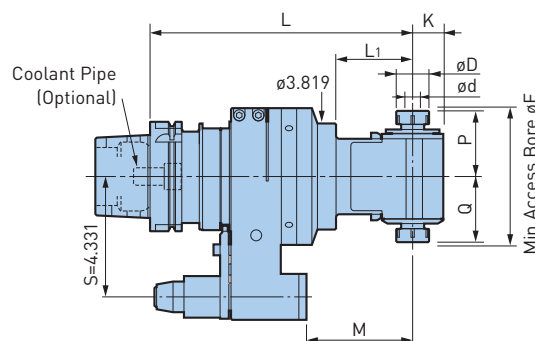
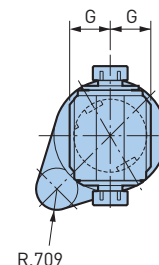
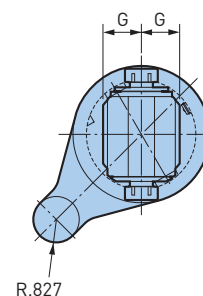


Fig. 2



Catalog Number	Fig.	ϕd	ϕD	G	K	L	L ₁	M	P	Q	ϕF	Collet	Speed Ratio	Weight (lbs.)
HSK-A63-AG90/NBS10W-200	1	.059-.394	1.181	1.220	1.102	7.87	2.76	3.62	2.36	2.36	4.88	NBC10	1:1	13.7
HSK-A100-AG90/NBS10W-240	2	.059-.394	1.181	1.220	1.102	7.87	2.76	3.62	2.36	2.36	4.88	NBC10	1:1	28.7

- Nut and wrench are included; coolant pipe and collet must be ordered separately
- Output spindles do not rotate in forward direction simultaneously
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of one cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

ANGLE HEADS

AG45 (NBS TYPE)

CLAMPING RANGE: ϕ .060"-.512"

Exclusive fixing housing allows for secure diagonal machining.

**MAX
6,000
RPM**

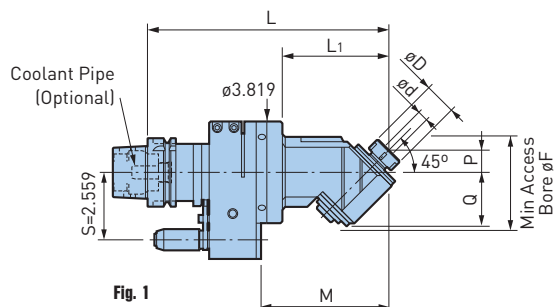


Fig. 1

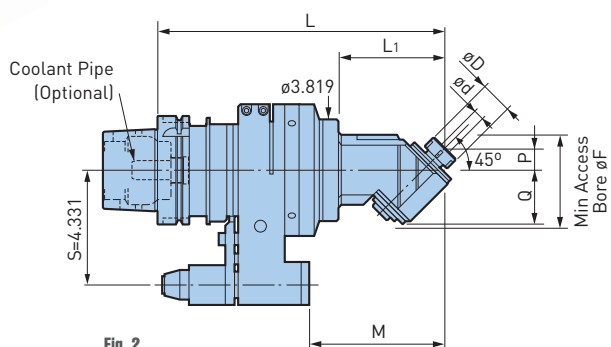
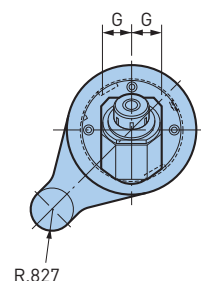


Fig. 2



Catalog Number	Fig.	ϕd	ϕD	G	L	L ₁	M	P	Q	ϕF	Collet	Speed Ratio	Weight (lbs.)
HSK-A63-AG45/NBS10-230	1	.060-.394	1.181	1.181	9.06	3.94	4.80	.79	2.03	3.54	NBC10	1:1	12.3
HSK-A63-AG45/NBS13-235		.098-.512	1.378		9.25	4.13	5.00	.98			NBC13		12.6
HSK-A100-AG45/NBS10-270	2	.060-.394	1.181	1.181	10.63	3.94	5.00	.79	2.03	3.54	NBC10	1:1	27.3
HSK-A100-AG45/NBS13-275		.098-.512	1.378		10.83	4.13	5.20	.98			NBC13		27.6

- Nut and wrench are included; coolant pipe and collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models
- NEW BABY END MILL COLLETS cannot be used

ACCESSORIES



CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).

ANGLE HEADS

AG90 (SLENDER DRIVE)

CLAMPING RANGE: ϕ .118"- .236" For Angular Operations Within a ϕ 1.181 Inch Bore

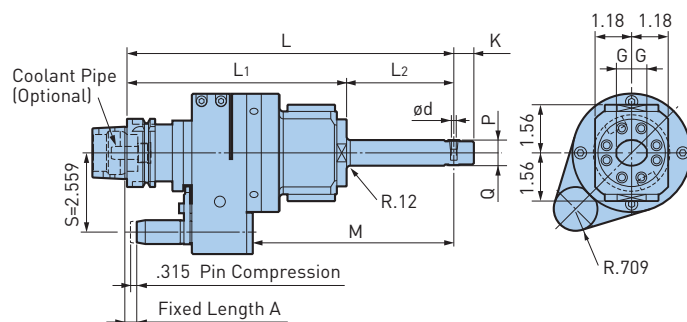
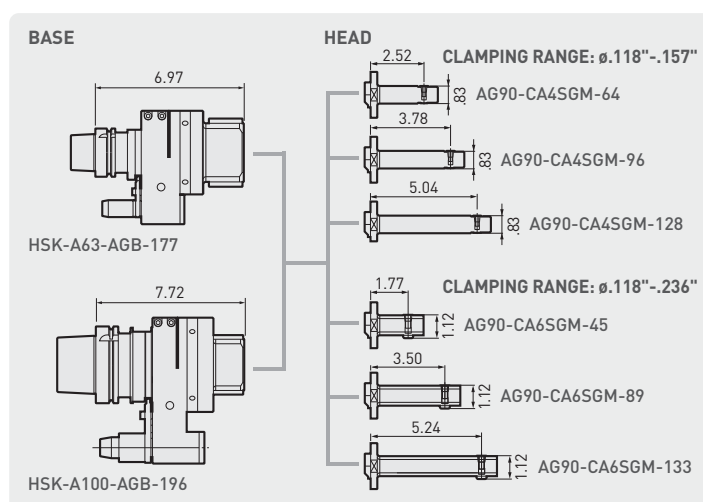


Fig. 1

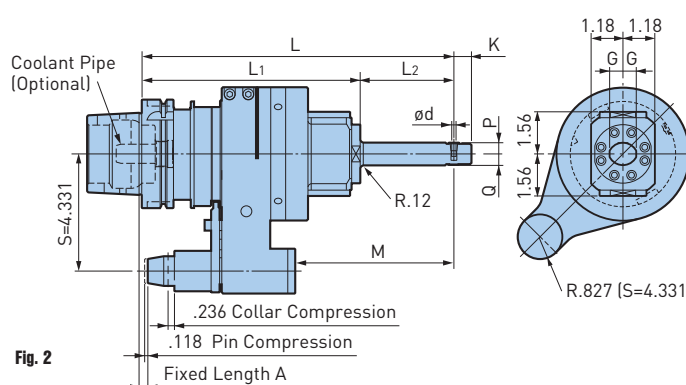


Fig. 2

Base	Head	Fig.	ϕd	G	K	L	L1	L2	M	P	Q	Speed Ratio	Weight (lbs.)
HSK-A63-AGB-177	AG90-CA4SGM-64	1	.118-.157	.492	.650	9.49	7.28	2.20	5.24	.41	.41	1:1.06 (Increase)	12.1
	AG90-CA4SGM-96					10.75		3.46	6.50				12.3
	AG90-CA4SGM-128					12.01		4.72	7.76				12.6
	AG90-CA6SGM-45	1	.118-.236	.591	.787	8.74	7.28	1.46	4.49	.49	.63	1:0.77 (Decrease)	12.3
	AG90-CA6SGM-89					10.47		3.19	6.22				12.8
	AG90-CA6SGM-133					12.20		4.92	7.95				13.2
HSK-A100-AGB-196	AG90-CA4SGM-64	2	.118-.157	.492	.650	10.24	8.03	2.20	4.61	.41	.41	1:1.06 (Increase)	24.5
	AG90-CA4SGM-96					11.50		3.46	5.87				24.7
	AG90-CA4SGM-128					12.76		4.72	7.13				24.9
	AG90-CA6SGM-45	2	.118-.236	.591	.787	9.49	8.03	1.46	3.86	.49	.63	1:0.77 (Decrease)	24.7
	AG90-CA6SGM-89					11.22		3.19	5.59				25.1
	AG90-CA6SGM-133					12.95		4.92	7.32				25.6

- Nut and wrench are included; coolant pipe and collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable

- A stop block is required when mounting on machines and must be order separately
- Automatic tool change may not be available depending on machine tool models
- Coolant cannot be supplied through the locating pin

ACCESSORIES



CAUTION

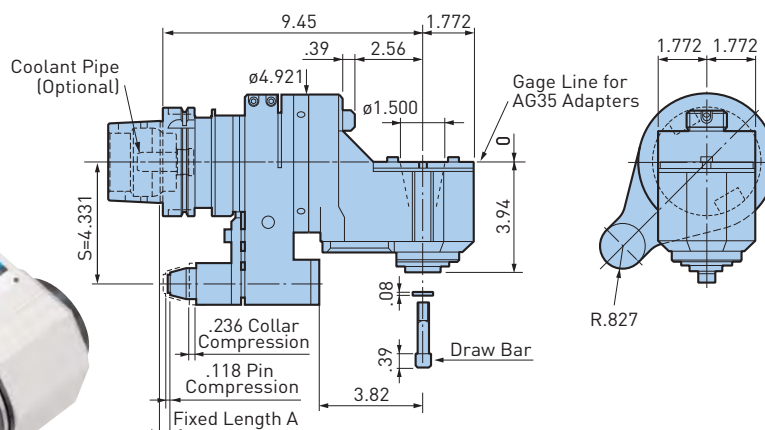
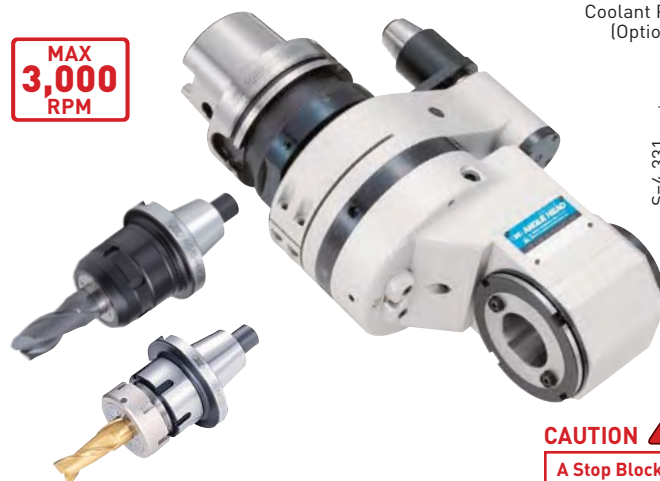
A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

ANGLE HEADS

AG90 (BUILD-UP TYPE)

For All Machinery Applications

**MAX
3,000
RPM**



CAUTION

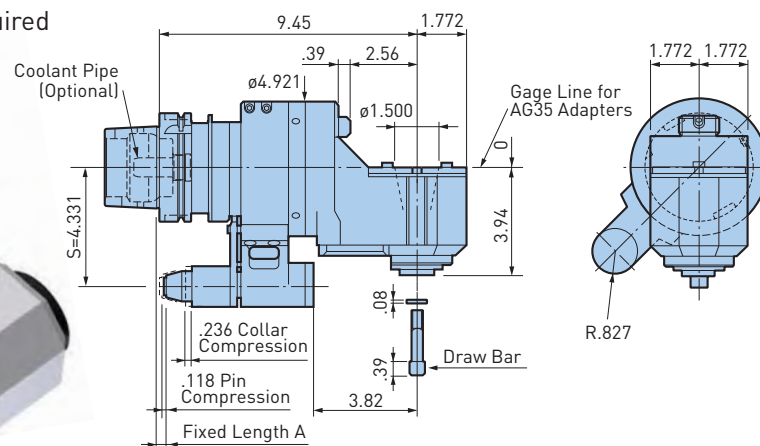
A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

Catalog Number	Weight (lbs.)
HSK-A100-AG90/AGH35-240	31.2

- Wrench is included; coolant pipe must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

For Application Where Increased Rigidity is Required

**MAX
3,000
RPM**



CAUTION

A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

Catalog Number	Weight (lbs.)
HSK-A100-AG90/AGH35-240S	34.1

- Wrench is included; coolant pipe must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

ACCESSORIES

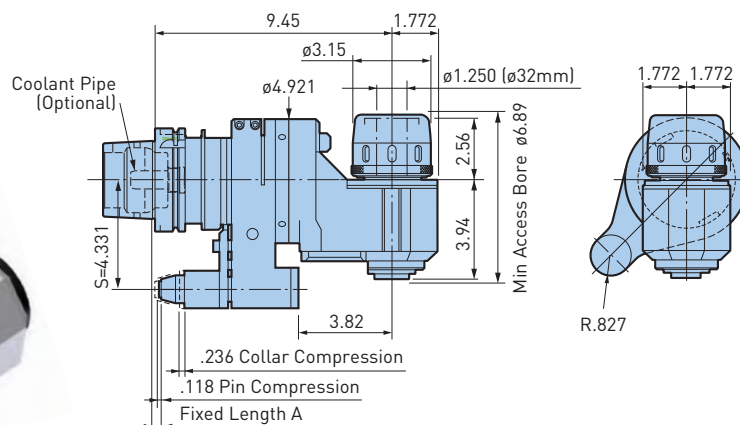


ANGLE HEADS

AG90 (HMC TYPE)

For Heavy Duty End Milling

**MAX
3,000
RPM**



CAUTION

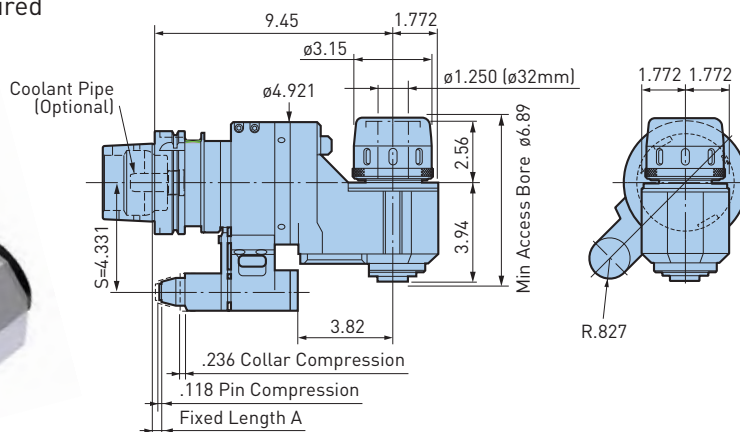
A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

Catalog Number	Weight (lbs.)
HSK-A100-AG90/HMC1.250-240	35.2
HSK-A100-AG90/HMC32-240	

- Wrench is included; coolant pipe must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

For Applications Where Increased Rigidity is Required

**MAX
3,000
RPM**



CAUTION

A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

Catalog Number	Weight (lbs.)
HSK-A100-AG90/HMC1.250-240S	38.1
HSK-A100-AG90/HMC32-240S	

- Wrench is included; coolant pipe must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- When supplied through the stop block, coolant can be ejected from the housing
- Automatic tool change may not be available depending on machine tool models

ACCESSORIES

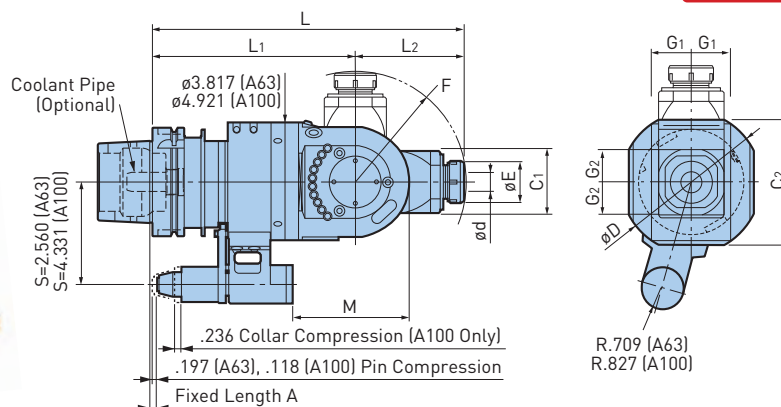


ANGLE HEADS

AGU (UNIVERSAL TYPE)

CLAMPING RANGE: $\phi.098$ "-.787" For Angular Operations

MAX
6,000
RPM



Catalog Number	ϕd	ϕE	ϕD	C1	C2	G1	G2	L	L1	L2	M	F	S	Collet	Max RPM	Weight (lbs.)
HSK-A63-AGU/NBS13-285	.098-.512	1.378	4.53	2.00	3.82	1.024	1.014	11.22	7.28	3.94	4.88	4.02	2.56	NBC13-□	6,000	21.2
HSK-A100-AGU/NBS20-325	.098-.787	1.811	5.51	2.56	4.92	1.299	1.280	12.80	8.27	4.53	4.92	4.65	4.33	NBC20-□	4,000	44.1

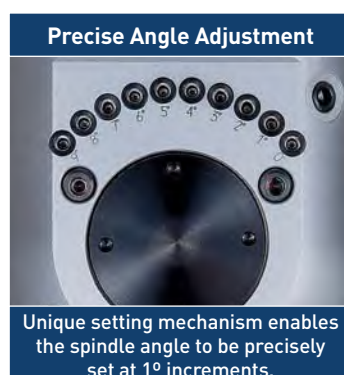
- Nut and wrench are included; coolant pipe and collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- Automatic tool change may not be available depending on machine tool models

ACCESSORIES



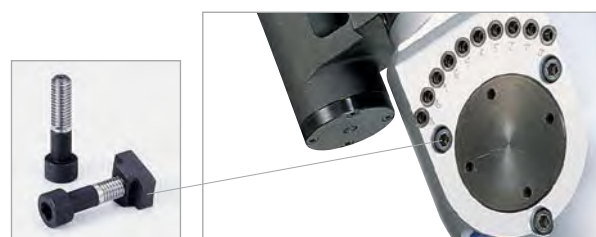
CAUTION

A Stop Block is required. The rotation of the cutting tool is in reverse direction of the machine spindle (Speed Ratio 1:1).



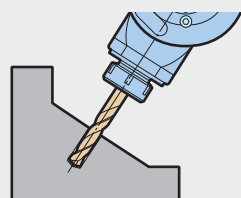
Exclusive Clamping Bolts and Nuts

Specially selected materials and special design for clamping the head guarantees rigidity even for end milling applications.

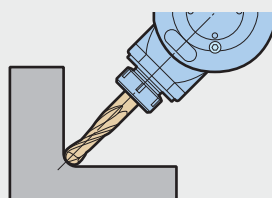


Application Example

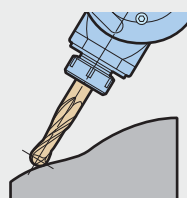
Adjustable AGU Universal Series expands ANGLE HEAD capabilities to accomplish various angular machining applications.



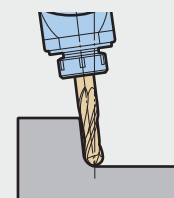
Drilling Or End Milling On An Angled Surface



Corner Rounding



Profiling

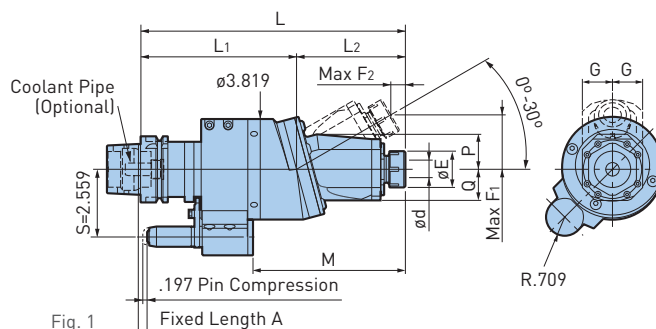


Machining Draft Angle Of A Mold

ANGLE HEADS

AGU30

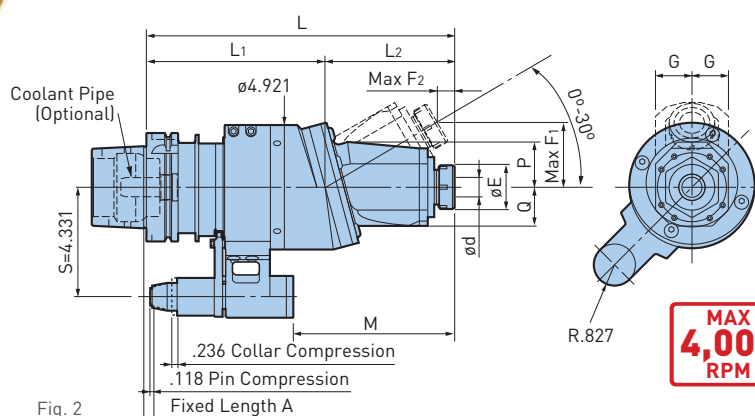
CLAMPING RANGE: $\phi.098$ "-.787" For Angular Operations



**MAX
6,000
RPM**

Angle Adjustment by Aligning Divisions

Spindle angle is easily adjustable from 0° to 30° using the scale indication on the body.



**MAX
4,000
RPM**

Catalog Number	Fig.	ød	øE	G	L	L1	L2	M	P	Q	F1	F2	Collet	Max RPM	Weight (lbs.)
HSK-A63-AGU30/NBS13-255	1	.098-.512	1.378	1.142	10.04	5.91	4.13	5.79	1.34	1.18	2.07	.55	NBC13-□	6,000	15.0
HSK-A100-AGU30/NBS20-305	2	.098-.787	1.811	1.437	12.01	6.89	5.12	6.38	1.77	1.54	2.56	.67	NBC20-□	4,000	33.7

- Nut and wrench are included; coolant pipe and collet must be ordered separately
- The angles of the locating pin to the drive key groove and direction of cutting edge are freely adjustable
- A stop block is required when mounting on machines and must be order separately
- Automatic tool change may not be available depending on machine tool models
- When supplied through the stop block, coolant can be ejected from the housing

ACCESSORIES

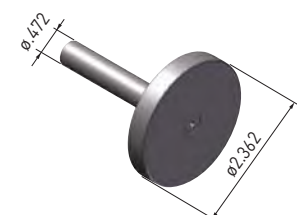


CAUTION

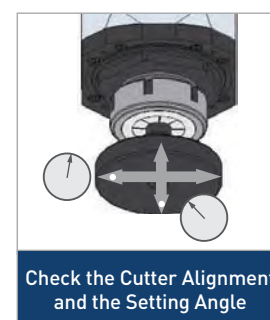
A Stop Block is required. The rotation of the cutting tool is in same direction of the machine spindle.

SETTING DISC (INCLUDED)

For the precise adjustment of spindle angle or direction.



Clamp the Setting Disc Into the Angled Spindle



Check the Cutter Alignment and the Setting Angle

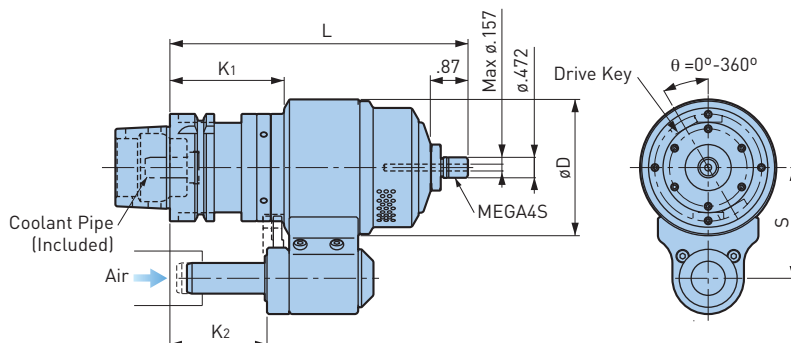
SPINDLE SPEEDERS

AIR POWER SPINDLE (RBX5 & RBX7)

For High Speed Micro Machining with Automatic Tool Change

ZERO
MACHINE SPINDLE
ROTATION

MAX
80,000
RPM



Catalog Number	Operating Spindle Speed (RPM)	Cutting Tool Diameter	L	ØD	K1	K2	S	Weight (lbs.)
HSK-A63-RBX7-4S-175-65	60,000-80,000	Ø.039 or smaller	6.89	3.150	2.64	2.24	2.559	8.4
HSK-A63-RBX5-4S-175-65	40,000-50,000	Ø.059 or smaller		3.780				10.6
HSK-A100-RBX7-4S-180-80	60,000-80,000	Ø.039 or smaller	7.09	3.937	2.83	2.44	3.150	18.5
HSK-A100-RBX5-4S-180-80	40,000-50,000	Ø.059 or smaller						20.7

- Nut and wrench are included; collet must be ordered separately
- XF1-NPT (Air Unit) is required; must be ordered separately

ACCESSORIES



CAUTION

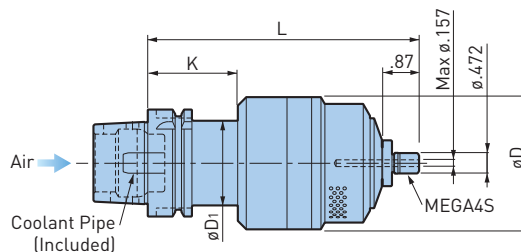
Compressed air to drive the AIR POWER SPINDLE must be clean. Coolant should not be supplied through the spindle on the machine that uses the AIR POWER SPINDLE.

SPINDLE SPEEDERS

AIR POWER SPINDLE (RBX5 & RBX7)

For High Speed Micro Machining with Compressed Air Through the Machine Spindle

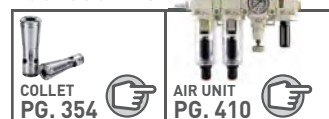
MAX
80,000
RPM



Catalog Number	Operating Spindle Speed (RPM)	Cutting Tool Diameter	L	øD	øD1	K	Weight (lbs.)
HSK-A63-RBX7C-4S-160	60,000-80,000	ø.039 or smaller	6.30	3.071	1.97	2.09	6.4
HSK-A63-RBX5C-4S-160	40,000-50,000	ø.059 or smaller		3.780			8.6
HSK-A100-RBX7C-4S-165	60,000-80,000	ø.039 or smaller	6.50	3.071	2.68	2.28	10.8
HSK-A100-RBX5C-4S-165	40,000-50,000	ø.059 or smaller		3.780			13.0

- Nut and wrench are included; collet must be ordered separately
- XF1-NPT (Air Unit) is required; must be ordered separately

ACCESSORIES



CAUTION

Compressed air to drive the AIR POWER SPINDLE must be clean. Coolant should not be supplied through the spindle on the machine that uses the AIR POWER SPINDLE.

COLLET CHUCKS

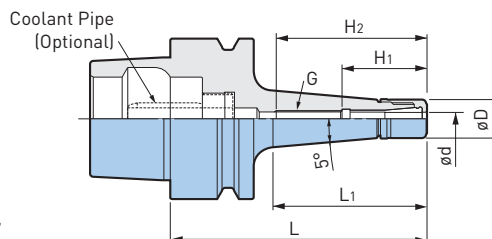
MEGA MICRO CHUCK (TAPERED BODY)

CLAMPING RANGE: .018"-.317" (ø.45-8.05mm)

For Micro Drill & End Mill Applications

**HIGHER
RIGIDITY**

**MAX
50,000
RPM**



Catalog Number	ød	ØD	L	L1	H1	H2	G	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-E25-MEGA3S-45T❖	.018-.128	.394	1.77	1.26	.87	(1.26)	—	NBC3S-□	MGN3S	MGR10	50,000	.1
HSK-E25-MEGA3S-60T			2.36	1.89		1.50	M4 P0.7				40,000	.2
HSK-E25-MEGA4S-45T❖	.018-.159	.472	1.77	1.30	1.04	(1.26)	—	NBC4S-□	MGN4S	MGR12	50,000	.2
HSK-E25-MEGA4S-60T			2.36	1.93		1.61	M5 P0.8				40,000	.2
HSK-E25-MEGA6S-45T❖	.018-.238	.551	1.77	1.30	1.12	(1.22)	—	NBC6S-□	MGN6S	MGR14	50,000	.2
HSK-E25-MEGA6S-60T			2.36	1.93		1.57	M7 P0.75				40,000	.2
HSK-E32-MEGA3S-60T	.018-.128	.394	2.36	1.38	.87	1.50	M4 P0.7	NBC3S-□	MGN3S	MGR10	40,000	.3
HSK-E32-MEGA3S-75T			2.95	1.97		1.50	M4 P0.7				40,000	.4
HSK-E32-MEGA4S-45T❖	.018-.159	.472	1.77	.91	1.04	(1.02)	—	NBC4S-□	MGN4S	MGR12	50,000	.3
HSK-E32-MEGA4S-60T			2.36	1.38		1.81	M5 P0.8				40,000	.4
HSK-E32-MEGA6S-45T❖	.018-.238	.551	1.77	.91	1.12	(1.10)	—	NBC6S-□	MGN6S	MGR14	50,000	.3
HSK-E32-MEGA6S-60T			2.36	1.42		1.50	M7 P0.75				40,000	.4
HSK-E32-MEGA8S-60T❖	.116-.317	.709	2.36	1.50	1.22	1.69	—	NBC8S-□	MGN8S	MGR18	30,000	.4
HSK-E40-MEGA3S-60T	.018-.128	.394	2.36	1.38	.87	1.54	M4 P0.7	NBC3S-□	MGN3S	MGR10	40,000	.5
HSK-E40-MEGA3S-75T			2.95	1.97		1.50	M4 P0.7				40,000	.6
HSK-E40-MEGA4S-60T	.018-.159	.472	2.36	1.38	1.04	1.73	M5 P0.8	NBC4S-□	MGN4S	MGR12	40,000	.5
HSK-E40-MEGA4S-75T			2.95	1.97		1.85	M5 P0.8				40,000	.6
HSK-E40-MEGA6S-60T❖	.018-.238	.551	2.36	1.38	1.12	(1.65)	—	NBC6S-□	MGN6S	MGR14	40,000	.5
HSK-E40-MEGA6S-75T			2.95	1.97		1.93	M7 P0.75				40,000	.6
HSK-E40-MEGA6S-90T			3.54	2.56		1.93	M7 P0.75				40,000	.7
HSK-E50-MEGA3S-80T	.018-.128	.394	3.15	1.93	.87	1.50	M4 P0.7	NBC3S-□	MGN3S	MGR10	40,000	1.0
HSK-E50-MEGA4S-80T	.018-.159	.472	3.15	1.89	1.04	1.85	M5 P0.8	NBC4S-□	MGN4S	MGR12	40,000	1.0
HSK-E50-MEGA6S-80T	.018-.238	.551	3.15	1.93	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	40,000	1.1

- MEGA MICRO NUT is included; coolant pipe, collet and wrench must be ordered separately
- Weight includes nut but does not include collet
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- For models marked ❖, there is no internal thread, the dimension H2 in () shows how deep a tool can be inserted
- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools

ACCESSORIES



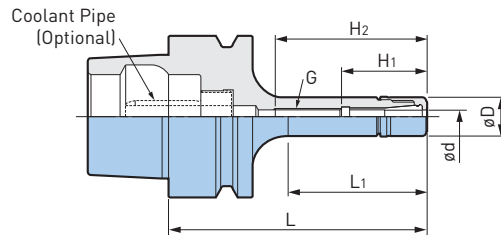
COLLET CHUCKS

MEGA MICRO CHUCK

CLAMPING RANGE: ϕ .018"-.238" (ϕ .45-6.05mm)

For Micro Drill & End Mill Applications

**MAX
50,000
RPM**



Catalog Number	ϕd	ϕD	L	L1	H1	H2	G	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-E25-MEGA4S-45❖	.018-.159	.472	1.77	1.22	1.65	(1.26)	—	NBC4S-□	MGN4S	MGR12	50,000	.1
HSK-E25-MEGA4S-60			2.36	1.81		1.85	M5 P0.8				40,000	.2
HSK-E25-MEGA6S-45❖	.018-.238	.551	1.77	1.26	1.10	(1.22)	—	NBC6S-□	MGN6S	MGR14	50,000	.2
HSK-E25-MEGA6S-60			2.36	1.85		1.61	M7 P0.75				40,000	.2
HSK-E32-MEGA3S-45❖	.018-.238	.394	1.77	.91	.87	(1.22)	—	NBC3S-□	MGN3S	MGR10	50,000	.3
HSK-E32-MEGA4S-45	.018-.159	.472	1.77	.87	1.04	1.22	M5 P0.8	NBC4S-□	MGN4S	MGR12	50,000	.3
HSK-E32-MEGA4S-60			2.36	1.34		1.81					40,000	.3
HSK-E32-MEGA6S-45❖	.018-.238	.551	1.77	.87	1.12	(1.10)	—	NBC6S-□	MGN6S	MGR14	50,000	.3
HSK-E32-MEGA6S-60			2.36	1.38		1.50	M7 P0.75				40,000	.3
HSK-E40-MEGA3S-40❖	.018-.128	.394	1.57	.75	.87	(.94)	—	NBC3S-□	MGN3S	MGR10	50,000	.5
HSK-E40-MEGA4S-60	.018-.159	.472	2.36	1.34	1.04	1.73	M5 P0.8	NBC4S-□	MGN4S	MGR12	40,000	.5
HSK-E40-MEGA6S-45❖	.018-.238	.551	1.77	.91	1.08	(1.06)	—	NBC6S-□	MGN6S	MGR14	50,000	.5
HSK-E40-MEGA6S-60❖			2.36	1.38		1.10	—				40,000	.5
HSK-E50-MEGA3S-50❖	.018-.128	.394	1.97	.79	.87	(1.18)	—	NBC3S-□	MGN3S	MGR10	45,000	.9
HSK-E50-MEGA4S-50❖	.018-.159	.472	1.97	.83	1.04	(1.18)	—	NBC4S-□	MGN4S	MGR12	45,000	1.0
HSK-E50-MEGA4S-80			3.15	1.73		1.85	M5 P0.8				40,000	1.0
HSK-E50-MEGA6S-55❖	.018-.238	.551	2.17	1.02	1.12	(1.38)	—	NBC6S-□	MGN6S	MGR14	45,000	1.0
HSK-E50-MEGA6S-80			3.15	1.73		1.93	M7 P0.75				40,000	1.0

- MEGA MICRO NUT is included; coolant pipe, collet and wrench must be ordered separately
- Weight includes nut but does not include collet
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- For models marked ❖, there is no internal thread, the dimension H2 in () shows how deep a tool can be inserted
- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools

ACCESSORIES



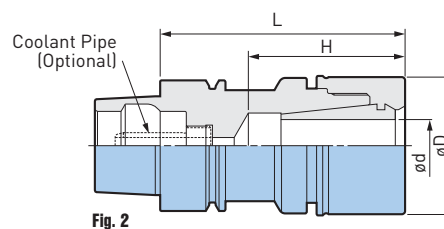
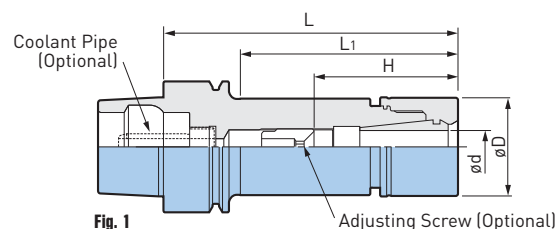
COLLET CHUCKS

MEGA NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-.787" (ϕ .25-20mm)

For Drills, Reamers, Taps & Finishing End Mills

**MAX
40,000
RPM**



Catalog Number	Fig.	Ød	ØD	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight [lbs.]
HSK-E25-MEGA6N-40❖	1	.010-.236	.787	1.57	1.10	.98	NBC6-□	MGN6	MGR20	30,000	.2
HSK-E25-MEGA8N-45❖	2	.020-.315	.984	1.77	—	1.18	NBC8-□	MGN8	MGR25	25,000	.3
HSK-E25-MEGA10N-60❖		.059-.394	1.181	2.36		1.77	NBC10-□	MGN10	MGR30	20,000	.4
HSK-E32-MEGA6N-45❖◆	1	.010-.236	.787	1.77	.94	1.10	NBC6-□	MGN6	MGR20	40,000	.4
HSK-E32-MEGA6N-60				2.36	1.42	.91-1.06				35,000	.4
HSK-E32-MEGA8N-50❖	1	.020-.315	.984	1.97	1.14	1.30	NBC8-□	MGN8	MGR25	40,000	.5
HSK-E32-MEGA8N-65				2.56	1.69	1.02-1.26				35,000	.6
HSK-E32-MEGA10N-65❖	2	.059-.394	1.181	2.56	1.77	1.85	NBC10-□	MGN10	MGR30	30,000	.6
HSK-E32-MEGA13N-70❖	2	.098-.512	1.378	2.76	1.77	1.73	NBC13-□	MGN13	MGR35	25,000	.7
HSK-E40-MEGA6N-50❖	1	.010-.236	.787	1.97	1.02	1.22	NBC6-□	MGN6	MGR20	40,000	.6
HSK-E40-MEGA6N-60				2.36	1.30	.91-1.02				35,000	.6
HSK-E40-MEGA6N-75				2.95	1.89	.91-1.21				30,000	.7
HSK-E40-MEGA6N-90				3.54	2.48	.91-1.69				28,000	.8
HSK-E40-MEGA6N-120				4.72	3.66					25,000	.9
HSK-E40-MEGA8N-55❖	1	.020-.315	.984	2.17	1.22	1.42	NBC8-□	MGN8	MGR25	40,000	.7
HSK-E40-MEGA8N-75				2.95	1.97	1.02-1.77				30,000	.8
HSK-E40-MEGA8N-90				3.54	2.56					28,000	1.0
HSK-E40-MEGA10N-60❖	1	.059-.394	1.181	2.36	1.42	1.57	NBC10-□	MGN10	MGR30	35,000	.9
HSK-E40-MEGA10N-75❖				2.95	2.01	2.17				30,000	1.0
HSK-E40-MEGA10N-90				3.54	2.60	1.50-1.89				28,000	1.2
HSK-E40-MEGA13N-65❖	1	.098-.512	1.378	2.56	1.69	1.73	NBC13-□	MGN13	MGR35	30,000	1.0
HSK-E40-MEGA13N-75❖				2.95	2.09	2.28				25,000	1.2
HSK-E40-MEGA13N-90				3.54	2.68	1.73-1.89					1.4
HSK-E40-MEGA13N-120				4.72	3.86	1.73-2.48				20,000	1.8
HSK-E40-MEGA13N-150				5.91	5.04					15,000	2.2
HSK-E40-MEGA16N-65❖◆	2	.098-.630	1.654	2.56	—	1.81	NBC16-□	MGN16	MGR42	25,000	1.0
HSK-E40-MEGA16N-75❖				2.95		1.89				20,000	1.3

COLLET CHUCKS

Catalog Number	Fig.	Ød	ØD	L	L ₁	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-E50-MEGA6N-55❖	1	.010-.236	.787	2.17	1.06	1.38	NBC6-□	MGN6	MGR20	40,000	1.0
HSK-E50-MEGA6N-70				2.76	1.50	.91-1.54				30,000	1.1
HSK-E50-MEGA6N-100				3.94	2.52	.91-1.69				25,000	1.2
HSK-E50-MEGA8N-60❖	1	.020-.315	.984	2.36	1.18	1.47	NBC8-□	MGN8	MGR25	40,000	1.2
HSK-E50-MEGA8N-90				3.54	2.20	1.02-1.772				30,000	1.4
HSK-E50-MEGA10N-60❖◆	1	.059-.394	1.181	2.36	1.18	1.38	NBC10-□	MGN10	MGR30	35,000	1.2
HSK-E50-MEGA10N-90				3.54	2.28	1.50-1.89				30,000	1.5
HSK-E50-MEGA13N-70❖	1	.098-.512	1.378	2.76	1.57	1.77	NBC13-□	MGN13	MGR35	28,000	1.5
HSK-E50-MEGA13N-90				3.54	2.36	1.73-1.85				25,000	1.8
HSK-E50-MEGA13N-120				4.72	3.54	1.73-2.48				20,000	2.2
HSK-E50-MEGA13N-150				5.91	4.72					15,000	2.7
HSK-E50-MEGA16N-75❖	1	.098-.630	1.654	2.95	1.89	2.05	NBC16-□	MGN16	MGR42L	28,000	1.9
HSK-E50-MEGA16N-90❖				3.54	2.48	2.56				25,000	2.2
HSK-E50-MEGA20N-75❖◆	2	.098-.787	1.811	2.95	—	1.93	NBC20-□	MGN20	MGR46L	25,000	1.8
HSK-E50-MEGA20N-100				3.94		2.01-2.13				20,000	2.4
HSK-E50-MEGA20N-130				5.12		2.01-2.68				18,000	3.3

- MEGA NEW BABY NUT is included; coolant pipe, collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not collet
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- Adjusting screws cannot be used with models marked ❖
- NEW BABY END MILL COLLET cannot be used with models marked ◆
- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools

ACCESSORIES

 COLLET PG. 358	 MEGA NUT PG. 364	 PERFECT SEAL PG. 366	 MEGA WRENCH PG. 388	 SCREW PG. 411

HYDRAULIC CHUCKS

HYDRAULIC CHUCK (ULTRA PRECISION SUPER SLIM)

CLAMPING RANGE: $\varnothing$.125" ($\varnothing$ 3-6mm)

Ultimate hydraulic chuck with precision. Runout accuracy of 1 micron at 4xD.

ULTRA
PRECISION
1 μ m

MAX
60,000
RPM

COOLANT
THROUGH

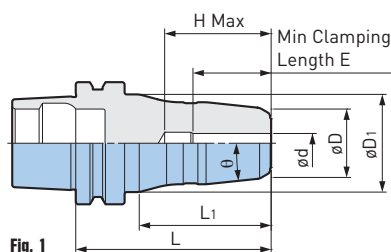


Fig. 1

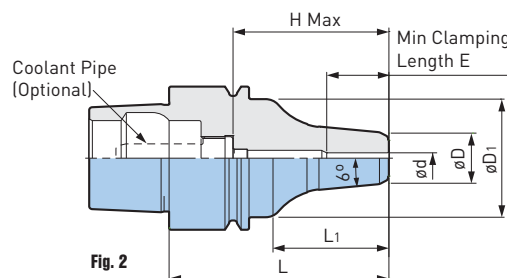


Fig. 2

Catalog Number	Fig.	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	θ	E	H Max	Max RPM	Weight (lbs.)
HSK-E25-HDC3S-40UP❖	1	3mm	.551	.79	1.58	1.06	6°	.63	.86	60,000	.2
HSK-E25-HDC3.175S-40UP❖		.125									
HSK-E25-HDC4S-40UP		4mm									
HSK-E25-HDC6S-45UP◆		6mm									
HSK-E32-HDC3S-52UP❖	1	3mm	.551	1.02	2.05	.59	6°	.63	1.10	45,000	.4
HSK-E32-HDC3.175S-52UP❖		.125									
HSK-E32-HDC4S-52UP		4mm									
HSK-E32-HDC6S-57UP		6mm			2.24	.87		.98	1.30		
HSK-E40-HDC3S-55UP❖	2	3mm	.551	1.30	2.17	1.14	6°	.63	1.54	40,000	.7
HSK-E40-HDC3.175S-55UP❖		.125									
HSK-E40-HDC4S-55UP		4mm						.75			
HSK-E40-HDC6S-60UP		6mm			2.36	1.34		.98	1.57		

- Coolant pipe must be ordered separately
- Adjusting screws cannot be used
- ◆ The body diameter of HSK-E25-HDC6S-45UP is 23mm (ISO standards=less than 20mm); some machines do not accept this large body diameter
- As for HSK-E40 holders, in case they are used in a machine which does not recommend the center through hole, the plug screw should be mounted to our tools
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖

ACCESSORIES

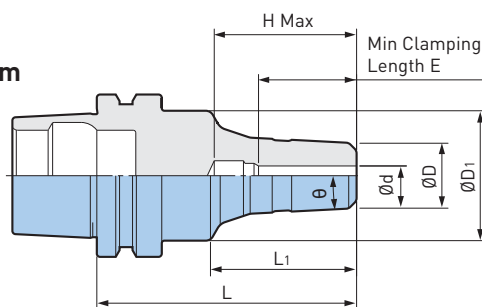


CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

(EXTRA SLIM)

CLAMPING RANGE: $\varnothing$ 3-4mm



Catalog Number	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	θ	E	H Max	Max RPM	Weight (lbs.)
HSK-E25-HDC3XS-40	3mm	.394	.787	1.57	.86	3°	.63	.87	60,000	.15
HSK-E25-HDC4XS-40	4mm									

- HSK-E25 does not have coolant-through hole
- Adjusting screws cannot be used

HYDRAULIC CHUCKS



HYDRAULIC CHUCK (SUPER SLIM TYPE)

CLAMPING RANGE: ϕ .125" (ϕ 3-12mm)

Small design for micro machining.



MAX
60,000
RPM

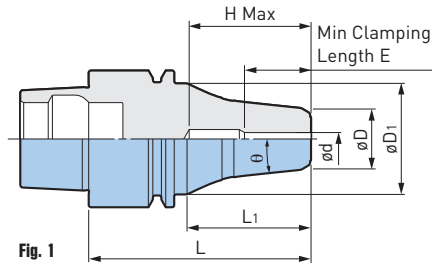


Fig. 1

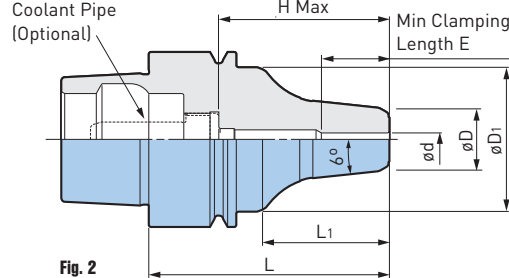


Fig. 2

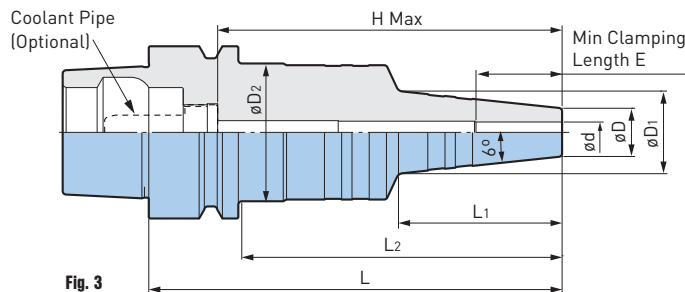


Fig. 3

ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

Catalog Number	Fig.	ød	ØD	ØD1	ØD2	L	L1	L2	θ	H Max	E	Max RPM	Weight (lbs.)		
HSK-E25-HDC3S-40❖	1	3mm	.551	.79	—	1.56	1.06	—	6°	.86	.63	60,000	.2		
HSK-E25-HDC3.175S-40❖		.125													
HSK-E25-HDC4S-40		4mm								.83					
HSK-E25-HDC6S-45◆		6mm				1.77	1.22		1.02	.83					
HSK-E32-HDC3S-52❖	1	3mm	.551	1.02	—	2.05	1.14	—	6°	1.10	.63	45,000	.4		
HSK-E32-HDC3.175S-52❖		.125									.75				
HSK-E32-HDC4S-52		4mm								1.30	.98				
HSK-E32-HDC6S-57		6mm				2.24	1.34								
HSK-E40-HDC3S-55❖	2	3mm	.551	1.30	—	2.17	1.14	—	6°	1.54	.63	40,000	.6		
HSK-E40-HDC3.175S-55❖		.125									.75				
HSK-E40-HDC4S-55		4mm				2.95	1.57			2.32	.98	35,000	.8		
HSK-E40-HDC4S-75		4mm				2.36	1.34			1.57	.98	40,000	.7		
HSK-E40-HDC6S-60		6mm				2.95	1.57			1.89	1.22	35,000	.8		
HSK-E40-HDC6S-75		6mm				2.56	1.54			1.54	1.22		.7		
HSK-E40-HDC8S-65		8mm	.669			2.76	1.57			1.65	1.30		.8		
HSK-E40-HDC10S-70		10mm	.748								1.42				
HSK-E40-HDC12S-70		12mm	.827												
HSK-E50-HDC4S-120	3	4mm	.551	.94	1.57	4.72	1.85	3.66	6°	3.94	.75	30,000	2.0		
HSK-E50-HDC6S-120		6mm									.98				
HSK-E50-HDC8S-120		8mm	.669	1.10			1.89			3.35	1.22				
HSK-E50-HDC10S-120		10mm	.748	1.18							1.30				
HSK-E50-HDC12S-120		12mm	.827	1.26			1.93				1.42				

- HSK-E25/32 does not have coolant-through hole
- Coolant pipe must be ordered separately
- Adjusting screws cannot be used
- ◆ The body diameter of 6S-45 is 23mm (ISO standards=less than 20mm); some machines do not accept this large body diameter

- If HSK-E40 holders are used in a machine which does not recommend the center through hole, the plug screw should be mounted to our tools
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖



COLLET CHUCKS

MEGA MICRO CHUCK

CLAMPING RANGE: .018"-.238" (ø.45-6mm)

For Micro Drill & End Mill Applications

**MAX
32,000
RPM**

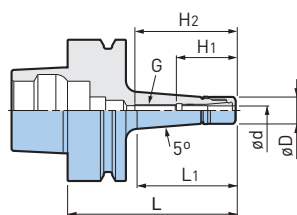


Fig. 1 (High Rigidity Type)

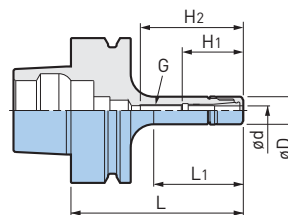


Fig. 2 (Straight Type)

Catalog Number	Fig.	ød	ØD	L	L1	H1	H2	G	Collet	Nut	Wrench	Max RPM	Weight (lbs.)		
HSK-F63-MEGA4S-75T	1	.018-.159	.472	2.95	1.73	1.04	1.61	M5 P0.8	NBC4S-□	MGN4S	MGR12	32,000	1.5		
HSK-F63-MEGA6S-75T		.018-.238	.551	2.95	1.73	1.12	1.61	M7 P0.75	NBC6S-□	MGN6S	MGR14		1.5		
HSK-F63-MEGA8S-75T		.116-.317	.709			1.22	2.28	M9 P0.75	NBC8S-□	MGN8S	MGR25		1.5		
HSK-F63-MEGA4S-75	2	.018-.159	.472	2.95	1.54	1.04	1.61	M5 P0.8	NBC4S-□	MGN4S	MGR12	30,000	1.5		
HSK-F63-MEGA4S-105					4.13		2.99						1.85		25,000
HSK-F63-MEGA6S-75		.018-.238	.551	2.95	1.81	1.12	1.61	M7 P0.75	NBC6S-□	MGN6S	MGR14	30,000	1.5		
HSK-F63-MEGA6S-90					3.54		2.40					1.93		27,000	1.6
HSK-F63-MEGA6S-105					4.13		2.99							25,000	1.7

- MEGA MICRO NUT is included; coolant pipe, collet and wrench must be ordered separately
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- Contact us for a plug screw to block a coolant-through hole
- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools

ACCESSORIES



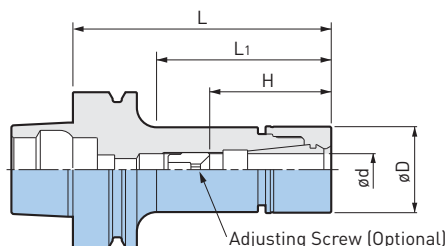
COLLET CHUCKS

MEGA NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-.787" (ϕ .25-20mm)

For Drills, Reamers, Taps & Finishing End Mills

**MAX
35,000
RPM**



Catalog Number	Ød	ØD	L	L1	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-F63-MEGA6N-75	.010-.236	.787	2.95	1.65	.91-1.22	NBC6-□	MGN6	MGR20	35,000	1.5
HSK-F63-MEGA6N-90			3.54	2.09	.91-1.69				30,000	1.8
HSK-F63-MEGA6N-105			4.13	2.72					25,000	1.8
HSK-F63-MEGA6N-135			5.31	3.90					20,000	2.0
HSK-F63-MEGA8N-75	.020-.315	.984	2.95	1.69	1.02-1.50	NBC8-□	MGN8	MGR25	32,000	1.8
HSK-F63-MEGA8N-90			3.54	2.13	1.02-1.77				30,000	2.0
HSK-F63-MEGA8N-105			4.13	2.72						2.0
HSK-F63-MEGA8N-120			4.72	3.31					25,000	2.0
HSK-F63-MEGA8N-135			5.31	3.90					20,000	2.2
HSK-F63-MEGA8N-165			6.50	5.08	15,000				2.4	
HSK-F63-MEGA10N-75❖	.059-.354	1.181	2.95	1.69	1.89	NBC10-□	MGN10	MGR30	32,000	2.0
HSK-F63-MEGA10N-90			3.54	2.13	1.50-1.89				30,000	2.0
HSK-F63-MEGA10N-105			4.13	2.72					25,000	2.2
HSK-F63-MEGA10N-120			4.72	3.31						2.4
HSK-F63-MEGA13N-75❖	.098-.512	1.378	2.95	1.69	1.85	NBC13-□	MGN13	MGR35	30,000	2.0
HSK-F63-MEGA13N-90❖			3.54	2.20	2.40					2.2
HSK-F63-MEGA13N-105			4.13	2.80	1.73-2.09				25,000	2.4
HSK-F63-MEGA13N-120			4.72	3.39	1.73-2.48				20,000	2.6
HSK-F63-MEGA13N-165			6.50	5.16					15,000	3.5
HSK-F63-MEGA16N-75❖	.098-.630	1.654	2.95	1.69	1.89	NBC16-□	MGN16	MGR42	30,000	2.2
HSK-F63-MEGA16N-90❖			3.54	2.28	2.40				25,000	2.6
HSK-F63-MEGA16N-105			4.13	2.87	1.89-2.20				20,000	2.9
HSK-F63-MEGA20N-75❖	.098-.787	1.811	2.95	1.77	2.01	NBC20-□	MGN20	MGR46	30,000	2.4
HSK-F63-MEGA20N-90❖			3.54	2.36	2.40				25,000	2.9
HSK-F63-MEGA20N-105			4.13	2.95	2.01-2.28				20,000	3.1

- MEGA NEW BABY NUT is included; coolant pipe, collet, wrench and adjusting screw must be ordered separately
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- Contact us for a plug screw to block a coolant-through hole
- Adjusting screws cannot be used with models marked ❖
- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools

ACCESSORIES



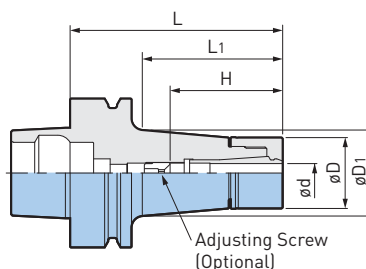
COLLET CHUCKS

MEGA E CHUCK

CLAMPING RANGE: ϕ .125"-.500" (ϕ 3-12mm)

Exclusively for High Speed Finish End Milling

**MAX
30,000
RPM**



Catalog Number	Ød	ØD	ØD1	L	L1	H	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
HSK-F63-MEGA6E-65❖	.125-.250 (3-6mm)	.984	1.11	2.56	1.34	1.54	MEC6-□	MEN6	MGR25	30,000	1.8
HSK-F63-MEGA6E-90			1.23	3.54	2.28	1.46-1.77					2.0
HSK-F63-MEGA8E-65❖	.125-.250 (3-8mm)	1.181	1.29	2.56	1.34	1.61	MEC8-□	MEN8	MGR30	30,000	1.8
HSK-F63-MEGA8E-90			1.43	3.54	2.32	1.65-1.85					2.2
HSK-F63-MEGA10E-75❖	.125-.375 (3-10mm)	1.378	1.51	2.95	1.73	1.89	MEC10-□	MEN10	MGR35	30,000	2.2
HSK-F63-MEGA10E-90❖			1.62	3.54	2.32	2.64					2.6
HSK-F63-MEGA10E-105			1.73	4.13	2.95	1.89-2.28				29,000	2.9
HSK-F63-MEGA10E-120			1.84	4.72	3.58						3.5
HSK-F63-MEGA10E-135			1.93	5.31	4.21					27,000	4.0
HSK-F63-MEGA13E-75❖	.125-.500 (3-12mm)	1.654	1.80	2.95	1.85	1.97	MEC13-□	MEN13	MGR42	30,000	2.4
HSK-F63-MEGA13E-90❖			1.90	3.54	2.44	2.52					3.1
HSK-F63-MEGA13E-105			2.01	4.13	3.07	1.97-2.28				29,000	3.5
HSK-F63-MEGA13E-135			2.04	5.31	4.25	1.97-2.36				26,000	4.4

- MEGA E NUT is included; coolant pipe, collet, wrench and adjusting screw must be ordered separately
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- Contact us for a plug screw to block a coolant-through hole
- Adjusting screws cannot be used with models marked ❖
- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools

ACCESSORIES

 COLLET PG. 378	 MEGA NUT PG. 379	 PERFECT SEAL PG. 379	 MEGA WRENCH PG. 388	 SCREW PG. 411

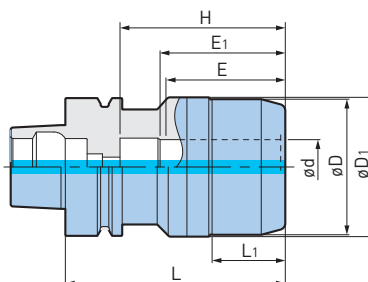
COLLET CHUCKS

MEGA DOUBLE POWER CHUCK

CLAMPING RANGE: $\varnothing$ 16-32mm

For Heavy Duty End Milling

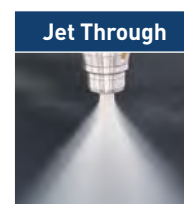
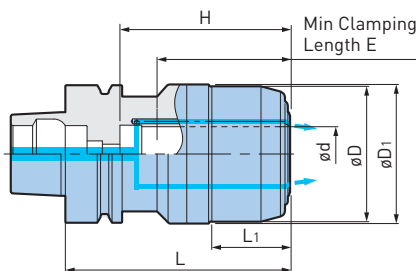
**MAX
28,000
RPM**



Catalog Number	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H	Min. Clamping Length		Wrench	Weight (lbs.)
							E	E ₁		
HSK-F63-MEGA16D-80A	16mm	1.654	2.087	3.15	.98	2.17	1.89	1.97	MGR42L	2.6
HSK-F63-MEGA20D-90A	20mm	1.969	2.165	3.54	1.34	2.56	1.97	2.20	MGR50L	3.1
HSK-F63-MEGA25D-100A	25mm	2.441	2.480	3.94	1.54	2.95	2.20	2.24	MGR62L	4.0
HSK-F63-MEGA32D-105A	32mm	2.756	2.795	4.13	1.30	3.15	2.36	2.52	MGR70L	4.4

- Wrench must be ordered separately
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" dimension is the Max tool shank length that can be inserted into the holder
- Contact us for a plug screw to block a coolant-through hole
- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools

(JET COOLANT TYPE)



Catalog Number	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L ₁	H	E	Wrench	Weight (lbs.)
HSK-F63-MEGA16DS-80A	16mm	1.654	2.087	3.23	1.06	2.24	1.89	MGR42L	2.6
HSK-F63-MEGA20DS-90A	20mm	1.969	2.165	3.62	1.42	2.64	1.97	MGR50L	3.1
HSK-F63-MEGA25DS-100A	25mm	2.441	2.480	4.02	1.61	3.03	2.20	MGR62L	4.0
HSK-F63-MEGA32DS-105A	32mm	2.756	2.795	4.21	1.38	3.23	2.36	MGR70L	4.4

- Wrench must be ordered separately
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- Jet-through type provides coolant form the chuck nose, thus tools with oil holes cannot be used
- "H" dimension is the Max tool shank length that can be inserted into the holder
- Contact us for a plug screw to block a coolant-through hole
- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools

ACCESSORIES

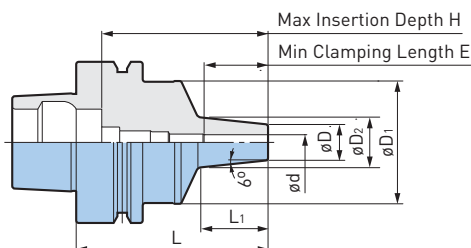


HYDRAULIC CHUCKS

HYDRAULIC CHUCK (SUPER SLIM TYPE)

CLAMPING RANGE: $\varnothing$ 3mm-12mm

Slim design minimizes workpiece interference, ideal for mold making.



Catalog Number	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	$\varnothing D_2$	L	L_1	H	E	Max RPM	Weight (lbs.)
HSK-F63-HDC3S-75❖	3mm	.551	1.890	.787	2.95	1.02	2.56	.63	30,000	2.2
HSK-F63-HDC4S-75	4mm							.75	30,000	2.2
HSK-F63-HDC6S-75	6mm							.98	30,000	2.2
HSK-F63-HDC8S-75	8mm	.669	1.890	.906	2.95	1.06	2.56	1.22	30,000	2.2
HSK-F63-HDC10S-75	10mm	.748		1.024				1.30	30,000	2.2
HSK-F63-HDC12S-75	12mm	.827		1.102		1.10		1.42	30,000	2.2

- Adjusting screws cannot be used
- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖

ACCESSORIES

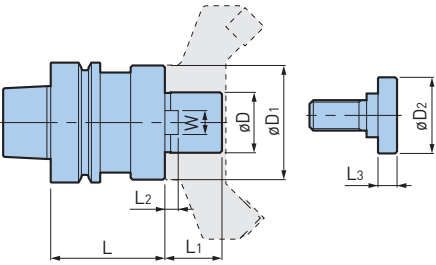


CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

BASIC ARBOR

FACE MILL ARBOR (TYPE A)

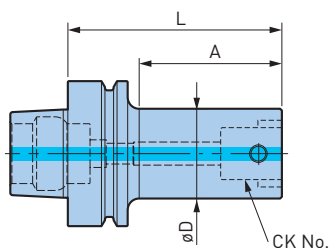


Catalog Number	ØD	ØD1	ØD2	L	L1	L2	L3	W	Clamping Screw	Weight (lbs.)
HSK-F63-FMA25.4-45	25.4mm	1.77	1.30	1.77	.866	.197	.39	.375	MBA-M12	2.2

• Clamping screw is included

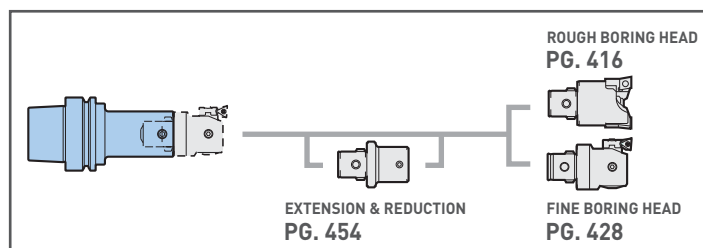
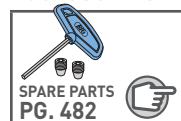
MODULAR HOLDERS

CKB SHANK



Catalog Number	CK No.	øD	L	A	Weight (lbs.)
HSK-F63-CKB1- 78	CK1	.748	3.051	1.575	1.8
HSK-F63-CKB2- 90	CK2	.945	3.524	2.283	1.8
HSK-F63-CKB3-100	CK3	1.220	3.937	2.717	2.2
HSK-F63-CKB4- 93	CK4	1.535	3.661	2.441	2.6
HSK-F63-CKB5- 83	CK5	1.969	3.268	2.165	2.9
HSK-F80M-CKB4- 93	CK4	1.535	3.661	2.441	3.5
HSK-F80M-CKB5- 83	CK5	1.969	3.268	2.047	4.0
HSK-F80M-CKB6- 79	CK6	2.520	3.110	2.047	4.4

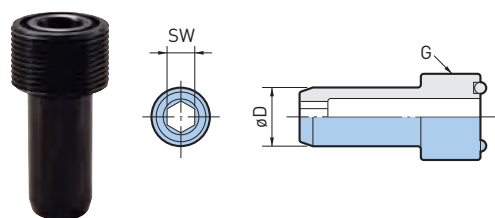
ACCESSORIES



ACCESSORIES

COOLANT PIPE

(MONO BLOCK TYPE—FORM A/E)

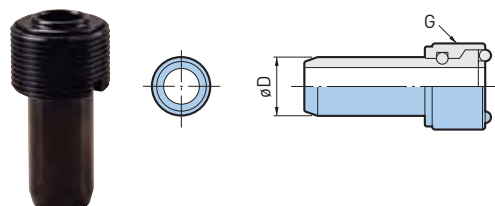


Catalog Number	øD	G	SW (mm)	
HSK25-CP	5mm	M8 P1	2.5mm	
HSK32-CP	6mm	M10 P1	3mm	
HSK40-CP	8mm	M12 P1	4mm	
HSK50-CP	10mm	M16 P1	5mm	
HSK63-CP	12mm	M18 P1	6mm	
HSK100-CP	16mm	M24 P1.5	8mm	
HSK125-CP	18mm	M30 P1.5	10mm	

CAUTION

Some machine tool builders may recommend the mono block type. Contact your machine builder and verify the proper style of coolant pipe to be selected. For machines capable of supplying coolant through the spindle, the coolant pipe should be fitted to all HSK holders to protect against accidental selection of coolant.

(1° SWING TYPE—FORM A/E)



Catalog Number	øD	G	Wrench (Optional)	
HSK40-CPM	8mm	M12 P1	CPW-40	
HSK50-CPM	10mm	M16 P1	CPW-50	
HSK63-CPM	12mm	M18 P1	CPW-63	
HSK100-CPM	16mm	M24 P1.5	CPW-100	
HSK125-CPM	18mm	M30 P1.5	CPW-125	

CAUTION

DIN standard specifies ± 1 degree of float. For proper installation, the special wrench is necessary. For machines capable of supplying coolant through the spindle, the coolant pipe should be fitted to all HSK holders to protect against accidental selection of coolant.

HSK PLUG SCREW

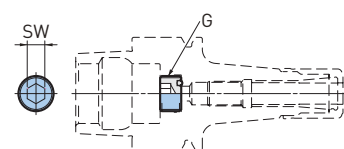


Fig. 1

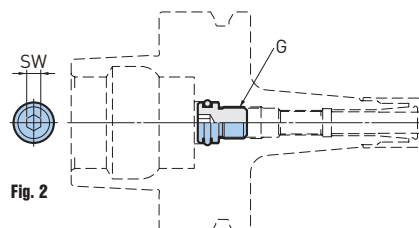


Fig. 2

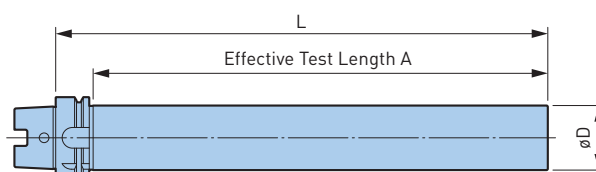
Catalog Number	Fig.	Body Type	G	SW
HSK25-PG	1	HSK-A25	M8 P1	4
		HSK-E25		
HSK32-PG	1	HSK-A32	M10 P1	5
		HSK-E32		
HSK40-PG	1	HSK-A40	M12 P1	6
		HSK-E40		
HSK-F63-PG	2	HSK-F63	M9 P0.7.1855	4

- If HSK tool holders are used in a machine which does not recommend the center-through coolant, the plug screw should be mounted to our tools
- HSK-F63-PG can only be used in original BIG DAISHOWA HSK-F63 tool holders; not compatible with other manufacturers

ACCESSORIES

DYNA TEST

Helps identify potential problems and can reduce downtime and costly repairs of the machine tool spindle.



HSK Form	Catalog Number	L	A	øD
A	HSK-A40-32-L180SD	7.087	6.181	32mm
	HSK-A50-32-L150SD	5.905	4.764	
	HSK-A50-32-L240SD	9.449	8.307	
	HSK-A63-50-L200SD	7.874	6.732	50mm
	HSK-A63-50-L350SD	13.780	12.638	
	HSK-A100-50-L200SD	7.784	6.614	
	HSK-A100-50-L350SD	13.780	12.520	
	HSK-A125-50-L360SD	14.173	12.91	
E	HSK-E25-20-L175	6.890	6.417	20mm
	HSK-E32-20-L180	7.087	6.220	32mm
	HSK-E40-32-L180		6.181	
	HSK-E50-32-L240	9.449	8.307	32mm
F	HSK-F63-50-L200	7.874	6.732	50mm
	HSK-F63-50-L350	13.780	12.638	



BIG CAPTO SHANKS

A.4



COLLET CHUCKS**254-261**

MEGA MICRO CHUCK	254-255
MEGA NEW BABY CHUCK	256-259
MEGA E CHUCK	260-261

MILLING CHUCKS**262-265**

MEGA DOUBLE POWER CHUCK	262-263
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COLLET CHUCKS

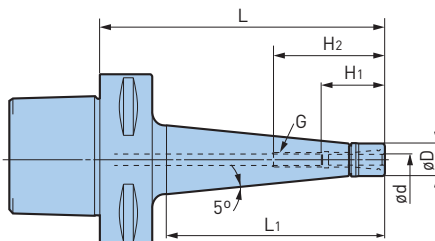
MEGA MICRO CHUCK

CLAMPING RANGE: ϕ .018"-.238" (ϕ .45-6.05mm)

For Micro Drill & End Mill Applications

**HIGHER
RIGIDITY**

**MAX
35,000
RPM**



Catalog Number	ϕd	ϕD	L	L1	H1	H2	G	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
C3-MEGA6S-45T	.018-.238	.551	1.77	1.06	1.10	1.54	—	NBC6S-□	MGN6S	MGR14	30,000	.3
C4-MEGA3S-60T	.018-.125	.394	2.36	1.38	.87	1.50	M4 P0.7	NBC3S-□	MGN3S	MGR10	35,000	.7
C4-MEGA6S-60T	.018-.238	.551	2.36	1.38	1.10	1.85	M7 P0.75	NBC6S-□	MGN6S	MGR14	30,000	.7
C4-MEGA6S-90T			3.54	2.56		1.89					22,000	.9
C5-MEGA3S-105T	.018-.128	.394	4.13	3.11	.89	1.52	M4 P0.7	NBC3S-□	MGN3S	MGR10	30,000	1.1
C5-MEGA4S-105T	.018-.159	.472	4.13	3.11	1.04	1.85	M5 P0.8	NBC4S-□	MGN4S	MGR12	25,000	1.1
C5-MEGA4S-120T			4.72	3.70							20,000	1.3
C5-MEGA6S-105T	.018-.238	.551	4.13	3.11	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	25,000	1.3
C5-MEGA6S-120T			4.72	3.70							20,000	1.3
C6-MEGA3S-120T	.018-.128	.394	4.72	3.62	.89	1.52	M4 P0.7	NBC3S-□	MGN3S	MGR10	25,000	2.9
C6-MEGA4S-120T	.018-.159	.472	4.72	3.62	1.04	1.85	M5 P0.8	NBC4S-□	MGN4S	MGR12	22,000	2.9
C6-MEGA4S-135T			5.31	4.21							20,000	3.1
C6-MEGA6S-120T	.018-.238	.551	4.72	3.62	1.12	1.93	M7 P0.75	NBC 6S-□	MGN6S	MGR14	22,000	2.9
C6-MEGA6S-135T			5.31	4.21							20,000	3.1

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

ACCESSORIES



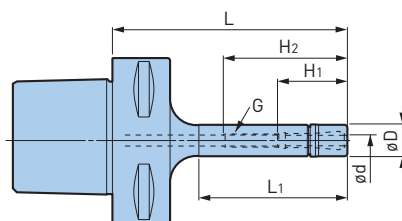
COLLET CHUCKS

MEGA MICRO CHUCK

CLAMPING RANGE: ϕ .018"-.238" (ϕ .45-6.05mm)

For Micro Drill & End Mill Applications

**MAX
25,000
RPM**



Catalog Number	ϕd	ϕD	L	L1	H1	H2	G	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
C5-MEGA3S-75	.018-.128	.394	2.95	1.93	.89	1.50	M4 P0.7	NBC3S-□	MGN3S	MGR10	25,000	.9
C5-MEGA4S-75	.018-.159	.472		1.97	1.04	1.85	M5 P0.8	NBC4S-□	MGN4S	MGR12	25,000	.9
C5-MEGA6S-75	.018-.238	.551		1.97	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	25,000	.9
C6-MEGA3S-90	.018-.128	.394	3.54	1.97	.89	1.50	M4 P0.7	NBC3S-□	MGN3S	MGR10	25,000	2.4
C6-MEGA4S-90	.018-.159	.472		2.28	1.04	1.85	M5 P0.8	NBC4S-□	MGN4S	MGR12	25,000	2.6
C6-MEGA6S-90	.018-.238	.551		2.28	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	25,000	2.6

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

ACCESSORIES

COLLET PG. 354	MEGA NUT PG. 356	SEAL NUT PG. 356	MEGA WRENCH PG. 388

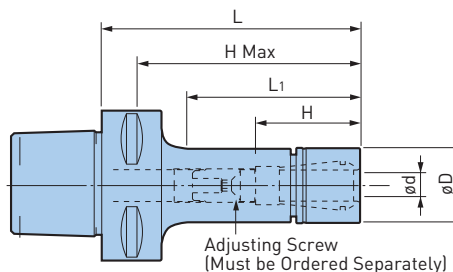
COLLET CHUCKS

MEGA NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-.787" (ϕ .25-20mm)

For Drills, Reamers, Taps & Finishing End Mills

MAX
35,000
RPM



Catalog Number	ϕd	ϕD	L	L1	H	H Max	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
C3-MEGA6N-45	.010-.236	.787	1.77	1.10	.91	.91	NBC6-□	MGN6	MGR20	30,000	.4
C3-MEGA8N-45	.020-.315	.984	1.77	1.10	1.02	1.02	NBC8-□	MGN8	MGR25	30,000	.5
C3-MEGA10N-50	.059-.394	1.181	1.97	1.34	1.50	1.50	NBC 10-□	MGN10	MGR30	30,000	.5
C3-MEGA13N-50	.098-.512	1.378	1.97	1.38	1.73	1.73	NBC 13-□	MGN13	MGR35	30,000	.6
C3-MEGA16N-55	.098-.630	1.654	2.17	—	1.93	1.93	NBC 16-□	MGN16	MGR42	25,000	.7
C4-MEGA6N-75	.010-.236	.787	2.95	1.89	.91-1.69	2.72	NBC6-□	MGN6	MGR20	30,000	.9
C4-MEGA8N-75	.020-.315	.984	2.95	1.93	1.02-1.77	2.72	NBC8-□	MGN8	MGR25	30,000	1.1
C4-MEGA10N-50	.059-.394	1.181	1.97	1.10	1.73	1.73	NBC10-□	MGN10	MGR30	33,000	1.1
C4-MEGA10N-75			2.95	2.05	1.50-1.89	2.72				30,000	1.3
C4-MEGA13N-50❖	.098-.512	1.378	1.97	1.14	1.73	1.73	NBC13-□	MGN13	MGR35	30,000	1.1
C4-MEGA13N-75❖			2.95	2.13	2.52	2.52				28,000	1.5
C4-MEGA16N-55❖	.098-.630	1.654	2.17	—	1.89	1.89	NBC16-□	MGN16	MGR42	30,000	1.5
C4-MEGA20N-60❖	.098-.787	1.811	2.36	—	2.09	2.09	NBC20-□	MGN20	MGR46	25,000	1.8
C5-MEGA6N-60	.010-.236	.787	2.36	1.34	.91-1.69	2.09	NBC6-□	MGN6	MGR20	35,000	1.1
C5-MEGA6N-75			2.95	1.93		2.68				30,000	1.1
C5-MEGA6N-90			3.54	2.44		3.27				30,000	1.1
C5-MEGA6N-105			4.13	3.03		3.86				25,000	1.3
C5-MEGA6N-120			4.72	3.54		4.45				23,000	1.3
C5-MEGA8N-60	.020-.315	.984	2.36	1.30	1.02-1.77	2.09	NBC8-□	MGN8	MGR25	35,000	1.1
C5-MEGA8N-75			2.95	1.93		2.68				30,000	1.3
C5-MEGA8N-90			3.54	2.52		3.27				30,000	1.3
C5-MEGA8N-105			4.13	3.03		3.86				27,000	1.5
C5-MEGA8N-120			4.72	3.62		4.45				25,000	1.5
C5-MEGA10N-55❖	.059-.394	1.181	2.17	1.22	1.50-1.89	1.89	NBC10-□	MGN10	MGR30	35,000	1.1
C5-MEGA10N-75			2.95	1.93		2.68				33,000	1.3
C5-MEGA10N-90			3.54	2.52		3.27				30,000	1.5
C5-MEGA10N-105			4.13	3.11		3.86				27,000	1.8
C5-MEGA10N-120			4.72	3.62		4.45				25,000	2.0
C5-MEGA13N-55❖	.098-.512	1.378	2.17	1.22	1.73-2.48	1.89	NBC13-□	MGN13	MGR35	30,000	1.3
C5-MEGA13N-75			2.95	1.93		2.68				28,000	1.5
C5-MEGA13N-90			3.54	2.52		3.27				25,000	1.8
C5-MEGA13N-105			4.13	3.11		3.86				22,000	2.0
C5-MEGA13N-120			4.72	3.70		4.45				20,000	2.2

COLLET CHUCKS

Catalog Number	ød	øD	L	L ₁	H	H Max	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
C5-MEGA16N-60❖	.098-.630	1.654	2.36	1.50	2.09	2.09	NBC16-□	MGN16	MGR42	30,000	1.5
C5-MEGA16N-75❖			2.95	2.09	2.68	2.68				28,000	2.0
C5-MEGA16N-90			3.54	2.72	1.89-2.48	3.27				23,000	2.2
C5-MEGA16N-105			4.13	3.31	1.89-2.68	3.86				20,000	2.4
C5-MEGA16N-120			4.72	3.90		4.37				15,000	2.9
C5-MEGA20N-60❖	.098-.787	1.811	2.36	1.54	2.01	2.01	NBC20-□	MGN20	MGR46	23,000	1.8
C5-MEGA20N-75❖			2.95	2.13	2.60	2.60				20,000	2.2
C5-MEGA20N-90			3.54	2.72	2.01-2.36	3.27				17,000	2.4
C5-MEGA20N-105			4.13	3.31	2.01-2.68	3.86				15,000	2.9
C5-MEGA20N-120			4.72	3.90		4.37				13,000	3.1
C6-MEGA6N-60	.010-.236	.787	2.36	1.18	.91-1.30	2.01	NBC6-□	MGN6	MGR20	35,000	2.6
C6-MEGA6N-75			2.95	1.69	.91-1.69	2.60				35,000	2.6
C6-MEGA6N-90			3.54	2.28		3.19				30,000	2.6
C6-MEGA6N-105			4.13	2.87		3.78				30,000	2.9
C6-MEGA6N-120			4.72	3.46		4.37				25,000	2.9
C6-MEGA6N-135			5.31	4.06		4.96				20,000	2.9
C6-MEGA6N-165			6.50	5.04		6.14				15,000	3.1
C6-MEGA6N-200			7.87	6.42		7.52				10,000	3.3
C6-MEGA8N-60	.020-.315	.984	2.36	1.14	1.02-1.22	2.01	NBC8-□	MGN8	MGR25	35,000	2.9
C6-MEGA8N-75			2.95	1.69	1.02-1.77	2.60				35,000	2.9
C6-MEGA8N-90			3.54	2.28		3.19				30,000	2.9
C6-MEGA8N-105			4.13	2.87		3.78				30,000	3.1
C6-MEGA8N-120			4.72	3.46		4.37				25,000	3.1
C6-MEGA8N-135			5.31	4.06		4.96				20,000	3.3
C6-MEGA8N-165			6.50	5.24		6.14				15,000	3.5
C6-MEGA8N-200			7.87	6.42		7.52				10,000	3.7
C6-MEGA10N-60❖	.059-.394	1.181	2.36	1.26	2.01	2.01	NBC10-□	MGN10	MGR30	35,000	2.9
C6-MEGA10N-75			2.95	1.69	1.50-1.77	2.60				33,000	3.1
C6-MEGA10N-90			3.54	2.28	1.50-1.89	3.19				30,000	3.1
C6-MEGA10N-105			4.13	2.87		3.78				25,000	3.3
C6-MEGA10N-120			4.72	3.46		4.37				25,000	3.5
C6-MEGA10N-135			5.31	4.06		4.96				20,000	3.5
C6-MEGA10N-165			6.50	5.24		6.14				15,000	4.0
C6-MEGA10N-200			7.87	6.61		7.52				12,000	4.4

- MEGA NEW BABY NUT is included; collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not collet
- Center-through coolant supply is available
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- Adjusting screws cannot be used with models marked ❖

ACCESSORIES

 COLLET PG. 358	 MEGA NUT PG. 364	 PERFECT SEAL PG. 366	 MEGA WRENCH PG. 388	 SCREW PG. 411

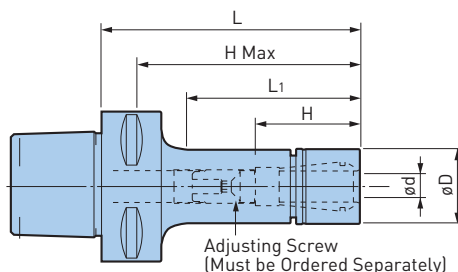
COLLET CHUCKS

MEGA NEW BABY CHUCK

CLAMPING RANGE: ϕ .098"-.787"

For Drills, Reamers, Taps & Finishing End Mills

MAX
35,000
RPM



Catalog Number	ϕd	ϕD	L	L1	H	H Max	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
C6-MEGA13N-60	.098-.512	1.378	2.36	1.26	2.01	2.01	NBC13-□	MGN13	MGR35	35,000	2.9
C6-MEGA13N-75			2.95	1.77	2.60	2.60				32,000	3.1
C6-MEGA13N-90			3.54	2.36	1.73-2.17	3.19				30,000	3.3
C6-MEGA13N-105			4.13	2.87	1.73-2.48	3.78				25,000	3.5
C6-MEGA13N-120			4.72	3.54		4.37				20,000	3.7
C6-MEGA13N-135			5.31	4.06		4.96				20,000	4.0
C6-MEGA13N-165			6.50	5.24		6.14				15,000	4.4
C6-MEGA13N-200			7.87	6.61		7.52				12,000	4.8
C6-MEGA16N-65	.098-.630	1.654	2.56	1.46	2.20	2.20	NBC16-□	MGN16	MGR42	32,000	3.3
C6-MEGA16N-75			2.95	1.85	2.60	2.60				30,000	3.5
C6-MEGA16N-90			3.54	2.36	1.89-2.24	3.19				25,000	3.7
C6-MEGA16N-105			4.13	2.95	1.89-2.68	3.78				20,000	4.0
C6-MEGA16N-120			4.72	3.54		4.37				15,000	4.4
C6-MEGA16N-135			5.31	4.13		4.96				15,000	4.6
C6-MEGA16N-165			6.50	5.31		6.14				10,000	5.3
C6-MEGA16N-200			7.87	6.69		7.52				8,000	5.9
C6-MEGA20N-65	.098-.787	1.811	2.56	1.46	2.01	2.01	NBC20-□	MGN20	MGR46	32,000	3.3
C6-MEGA20N-75			2.95	1.85	2.56	2.56				30,000	3.5
C6-MEGA20N-90			3.54	2.44	2.01-2.20	2.99				25,000	4.0
C6-MEGA20N-105			4.13	3.03	2.01-2.68	3.58				20,000	4.4
C6-MEGA20N-120			4.72	3.62		4.09				15,000	4.6
C6-MEGA20N-135			5.31	4.21		4.37				15,000	5.1
C6-MEGA20N-165			6.50	5.39		4.37				10,000	5.7
C6-MEGA20N-200			7.87	6.77		4.37				8,000	6.4
C8-MEGA6N-90	.010-.236	.787	3.54	1.77	.91-1.69	3.54	NBC6-□	MGN6	MGR20	20,000	5.3
C8-MEGA6N-120			4.72	2.95		4.72				17,000	5.7
C8-MEGA6N-165			6.50	4.72		6.50				12,000	5.9
C8-MEGA8N-90	.020-.315	.984	3.54	1.81	1.02-1.77	3.54	NBC8-□	MGN8	MGR25	20,000	5.7
C8-MEGA8N-120			4.72	2.95		4.72				17,000	5.9
C8-MEGA8N-165			6.50	4.72		6.50				13,000	6.2

COLLET CHUCKS

Catalog Number	ød	øD	L	L ₁	H	H Max	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
C8-MEGA10N-90	.059-.394	1.181	3.54	1.77	1.50-1.89	3.54	NBC10-□	MGN10	MGR30	20,000	5.9
C8-MEGA10N-120			4.72	2.95		4.72				17,000	6.2
C8-MEGA10N-165			6.50	4.72		6.50				13,000	6.6
C8-MEGA13N-90	.098-.512	1.378	3.54	1.97	1.73-2.48	3.54	NBC13-□	MGN13	MGR35	18,000	6.2
C8-MEGA13N-120			4.72	3.15		4.72				15,000	6.4
C8-MEGA13N-165			6.50	4.72		6.50				12,000	7.0
C8-MEGA13N-200			200	155		7.87				8,000	7.7
C8-MEGA16N-90	.098-.630	1.654	3.54	1.97	1.89-2.60	3.54	NBC16-□	MGN16	MGR42	15,000	6.4
C8-MEGA16N-120			4.72	3.15	1.89-2.68	4.72				14,000	7.0
C8-MEGA16N-165			6.50	4.92		6.50				13,000	7.9
C8-MEGA20N-90	.098-.787	1.811	3.54	1.97	2.01-2.68	3.27	NBC20-□	MGN20	MGR46	15,000	6.6
C8-MEGA20N-120			4.72	3.15		4.45				14,000	7.3
C8-MEGA20N-165			6.50	4.92		4.45				13,000	8.4
C8-MEGA20N-200			7.87	6.30		4.45				10,000	9.0

- MEGA NEW BABY NUT is included; collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not collet
- Center-through coolant supply is available
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- Adjusting screws cannot be used with models marked ❖

ACCESSORIES

COLLET PG. 358	MEGA NUT PG. 364	PERFECT SEAL PG. 366	MEGA WRENCH PG. 388	SCREW PG. 411



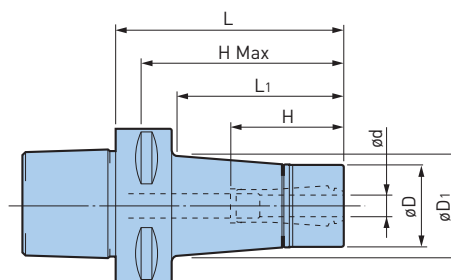
COLLET CHUCKS

MEGA E CHUCK

CLAMPING RANGE: ϕ .125"-.500" (ϕ 3-12mm)

Exclusively for High Speed Finish End Milling

MAX
35,000
RPM



Catalog Number	ϕd	ϕD	$\phi D1$	L	L1	H	H Max	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
C4-MEGA6E-50 ❖	.125-.250 (3-6mm)	.984	1.02	1.97	.98	1.73	1.73	MEC6-□	MEN6	MGR25	35,000	.9
C4-MEGA8E-50 ❖	.125-.250 (3-8mm)	1.181	1.22	1.97	1.10	1.73	1.73	MEC8-□	MEN8	MGR30	35,000	1.1
C4-MEGA10E-55 ❖	.125-.375 (3-10mm)	1.378	1.46	2.17	1.34	1.93	1.93	MEC10-□	MEN10	MGR35	30,000	1.1
C4-MEGA13E-60 ❖	.125-.500 (3-12mm)	1.654	—	2.36	—	1.97	1.97	MEC13-□	MEN13	MGR42	25,000	1.3
C5-MEGA6E-55 ❖	.125-.250 (3-6mm)	.984	1.04	2.17	1.14	1.89	1.89	MEC6-□	MEN6	MGR25	35,000	1.1
C5-MEGA6E-90			1.27	3.54	2.52	1.46-1.77	3.27				25,000	1.5
C5-MEGA6E-105			1.39	4.13	3.19		3.86				22,000	1.8
C5-MEGA6E-120			1.49	4.72	3.82		4.45				20,000	2.0
C5-MEGA8E-55 ❖	.125-.250 (3-8mm)	1.181	1.23	2.17	1.22	1.89	1.89	MEC8-□	MEN8	MGR30	35,000	1.3
C5-MEGA8E-90			1.47	3.54	2.64	1.65-2.01	3.27				25,000	1.8
C5-MEGA8E-105			1.58	4.13	3.23		3.86				22,000	2.2
C5-MEGA8E-120			1.69	4.72	3.86		4.45				20,000	2.4
C5-MEGA10E-60 ❖	.125-.375 (3-10mm)	1.378	1.47	2.36	1.46	2.09	2.09	MEC10-□	MEN10	MGR35	30,000	1.3
C5-MEGA10E-90			1.68	3.54	2.72	1.89-2.28	3.27				25,000	2.0
C5-MEGA10E-105			1.78	4.13	3.31		3.86				20,000	2.4
C5-MEGA10E-120			1.78	4.72	3.90		4.45				18,000	2.9
C5-MEGA13E-60 ❖	.125-.500 (3-12mm)	1.654	1.75	2.36	1.54	1.97	1.97	MEC13-□	MEN13	MGR42	30,000	1.8
C5-MEGA13E-75 ❖			1.77	2.95	2.13	2.68	2.68				25,000	2.0
C5-MEGA13E-90			1.76	3.54	2.72	1.97-2.36	3.27				25,000	2.4
C5-MEGA13E-105			1.81	4.13	3.31		3.86				20,000	2.9
C5-MEGA13E-120			1.80	4.72	3.90		4.45				16,000	3.1
C6-MEGA6E-60 ❖	.125-.250 (3-6mm)	.984	1.10	2.36	1.30	2.01	2.01	MEC6-□	MEN6	MGR25	35,000	2.6
C6-MEGA6E-75			1.16	2.95	1.89	1.46-1.77	2.06				30,000	2.9
C6-MEGA6E-90			1.26	3.54	2.48		3.19				30,000	3.1
C6-MEGA6E-105			1.37	4.13	3.07		3.78				28,000	3.3
C6-MEGA6E-120			1.47	4.72	3.66		4.37				25,000	3.5
C6-MEGA6E-135			1.57	5.31	4.25		4.96				22,000	4.0
C6-MEGA6E-165			1.78	6.50	5.43		6.14				18,000	4.6

COLLET CHUCKS

Catalog Number	ød	øD	øD1	L	L1	H	H Max	Collet	Nut	Wrench	Max RPM	Weight (lbs.)
C6-MEGA8E-60❖	.125-.250 (3-8mm)	1.181	1.29	2.36	1.30	2.01	2.01	MEC8-□	MEN8	MGR30	32,000	2.9
C6-MEGA8E-75			1.35	2.95	1.89	1.65-1.81	2.60				30,000	3.1
C6-MEGA8E-90			1.44	3.54	2.48	1.65-2.01	3.19				30,000	3.3
C6-MEGA8E-105			1.56	4.13	3.07		3.78				28,000	3.7
C6-MEGA8E-120			1.66	4.72	3.66		4.37				25,000	4.0
C6-MEGA8E-135			1.76	5.31	4.25		4.96				23,000	4.2
C6-MEGA8E-165			1.98	6.50	5.51		6.14				20,000	5.3
C6-MEGA10E-65❖	.125-.375 (3-10mm)	1.339	1.51	2.56	1.50	2.20	2.20	MEC10-□	MEN10	MGR35	32,000	3.1
C6-MEGA10E-75❖			1.54	2.95	1.89	2.60	2.60				30,000	3.3
C6-MEGA10E-90			1.64	3.54	2.48	1.89-2.28	3.19				30,000	3.5
C6-MEGA10E-105			1.75	4.13	3.07		3.78				27,000	4.0
C6-MEGA10E-120			1.85	4.72	3.66		4.37				23,000	4.4
C6-MEGA10E-135			1.97	5.31	4.33		4.96				20,000	4.8
C6-MEGA10E-165			2.18	6.50	5.55		6.14				17,000	5.9
C6-MEGA13E-65❖	.125-.500 (3-12mm)	1.654	1.78	2.56	1.54	2.20	2.20	MEC13-□	MEN13	MGR42	30,000	3.3
C6-MEGA13E-75❖			1.81	2.95	1.93	2.60	2.60				30,000	3.5
C6-MEGA13E-90			1.93	3.54	2.60	1.97-2.17	3.19				28,000	4.0
C6-MEGA13E-105			2.02	4.13	3.15		3.78				25,000	4.6
C6-MEGA13E-120			2.13	4.72	3.78	1.97-2.36	4.37				22,000	5.1
C6-MEGA13E-135			2.24	5.31	4.41		4.96				18,000	5.7
C6-MEGA13E-165			2.45	6.50	5.55		6.14				15,000	7.0
C8-MEGA6E-90	.125-.250 (3-6mm)	.984	1.21	3.54	2.17	1.46-1.77	3.54	MEC6-□	MEN6	MGR25	20,000	5.7
C8-MEGA6E-135			1.52	5.31	3.94		5.31				14,000	6.6
C8-MEGA8E-90	.125-.250 (3-8mm)	1.181	1.39	3.54	2.17	1.65-2.01	3.54	MEC8-□	MEN8	MGR30	20,000	5.9
C8-MEGA8E-135			1.70	5.31	3.94		5.31				16,000	7.0
C8-MEGA10E-90	.125-.375 (3-10mm)	1.378	1.59	3.54	2.17	1.89-2.28	3.54	MEC10-□	MEN10	MGR35	20,000	6.2
C8-MEGA10E-120			1.81	4.72	3.35		4.72				20,000	7.1
C8-MEGA10E-135			1.90	5.31	3.94		5.31				16,000	7.5
C8-MEGA13E-90	.125-.500 (3-12mm)	1.654	1.85	3.54	2.17	1.94-2.36	3.54	MEC13-□	MEN13	MGR42	18,000	6.6
C8-MEGA13E-120			2.07	4.72	3.35		4.72				17,000	7.5
C8-MEGA13E-135			2.16	5.31	3.94		5.31				14,000	8.1
C8-MEGA13E-165			2.38	6.50	5.12		6.50				12,000	9.5

- MEGA E NUT is included; collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not collet
- Center-through coolant supply is available
- Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance, when using, slowly ramp up to the appropriate speed starting from slow speeds
- "H" indicates the adjustment length with an adjusting screw
- Adjusting screws cannot be used with models marked ❖

ACCESSORIES

COLLET PG. 378	MEGA NUT PG. 379	PERFECT SEAL PG. 379	MEGA WRENCH PG. 388	SCREW PG. 411

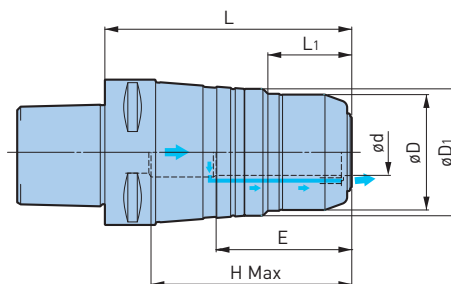
MILLING CHUCKS

MEGA DOUBLE POWER CHUCK

CLAMPING RANGE: ϕ .625"-1.250" (ϕ 16-32mm)

For Heavy Duty End Milling

MAX
30,000
RPM



Catalog Number	ød	øD	øD1	L	L1	H	Min Clamping Length E	Wrench	Weight (lbs.)
C4-MEGA16DS-70	16mm	1.811	1.850	2.76	1.02	2.52	1.89	MGR46L	1.6
C4-MEGA20DS-65	20mm	1.969	2.008	2.56	1.22	2.32	1.97	MGR50L	1.5
C5-MEGA16DS-65A	16mm	1.654	2.087	2.65	1.02	2.36	1.89	MGR42	2.0
C5-MEGA16DS-90A				3.64		2.87			3.1
C5-MEGA20DS-75A	20mm	1.969	2.165	3.05	1.42	2.76	1.97	MGR50L	2.6
C5-MEGA20DS-90A				3.64		3.35			3.3
C5-MEGA25DS-75A	25mm	2.441	2.480	3.05	1.42	2.76	2.20	MGR62L	3.1
C5-MEGA25DS-90A				3.64		3.35			3.7
C6-MEGA.625DS-3A	.625	1.654	2.087	3.09	1.02	2.48	1.89	MGR42L	3.7
C6-MEGA.750DS-3A	.750	1.969	2.165	3.09	1.42	2.68	1.97	MGR50L	4.4
C6-MEGA1.000DS-3A	1.000	2.441	2.469	3.09	1.42	2.68	2.20	MGR62L	4.6
C6-MEGA1.250DS-3.5A	1.250	2.756	2.783	3.59	1.46	3.27	2.36	MGR70L	5.5
C6-MEGA12DS-90	12mm	1.486	1.693	3.58	1.30	3.23	1.69	MGR38	1.4
C6-MEGA16DS-70A	16mm	1.654	2.087	2.85	1.02	2.48	1.89	MGR42L	3.7
C6-MEGA16DS-90A				3.64		3.27			4.6
C6-MEGA16DS-105A●				4.23		2.87			5.3
C6-MEGA16DS-135A●				5.41					6.6
C6-MEGA20DS-75A	20mm	1.969	2.165	3.05	1.42	2.68	1.97	MGR50L	4.4
C6-MEGA20DS-90A				3.64		3.27			4.8
C6-MEGA20DS-105A				4.23		3.43			5.5
C6-MEGA20DS-135A❖				5.41		2.80-3.19			6.8
C6-MEGA25DS-75A◆	25mm	2.441	2.480	3.05	1.42	2.68	2.20	MGR62L	4.6
C6-MEGA25DS-90A				3.64		3.27			5.3
C6-MEGA25DS-105A				4.23		3.43			6.2
C6-MEGA25DS-135A❖				5.41		2.87-3.27			7.3
C6-MEGA32DS-90A	32mm	2.756	2.795	3.64	1.46	3.27	2.36	MGR70L	5.5
C6-MEGA32DS-105A				4.23		3.62			6.4
C6-MEGA32DS-135A❖				5.41		3.19-3.58			7.5

MILLING CHUCKS

Catalog Number	ød	øD	øD1	L	L1	H	Min Clamping Length E	Wrench	Weight (lbs.)
C8-MEGA1.250DS-3.5	1.250	3.150	3.386	3.59	1.65	3.62	2.80	MGR80L	9.5
C8-MEGA16DS-70	16mm	1.811	2.193	2.85	.98	2.87	1.89	MGR46L	6.2
C8-MEGA16DS-105●				4.23					7.9
C8-MEGA16DS-135●				5.41					9.0
C8-MEGA20DS-75	20mm	2.362	2.717	3.05	1.10	3.03	1.97	MGR60L	7.3
C8-MEGA20DS-135❖				5.41		2.80-3.19			11.0
C8-MEGA20DS-165❖				6.59					13.0
C8-MEGA25DS-75	25mm	2.756	3.031	7.97	1.34	3.03	2.20	MGR70L	7.5
C8-MEGA25DS-135❖				5.41		3.07-3.46			11.9
C8-MEGA25DS-165❖				6.59					14.1
C8-MEGA32DS-90	32mm	3.150	3.386	3.64	1.65	3.62	2.36	MGR80L	9.5
C8-MEGA32DS-105				4.23		4.02			10.6
C8-MEGA32DS-135				5.41		4.21			13.2
C8-MEGA32DS-165❖				6.59		3.15-3.82			16.1

- Wrench must be ordered separately
- Jet-through type provides coolant form the chuck nose, thus tools with oil holes cannot be used
- Models marked ❖ can be used with optional axial adjusting screws
- M8 hex screw is required with models marked ●
- Adjusting screw can only be used with models marked ● or ❖, please contact us if using for center-through applications
- Models marked ◆ can only be used with straight collet model C25-□□

ACCESSORIES

 COLLET PG. 384	 PERFECT SEAL/ JET COLLET PG. 381	 MEGA WRENCH PG. 388	 SCREW PG. 412

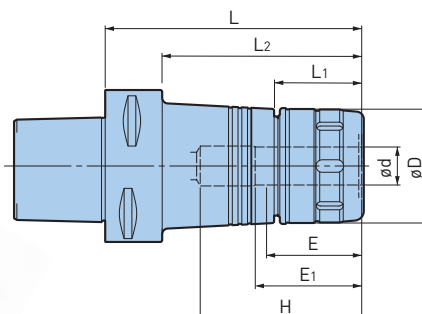


MILLING CHUCKS

NEW HI-POWER MILLING CHUCK

CLAMPING RANGE: $\varnothing 16$ -32mm

For Heavy Duty End Milling



Catalog Number	$\varnothing d$	$\varnothing D$	L	L1	L2	H	Min Clamping Length		Wrench	Weight (lbs.)
							E	E1		
C5-HMC16S-65	16mm	1.693	2.56	1.73	1.77	2.28	1.89	2.17	NBK20	1.8
C5-HMC20S-75	20mm	1.969	2.95	1.73	—	2.68	1.97	2.20	FK45-50L	2.2
C5-HMC20-105			4.13		—	3.35				3.1
C5-HMC25S-75◆	25mm	2.165	2.95	1.85	—	2.68	2.20	2.24	FK52-55	2.9
C5-HMC25S-105			4.13		—	3.43				3.7
C5-HMC32S-85	32mm	2.441	3.35	2.20	—	3.07	2.36	2.28	FK58-62L	3.5
C6-HMC16S-70	16mm	1.693	2.76	1.73	1.89	2.40	1.89	2.17	FK45-50L	3.3
C6-HMC20S-75	20mm	1.969	2.95	1.73	2.09	2.60	1.97	2.20	FK45-50L	3.7
C6-HMC20S-105			4.13		3.27	3.35				5.1
C6-HMC20S-120❖			4.72		3.86	2.72-3.11				5.5
C6-HMC25S-75◆	25mm	2.323	2.95	1.77	2.09	2.60	2.20	2.24	FK58-62L	4.4
C6-HMC25S-105			4.13		3.27	3.43				5.5
C6-HMC25S-135❖			5.31		4.45	2.87-3.27				6.8
C6-HMC32S-90	32mm	2.677	3.54	2.13	—	3.19	2.36	2.52	FK68-75L	5.3
C6-HMC32S-105			4.13		—	3.54				6.0
C6-HMC32S-135❖			5.31		—	3.11-3.50				7.3
C8-HMC20-80	20mm	2.362	3.15	1.81	1.97	3.15	1.97	2.20	FK58-62	7.3
C8-HMC20-135❖			5.31		4.13	2.72-3.11				10.4
C8-HMC25-85	25mm	2.441	3.35	2.17	—	3.35	2.20	2.56	FK58-62	7.7
C8-HMC25-135			5.31		4.13	2.99-3.39				10.4
C8-HMC32-95	32mm	3.150	3.74	2.48	—	3.74	2.36	2.80	FK80-90	9.9
C8-HMC32-135			5.31		—	4.13				12.8

- Wrench must be ordered separately
- Models marked ❖ can be used with optional axial adjusting screws
- Models marked ◆ can only be used with straight collet model C25-□□
- When using center-through coolant, insert a tool shank into E1 or more

ACCESSORIES

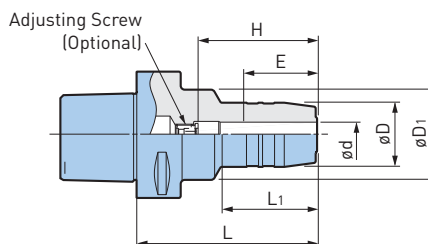
 COLLET PG. 384	 PERFECT SEAL/ JET COLLET PG. 381	 WRENCH PG. 387	 SCREW PG. 412

HYDRAULIC CHUCKS

HYDRAULIC CHUCK

CLAMPING RANGE: $\varnothing 14$ -32mm

For Drills, Reamers, Ball Mills, End Mills, Diamond Reamers & Grinding Tools



Catalog Number	$\varnothing d$	$\varnothing D$	$\varnothing D1$	L	L1	H	Min Clamping Length E	Adjusting Screw	Weight (lbs.)
C5-HDC14-90	14mm	1.339	1.772	3.58	1.89	1.50	2.09-2.36	HDA12-10010 ●	2.4
C5-HDC16-75 ❖	16mm	1.496	1.969	2.95	1.38	2.68	1.69	—	2.4
C5-HDC16-90 ❖			1.890	3.54	1.89	3.27		—	2.7
C5-HDC18-90 ❖	18mm	1.575	1.890	3.54	1.89	1.69	3.27	—	2.7
C5-HDC20-75 ❖	20mm	1.654	2.047	2.95	1.38	2.68	1.69	—	2.4
C5-HDC20-90 ❖			1.969	3.54	1.89	3.27		—	2.7
C5-HDC25-90 ❖	25mm	2.165	2.480	3.54	1.89	3.27	2.05	—	3.8
C6-HDC14-90	14mm	1.339	1.772	3.54	1.89	1.89-2.36	1.50	HDA10-08015	3.5
C6-HDC14-120				4.72		1.50-2.36		HDA10-08032	4.2
C6-HDC16-75 ❖	16mm	1.496	1.969	2.95	1.38	2.60	1.69	—	3.5
C6-HDC16-90 ❖			1.850	3.54	1.89	3.19			3.8
C6-HDC16-120			1.890	4.72		1.69-2.76		HDA16-12037	4.4
C6-HDC18-90	18mm	1.575	1.890	3.54	1.89	1.69	2.60	—	3.7
C6-HDC18-120			1.929	4.72			1.69-2.76	HDA16-12037	4.4
C6-HDC20-75 ❖	20mm	1.654	2.087	2.95	1.30	2.60	1.69	—	3.8
C6-HDC20-90 ❖			1.969	3.54	1.89	2.83			4.0
C6-HDC20-120				4.72		1.69-2.76		HDA16-12037	4.6
C6-HDC25-90 ❖	25mm	2.165	2.480	3.54	1.81	3.15	2.05	—	4.9
C6-HDC25-120				4.72	2.01	2.64-3.11		HDA20-16015	6.2
C6-HDC32-90 ❖	32mm	2.953	2.480	3.54	1.69	3.19	2.20	—	6.2
C6-HDC32-120		2.480	—	4.72	—	2.60-3.07		HDA20-160315	6.6

- "H" indicates the adjustment length with an adjusting screw
- Do not attempt to balance before first consulting BIG DAISHOWA
- In case the projection length needs to be adjusted from the shank side, add the letter "W" to adjusting screw model number for hexagon sockets on both sides (ex: HDA6-05020W)
- The above type is not available for HDA12-10010 with models marked ●
- Adjusting screws cannot be used with models marked ❖

ACCESSORIES



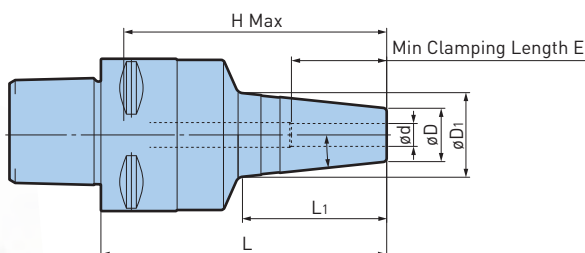
CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

HYDRAULIC CHUCKS

HYDRAULIC CHUCK (SUPER SLIM TYPE)

CLAMPING RANGE: $\varnothing 4$ -12mm



Catalog Number	$\varnothing d$	$\varnothing D$	$\varnothing D1$	L	L1	E	H Max	Weight (lbs.)
C4-HDC3S-55❖	3mm	.551	.709	2.17	.67	.630	1.929	.8
C4-HDC4S-75	4mm		.906	2.95	1.50	.748	2.717	.9
C4-HDC6S-75	6mm					.984		.9
C4-HDC8S-75	8mm	.670	1.02		1.54	1.220		1.0
C4-HDC10S-75	10mm	.748	1.10			1.299		1.0
C4-HDC12S-75	12mm	.827	1.18			1.417		1.0

- Adjusting screws cannot be used
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖

ACCESSORIES



CAUTION ⚠

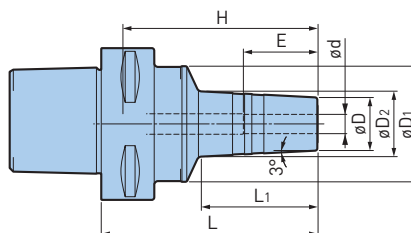
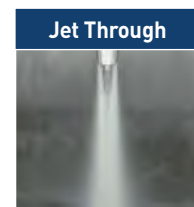
Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

HYDRAULIC CHUCKS

HYDRAULIC CHUCK (JET COOLANT TYPE)

CLAMPING RANGE: $\phi 4$ -12mm

Coolant Holes Through Body of Holder



Catalog Number	ød	øD	øD1	øD2	L	L1	Min Clamping Length E	H	Weight (lbs.)
C5-HDC4J-90	4mm	.787	1.65	1.02	3.54	2.01	.75	3.27	1.6
C5-HDC6J-90	6mm					.98	1.6		
C5-HDC8J-90	8mm	.866		1.10		2.05	1.22		1.6
C5-HDC10J-90	10mm	.945	1.73	1.18			1.30		1.7
C5-HDC12J-90	12mm	1.02	1.81	1.26			1.42		1.7
C6-HDC4J-90	4mm	.787	1.89	1.02	3.54	1.85	.75	3.19	2.4
C6-HDC6J-90	6mm				4.72	2.91	.98	4.37	2.9
C6-HDC6J-120		1.10		3.54				1.89	1.22
C6-HDC8J-90	8mm	.866		1.18	4.72	2.95	1.30	4.37	2.9
C6-HDC8J-120					3.54	1.89		3.19	2.4
C6-HDC10J-90				10mm	.945	1.26	4.72	2.95	4.37
C6-HDC10J-120	3.54	1.89					3.19	2.4	
C6-HDC12J-90	12mm	1.02					4.72	2.95	1.42
C6-HDC12J-120				1.34	4.72	2.99	4.37	2.9	

- Adjusting screws cannot be used
- Allows jet through to be switched to center-through by assembling the accessory plug

ACCESSORIES

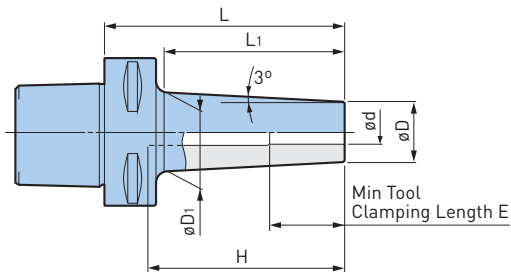


CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

BASIC ARBORS

SHRINK FIT HOLDER (STANDARD TYPE) CLAMPING RANGE: $\varnothing 6$ -20mm



Catalog Number	$\varnothing d$	$\varnothing D$	$\varnothing D_1$	L	L1	Min Clamping Length E	H	Weight (lbs.)
C6-SRC6-90	6mm	.551	.807	3.54	2.48	1.02	3.19	2.6
C6-SRC8-90	8mm	.709	.965			1.02		2.9
C6-SRC10-90	10mm	.866	1.122			1.26		2.9
C6-SRC12-90	12mm	.945	1.201			1.42		3.1
C6-SRC16-90	16mm	1.102	1.358	6.50	5.43	1.50	3.15	3.1
C6-SRC16-165		1.102	1.669					4.6
C6-SRC20-90	20mm	1.339	1.594	3.54	2.48	1.65	3.15	3.3
C6-SRC20-165		1.339	1.906	6.50	5.43		3.94	5.5

- Use carbide cutter within a tolerance of h6
- HSS tools cannot be used

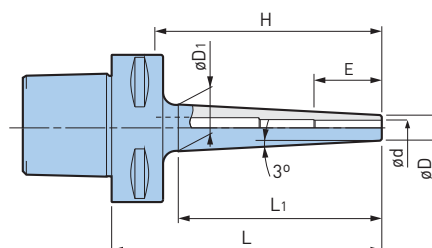
CAUTION

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

BASIC ARBORS

SHRINK FIT HOLDER (SLIM TYPE)

CLAMPING RANGE: $\phi 6$ -12mm



Catalog Number	ϕd	ϕD	ϕD_1	L	L ₁	Min Clamping Length E	H	Weight (lbs.)
C6-SRC6S-120	6mm	.394	.77	4.72	3.62	1.02	4.37	2.6
C6-SRC6S-165			.94	6.50	5.24		6.14	3.1
C6-SRC8S-120	8mm	.512	.89	4.72	3.62	1.02	4.37	2.9
C6-SRC8S-165			1.06	6.50	5.24		6.14	3.3
C6-SRC10S-120	10mm	.630	1.00	4.72	3.62	1.26	4.37	2.9
C6-SRC10S-165			1.20	6.50	5.31		6.14	3.3
C6-SRC12S-120	12mm	.748	1.12	4.72	3.62	1.42	4.37	3.1
C6-SRC12S-165			1.30	6.50	5.31		6.14	3.5

- Use carbide cutter within a tolerance of h6
- HSS tools cannot be used

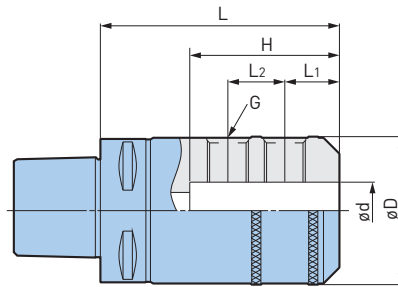
CAUTION

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

BASIC ARBORS

SIDE LOCK END MILL HOLDER

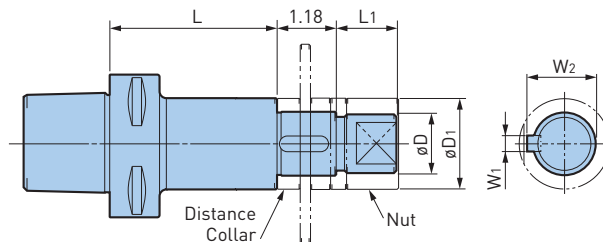
CLAMPING RANGE: $\phi 16$ -32mm



Catalog Number	ϕd	ϕD	L	L1	L2	H	G	Weight (lbs.)
C6-ISL16-80	16mm	1.890	3.15	.94	—	2.05	M14	4.0
C6-ISL20-80	20mm	2.047	3.15	.98		2.17	M16	4.2
C6-ISL25-105	25mm	2.559	4.13	.94	.98	2.36	M18 P2.0	6.4
C6-ISL32-115	32mm	2.835	4.53	.94	1.10	3.54	M20 P2.0	7.7

- Center-through coolant supply is available

SIDE CUTTER ARBOR A

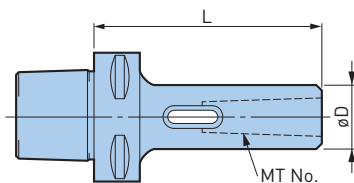


Catalog Number	ϕD	$\phi D1$	L	L1	W1	W2	Weight (lbs.)
C6-SCA25.4-75	1.000	1.575	2.95	.98	.25	1.09	4.4
C6-SCA25.4-120			4.72				5.3
C6-SCA31.75-75	1.250	1.811	2.95	1.18	.31	1.37	5.3
C8-SCA25.4-90	1.000	1.575	3.54	.98	.25	1.09	7.3
C8-SCA31.75-90	1.250	1.811	3.54	1.18	.31	1.37	8.2

- Nut and collars of thickness 5mm, 8mm, 10mm and 12mm are included

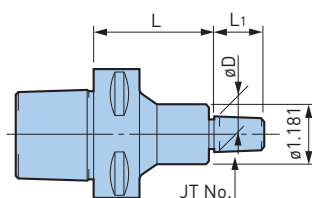
BASIC ARBORS

MORSE TAPER HOLDER



Catalog Number	MT No.	øD	L	Weight (lbs.)
C5-MTA1-95	1	.984	3.74	1.3
C5-MTA2-110	2	1.260	4.33	1.8
C5-MTA3-130	3	1.575	5.12	2.6
C6-MTA1-95	1	.984	3.74	2.9
C6-MTA2-110	2	1.260	4.33	3.3
C6-MTA3-130	3	1.575	5.12	4.2
C8-MTA1-105	1	.984	4.13	5.7
C8-MTA2-120	2	1.260	4.72	6.2
C8-MTA3-140	3	1.575	5.51	7.1

JACOBS TAPER ARBOR

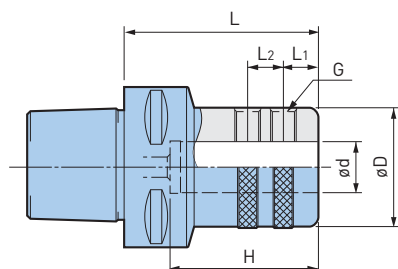


Catalog Number	JT No.	øD	L	L1	Weight (lbs.)
C5-JTA6-40	6	.676	1.57	.94	1.1
C6-JTA6-40	6	.676	1.57	.94	2.6
C8-JTA6-50	6	.676	1.97	.94	5.5

SIDE LOCK DRILL HOLDER

CLAMPING RANGE: ø.630"-1.575" (ø16-40mm)

For indexable insert drills



Catalog Number	ød	øD	L	L1	L2	H	Clamp Screw G	Weight (lbs.)
C4-TSL16-56	16mm	1.890	2.205	.551	.551	1.890	M10 P1.25	1.43
C4-TSL20-60	20mm		2.362			1.969	M10 P1.25	1.45
C4-TSL25-77	25mm		3.031			.591	.787	2.205
C5-TSL16-60	16mm	1.890	2.362	.551	.551	1.890	M10 P1.25	1.8
C5-TSL20-60	20mm					1.969		2.0
C5-TSL25-75	25mm		2.953			.591	.787	2.205
C5-TSL32-85	32mm	2.480	3.346	2.362	3.5			
C6-TSL16-70	16mm	1.890	2.756	.591	.787	1.890	M10 P1.25	3.7
C6-TSL20-70	20mm					1.969		3.7
C6-TSL25-70	25mm			2.480		2.953	.591	.787
C6-TSL32-75	32mm	2.362	4.4					
C6-TSL40-85	40mm	2.677	3.346		.984			
C8-TSL16-80	16mm	1.890	3.150	.551	.551	1.890	M10 P1.25	6.8
C8-TSL20-80	20mm					1.969		6.8
C8-TSL25-85	25mm		3.346			.591	.787	2.205
C8-TSL32-90	32mm	2.480	3.543	2.362	7.7			
C8-TSL40-95	40mm	2.677	3.470	.984	2.756			7.7

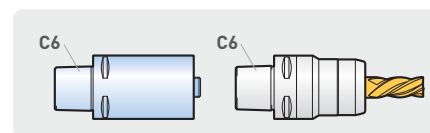
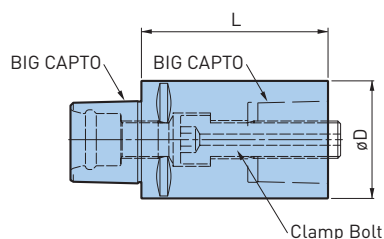
ACCESSORIES



- Center-through coolant supply is available

BASIC ARBORS

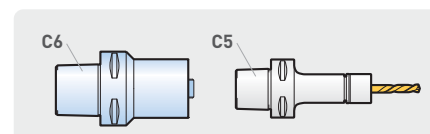
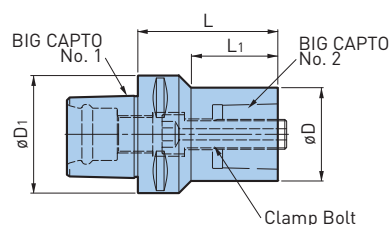
EXTENSION



Catalog Number	BIG CAPTO	øD	L	Clamp Bolt			Weight (lbs.)
				Thread Size	Hex.	Tightening Torque	
C6-C6-100	C6	2.480	3.94	M20 P2	14mm	125 ft-lbs.	2.6
C8-C8-100	C8	3.150	3.94	M20 P2	14mm	125 ft-lbs.	3.7

- Clamping screws are included; wrench must be ordered separately
- When used for turning tools, connect by aligning with the phase of the hole on the taper shank

REDUCTION



Catalog Number	BIG CAPTO No. 1	BIG CAPTO No. 2	øD	øD1	L	L1	Clamp Bolt			Weight (lbs.)
							Thread Size	Hex.	Tightening Torque	
C6-C5-75	C6	C5	1.969	2.48	2.95	1.81	M16 P1.5	10mm	70 ft-lbs.	2.4
C8-C6-85	C8	C6	2.480	3.15	3.35	1.97	M20 P2	14mm	125 ft-lbs.	4.0

- Clamping screws are included, wrench must be ordered separately
- When used for turning tools, connect by aligning with the phase of the hole on the taper shank

BASIC ARBORS

FACE MILL HOLDER

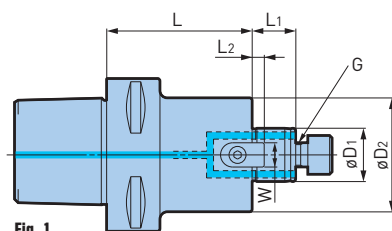
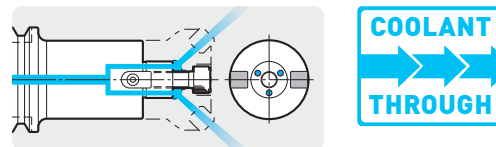


Fig. 1

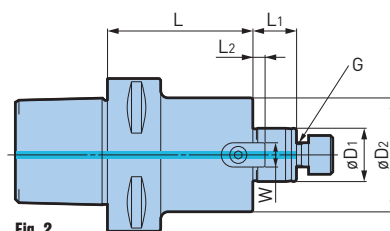


Fig. 2

Catalog Number	Fig.	$\phi D1$	$\phi D2$	L	L1	L2	W	G	Weight (lbs.)
C4-FMH22-47-45	1	22mm	1.850	1.77	.71	.20	.394	M10	1.3
C4-FMA25.4-40		25.4mm	1.969	1.57	.87		.374	MBA-M12	1.5
C5-FMH22-47-60	1	22mm	1.850	2.36	.71	.20	.394	M10	1.3
C5-FMH22-47-90				3.54					3.1
C5-FMH22-60-60		22mm	2.362	2.36	.71	.20	.394	M10	2.4
C5-FMH27-60-60		27mm	2.362	2.36	.79	.24	.472	M12	2.4
C5-FMA25.4-40		25.4mm	1.969	1.57	.87	.20	.375	M12	2.0
C5-FMA25.4-75				2.95					2.6
C6-SMC.750-2	1	.750	1.689	2.00	.69	.16	.313	3/8"-24	3.0
C6-SMC1.000-2		1.000	2.189	2.00	.69	.22	.375	1/2"-20	4.5
C6-SMC1.250-2		1.250	2.750	2.00	.69	.28	.500	5/8"-18	4.8
C6-SMC1.500-2		1.500	3.626	2.00	.94	.38	.625	3/4"-16	5.0
C6-FMH22-47-45		22mm	1.850	1.77	.71	.20	.394	M10	3.1
C6-FMH22-47-60				2.36					3.5
C6-FMH22-47-90				3.54					4.4
C6-FMH22-47-150				5.91					6.2
C6-FMH22-60-45		22mm	2.362	1.77	.71	.20	.394	M10	3.5
C6-FMH22-60-60				2.36					4.4
C6-FMH22-60-90				3.54					5.7
C6-FMH27-60-45		27mm	2.362	1.77	.79	.24	.472	M12	3.7
C6-FMH27-60-60				2.36					4.4
C6-FMH27-60-90				3.54					6.0
C6-FMH27-60-150				5.91					8.6
C6-FMA25.4-40		25.4mm	1.969	1.57	.87	.20	.375	M12	3.1
C6-FMA25.4-60				2.36					4.0
C6-FMA25.4-90				3.54					5.3
C6-FMA31.75-40		31.75mm	2.362	1.57	1.18	.28	.500	M16	3.5
C6-FMA31.75-90				3.54					5.7
C6-FMA38.1-45		38.1mm	3.150	1.77	1.34	.35	.625	M20	4.8
C6-FMC16-40		16mm	1.260	1.57	.63	.20	.315	M8	2.9
C6-FMC22-40		22mm	1.772	1.57	.71	.20	.394	M10	3.1

BASIC ARBORS

Catalog Number	Fig.	øD1	øD2	L	L1	L2	W	G	Weight (lbs.)
C8-FMH22-47-60	1	22mm	1.850	2.36	.71	.20	.394	M10	6.2
C8-FMH22-47-105				4.13					7.5
C8-FMH22-47-150				5.91					8.8
C8-FMH22-47-200				7.87					10.4
C8-FMH22-60-60		22mm	2.362	2.36	.71	.20	.394	M10	6.8
C8-FMH22-60-105				4.13					8.8
C8-FMH22-60-150				5.91					11.0
C8-FMH27-60-60		27mm	2.362	2.36	.79	.24	.472	M12	6.8
C8-FMH27-60-105				4.13					9.0
C8-FMH27-60-150				5.91					11.0
C8-FMH27-60-200				7.87					13.4
C8-FMH32-96-75		32mm	3.780	2.95	.87	.28	.551	M16	10.1
C8-FMH32-96-105				4.13					15.0
C8-FMH32-96-150				5.91					16.5
C8-FMA25.4-40	2	25.4mm	1.969	1.57	.87	.20	.374	M12	6.0
C8-FMA25.4-75				2.95					7.1
C8-FMA25.4-105				4.13					8.4
C8-FMA31.75-40		31.75mm	2.362	1.57	1.18	.28	.500	M16	6.0
C8-FMA31.75-90				3.54					8.8
C8-FMA38.1-45		38.1mm	3.150	1.77	1.34	.35	.625	M20	7.1

- Locking Screw is included
- If clamp bolt is needed, it must be ordered separately

ACCESSORIES



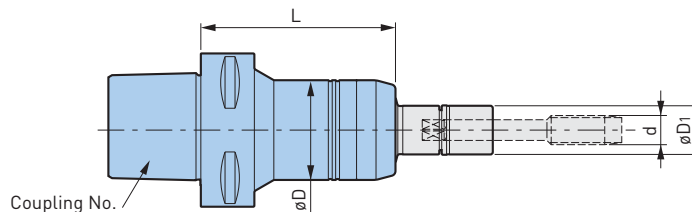
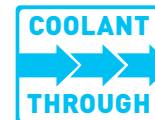
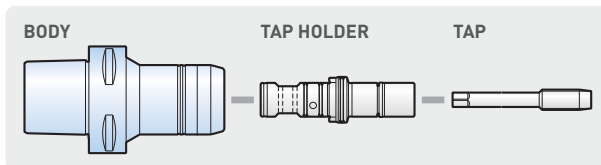
CAUTION

For high speed applications, shell mill holders should be balanced together with the cutters.

TAP HOLDERS

MEGA SYNCHRO TAPPING HOLDER

TAPPING RANGE: No.2-AU3/4 (M2-M20)



Catalog Number	Tapping Range d* (Inch)	Tapping Range d* (Metric)	øD	øD1	L	Wrench	Weight (lbs.)
C5-MGT6-75	No.2-No.12	M2-M6	1.42	.63	2.95	MGR16	1.8
C5-MGT12-75	AU1/4-AU7/16	M6-M12	1.61	.79	2.95	MGR20L	2.0
C5-MGT20-100	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	3.94	MGR30L	3.1
C6-MGT6-80	No.2-No.12	M2-M6	1.42	.63	3.15	MGR16	2.4
C6-MGT12-80	AU1/4-AU7/16	M6-M12	1.61	.79	3.15	MGR20L	2.6
C6-MGT20-100	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	3.94	MGR30L	4.0
C8-MGT6-80	No.2-No.12	M2-M6	1.42	.63	3.15	MGR16	4.6
C8-MGT12-80	AU1/4-AU7/16	M6-M12	1.61	.79	3.15	MGR20L	4.8
C8-MGT20-95	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	3.74	MGR30L	5.7

*AU3/8 is included in the MGT20 series

- Tap holder and wrench must be ordered separately

ACCESSORIES

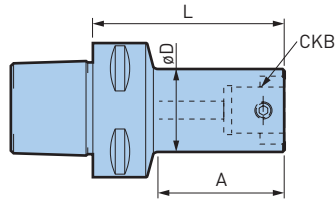
TAP HOLDER PG. 394	MEGA NUT PG. 401	SYNCHRO ADJUSTER PG. 401	O-RING PG. 401	MEGA WRENCH PG. 388	SCREW PG. 401

CAUTION

Cannot be used with machining center without synchronized tapping function.

MODULAR HOLDERS

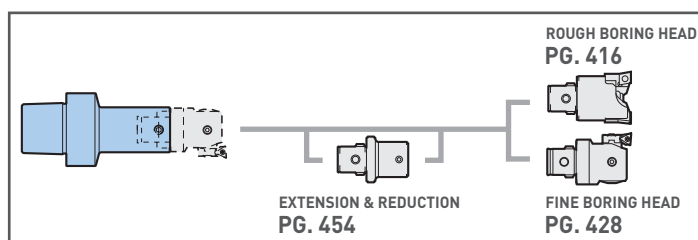
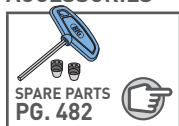
CKB SHANK



Catalog Number	CK No.	ϕD	L	A	Weight (lbs.)
C4-CKB1-48	CK1	.748	1.870	.866	.7
C4-CKB2-45	CK2	.945	1.752	.748	.7
C4-CKB3-40	CK3	1.220	1.575	.669	.7
C4-CKB4-33	CK4	1.535	1.299	.591	.6
C5-CKB1-73	CK1	.748	2.854	1.850	1.1
C5-CKB2-85	CK2	.945	3.327	2.362	1.3
C5-CKB3-55	CK3	1.220	2.165	1.181	1.3
C5-CKB4-48	CK4	1.535	1.890	.945	1.3
C5-CKB5-50	CK5	1.969	1.969	1.181	1.3
C5-CKB6-50	CK6	2.520	1.969	1.181	2.2
C6-CKB1-78	CK1	.748	3.051	1.969	2.6
C6-CKB2-90	CK2	.945	3.524	2.441	2.9
C6-CKB3-65	CK3	1.220	2.559	1.496	2.9
C6-CKB3-100			3.937	2.874	3.3
C6-CKB4-58	CK4	1.535	2.283	1.220	2.9
C6-CKB4-93			3.661	2.598	3.7
C6-CKB5-48	CK5	1.969	1.890	.866	2.9
C6-CKB5-83			3.268	2.244	3.7
C6-CKB6-59	CK6	2.520	2.323	1.457	3.5
C6-CKB6-94			3.701	2.835	5.1
C8-CKB4-118	CK4	1.535	4.646	3.268	5.3
C8-CKB4-178			7.008	5.630	6.6
C8-CKB5-108	CK5	1.969	4.252	2.874	6.0
C8-CKB5-183			7.205	5.827	8.4
C8-CKB6-74	CK6	2.520	2.913	1.535	5.5
C8-CKB6-169			6.654	5.315	10.6
C8-CKB7-73	CK7	3.543	2.874	1.693	6.8
C8-CKB7-123			4.843	3.661	12.3

• Center-through coolant supply is available

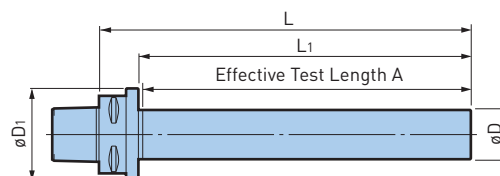
ACCESSORIES



ACCESSORIES

DYNA TEST

Helps identify potential problems and can reduce downtime and costly repairs of the machine tool spindle.



Catalog Number	L	L1	A	øD	øD1
C4-25-L160	7.480	6.299	6.181	25mm	52mm
C5-32-L150	7.087	5.906	5.827	32mm	63mm
C5-32-L215	9.646	8.465	8.386		
C5-40-L250	11.024	9.843	9.724	40mm	
C6-40-L150	7.165	5.906	5.787	40mm	75mm
C6-40-L200	9.134	7.874	7.756		
C6-40-L320	13.858	12.598	12.480		
C8-40-L200	9.449	7.874	7.756	40mm	85mm
C8-40-L320	14.173	12.598	12.480		

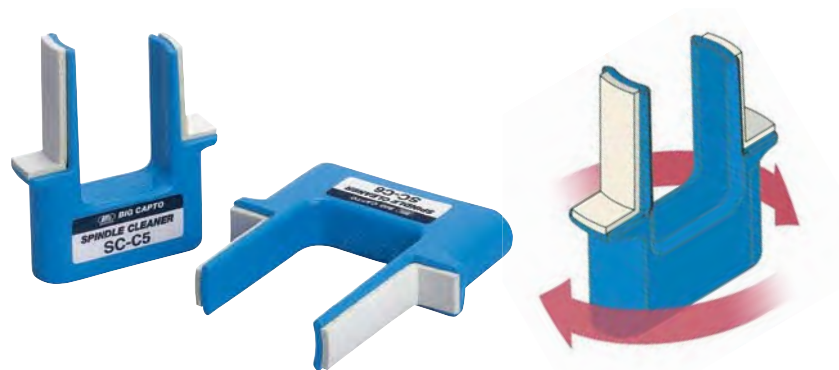


ACCESSORIES

SPINDLE CLEANERS

Ensure absolute cleanliness of tapered spindles to maintain precision and prolong the life of your machine tools, cutting tools and tool holders.

- Robust construction with high oil and grease resistance
- Plastic injection molded core with fluted locations for cleaning strips ensures accurate sizing and cleaning efficiency
- Cleaning strips will maintain adhesion to the taper core due to inset location even under scrubbing action
- Cleaning strips positioned at well spaced intervals to remove even large residual particles
- A quality control product



POLYGON TAPER

Catalog Number	Type	
	Taper	Size
SC-C3	C	3
SC-C4		4
SC-C5		5
SC-C6		6
SC-C8		8

CYLINDRICAL SHANKS

A.5



CYLINDRICAL SHANKS INDEX

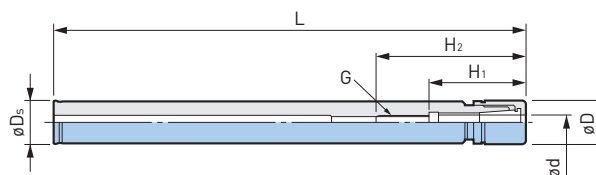
COLLET CHUCKS	282-285
MEGA MICRO CHUCK	282
NEW BABY CHUCK	284-285
MILLING CHUCKS	286
NEW Hi-POWER MILLING CHUCK	286
HYDRAULIC CHUCKS	287
BASIC ARBORS	288-289
SHRINK FIT HOLDER	288-289
TAP HOLDERS	290-291
MEGA SYNCHRO TAPPING HOLDER	290-291

COLLET CHUCKS

MEGA MICRO CHUCK

CLAMPING RANGE: ϕ .018"-.317" (ϕ .45-8.05mm)

For Micro Drill & End Mill Applications



Catalog Number	ϕd	ϕD	ϕD_s	L	H1	H2	G	Collet	Nut	Wrench	Weight (lbs.)
ST.375-MEGA3S-120	.018-.128	.394	.375	4.72	.87	1.50	M4 P0.7	NBC3S-□	MGN3S	MGR10	.1
ST.500-MEGA4S-130	.018-.159	.472	.500	5.12	1.04	1.85	M5 P0.8	NBC4S-□	MGN4S	MGR12	.2
ST.500-MEGA4S-160				6.30							.3
ST.625-MEGA6S-160	.018-.238	.551	.625	6.30	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	.4
ST.625-MEGA6S-200				7.87							.5
ST10-MEGA3S-120	.018-.128	.394	10mm	4.72	.87	1.50	M4 P0.7	NBC3S-□	MGN3S	MGR10	.1
ST12-MEGA4S-80	.018-.159	.472	12mm	3.15	1.04	1.85	M5 P0.8	NBC4S-□	MGN4S	MGR12	.1
ST12-MEGA4S-130				5.12							.2
ST12-MEGA4S-160				6.30							.3
ST14-MEGA6S-80	.018-.238	.551	14mm	3.15	1.12	1.93	M7 P0.75	NBC6S-□	MGN6S	MGR14	.2
ST14-MEGA6S-160				6.30							.4
ST14-MEGA6S-200				7.87							.5
ST16-MEGA8S-80	.116-.317	.709	16mm	3.15	1.22	1.99	M9 P0.75	NBC8S-□	MGN8S	MGR18	.2
ST16-MEGA8S-160				6.30							.5
ST16-MEGA8S-200				7.87							.6

- MEGA MICRO NUT is included; collet and wrench must be ordered separately
- Weight includes nut but not collet

ACCESSORIES

 COLLET PG. 354	 MEGA NUT PG. 356	 SEAL NUT PG. 356	 MEGA WRENCH PG. 388



COLLET CHUCKS

NEW BABY

CLAMPING RANGE: ϕ .010"-.787" (ϕ .25-20mm)

Handles interference issues flexibly when combined with the NEW Hi-POWER MILLING CHUCK.

- Enables easy tool layout for horizontal machining center prone to interference with workpieces and jigs

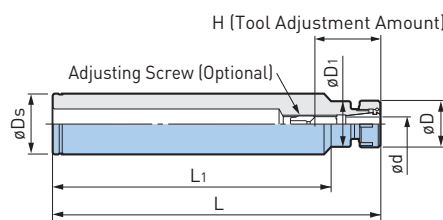


Fig. 1

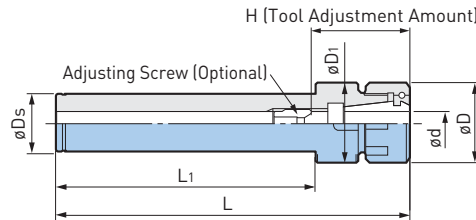


Fig. 2

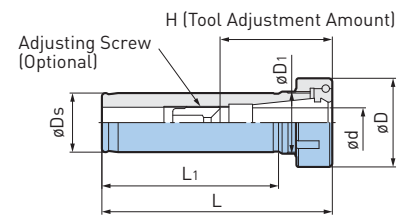


Fig. 3

Catalog Number	Fig.	ød	øD	øD1	øDs	L	L1	H	Collet	Weight (lbs.)
ST20-NBS6-100	1	.010-.236	.787	.768	20mm	4.88	3.94	.79-1.57	NBC6-□	.60
ST20-NBS6-150						6.85	5.91			.86
ST20-NBS6-250						10.79	9.84			1.41
ST20-NBS8-100	2	.020-.315	.984	.965		4.96	3.94	.91-1.65	NBC8-□	.64
ST20-NBS8-150						6.93	5.91			.90
ST20-NBS8-250						10.87	9.84			1.46
ST20-NBS10-60	3	.060-.394	1.181	—		3.07	2.36	1.38-1.77	NBC10-□	.37
ST20-NBS10-100	2			1.161		5.04	3.94			.71
ST20-NBS10-150						7.01	5.91			.97
ST20-NBS10-250						10.94	9.84			1.52
ST20-NBS10-350						14.88	13.78			2.05
ST25-NBS6-150	1	.010-.236	.787	.768	25mm	6.85	5.91	.79-1.57	NBC6-□	1.32
ST25-NBS6-200						8.82	7.87			1.74
ST25-NBS6-250						10.79	9.84			2.16
ST25-NBS8-150	2	.020-.315	.984	.965		6.93	5.91	.91-1.65	NBC8-□	1.37
ST25-NBS8-200						8.90	7.87			1.79
ST25-NBS8-250						10.87	9.84			2.20
ST25-NBS10-150	2	.060-.394	1.181	1.161		7.01	5.91	1.38-1.77	NBC10-□	1.43
ST25-NBS10-200						8.98	7.87			1.85
ST25-NBS10-250						10.94	9.84			2.27
ST25-NBS13-60	3	.098-.512	1.378	—		3.23	2.36	1.61-2.36	NBC13-□	1.36
ST25-NBS13-150	2			1.358		7.24	5.91			1.48
ST25-NBS13-200						9.21	7.87			1.90
ST25-NBS13-250						11.18	9.84			2.31

COLLET CHUCKS

Catalog Number	Fig.	ød	øD	øD1	øDs	L	L1	H	Collet	Weight (lbs.)
ST32-NBS6-150	1	.010-.236	.787	.768	32mm	6.85	5.91	.79-1.57	NBC6-□	2.12
ST32-NBS8-150		.020-.315	.984	.965		6.93	5.91	.91-1.65	NBC8-□	2.18
ST32-NBS10-150		.060-.394	1.181	1.161		7.01	5.91	1.38-1.77	NBC10-□	2.25
ST32-NBS10-200						8.98	7.87			2.93
ST32-NBS10-250						10.94	9.84			3.62
ST32-NBS10-350						14.88	13.78			4.30
ST32-NBS13-150	2	.098-.512	1.378	1.358		7.24	5.91	1.61-2.36	NBC13-□	2.29
ST32-NBS13-200						9.21	7.87			2.98
ST32-NBS13-250						11.18	9.84			3.68
ST32-NBS13-300						13.15	11.81			5.07
ST32-NBS16-150		.098-.630	1.654	1.634		7.24	5.91	1.77-2.56	NBC16-□	2.31
ST32-NBS16-200						9.21	7.87			3.02
ST32-NBS16-300						13.15	11.81			4.41
ST32-NBS20-150		.098-.787	1.811	1.791		7.24	5.91	1.89-2.56	NBC20-□	2.31
ST32-NBS20-200						9.21	7.87			3.02
ST32-NBS20-300						13.15	11.81			4.41

- NEW BABY NUT is included; collet, wrench and adjusting screw must be ordered separately
- Weight includes nut but not the collet
- "H" indicates the adjustment length with an adjusting screw
- ST LOCK is available for mounting and removing tools

CAUTION

3rd digit in the model number does not correspond to the L dimension (overall length).

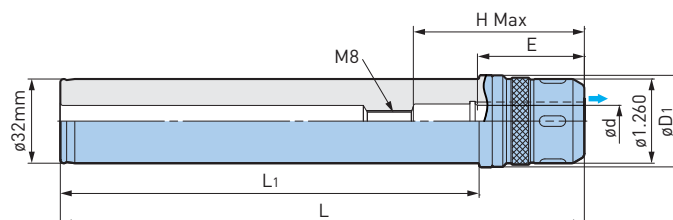
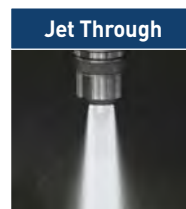
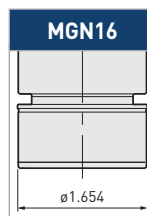
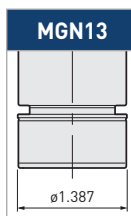
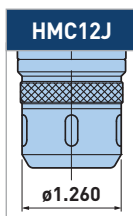
ACCESSORIES

 COLLET PG. 358	 MEGA NUT PG. 370	 PERFECT SEAL PG. 368	 WRENCH PG. 370	 SCREW PG. 411

MILLING CHUCKS

NEW HI-POWER MILLING CHUCK (HMC12J)

CLAMPING RANGE: $\varnothing 12\text{mm}$



Catalog Number	$\varnothing d$	$\varnothing D_1$	L	L ₁	H Max	Min Clamping Length E	Wrench	Weight (lbs.)
ST32-HMC12J-120	12mm	1.38	4.72	3.15	2.56	1.69	FK31-33	1.5
ST32-HMC12J-160			6.30	4.72				2.0
ST32-HMC12J-200			7.87	6.30				2.4

• Wrench must be ordered separately

ACCESSORIES



HYDRAULIC CHUCKS

HYDRAULIC CHUCK

CLAMPING RANGE: $\phi 4$ -20mm

High precision cylindrical body eliminates most interference problems.

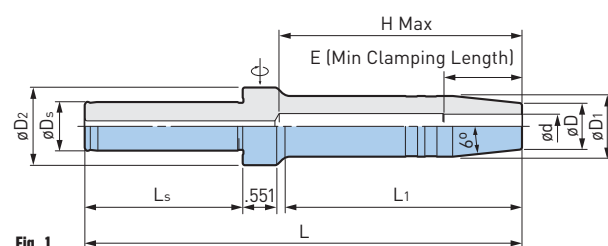


Fig. 1

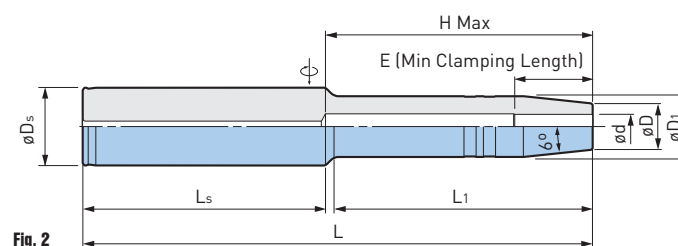


Fig. 2

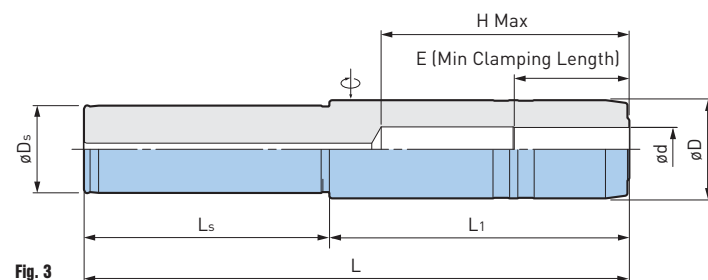


Fig. 3

Catalog Number	Fig.	ød	øD	øD1	øD2	øDs	L	L1	Ls	E	H Max	Weight (lbs.)
ST20-HDC4S-180	1	4mm	.551	.71	1.26	20mm	7.09	3.70	2.56	.75	—	.88
ST20-HDC6S-180		6mm		.79				3.74		.98	3.98	.95
ST20-HDC8S-180		8mm	.669	.91				3.78		1.22	3.94	1.10
ST20-HDC10S-180		10mm	.748	.98				3.82		1.30		1.19
ST20-HDC12S-180		12mm	.827	1.10				3.90		1.42		1.34
ST32-HDC10S-210	2	10mm	.748	.98	—	32mm	8.27	4.17	3.94	1.30	4.33	2.16
ST32-HDC12S-210		12mm	.827	1.10				4.25		1.42	4.29	2.33
ST32-HDC16-200	3	16mm	1.417	—			7.87	4.33	3.54	1.69	3.58	2.79
ST32-HDC20-200		20mm	1.496								3.54	2.82

• Adjusting screw cannot be used

ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

BASIC ARBORS

SHRINK FIT (SUPER SLIM TYPE)

CLAMPING RANGE: $\phi 4$ -12mm

High precision cylindrical body eliminates most interference problems.

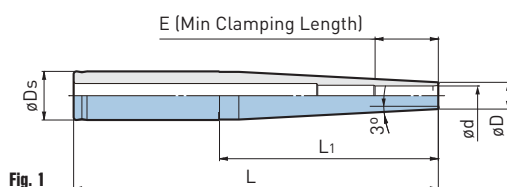


Fig. 1

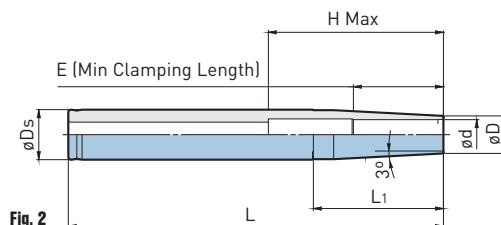


Fig. 2

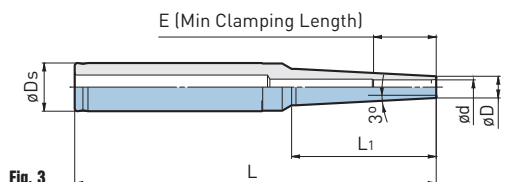


Fig. 3

Catalog Number	Fig.	ϕd	ϕD	ϕD_s	L	L ₁	H	E	Weight (lbs.)
ST12-SRC4SS-120❖	1	4mm	.276	12mm	4.72	2.01	—	.63	.22
ST12-SRC6SS-120	2	6mm	.354		5.91	1.26	2.05	1.02	.22
ST20-SRC4SS-150-K40❖	3	4mm	.276	20mm	5.91	1.57	—	.63	.55
ST20-SRC6SS-150-K60					7.87	2.36			.55
ST20-SRC6SS-200	1	6mm	.354	20mm		4.33	—	1.02	.66
ST20-SRC6SS-250	1				9.84	4.33			.77
ST20-SRC8SS-150	1	8mm	.433	20mm	5.91	3.54	—	1.02	.55
ST20-SRC8SS-200					7.87				.66
ST20-SRC8SS-250					9.84				.88
ST20-SRC10SS-150	2	10mm	.512	20mm	5.91	2.80	2.36	1.26	.55
ST20-SRC10SS-200					7.87				.77
ST20-SRC10SS-250					9.84				.88
ST20-SRC12SS-150	2	12mm	.591	20mm	5.91	2.05	2.76	1.42	.55
ST20-SRC12SS-200					7.87				.77
ST20-SRC12SS-250					9.84				.99

- Use a carbide shank cutter within a tolerance of h6
- Center-through coolant supply is available with tools with oil holes
- Use a carbide shank cutter within a tolerance of h5 with models marked ❖

CAUTION

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

BASIC ARBORS

SHRINK FIT (SLIM TYPE)

CLAMPING RANGE: $\varnothing 12$ -20mm

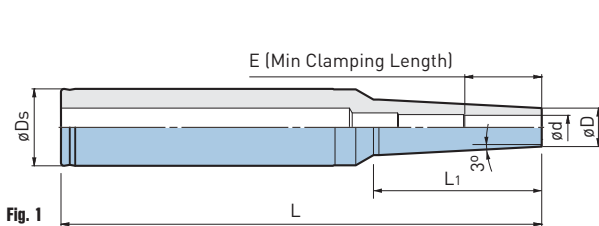
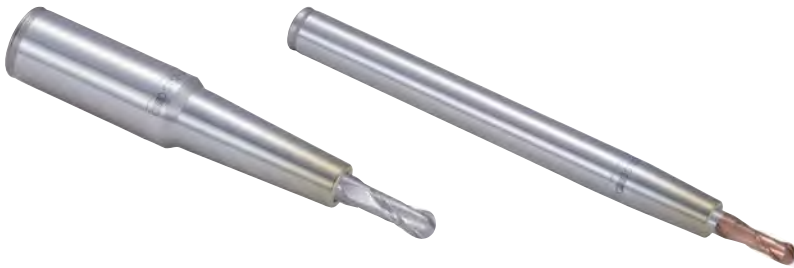


Fig. 1

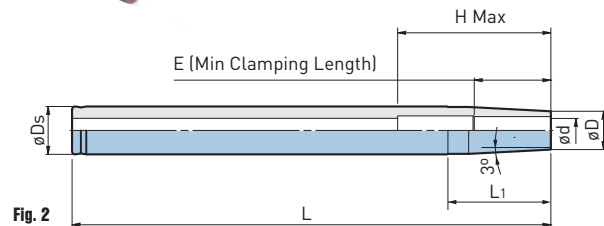


Fig. 2

Catalog Number	Fig.	$\varnothing d$	$\varnothing D$	$\varnothing D_s$	L	L1	H	E	Weight (lbs.)
ST32-SRC12S-150-K70	1	12mm	.748	1.260	5.91	2.76	—	1.42	1.2
ST32-SRC12S-200-K70					7.87				1.8
ST32-SRC12S-300-K70					11.81				2.8
ST32-SRC16S-150	2	16mm	.945	1.260	5.91	3.27	2.76	1.50	1.3
ST32-SRC16S-200					7.87		3.15		1.9
ST32-SRC16S-300					11.81				2.9
ST32-SRC20S-150	2	20mm	1.102	1.260	5.91	1.97	3.15	1.50	1.3
ST32-SRC20S-200					7.87				1.9
ST32-SRC20S-300					11.81				2.9

- Use a carbide shank cutter within a tolerance of h6
- Center-through coolant supply is available with tools with oil holes

CAUTION

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

TAP HOLDERS

MEGA SYNCHRO TAPPING HOLDER

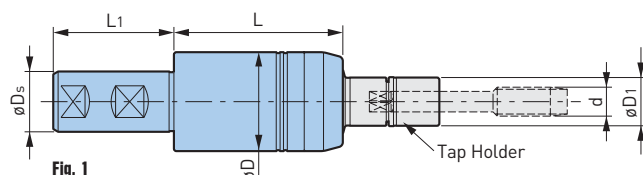
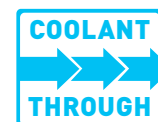
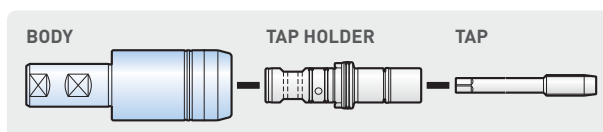


Fig. 1

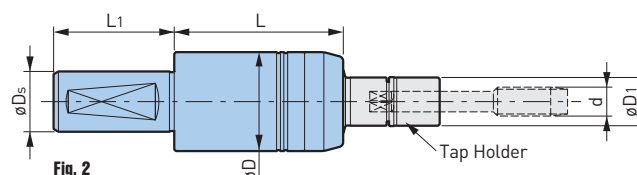


Fig. 2

Catalog Number	Fig.	Tapping Range d* (Inch)	Tapping Range d* (Metric)	ϕD	ϕD_1	ϕD_s	L	L1	Wrench	Weight (lbs.)
SL1.000-MGT6-2.5	1	No.2-No.12	M2-M6	1.42	.63	1.000	2.50	2.28	MGR16	1.1
SL1.000-MGT12-2.75		AU1/4-AU7/16	M6-M12	1.61	.79	1.000	2.75	2.28	MGR20L	1.8
SL1.250-MGT20-3.5	1	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	1.250	3.50	2.28	MGR30L	3.3
ST20-MGT6-65	2	No.2-No.12	M2-M6	1.42	.63	20mm	2.56	1.57	MGR16	1.1
ST25-MGT12-70		AU1/4-AU7/16	M6-M12	1.61	.79	25mm	2.76	1.97	MGR20L	1.8
ST32-MGT20-90		AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.13	1.18	32mm	3.54	2.17	MGR30L	3.3

*AU3/8 is included in the MGT20 series

• MGT set screw is included; tap holder and wrench must be ordered separately

CAUTION

Cannot be used with machining center without synchronized tapping function.

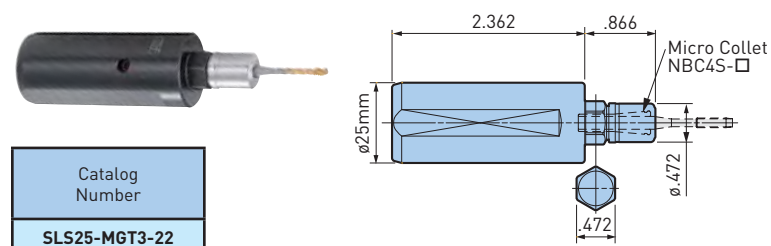
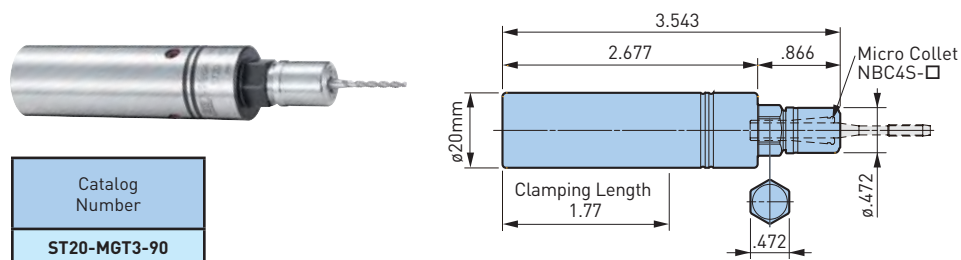
ACCESSORIES

TAP HOLDER PG. 394	MEGA NUT PG. 401	SYNCHRO ADJUSTER PG. 401	O-RING PG. 401	MEGA WRENCH PG. 388	SCREW PG. 401

TAP HOLDERS

STRAIGHT SHANK

TAPPING RANGE: No.0-No.6 (M1-M3)



- Nut is included; collet and wrench must be ordered separately
- When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required
- Not capable of supplying coolant through the holder body

CAUTION

Cannot be used with machining center without synchronized tapping function.

ACCESSORIES



N/C LATHE TOOLING

A.6



N/C LATHE INDEX

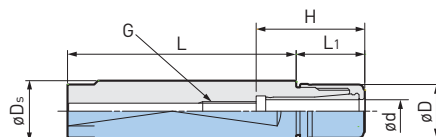
COLLET CHUCKS	294-300
MEGA MICRO CHUCK	294
NEW BABY CHUCK	296-298
MEGA ER CHUCK	299-300
HYDRAULIC CHUCKS	301-305
BASIC ARBORS	306
SMART DAMPER TURNING	306
ACCESSORIES	307-309
CENTERING HOLDER	307
LATHE MASTER	308
CENTERING TOOL	309

MODULAR HOLDERS AND COLLET CHUCKS

MEGA MICRO CHUCK

CLAMPING RANGE: ϕ .018"-.317" (ϕ .45-8.05mm)

For Micro Drill & End Mill Applications



Catalog Number	ϕd	ϕD	ϕD_s	L	L ₁	H	G	Collet	Nut	Wrench
SL16-MEGA6S-60	.018-.238	.551	16mm	2.36	.709	1.12	M7 P0.75	NBC6S-□	MGN6S	MGR14
SL20-MEGA6S-40	.018-.238	.551	20mm	1.57	.709	1.12	M7 P0.75	NBC6S-□	MGN6S	MGR14
SL20-MEGA6S-80	.018-.238			3.15						
SL20-MEGA8S-40	.116-.317			1.57	.748	1.12	M9 P0.75	NBC8S-□	MGN8S	MGR18
SL20-MEGA8S-80	.116-.317			3.15						
SL15.875-MEGA6S-60	.018-.238	.551	.625	2.36	.709	1.12	M7 P0.75	NBC6S-□	MGN6S	MGR14
SL19.05-MEGA6S-40	.018-.238	.551	.750	1.57	.709	1.12	M7 P0.75	NBC6S-□	MGN6S	MGR14
SL19.05-MEGA6S-80				3.15						
SL19.05-MEGA8S-40	.116-.317	.709	.750	1.57	.748	1.12	M9 P0.75	NBC8S-□	MGN8S	MGR18
SL19.05-MEGA8S-80	.116-.317			3.15						

- MEGA MICRO NUT is included; collet and wrench must be ordered separately
- Center-through coolant supply is available

ACCESSORIES

COLLET PG. 354	MEGA NUT PG. 356	SEAL NUT PG. 356	MEGA WRENCH PG. 388



COLLET CHUCKS

NEW BABY CHUCK

CLAMPING RANGE: ϕ .010"-.787" (ϕ .25-20mm)

For Drills, Reamers, Taps & Finishing End Mills

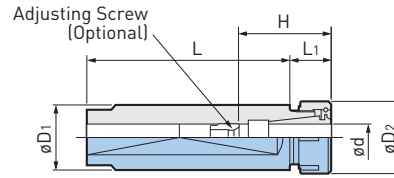


Fig. 1

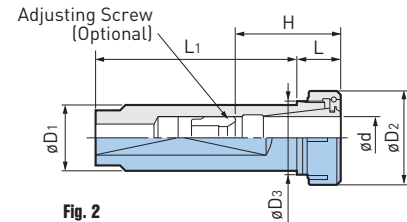


Fig. 2

Catalog Number	Fig.	ød	øD1	øD2	øD3	L	L1	H	Collet	Nut	Wrench						
SL16-NBS6-40	1	.010-.236	16mm	.787	—	1.57	.59	.79-1.57	NBC6-□	NBN6	NBK6						
SL16-NBS6-80				3.15													
SL16-NBS8-40		.020-.315		.987		1.57	.65	.91-1.65	NBC8-□	NBN8	NBK8						
SL16-NBS8-80				3.15													
SL16-NBS10-40	2	.059-.394		1.181	.83	1.57	1.46	1.38-1.77	NBC10-□	NBN10	NBK10						
SL16-NBS10-80				3.15													
SL20-NBS6-40	1	.010-.236	20mm	.787	—	1.57	.59	.79-1.57	NBC6-□	NBN6	NBK6						
SL20-NBS6-80				3.15													
SL20-NBS8-40		.020-.315		.987		1.57	.65	.91-1.65	NBC8-□	NBN8	NBK8						
SL20-NBS8-80				3.15													
SL20-NBS10-40	2	.059-.394		1.181	.83	1.57	.71	1.38-1.77	NBC10-□	NBN10	NBK10						
SL20-NBS10-80				3.15													
SL20-NBS13-40		.098-.512		1.377	1.02	1.57	1.69	1.61-2.36	NBC13-□	NBN13	NBK13						
SL20-NBS13-80				3.15													
SL22-NBS6-40	1	.010-.236	22mm	.787	—	1.57	.59	.79-1.57	NBC6-□	NBN6	NBK6						
SL22-NBS6-80				3.15													
SL22-NBS8-40		.020-.315		.987		3.15	.65	.91-1.65	NBC8-□	NBN8	NBK8						
SL22-NBS8-80																	
SL22-NBS10-40	2	.059-.394		1.181		1.57	.71	1.38-1.77	NBC10-□	NBN10	NBK10						
SL22-NBS10-80				3.15													
SL22-NBS13-40		.098-.512		1.377	1.02	1.57	.85	1.61-1.85	NBC13-□	NBN13	NBK13						
SL22-NBS13-80				3.15		1.61-2.36											
SL25-NBS6-80	1	.010-.236	25mm	.787	—	3.15	.59	.79-1.57	NBC6-□	NBN6	NBK6						
SL25-NBS6-120				4.72													
SL25-NBS8-80		.020-.315		.987		3.15	.65	.91-1.65	NBC8-□	NBN8	NBK8						
SL25-NBS8-120				4.72													
SL25-NBS10-80	2	.059-.394		1.181		3.15	.71	1.38-1.77	NBC10-□	NBN10	NBK10						
SL25-NBS10-120				4.72													
SL25-NBS13-80		.098-.512		1.377	1.02	3.15	.85	1.61-2.36	NBC13-□	NBN13	NBK13						
SL25-NBS13-120				4.72													
SL25-NBS16-80	.098-.630			1.653		1.26						3.15	1.89	1.77-2.56	NBC16-□	NBN16	NBK16
SL25-NBS16-120				4.72													

COLLET CHUCKS

Catalog Number	Fig.	ød	øD1	øD2	øD3	L	L1	H	Collet	Nut	Wrench
SL25.4-NBS6-80	1	.010-.236	1.000	.787	—	3.15	.59	.79-1.57	NBC6-□	NBN6	NBK6
SL25.4-NBS6-120						4.72					
SL25.4-NBS8-80		.020-.315		.987		3.15	.65	.91-1.65	NBC8-□	NBN8	NBK8
SL25.4-NBS8-120						4.72					
SL25.4-NBS10-80		.059-.394		1.181		3.15	.71	1.38-1.77	NBC10-□	NBN10	NBK10
SL25.4-NBS13-80	2	.098-.512		1.377	1.02	3.15	.85	1.61-1.97	NBC13-□	NBN13	NBK13
SL25.4-NBS16-80		.098-.630		1.653	1.26	3.15	1.89	1.77-2.56	NBC16-□	NBN16	NBK16
SL25.4-NBS16-120						4.72					
SL32-NBS13-100	1	.098-.512	32mm	1.377	—	3.94	.85	1.61-2.36	NBC13-□	NBN13	NBK13
SL32-NBS13-150						5.91					
SL32-NBS16-100		.098-.630		1.653		3.94		1.77-2.56	NBC16-□	NBN16	NBK16
SL32-NBS16-150						5.91					
SL32-NBS20-100	2	.098-.787		1.811	1.42	3.94	1.89-2.56	NBC20-□	NBN20	NBK20	
SL32-NBS20-150						5.91					

- NEW BABY NUT is included; collet, wrench and adjusting screw must be ordered separately
- Center-through coolant supply is available
- "H" indicates the adjustment length with an adjusting screw

ACCESSORIES

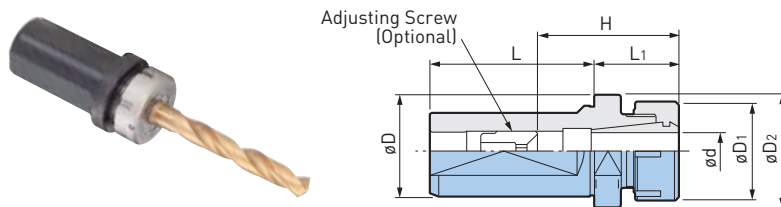
 COLLET PG. 358	 NUT PG. 370	 PERFECT SEAL PG. 368	 WRENCH PG. 370	 SCREW PG. 411

COLLET CHUCKS

NEW BABY CHUCK

CLAMPING RANGE: ϕ .098"-.787" (ϕ 2.5-20mm)

For Drills, Reamers, Taps & Finishing End Mills



Stopper Type:

Flange as a stopper enables presetting of the tool away from machine and minimizes downtime.

Catalog Number	ød	øD	øD1	øD2	L	L1	H	Collet	Nut	Wrench
SLS25-NBS13-30	.098-.512	25mm	1.378	1.25	2.12	1.18	1.61-2.36	NBC13-□	NBN13	NBK13
SLS25-NBS13-60						2.36				
SLS32-NBS13-30	.098-.512	32mm	1.378	1.55	2.28	1.18	1.61-2.36	NBC13-□	NBN13	NBK13
SLS32-NBS13-60						2.36				
SLS32-NBS13-100						3.94				
SLS32-NBS20-30	.098-.787	32mm	1.811	1.79	2.28	1.18	1.88-2.55	NBC20-□	NBN20	NBK20
SLS32-NBS20-60						2.36				
SLS32-NBS20-100						3.94				
SLS40-NBS13-30	.098-.787	40mm	1.378	1.94	2.67	1.18	1.61-2.36	NBC13-□	NBN13	NBK13
SLS40-NBS13-60						2.36				
SLS40-NBS13-100						3.94				
SLS40-NBS20-30			1.811			1.18	1.88-2.55	NBC20-□	NBN20	NBK20
SLS40-NBS20-60						2.36				
SLS40-NBS20-100						3.94				

- NEW BABY NUT is included; collet, wrench and adjusting screw must be ordered separately
- Center-through coolant supply is available
- "H" indicates the adjustment length with an adjusting screw

ACCESSORIES

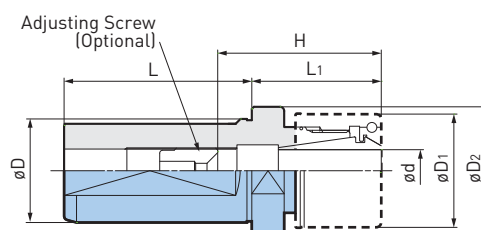


COLLET CHUCKS

MEGA ER GRIP

CLAMPING RANGE: ϕ .108"-.787" (ϕ 2.75-20mm)

For Drills, Reamers, Taps & Finishing End Mills



Stopper Type:
Flange as a stopper enables presetting of the tool away from machine and minimizes downtime.

Catalog Number	ød	øD	øD1	øD2	L	L1	H	Collet	Nut (NOT Included)	Wrench
SLS25-MEGAER20-45NL	.108-.512	25mm	1.378	1.26	2.13	1.77	1.65-2.44	ERC20-□	MERN20*	MGR35L
SLS25-MEGAER20-75NL						2.95				
SLS32-MEGAER20-45NL	.108-.512	32mm	1.378	1.56	2.28	1.77	1.65-2.44	ERC20-□	MERN20*	MGR35L
SLS32-MEGAER20-75NL						2.95				
SLS32-MEGAER32-45NL	.108-.787		1.969	1.97		1.77	1.85-2.68	ERC32-□	MERN32*	MGR50L
SLS32-MEGAER32-75NL						2.95	1.97-2.68			
SLS40-MEGAER20-45NL	.108-.512	40mm	1.378	1.95	2.68	1.77	1.65-2.44	ERC20-□	MERN20*	MGR35L
SLS40-MEGAER20-75NL						2.95				
SLS40-MEGAER32-45NL	.108-.787		1.969	1.97		1.77	1.97-2.68	ERC32-□	MERN32*	MGR50L
SLS40-MEGAER32-75NL						2.95				

*Nut, adjusting screw, collet and wrench are not included

- MEGA ER GRIP is not able to use DIN6499 Form-A collets and ESX collets
- Center-through coolant supply is available
- "H" indicates the adjustment length with an adjusting screw

ACCESSORIES

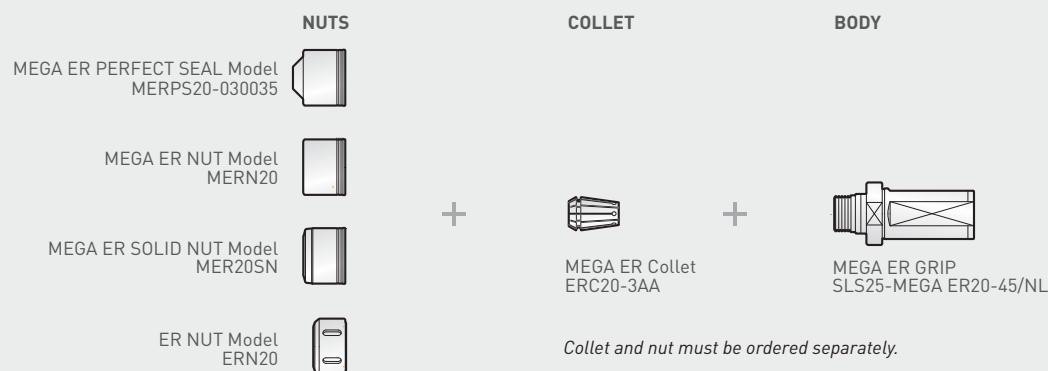


*MEGA NUT is the recommended nut to achieve high accuracy and clamping force

CAUTION

To maintain the accuracy of the tool assembly, do not use collets and nuts manufactured by another company with the chuck body of BIG's MEGA ER GRIP. We cannot guarantee the accuracy stated for our collets if they are assembled on the chuck body of another manufacturer.

EXAMPLE

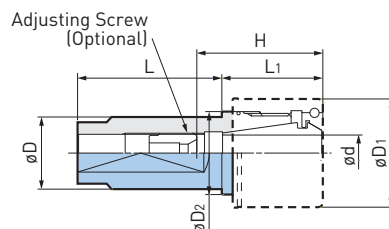


COLLET CHUCKS

MEGA ER GRIP

CLAMPING RANGE: ϕ .075"-.512" (ϕ 1.9-13mm)

For Drills, Reamers, Taps & Finishing End Mills



Catalog Number	ød	ØD	ØD1	ØD2	L	L1	H	Collet	Nut (NOT Included)	Wrench
SL16-MEGAER11-40NL	.108-.236	16mm	.750	—	1.57	.750	.906-1.57	ERC11-□	ERN11	NBK6
SL16-MEGAER11-80NL					3.15					
SL20-MEGAER11-40NL	.108-.236	20mm	.750	—	1.57	.750	.906-1.57	ERC11-□	ERN11	NBK6
SL20-MEGAER11-80NL					3.15					
SL20-MEGAER16-40NL	.075-.394		1.181	.91	1.57	1.10	1.38-1.85	ERC16-□	MERN16*	MGR30L
SL20-MEGAER16-80NL					3.15					
SL25-MEGAER11-60NL	.108-.236	25mm	.750	—	2.36	.750	.906-1.57	ERC11-□	ERN11	NBK6
SL25-MEGAER11-100NL					3.94					
SL25-MEGAER16-60NL	.075-.394		1.181	—	2.36	1.10	1.38-1.85	ERC16-□	MERN16*	MGR30L
SL25-MEGAER16-100NL					3.94					
SL25-MEGAER20-45NL	.108-.512		1.378	1.06	1.77	1.18	1.57	ERC20-□	MERN20*	MGR35L
SL25-MEGAER20-60NL					2.36		1.65-2.44			
SL25-MEGAER20-100NL					3.94					
SL25-MEGAER25-60NL	.108-.630		1.654	1.32	2.36	1.89	1.73-2.64	ERC25-□	MERN25*	MGR42L
SL25-MEGAER25-100NL					3.94					
SL19.05-MEGAER11-40NL	.108-.236	.750	.750	—	1.57	.750	.906-1.57	ERC11-□	ERN11	NBK6
SL19.05-MEGAER11-80NL					3.15					
SL19.05-MEGAER16-40NL	.075-.394		1.181	.91	1.57	1.10	1.38-1.85	ERC16-□	MERN16*	MGR30L
SL19.05-MEGAER16-80NL					3.15					

*Nut, adjusting screw, collet and wrench are not included

- MEGA ER GRIP is not able to use DIN6499 Form-A collets and ESX collets
- Center-through coolant supply is available
- "H" indicates the adjustment length with an adjusting screw

ACCESSORIES

COLLET PG. 374	MEGA NUT* PG. 375	PERFECT SEAL PG. 376	SOLID NUT PG. 375	MEGA WRENCH PG. 388	SCREW PG. 411

*MEGA NUT is the recommended nut to achieve high accuracy and clamping force

CAUTION

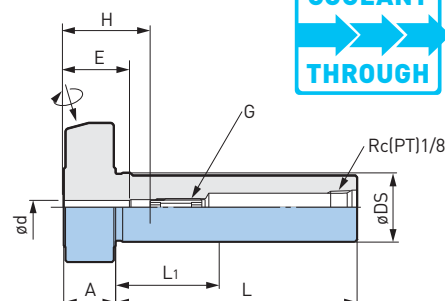
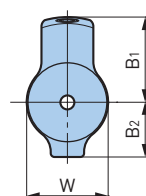
To maintain the accuracy of the tool assembly, do not use collets and nuts manufactured by another company with the chuck body of BIG's MEGA ER GRIP. We cannot guarantee the accuracy stated for our collets if they are assembled on the chuck body of another manufacturer.

HYDRAULIC CHUCKS

HYDRAULIC CHUCK (STANDARD TYPE FOR LATHE)

CLAMPING RANGE: ϕ .125"-.250" (ϕ 3-12mm)

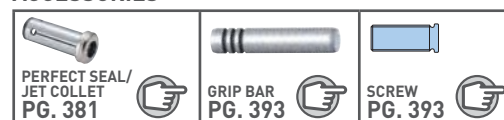
High-precision cutting with hydraulic chuck is achieved on an automatic lathe.



Catalog Number	ød	øDs	L	L1	A	B1	B2	W	H	E	G
SL19.05-HDC3-60❖	3mm	.750	2.36	.787	.59	.91	.62	.87	.787-1.26	.63	HDA4-05015W
SL19.05-HDC3.175-60❖	.125								.905-1.26	.75	
SL19.05-HDC4-60	4mm								1.22-1.89	.87	
SL19.05-HDC4.7625-60	.1875									.98	
SL19.05-HDC5-60	5mm										
SL19.05-HDC6-60	6mm										
SL19.05-HDC6.35-60	.250										
SL19.05-HDC8-60	8mm								.95	2.56	1.22
SL20-HDC3-70❖	3mm	20mm	2.75	1.18	.59	.91	.62	.90	.787-1.26	.63	HDA4-05015W
SL20-HDC4-70	4mm								.905-1.26	.75	
SL20-HDC5-70	5mm								1.22-1.89	.87	NBA6B
SL20-HDC6-70	6mm									.98	
SL20-HDC8-70◆	8mm								.95	2.95	1.22
SL22-HDC3-70❖	3mm	22mm	2.75	1.18	.59	.91	.62	.98	.787-1.26	.63	HDA4-05015W
SL22-HDC4-70	4mm								.905-1.26	.75	
SL22-HDC6-70	6mm								1.22-1.89	.98	NBA6B
SL22-HDC8-70◆	8mm					.95				2.95	
SL22-HDC10-70◆	10mm								1.06	.66	2.76
SL25-HDC3-65❖	3mm	25mm	2.56	1.57	.59	.91	.55	1.10	.787-1.26	.63	HDA4-05015W
SL25-HDC4-65	4mm					.905-1.26	.75				
SL25-HDC6-65	6mm					.91	.59		1.22-1.89	.98	NBA6B
SL25-HDC8-65◆	8mm					.95	.63			2.76	
SL25-HDC10-65◆	10mm					1.06	.67		2.56	1.30	
SL25-HDC12-65◆	12mm					1.10	.71			1.42	
SL25.4-HDC3-80❖	3mm	1.000	3.15	1.57	.59	.91	.55	1.10	.787-1.26	.63	HDA4-05015W
SL25.4-HDC4-80	4mm					.905-1.26	.75				
SL25.4-HDC6-80	6mm					.91	.59		1.22-1.89	.98	NBA6B
SL25.4-HDC8-80◆	8mm					.95	.63			3.35	
SL25.4-HDC10-80◆	10mm					1.06	.67		3.15	1.30	
SL25.4-HDC12-80◆	12mm					1.10	.71			1.42	

- Adjusting screws cannot be used with models marked ◆
- Adjusting screw is adjustable both from the head and shank ends
- "E" is the min. clamping length
- "G" is the adjusting screw (optional)
- "H" indicates the adjustment length with an adjusting screw
- "H" at HDC8/10/12 is the max. tool shank length can be inserted for these models
- L₁ is the minimum length, in case of shortening the shank
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖

ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

HYDRAULIC CHUCKS

HYDRAULIC CHUCK (F TYPE FOR LATHE)

CLAMPING RANGE: ϕ .118"-.250" (ϕ 3-12mm)

Single wrench enables easy cutting tool change on the tool post.
User-friendly rear clamping design is ideal for front tool post.

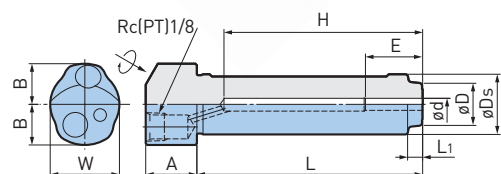


Fig. 1

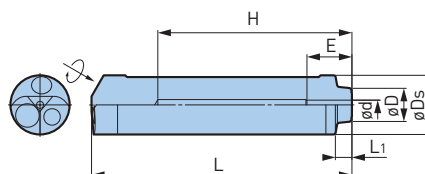


Fig. 2

Catalog Number	Fig.	ød	øD	øDs	L	L ₁	A	B	W	H	E	Weight (lbs)
SL19.05F-HDC3-85❖	1	3mm	.551	.750	3.35	.20	.67	.55	.87	2.99	.63	.46
SL19.05F-HDC4-85		4mm									.75	
SL19.05F-HDC6-80		6mm	—		3.15	—				2.80	.98	.44
SL19.05F-HDC8-80		8mm									1.22	
SL19.05F-HDC3.175-85❖		.125	.551		3.35	.20				2.99	.63	.53
SL19.05F-HDC4.7625-85		.188									.86	
SL19.05F-HDC6.35-80		.250	—		3.15	—				2.80	.98	.49
SL20F-HDC3-75❖	1	3mm	.551	20mm	2.95	.20	.67	.53	.91	2.60	.63	.49
SL20F-HDC4-75		4mm									.75	
SL20F-HDC6-70		6mm	—		2.76	—				2.40	1.00	.44
SL20F-HDC8-70		8mm									1.22	
SL22F-HDC3-75❖	1	3mm	.551	22mm	2.95	.20	.67	.53	.98	2.60	.63	.57
SL22F-HDC4-75		4mm									.75	
SL22F-HDC6-70		6mm	—		2.76	—				2.40	1.00	.53
SL22F-HDC8-70		8mm									1.22	
SL22F-HDC10-70		10mm									1.30	
SL25F-HDC3-110❖	2	3mm	.551	25mm	4.33	.28	—	—	—	3.23	.63	.82
SL25F-HDC4-110		4mm									.75	
SL25F-HDC6-105		6mm	.669		4.13	.12				3.03	.98	.75
SL25F-HDC8-100		8mm									1.22	
SL25F-HDC10-95		10mm	—		3.74	—				2.64	1.30	.62
SL25F-HDC12-90		12mm									1.42	

HYDRAULIC CHUCKS

Catalog Number	Fig.	ød	øD	øDs	L	L ₁	A	B	W	H	E	Weight (lbs)
SL25.4F-HDC3-105❖	2	3mm	.511	1.000	1.13	.28	—	—	—	3.03	.63	.79
SL25.4F-HDC4-105		4mm									.75	
SL25.4F-HDC6-100		6mm				3.94				.12	2.83	.98
SL25.4F-HDC8-95		8mm	.669		3.74					2.64	1.22	.66
SL25.4F-HDC10-90		10mm	—		3.54	—				2.44	1.30	.60
SL25.4F-HDC12-85		12mm			3.35					2.20	1.42	.53

- Adjusting screw cannot be used
- "E" is the min. clamping length
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖

ACCESSORIES

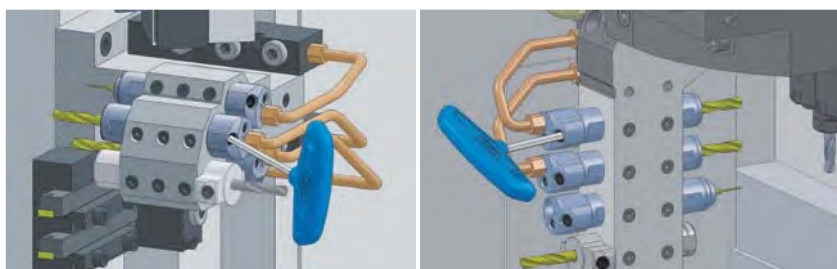


CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

F Type

- Tighten from the opposite side of the tool
- Coolant delivery is possible with Rc(PT)1/8 screw
- Optimum overall length for easy use
- Ideal for use on a front tool post

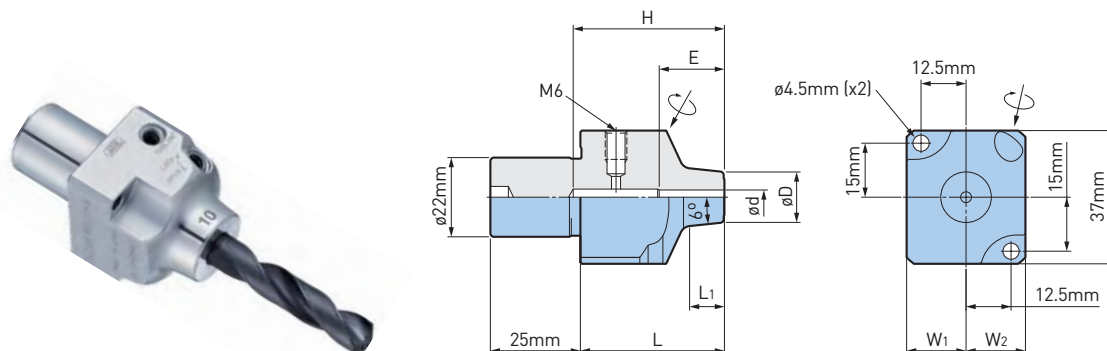


HYDRAULIC CHUCKS

HYDRAULIC CHUCK (R TYPE FOR LATHE)

CLAMPING RANGE: $\varnothing 3-10\text{mm}$

Unique block design enables easy handling for both upper or lower tool post position.
Oil hole drills can be used for coolant delivery with M6.



Catalog Number	$\varnothing d$	$\varnothing D$	L	L1	W1	W2	H	E
SL22R-HDC3-40 ❖	3mm	.551	1.57	.28	.65	.65	1.38	.63
SL22R-HDC4-40	4mm			.35			1.65	.75
SL22R-HDC6-40	6mm			.20			2.17	1.0
SL22R-HDC8-40	8mm			.24	.69	2.13	1.2	1.3
SL22R-HDC10-40	10mm	.866						

- Adjusting screw cannot be used
- "E" is the min. clamping length
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖

ACCESSORIES

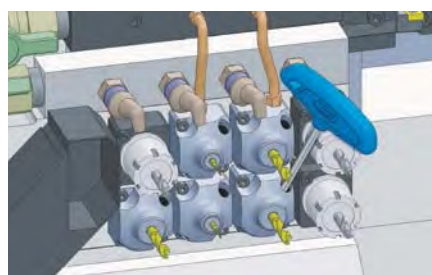


CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

R Type

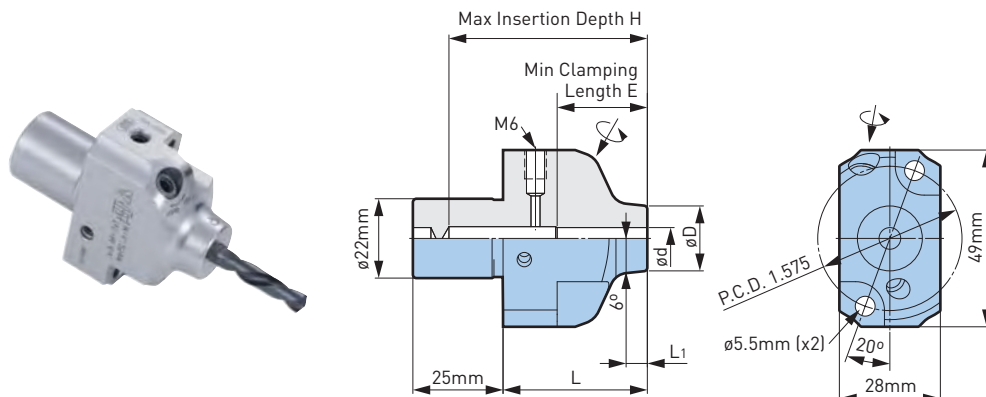
- Unique design for use with both upper and lower sections without interference
- Tightening at an offset position in the tool side
- Coolant delivery with M6 is possible when mounted on the upper section



HYDRAULIC CHUCKS

HYDRAULIC CHUCK (B TYPE FOR LATHE)

CLAMPING RANGE: ø3-10mm



Catalog Number	ød	øD	L	L ₁	H	E	Weight (lbs)
SL22B-HDC3-45❖	3mm	.551	1.77	.28	1.57	.63	.7
SL22B-HDC4-45	4mm			.35	1.65	.75	.7
SL22B-HDC6-40	6mm	.709	1.57	.20	2.17	.98	.7
SL22B-HDC8-40	8mm	.787		.24	2.13	1.22	.7
SL22B-HDC10-40	10mm	.866				1.30	.7

- Adjusting screw cannot be used
- "E" is the min. clamping length
- Some coolant may leak from the inner diameter slits when center-through coolant is used with models marked ❖

ACCESSORIES



CAUTION

Use only cutting tools that have a shank tolerance of h6 (see table pg. 26). Do not use with cutting tools made with a flat on the shank (ie: Weldon type shank). Roughing end mills are not recommended for use with hydraulic chucks. Do not tighten the clamping screw without first inserting a cutting tool into the tool holder. Always insert the cutting tool into the hydraulic tool holder beyond min. clamping length "E".

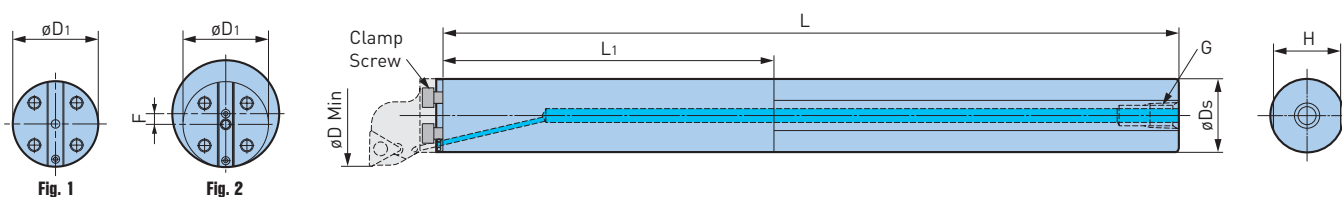
BASIC ARBOR

SMART DAMPER TURNING (ANTI-VIBRATION BORING BAR)

Unprecedented machining depths without chatter is made possible with this heavyweight, strengthened dynamic damper.



- Machining Dia.: $\phi 1.58$ or more
- Depth: $L/D \phi 7x d$



Catalog Number	Fig.	Cartridge	ϕD Min	ϕDs	$\phi D1$	L	L1	H	G	F	Clamp Bolt (1 pc.)	O-Ring Set (2 pcs.)	Weight (lbs)
ST32-SDB40DP-320	1	B32-□	1.57	32mm	1.26	12.60	5.67	1.18	PT1/4	—	C0510 (M5×10L)	SDB200R	5.1
ST40-SDB50DP-410	1	B40-□	1.97	40mm	1.57	16.14	6.69	1.46	PT3/8	—	C0610 (M6×10L)	SDB200R	9.9
ST50-SDB60DP-520	2	B40-□	2.36	50mm	1.57	20.47	7.48	1.85	PT3/8	.197	C0610 (M6×10L)	SDB200R	19.6
ST1.250-SDB40DP-12.5	1	B32-□	1.57	1.25	1.26	12.50	5.57	1.18	NPT1/4	—	C0510 (M5×10L)	SDB200R	5.1
ST1.500-SDB50DP-16	1	B40-□	1.97	1.50	1.57	16.00	6.55	1.47	NPT1/4	—	C0610 (M6×10L)	SDB200R	9.9

- Clamp Bolts (3 pcs.) and O-Rings (2 pcs.) are included
- Cartridge must be ordered separately
- Insert must be ordered separately
- Designed to be capable of supplying coolant-through body
- Do not clamp the L1 section, where the anti-vibration mechanism is located

ACCESSORIES

 CLAMP PIECE PG. 348	 SCREW PG. 348	 SPRING PG. 348	 CARTRIDGES PG. 346

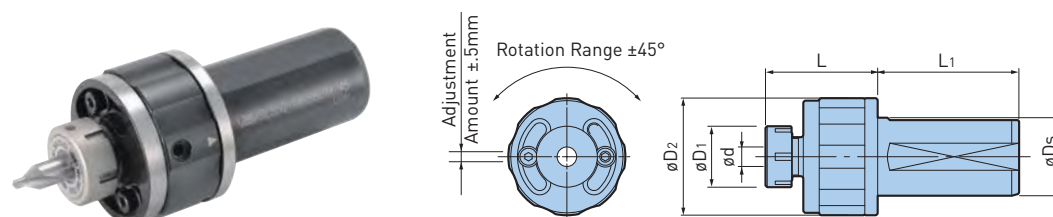
ACCESSORIES

CENTERING HOLDER (FOR LATHE)

Easy And Reliable Centering Adjustment For Turret Lathe Sleeve Holder

CLAMPING RANGE: ϕ .020"-.787" (ϕ .5-20mm)

The rotation center of the workpiece and the center of the turret pot may be misaligned not only in the center height direction, but also in the X-axis direction. In order to easily correct the deviation of both directions at the same time, a polar coordinate system combining rotary and linear movement is used. Single, two-way adjusting bolt completes adjustment of center height both up and down.



Catalog Number	ϕd	ϕDs	$\phi D1$	$\phi D2$	L	L1	Weight (lbs)
SLS32-NBS8CH-45	.020-.315	32mm	.984	1.890	1.811	2.283	3.5
SLS40-NBS20CH-60	.098-.787	40mm	1.811	2.913	2.362	2.677	5.5

- NEW BABY NUT is included; collet and wrench must be ordered separately
- Center-through coolant supply is available

ACCESSORIES

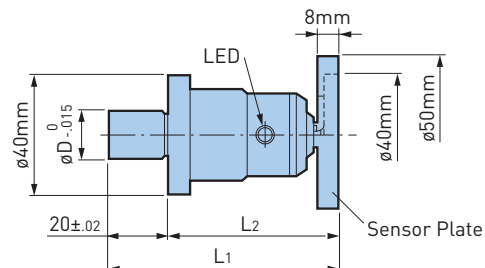
COLLET PG. 358	NUT PG. 370	PERFECT SEAL PG. 368	WRENCH PG. 370

ACCESSORIES

LATHE MASTER (FOR LATHE)

Setup Of Tool Offset Is Possible Without Trial Cut

- Effective in reducing setup time for NC Lathes
- Detectable with various tool bits for external, internal and face turning

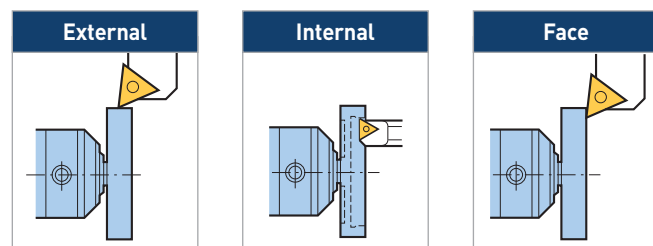


Catalog Number	$\varnothing D$	L_1	L_2	Repeatability	Battery
LM-15	15mm	75mm	55mm	$\pm 2\mu$	BR425
LM-30	30mm	65mm	45mm	$\pm 2\mu$	SR44 x 2

CAUTION

Machine and tools must be electro-conductive for measurement.

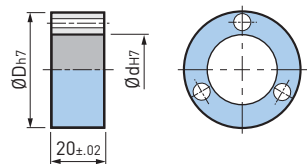
- Batteries not included; use batteries commercially available on the market



Clamp the $\varnothing D$ section of the LATHE MASTER with chuck jaws.
LED illuminates when the tip of the tool touches the sensor plate.

COLLAR SET (OPTIONAL)

If the chuck jaw diameter does not fit, an optional collar set is available.



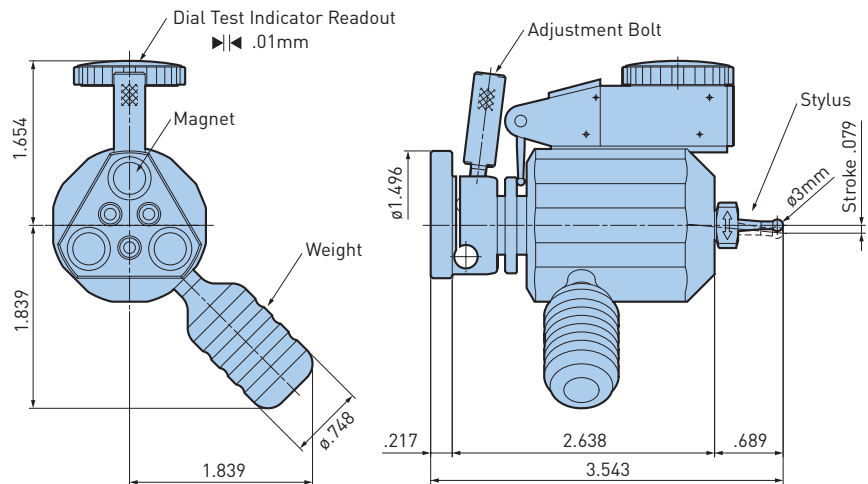
Catalog Number	Inner Diameter $\varnothing d$	Outer Diameter $\varnothing D$ (mm)
LM15CS	15mm	20, 25, 30 (1 pc each)
LM30CS	30mm	35, 40, 45, 50 (1 pc each)



CENTERING TOOL (FOR SMALL LATHE)

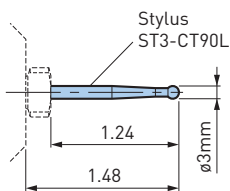
Static Dial Gage For Easy Centering

- Centering the tool holder is simplified since the dial gage position is static and in front
- Easy setting with a fine adjustment mechanism (adjustment amount: .079")
- Magnetic base allows for flexible mounting positions



Catalog Number	Min. Scale	Max. Spindle Speed	Weight (lbs.)	Replacement Stylus
CTL-90	.01mm	50 RPM	.88 (Including Stylus)	ST3-CT90

LONG STYLUS (OPTIONAL)



Catalog Number
ST3-CT90L

- Tip: Ruby

MILL-TURN TOOLING

A.7



MILL-TURN INDEX

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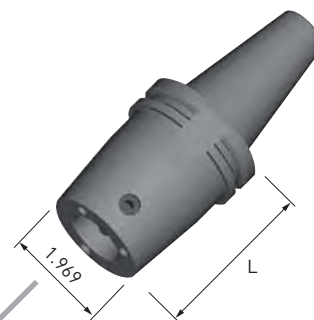
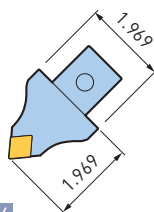
TURNING TOOLS BCV SYSTEM

45°

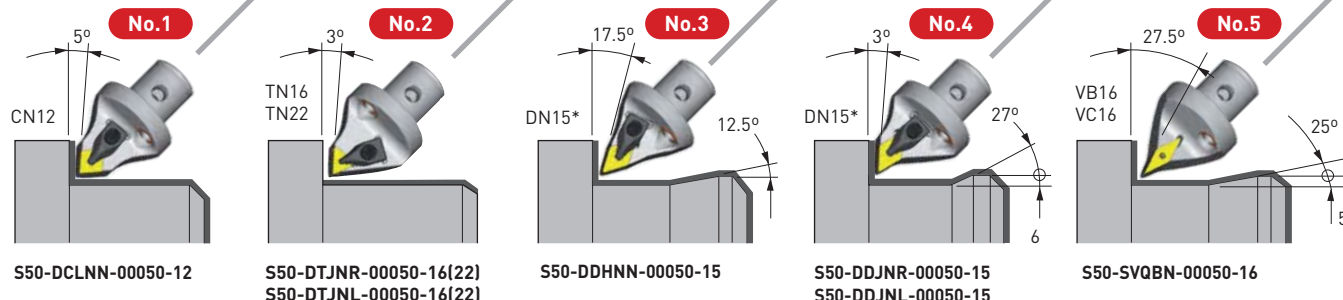
*In case of DN44 insert, please replace the standard carbide shim with DNS1506 (option)

S TYPE PG. 314 BASIC HOLDER

Catalog Number	L
BCV40Y-S50-3	3.0
BCV50Y-S50-3.5	3.5
BCV50Y-S50-4.5	4.5



S TYPE CARTRIDGE PG. 344

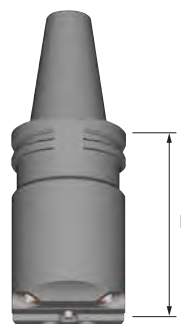
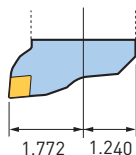


90°

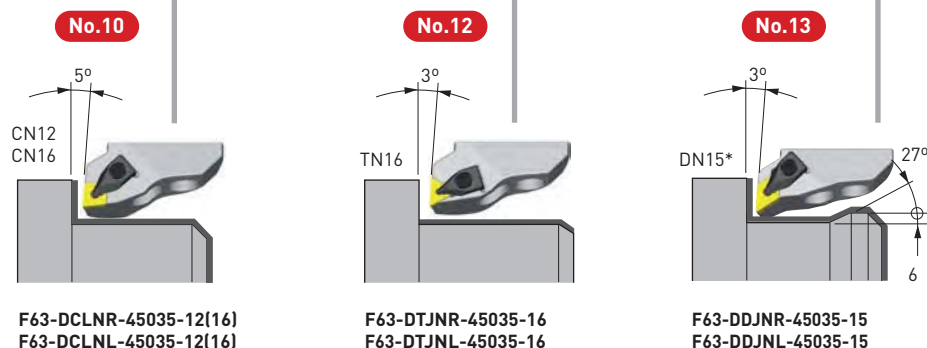
*In case of DN44 insert, please replace the standard carbide shim with DNS1506 (option)

F TYPE PG. 315 BASIC HOLDER

Catalog Number	L
BCV40Y-F63-4.125	4.125
BCV50Y-F63-5.125	5.125



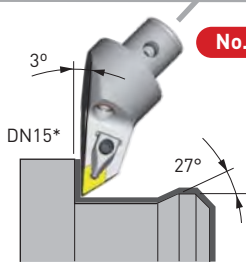
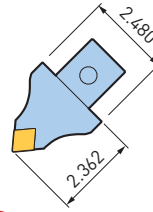
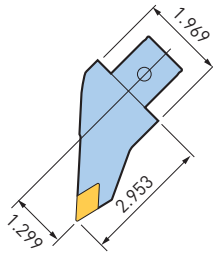
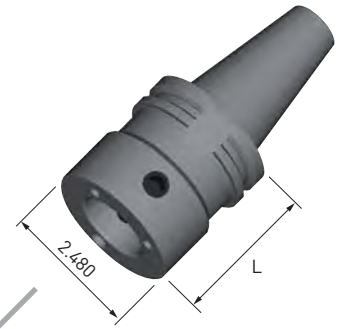
F TYPE CARTRIDGE PG. 345



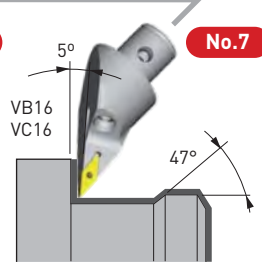
TURNING TOOLS BCV SYSTEM

S TYPE PG. 314 BASIC HOLDER

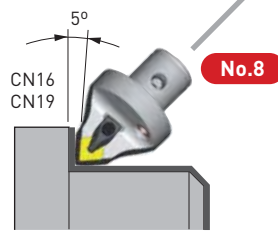
Catalog Number	L
BCV40Y-S63-2.625	2.625
BCV50Y-S63-3.125	3.125
BCV50Y-S63-4.125	4.125



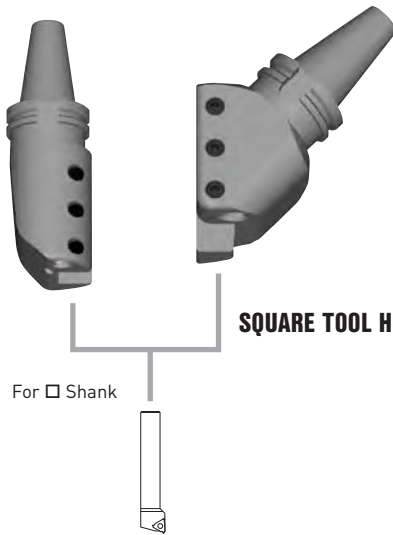
No.6
S50-DDJNR-33075-15
S50-DDJNL-33075-15



No.7
S50-SVLBR-33075-16
S50-SVLBL-33075-16



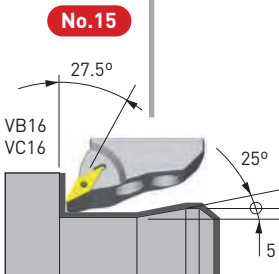
No.8
S63-DCLNN-00060-16
S63-DCLNN-00060-19



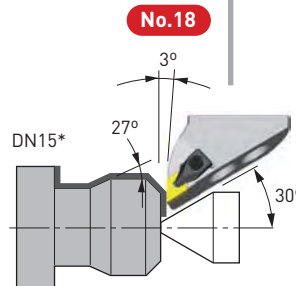
SQUARE TOOL HOLDERS PG. 316



BORING BAR HOLDER PG. 317



No.15
F63-SVQBR-45035-16
F63-SVQBL-45035-16



No.18
F63-DDJNR-45055-15
F63-DDJNL-45055-15

TURNING TOOLS

BASIC HOLDER (BCV 45° S TYPE)

Modular Tooling System for Turning Applications

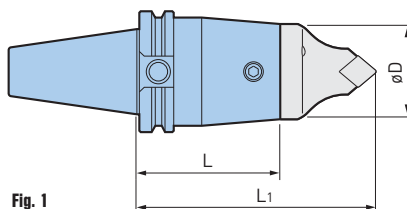


Fig. 1

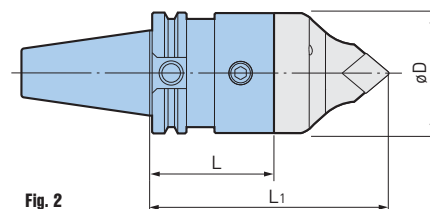


Fig. 2



Catalog Number	Type	Fig.	øD	L	L1	Clamp Screw (2x)
BCV40Y-S50-3	S50	1	1.969	3.000	4.97	CK5S
BCV40Y-S63-2.625	S63	2	2.480	2.625	4.99	CK6S
BCV50Y-S50-3.5	S50	1	1.969	3.500	5.47	CK5S
BCV50Y-S50-4.5				4.500	6.47	
BCV50Y-S63-4.125	S63	2	2.480	4.125	6.49	CK6S

- Clamping screw is included

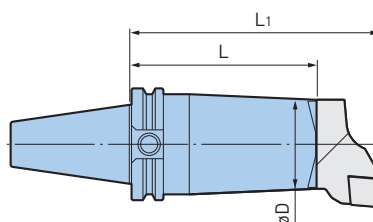
ACCESSORIES



TURNING TOOLS

BASIC HOLDER (BCV 90° F TYPE)

Modular Tooling System for Turning Applications



Catalog Number	Type	øD	L	L1
BCV40Y-F63-4.125	F63	2.480	4.125	5.50
BCV50Y-F63-5.125	F63	2.480	5.125	6.50

- Wrench must be ordered separately
- Basic Holders include M10x22L and M10x25L screws for clamping cartridges
- Plug one of the two coolant nozzles with a countersunk head screw (M5x12) when only one nozzle is required

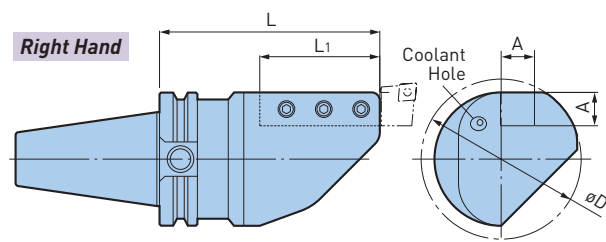
ACCESSORIES



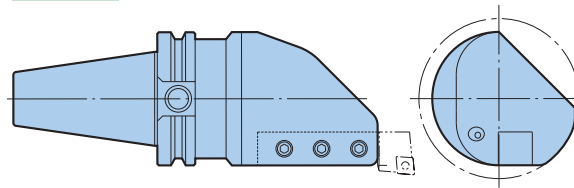
TURNING TOOLS

SQUARE HOLDER (BCV)

For Square Holder Turning Applications

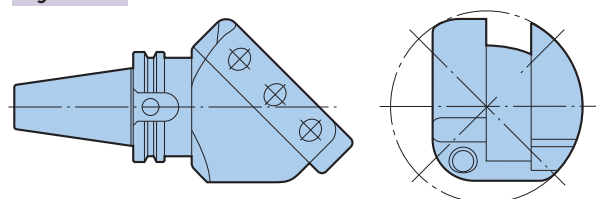


Left Hand

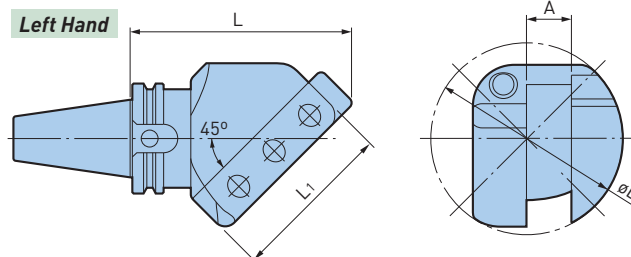


Catalog Number	Hand	A	L	L ₁	øD
BCV40Y-180-BH1.000L-5	L	1.000	5.00	3.50	3.74
BCV40Y-180-BH1.000R-5	R				
BCV50Y-180-BH1.000L-5A	L	1.000	5.00	3.50	4.92
BCV50Y-180-BH1.000R-5A	R				
BCV50Y-180-BH1.250L-5	L	1.250		3.35	5.04
BCV50Y-180-BH1.250R-5	R				

Right Hand



Left Hand



Catalog Number	Hand	A	L	L1	øD
BCV40Y-45-BH1.000L-4.75	L	1.000	4.75	3.43	4.33
BCV40Y-45-BH1.000R-4.75	R				
BCV50Y-45-BH1.000L-5.5	L	1.000	5.50	3.35	5.32
BCV50Y-45-BH1.000R-5.5	R				
BCV50Y-45-BH1.250L-5.5	L	1.250	5.50	3.35	6.69
BCV50Y-45-BH1.250R-5.5	R				

TURNING TOOLS

BORING BAR HOLDER (BCV) CLAMPING RANGE: ϕ .625"-2.000"

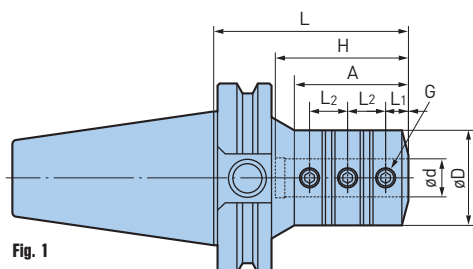


Fig. 1

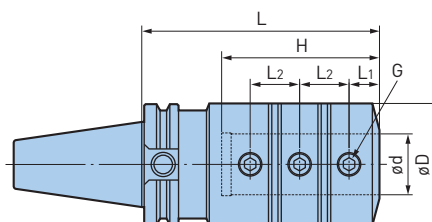


Fig. 2



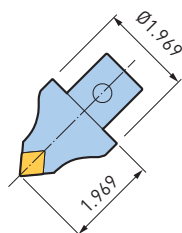
Catalog Number	Fig.	ϕd	ϕD	L	L ₁	L ₂	H	A	G
BCV40Y-BSL.625-3.5	1	.625	1.575	3.50	.394	.787	2.68	2.48	M10P1.25
BCV40Y-BSL.750-3.5		.750	1.929	3.50	.472	.787	2.52	2.56	
BCV40Y-BSL1.000-4		1.000	2.165	4.00	.551	.906	2.91	3.25	
BCV40Y-BSL1.250-5	2	1.250	2.520	5.00	.630	1.024	3.27	—	M12P1.5
BCV40Y-BSL1.500-5.5		1.500	3.150	5.50	.709	1.260	3.86	—	M16P1.5
BCV50Y-BSL.625-3.5	1	.625	1.575	3.50	.394	.827	2.72	2.48	M10P1.25
BCV50Y-BSL.750-3.5		.750	1.969	3.50	.472	.787	2.52	2.36	
BCV50Y-BSL1.000-4		1.000	2.165	4.00	.551	.906	2.91	2.76	M16P1.5
BCV50Y-BSL1.250-4.5		1.250	2.520	4.50	.394	1.024	3.27	3.35	
BCV50Y-BSL1.500-5		1.500	3.150	5.00	.709	1.260	3.86	4.09	M16P1.5
BCV50Y-BSL2.000-5.25		2.000	3.543	5.25	.709	1.417	4.53	4.50	

- Plug A and Plug B are included
- Interchangeable between center-through and side-through coolant supply by using plugs

TURNING TOOLS BBT SYSTEM

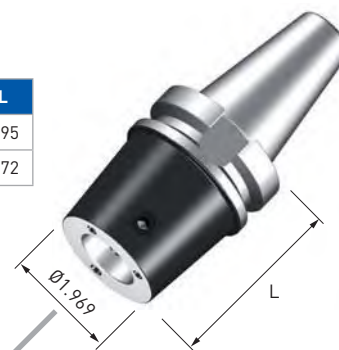
45°

*When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional)

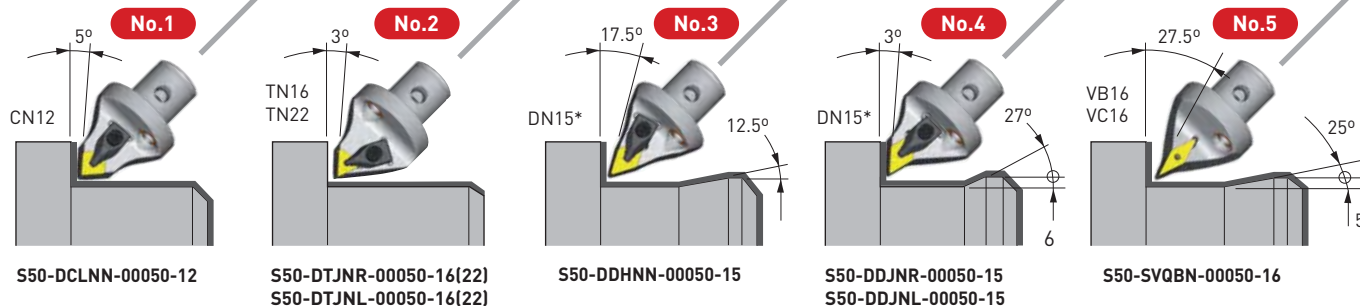


S TYPE PG. 320 BASIC HOLDER

Catalog Number	L
BBT40M-S50-75	2.95
BBT50M-S50-120	4.72



S TYPE CARTRIDGE PG. 344

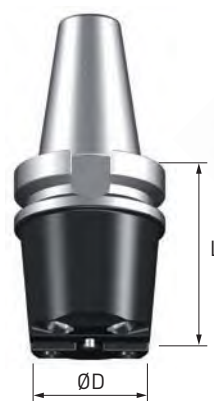


90°

*When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional)

F TYPE PG. 321 BASIC HOLDER

Catalog Number	L	ØD
BBT40M-F50-75	2.95	1.969
BBT40M-F50-105	4.13	
BBT50M-F63-70	2.76	2.480
BBT50M-F63-130	5.12	



S TYPE PG. 320 BASIC HOLDER

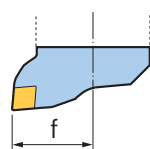


S TYPE CARTRIDGE PG. 344

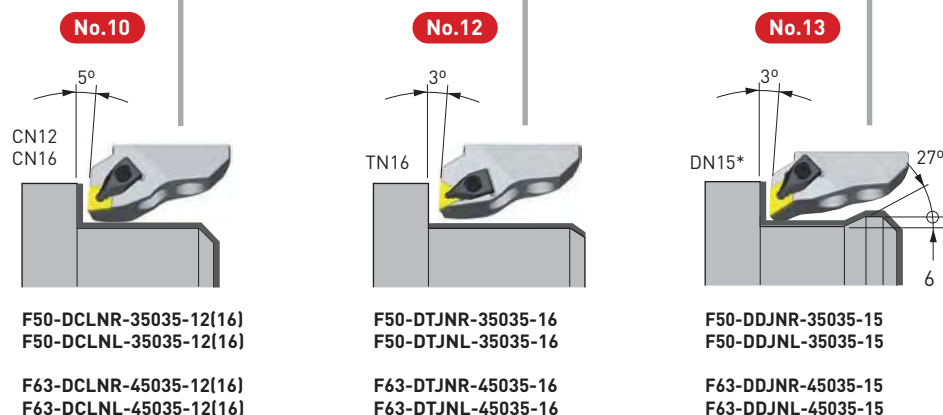
- No.1
- No.3
- No.5
- No.8

F TYPE PG. 345 CARTRIDGE

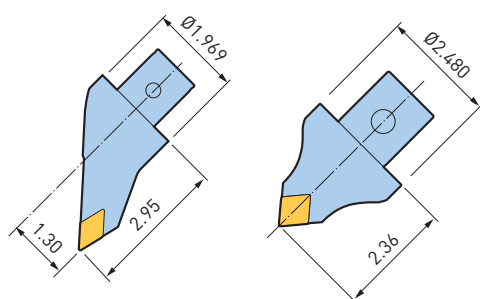
Catalog Number	f
F50	1.378
F63	1.772



F TYPE CARTRIDGE PG. 345

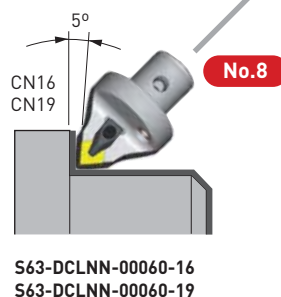
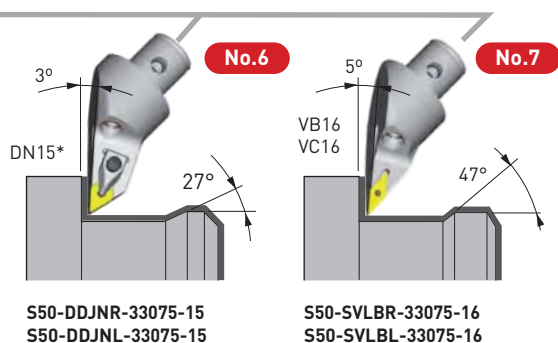
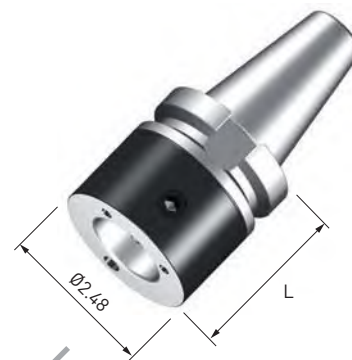


TURNING TOOLS BBT SYSTEM



S TYPE PG. 320 BASIC HOLDER

Catalog Number	L
BBT40M-S63-65	2.56
BBT50M-S63-110	4.33



Internal Boring Bar
Internal Threading Tool

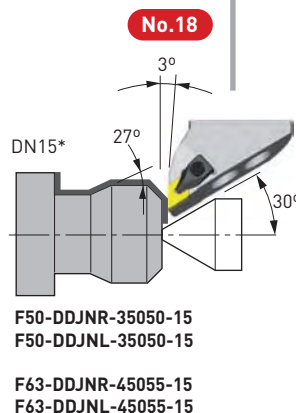
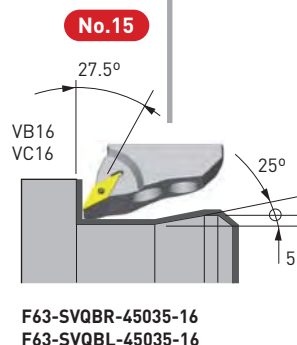


SIDE LOCK HOLDER PG. 323 For Boring Bar

Square Tool



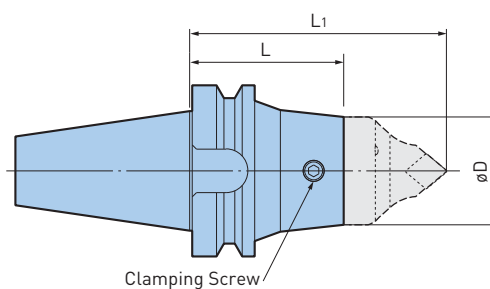
SQUARE TOOL HOLDERS PG. 322



TURNING TOOLS

BASIC HOLDER (BBT 45° S TYPE)

45° S Type Modular Tooling System for Turning Applications



Catalog Number	Type	øD	L	L1	Locking Screw
BBT40M-S50-75	S50	1.969	2.953	4.92	CK5S
BBT40M-S63-65	S63	2.480	2.559		CK6S
BBT50M-S50-120	S50	1.969	4.724	6.69	CK5S
BBT50M-S63-110	S63	2.480	4.331		CK6S

- Clamping screw is included

ACCESSORIES



TURNING TOOLS

BASIC HOLDER (BBT 90° F TYPE)

90° F Type Modular Tooling System for Turning Applications

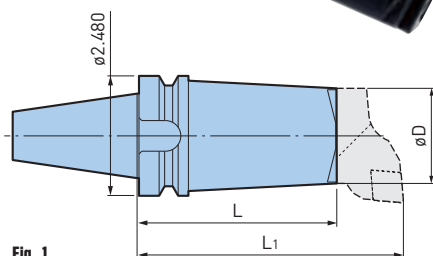


Fig. 1

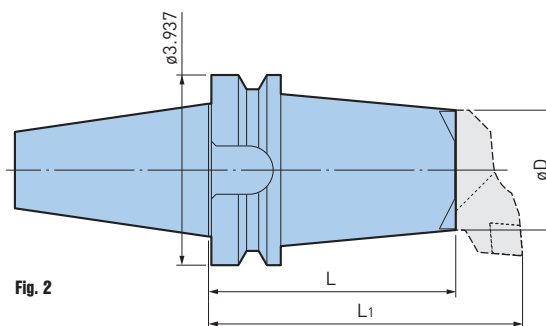


Fig. 2



Catalog Number	Type	Fig.	ϕD	L	L ₁
BBT40M-F50-75	F50	1	1.969	2.953	4.33
BBT40M-F50-105				4.134	5.51
BBT50M-F63-70	F63	2	2.480	2.756	4.13
BBT50M-F63-130				5.118	6.50

- Wrench must be ordered separately
- Basic Holders include M10x22L and M10x25L screws for clamping cartridges
- In case the coolant supply only from 1 of 2 coolant nozzles is required, use the flat head screw (M5 x 102)

ACCESSORIES



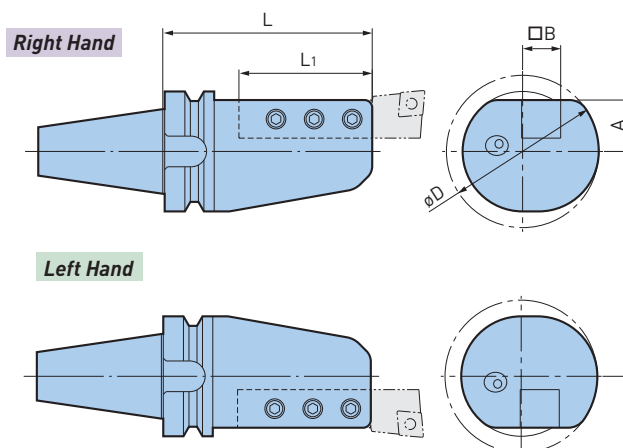
TURNING TOOLS

SQUARE HOLDER (BBT)

For Square Holder Turning Applications



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT

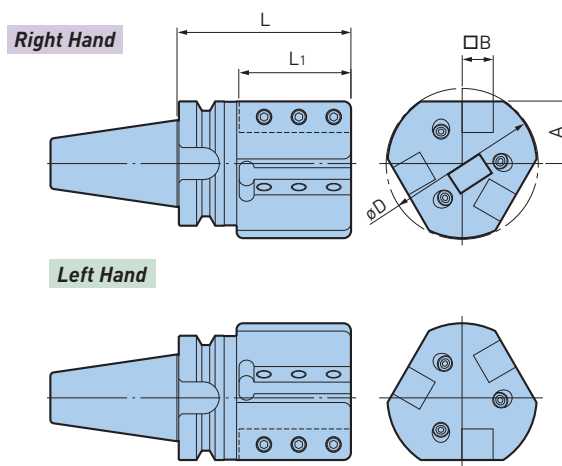


Catalog Number	Hand	B	L	L1	A	D	Weight (lbs)
BBT40M-180-BH20R-110	R	20mm	4.33	2.76	1.06	3.15	6.2
BBT40M-180-BH20L-110	L						
BBT40M-180-BH25R-130	R	25mm	5.12	3.54	1.24	3.54	8.2
BBT40M-180-BH25L-130	L						
BBT50M-180-BH25R-140	R	25mm	5.51	3.54	1.97	4.72	16.6
BBT50M-180-BH25L-140	L						

MILL-TURN A.7



BIG-PLUS
SPINDLE SYSTEM
DUAL CONTACT



Catalog Number	Hand	B	L	L1	A	D	Weight (lbs)
BBT40M-180-3BH20R-110	R	20mm	4.33	2.76	1.38	3.54	7.5
BBT40M-180-3BH20L-110	L	20mm	4.33	2.76	1.38	3.54	
BBT50M-180-3BH25R-140	R	25mm	5.51	3.54	1.97	4.72	20.9
BBT50M-180-3BH25L-140	L						

CAUTION ⚠

60 degree indexing is required to the machine tool spindle.

TURNING TOOLS

BORING BAR HOLDER (BBT)

CLAMPING RANGE: $\varnothing 8$ -50mm

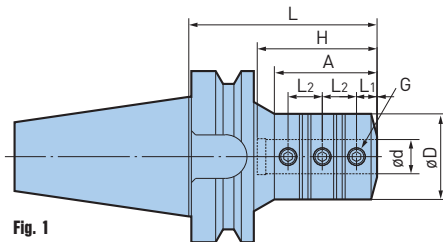


Fig. 1

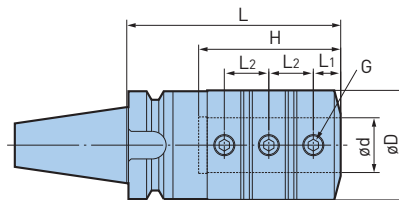


Fig. 2



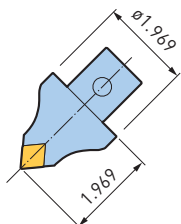
Catalog Number	Fig.	$\varnothing d$	$\varnothing D$	L	L ₁	L ₂	H	A	G
BBT40M-BSL8-75	1	8mm	.984	2.95	.236	.394	1.57	1.57	M6 P1.0
BBT40M-BSL10-80		10mm	1.142	3.15	.315	.472	1.97	1.77	M8 P1.0
BBT40M-BSL12-90		12mm	1.339	3.54	.315	.630	2.17	2.09	M8 P1.0
BBT40M-BSL16-100		16mm	1.575	3.94	.394	.827	2.68	2.56	M10 P1.25
BBT40M-BSL20-100		20mm	1.969	3.94	.472	.787	2.76	2.64	M10 P1.25
BBT40M-BSL25-110		25mm	2.165	4.33	.551	.906	2.91	3.27	M12 P1.5
BBT40M-BSL32-125	2	32mm	2.520	4.92	.630	1.024	3.27	—	M12 P1.5
BBT40M-BSL40-150		40mm	3.150	5.91	.709	1.260	3.86	—	M16 P1.5
BBT50M-BSL16-105	1	16mm	1.575	4.13	.394	.827	2.68	2.40	M10 P1.25
BBT50M-BSL20-110		20mm	1.969	4.33	.472	.787	2.76	2.36	M10 P1.25
BBT50M-BSL25-120		25mm	2.165	4.72	.551	.906	2.91	2.76	M12 P1.5
BBT50M-BSL32-125		32mm	2.520	4.92	.630	1.417	3.27	3.15	M12 P1.5
BBT50M-BSL40-135		40mm	3.150	5.31	.709	1.260	3.86	3.58	M16 P1.5
BBT50M-BSL50-145		50mm	3.543	5.71	.709	1.417	4.53	4.02	M16 P1.5

- Plug A and Plug B are included
- Interchangeable between center-through and side-through coolant supply by using plugs

TURNING TOOLS HSK SYSTEM (ISO 12164-3)

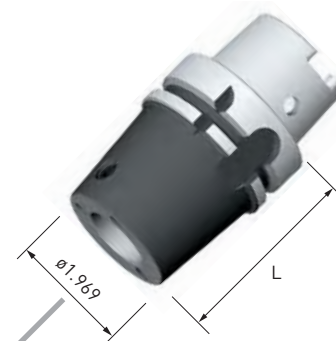
45°

*When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional)

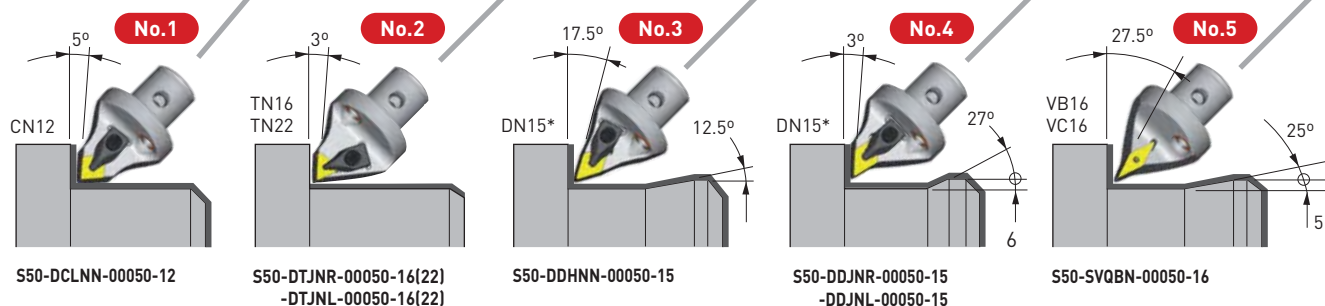


S TYPE BASIC HOLDER

Catalog Number	L
HSK-T50-S50-60	2.36
HSK-T63-S50-60	2.36
HSK-T63-S50-75	2.95
HSK-T63-S50-100	3.93
HSK-T100-S50-115	4.53



S TYPE CARTRIDGE

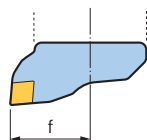


90°

*When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional)

F TYPE CARTRIDGE

Catalog Number	F
F63	1.77



F TYPE BASIC HOLDER

Catalog Number	L
HSK-T63-F63-50	1.97
HSK-T63-F63-75	2.95
HSK-T63-F63-100	3.94
HSK-T63-F63-130	5.12
HSK-T63-F63-170	6.69
HSK-T100-F63-100	3.94
HSK-T100-F63-150	5.91

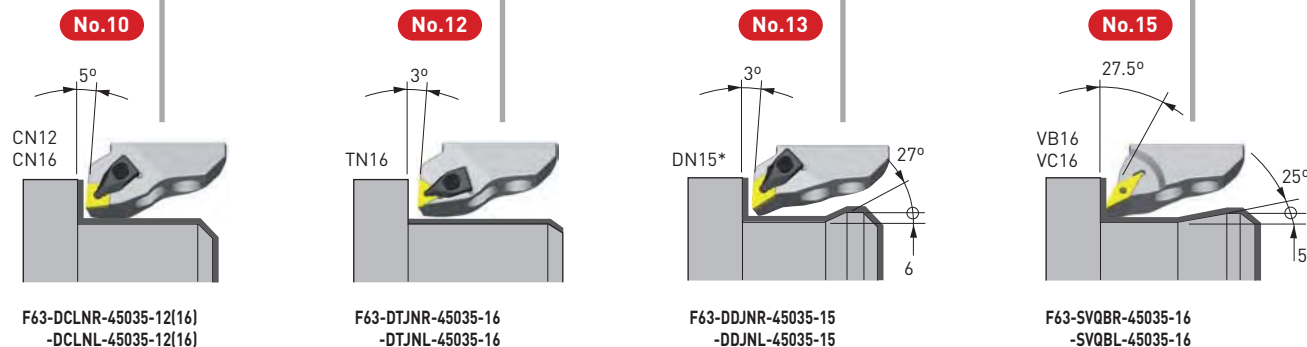


S TYPE BASIC HOLDER

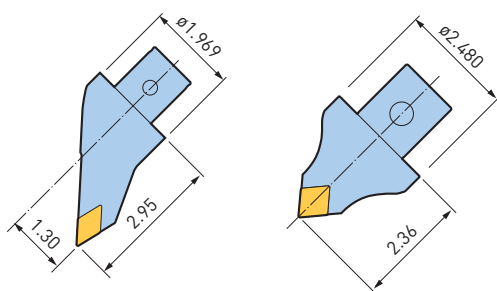
S TYPE CARTRIDGE

- No.1
- No.3
- No.5
- No.8

F TYPE CARTRIDGE

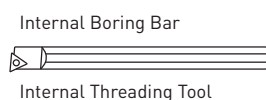
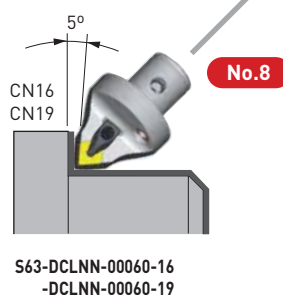
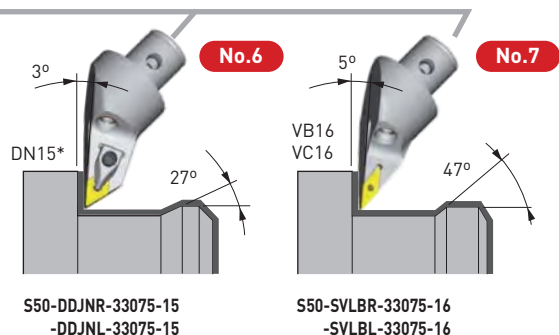
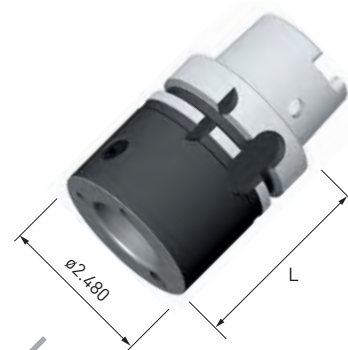


TURNING TOOLS HSK SYSTEM (ISO 12164-3)



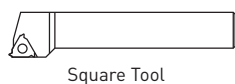
S TYPE BASIC HOLDER

Catalog Number	L
HSK-T63-S63-70	2.76
HSK-T63-S63-90	3.94
HSK-T100-S63-105	4.13

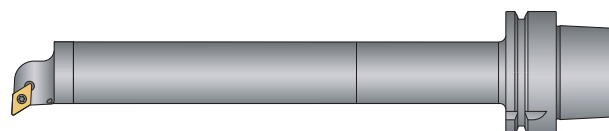
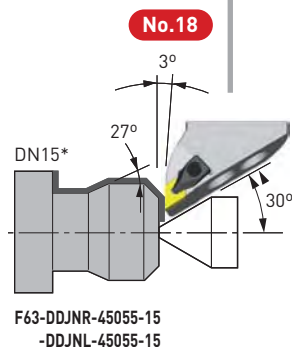


SIDE LOCK HOLDER

For Boring Bar



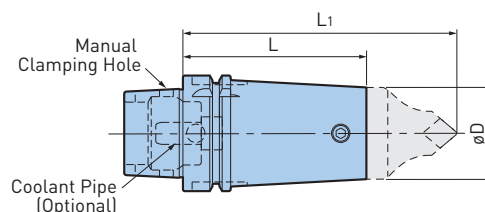
SQUARE TOOL HOLDERS



TURNING ADAPTERS

TURNING TOOLS

BASIC HOLDER (HSK-T 45° S TYPE) Modular Tooling System for Turning Applications



Catalog Number	Type	øD	L	L1	Locking Screw
HSK-T50-S50-60	S50	1.967	2.362	4.331	CK5S
HSK-T63-S50-60	S50	1.969	2.362	4.331	CK5S
HSK-T63-S50-75			2.953	4.921	
HSK-T63-S50-100			3.937	5.906	
HSK-T63-S63-70	S63	2.480	2.756	5.118	CK6S
HSK-T63-S63-90			3.543	5.906	
HSK-T100-S50-115	S50	1.969	4.528	6.496	CK5S
HSK-T100-S63-105	S63	2.480	4.134	6.496	CK6S

ACCESSORIES



- Clamping screw is included, coolant pipe must be ordered separately

BASIC HOLDER (HSK-T 90° F TYPE) Modular Tooling System for Turning Applications

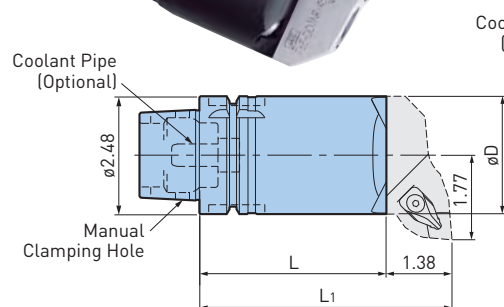


Fig. 1 (HSK-T63)

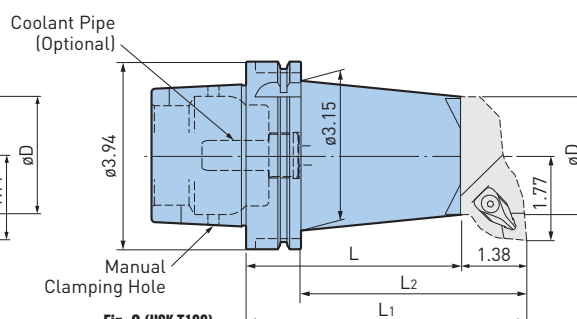


Fig. 2 (HSK-T100)

Catalog Number	Type	Fig.	øD	L	L1	L2
HSK-T63-F63-50	F63	1	2.480	1.969	3.346	—
HSK-T63-F63-75				2.953	4.331	
HSK-T63-F63-100				3.937	5.315	
HSK-T63-F63-130				5.118	6.496	
HSK-T63-F63-170				6.693	8.071	
HSK-T100-F63-100	F63	2	2.480	3.937	5.315	4.133
HSK-T100-F63-150				5.906	7.283	6.102

ACCESSORIES



- Coolant pipe and wrench must be ordered separately
- Basic Holders include M10x22L and M10x25L screws for clamping cartridges
- In case the coolant supply only from 1 of 2 coolant nozzles is required, use the flat head screw (M5 x 102)

TURNING TOOLS

SMART DAMPER TURNING ADAPTERS (HSK-T)

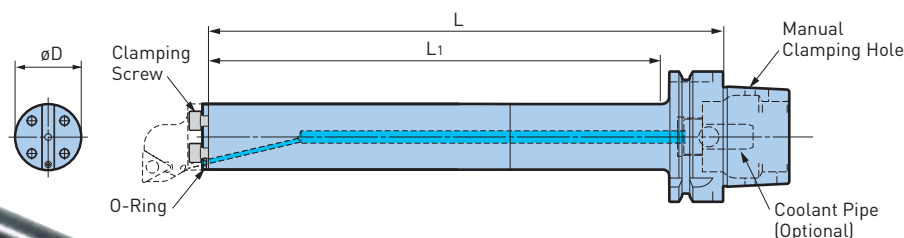
Unique Dynamic Damper Eliminates Chatter



ANTI-VIBRATION



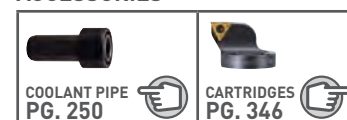
PATENT #
9027720



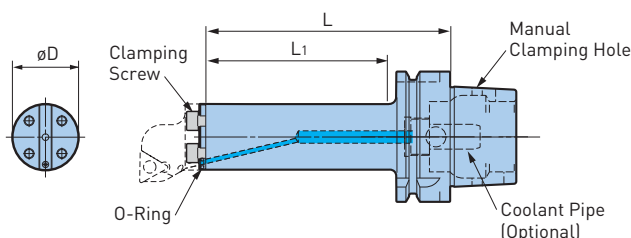
Catalog Number	Cartridge	øD	Minimum Bore Diameter	L	L ₁	Clamp Bolt (1 pc.)	O-Ring Set (2 pcs.)	Weight (lbs)
HSK-T63-SDB40DP-172	B32-□	1.26	1.57	6.77	5.71	C0510(M5×10L)	SDB20 OR-2P	4.0
HSK-T63-SDB40DP-250				9.84	8.62			5.1
HSK-T63-SDB50DP-235	B40-□	1.57	1.97	9.25	8.03	C0610(M6×10L)		7.3
HSK-T63-SDB50DP-315				12.40	11.18			8.8

- Clamping screws (3 pcs.) and O-rings (2 pcs.) are included
- Cartridges, inserts and coolant pipe must be ordered separately
- Coolant through is standard for all models

ACCESSORIES



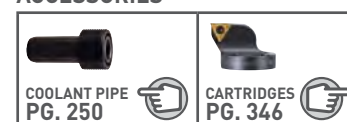
TURNING ADAPTERS (HSK-T)



Catalog Number	Cartridge	øD	Minimum Bore Diameter	L	L1	Clamp Bolt (1 pc.)	O-Ring Set (2 pcs.)	Weight (lbs)
HSK-T63-TAD40-125	B32-□	1.26	1.57	4.92	3.70	C0510(M5x10L)	SDB20 OR-2P	2.6
HSK-T63-TAD50-155	B40-□	1.57	1.97	6.10	4.88	C0610(M6x10L)		4.0

- Clamping screws (3 pcs.) and O-rings (2 pcs.) are included
- Cartridges, inserts and coolant pipe must be ordered separately
- Coolant through is standard for all models

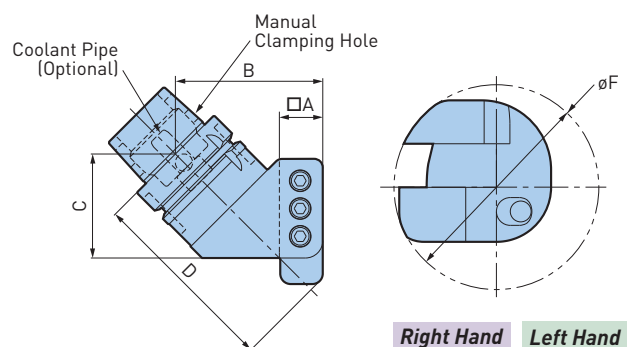
ACCESSORIES



TURNING TOOLS

SQUARE HOLDER (HSK-T)

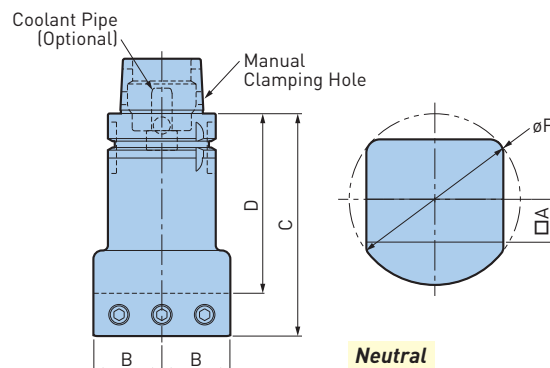
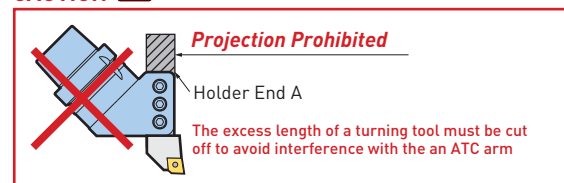
For Turning Applications



45° (ISO 12164-3)

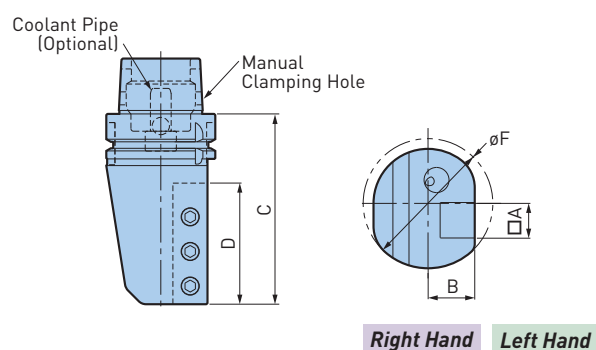
Catalog Number	Hand	A	B	C	D	ØF
HSK-T63-45-BH25R-110	R	25mm	3.35	2.36	4.33	4.65
HSK-T63-45-BH25L-110	L					

CAUTION



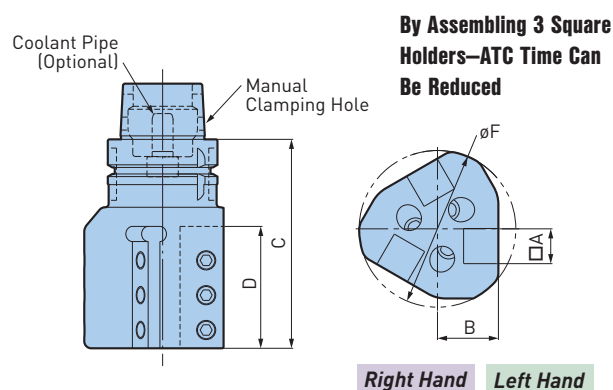
90° (ISO 12164-3)

Catalog Number	Hand	A	B	C	D	ØF
HSK-T63-90-BH20N-85	N	20mm	1.26	3.35	2.36	3.15
HSK-T63-90-BH25N-100		25mm	1.57	3.94	2.95	3.94
HSK-T63-90-BH25N-130				5.12	4.13	
HSK-T100-90-BH25N-150	N	25mm	2.17	5.91	4.92	5.04



180°

Catalog Number	Hand	□A	B	C	D	øF	
HSK-T63-180-BH20R-120	R	20mm	1.06	4.72	2.76	2.95	
HSK-T63-180-BH20L-120	L						
HSK-T63-180-BH25R-125	R	25mm	1.16	4.92	3.15	3.54	
HSK-T63-180-BH25L-125	L						
HSK-T100-180-BH25R-140	R	25mm	1.97	5.51	3.54	4.72	
HSK-T100-180-BH25L-140	L			7.09	4.53		
HSK-T100-180-BH25R-180	R						
HSK-T100-180-BH25L-180	L						



180° Multi Type

Catalog Number	Hand	A	B	C	D	ØF
HSK-T63-180-3BH20R-120	R	20mm	1.38	4.72	2.76	3.54
HSK-T63-180-3BH20L-120	L					
HSK-T63-180-3BH25R-125	R	25mm	1.77	4.92	3.15	4.33
HSK-T63-180-3BH25L-125	L					

CAUTION

60° indexing capability is required for the machine spindle.

TURNING TOOLS

BORING BAR HOLDER (HSK-T) CLAMPING RANGE: $\phi 6$ -50mm

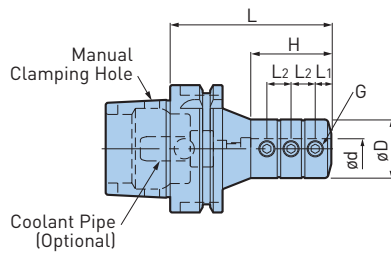


Fig. 1

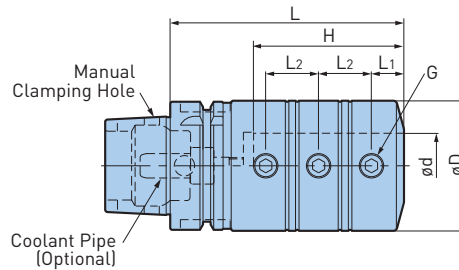


Fig. 2

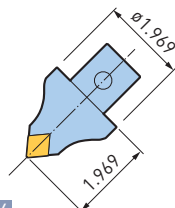
Catalog Number	Fig.	ød	øD	L	L1	L2	H	G	Weight (lbs)
HSK-T63-BSL6-70	1	6mm	.906	2.76	.197	.315	.95	M5 P0.8	2.0
HSK-T63-BSL8-75		8mm	.984	2.95	.236	.394	1.26	M6 P1.0	2.0
HSK-T63-BSL10-80		10mm	1.142	3.15	.315	.472	1.58	M8 P1.0	2.0
HSK-T63-BSL12-85		12mm	1.339	3.35		.630	1.77		2.4
HSK-T63-BSL16-80❖		16mm	1.575	3.15	.394	.827	1.61	M10 P1.25	2.4
HSK-T63-BSL16-100				3.94			2.36		2.9
HSK-T63-BSL20-80❖	2	20mm	1.969	3.15	.472	.787	1.61		3.1
HSK-T63-BSL20-100				3.94			2.36		3.5
HSK-T63-BSL25-85❖		25mm	2.165	3.35	.551	.906	1.85	M12 P1.5	3.3
HSK-T63-BSL25-110				4.33			2.64		4.0
HSK-T63-BSL32-90❖	32mm	2.520	3.54	.630	1.024	1.93	4.2		
HSK-T63-BSL32-125			4.92			2.91	5.7		
HSK-T63-BSL40-105❖	40mm	3.150	4.13	.709	1.260	2.40	M16 P1.5	6.4	
HSK-T63-BSL40-145			5.71			3.58		8.8	
HSK-T63-BSL50-145			50mm		3.543	5.71	1.181	3.46	M16 P1.5
HSK-T100-BSL16-105	1	16mm	1.575	4.13	.394	.827	2.36	M10 P1.25	6.0
HSK-T100-BSL20-110		20mm	1.969	4.33	.472	.787			7.1
HSK-T100-BSL25-120		25mm	2.165	4.72	.551	.906	2.64	M12 P1.5	7.7
HSK-T100-BSL32-125		32mm	2.520	4.92	.630	1.024	2.91		8.8
HSK-T100-BSL40-135		40mm	3.150	5.32	.709	1.260	3.54	M16 P1.5	11.5
HSK-T100-BSL50-145	2	50mm	3.543	5.71		1.339	3.78	M16 P1.5	13.4

- Plug A and Plug B are included
- Interchangeable between center-through and side-through coolant supply by using plugs
- BSL sleeve cannot be used with models marked ❖

TURNING TOOLS BIG CAPTO SYSTEM

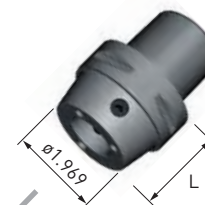
45°

*When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional)



S TYPE BASIC HOLDER

Catalog Number	L
C5-S50-40	1.57
C5-S50-55	2.17
C5-S50-75	2.95
C6-S50-45	1.77
C6-S50-75	2.95
C6-S50-100	3.64
C8-S50-135	5.31



S TYPE CARTRIDGE

No.1

S50-DCLNN-00050-12

• Cartridge mono-block holders are also available

No.2

S50-DTJNR-00050-16
-DTJNL-00050-16
S50-DTJNR-00050-22
-DTJNL-00050-22

No.3

S50-DDHNN-00050-15

• Cartridge mono-block holders are also available

No.4

S50-DDJNR-00050-15
-DDJNL-00050-15

No.5

S50-SVQBN-00050-16

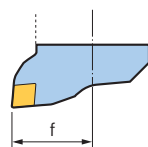
• Cartridge mono-block holders are also available

90°

*When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional)

F TYPE CARTRIDGE

Catalog Number	f
F50	1.38
F63	1.77



F TYPE BASIC HOLDER

Catalog Number	L
C5-F50-25	.98
C5-F50-50	1.97
C5-F50-85	3.35
C5-F50-125	4.92

F TYPE BASIC HOLDER

Catalog Number	L
C6-F63-30	1.18
C6-F63-75	2.95
C6-F63-100	3.94
C6-F63-130	5.12
C6-F63-170	6.69
C8-F63-45	1.77
C8-F63-100	3.94
C8-F63-130	5.12
C8-F63-170	6.69



S TYPE BASIC HOLDER

S TYPE CARTRIDGE



- No.1**
- No.3**
- No.5**
- No.8**

F TYPE CARTRIDGE

No.10

F50-DCLNR-35035-12(16)
-DCLNL-35035-12(16)
F63-DCLNR-45035-12(16)
-DCLNL-45035-12(16)

No.12

F50-DTJNR-35035-16
-DTJNL-35035-16
F63-DTJNR-45035-16
-DTJNL-45035-16

No.13

F50-DDJNR-35035-15
-DDJNL-35035-15
F63-DDJNR-45035-15
-DDJNL-45035-15

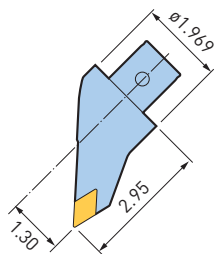
No.15

F63-SVQBR-45035-16
-SVQBL-45035-16

TURNING TOOLS BIG CAPTO SYSTEM

MONO BLOCK HOLDER

PG. 334

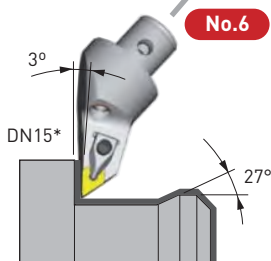
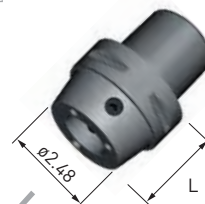
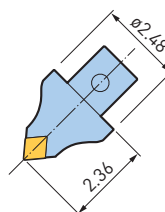


S TYPE

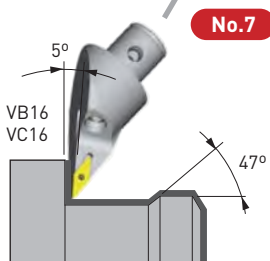
PG. 332

BASIC HOLDER

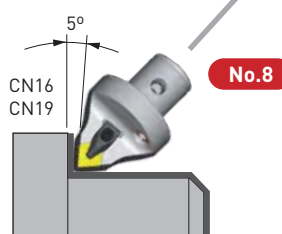
Catalog Number	L
C6-S63-90	3.34
C8-S63-125	4.92



S50-DDJNR-33075-15
-DDJNL-33075-15



S50-SVLBR-33075-16
-SVLBL-33075-16



S63-DCLNN-00060-16
-DCLNN-00060-19

• Cartridge mono-block holders are also available



SQUARE TOOL HOLDERS

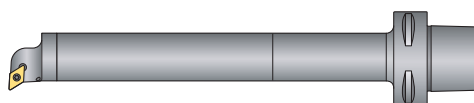
PG. 336



SIDE LOCK HOLDER

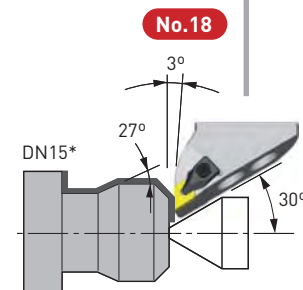
PG. 339

For Boring Bar



TURNING ADAPTERS

PG. 333

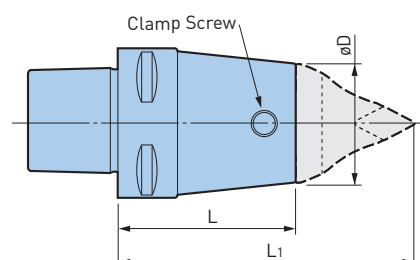


F50-DDJNR-35050-15
-DDJNL-35050-15
F63-DDJNR-45055-15
-DDJNL-45055-15

TURNING TOOLS

BASIC HOLDER (BIG CAPTO 45° S TYPE)

45° S Type Modular Tooling System for Turning Applications



Catalog Number	øD	L	L1	Locking Screw
C5-S50-40	1.969	1.575	3.54	CK5S
C5-S50-55		2.165	4.13	
C5-S50-75		2.953	4.92	
C6-S50-45	1.969	1.772	3.74	CK5S
C6-S50-75		2.953	4.92	
C6-S50-100		3.937	5.91	
C6-S63-90	2.480	3.543	5.91	CK6S
C8-S50-135	1.969	5.315	7.28	CK5S
C8-S63-125	2.480	4.921	7.28	CK6S

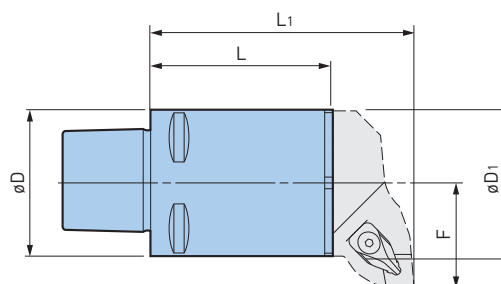
• Clamping screw is included

ACCESSORIES



BASIC HOLDER (BIG CAPTO 90° F TYPE)

90° F Type Modular Tooling System for Turning Applications



Catalog Number	øD	øD1	L	L1	F
C5-F50-25	1.969	1.969	.984	2.36	1.378
C5-F50-50			1.969	3.35	
C5-F50-85			3.345	4.72	
C5-F50-125			4.921	6.30	
C6-F63-30	2.480	2.480	1.181	2.56	1.772
C6-F63-75			2.953	4.33	
C6-F63-100			3.937	5.31	
C6-F63-130			5.118	6.50	
C6-F63-170			6.693	8.07	
C8-F63-45	3.150	2.480	1.772	3.15	1.772
C8-F63-100			3.937	5.31	
C8-F63-130			5.118	6.50	
C8-F63-170			6.693	8.07	

ACCESSORIES



- Wrench must be ordered separately
- Basic Holders include M10 P22L and M10 P25L screws for clamping cartridges
- In case the coolant supply only from 1 of 2 coolant nozzles is required, use the flat head screw [M5 P102]

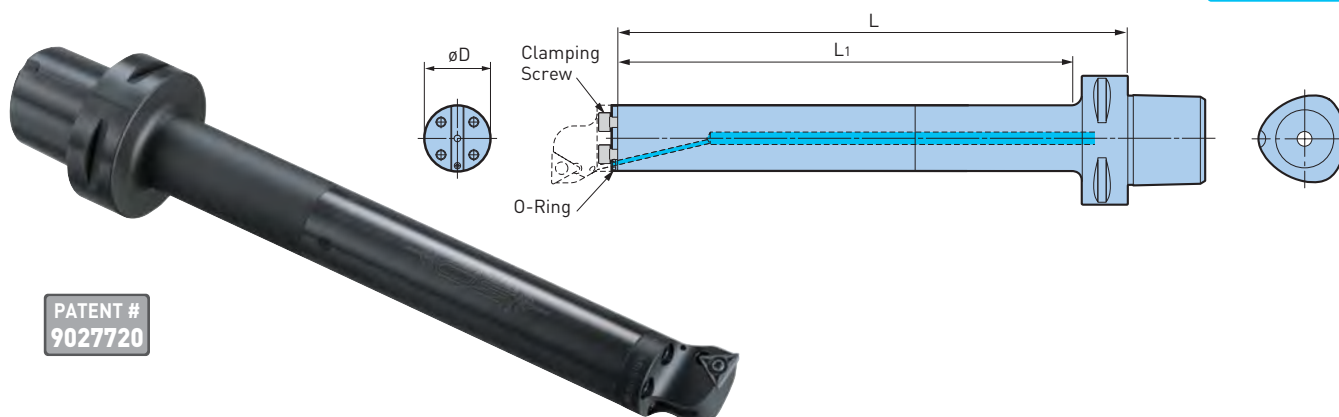
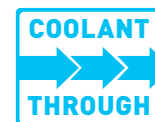
TURNING TOOLS

SMART DAMPER TURNING ADAPTERS (BIG CAPTO)

Unique Dynamic Damper Eliminates Chatter



ANTI-VIBRATION



PATENT #
9027720

Catalog Number	Cartridge	øD	Minimum Bore Diameter	L	L ₁	Clamp Bolt (1 pc.)	O-Ring Set (2 pcs.)	Weight (lbs)
C6-SDB40DP-168	B32-□	1.26	1.57	6.61	5.71	C0510(M5×10L)	SDB20 OR-2P	4.2
C6-SDB40DP-245				9.32	8.58			5.3
C6-SDB50DP-230	B40-□	1.57	1.97	9.06	7.99	C0610(M6×10L)		7.5
C6-SDB50DP-310				12.20	11.14			9.0

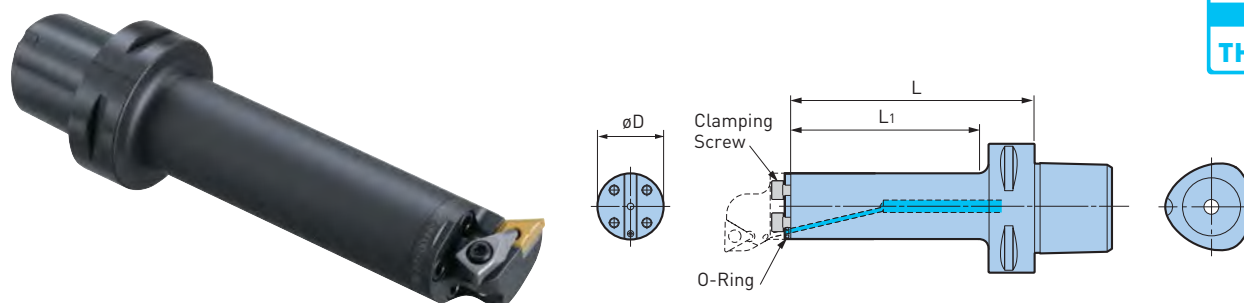
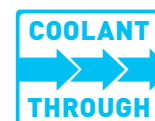
- Clamping screws (3 pcs.) and O-rings (2 pcs.) are included
- Cartridges, inserts and coolant pipe must be ordered separately
- Coolant through is standard for all models

ACCESSORIES



A.7 MILL-TURN

TURNING ADAPTERS (BIG CAPTO)



Catalog Number	Cartridge	øD	Minimum Bore Diameter	L	L ₁	Clamp Bolt (1 pc.)	O-Ring Set (2 pcs.)	Weight (lbs)
C6-TAD40-120	B32-□	1.26	1.57	4.72	3.66	C0510(M5×10L)	SDB20 OR-2P	2.9
C6-TAD50-150	B40-□	1.57	1.97	5.91	4.87	C0610(M6×10L)		4.2

- Clamping screws (3 pcs.) and O-rings (2 pcs.) are included
- Cartridges, inserts and coolant pipe must be ordered separately
- Coolant through is standard for all models

ACCESSORIES



TURNING TOOLS

INTEGRAL MODEL (BIG CAPTO)

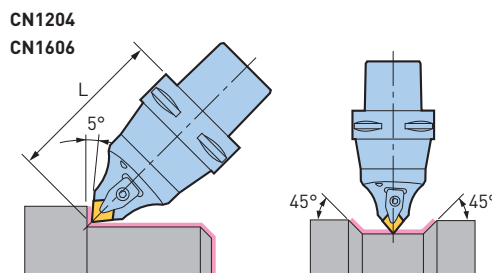


Fig. 1 **Neutral**

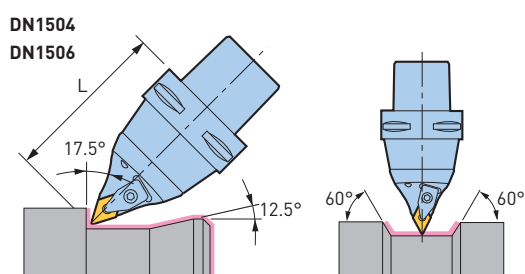


Fig. 2 **Neutral**

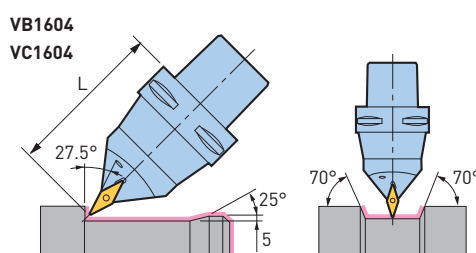


Fig. 3 **Neutral**

Catalog Number	Entering Angle	Hand	Fig.	L	Insert	Clamp Piece	Weight (lbs.)
C4-DDHNN-00075-15	107.5°	N	2	2.953	*DN1504 (DN1506) Rhombic 55°	CP2	1.2
C5-DCLNN-00105-12	95°	N	1	4.134	CN1204 Rhombic 80°	CP2	2.9
C5-DCLNN-00105-16					CN1606 Rhombic 80°	CP3	3.1
C5-DDHNN-00105-15	107.5°	N	2	4.134	*DN1504 (DN1506) Rhombic 55°	CP2	2.9
C5-SVQBN-00105-16	117.5°		3		**VB1604 (VC1604) Rhombic 35°	***M3.5	2.4
C6-DCLNN-00115-12	95°	N	1	4.528	CN1204 Rhombic 80°	CP2	4.2
C6-DCLNN-00115-16					CN1606 Rhombic 80°	CP3	4.4
C6-DDHNN-00115-15	107.5°	N	2	4.528	*DN1504 (DN1506) Rhombic 55°	CP2	4.2
C6-SVQBN-00115-16	117.5°		3		**VB1604 (VC1604) Rhombic 35°	***M3.5	3.7
C8-DCLNN-00150-12	95°	N	1	5.906	CN1204 Rhombic 80°	CP2	8.8
C8-DCLNN-00150-16					CN1606 Rhombic 80°	CP3	9.0
C8-DDHNN-00150-15	107.5°	N	2		*DN1504 (DN1506) Rhombic 55°	CP2	8.8

*DN1504 (3/16" thickness) carbide shim is included as standard, in case of DN1506 insert (1/4" thickness), please replace the standard carbide shim with DNS1506 (option)

**Either VB1604 or VC1604 insert can be mounted

***M3.5 is screw-on type

- Insert must be ordered separately
- Accepts standard ISO inserts

ACCESSORIES

 CLAMP PIECE PG. 348	 SCREW PG. 348	 SPRING PG. 348	 CLAMP SCREW SET PG. 349	 INSERT CLAMPING SCREW SET PG. 349

TURNING TOOLS

INTEGRAL MODEL (BIG CAPTO)

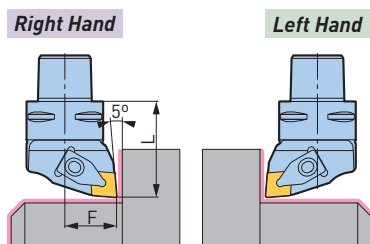


Fig. 1

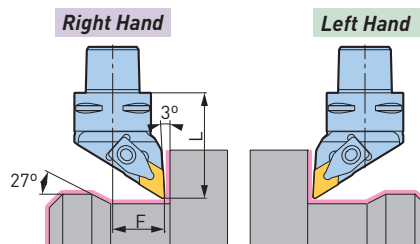


Fig. 2

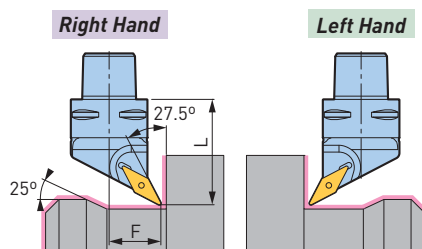


Fig. 3

Catalog Number	Entering Angle	Hand	Fig.	L	F	Insert	Clamp Piece	Weight (lbs.)
C3-DCLNR-22038-09	95°	R	1	1.50	.866	CN0903	CP7	.4
C3-DCLNL-22038-09		L						
C3-DDJNR-22045-11	93°	R	2	1.77	.866	DN1104	CP7	.4
C3-DDJNL-22045-11		L						
C3-SVQBR-22038-11	117.5°	R	3	1.50	.866	VB1103	M2.5	.4
C3-SVQBL-22038-11		L						
C4-DCLNR-27050-12	95°	R	1	1.97	1.063	CN1204	CP2	1.0
C4-DCLNL-27050-12		L						
C4-DDJNR-27055-15	93°	R	2	2.17	1.063	DN1504	CP2	.9
C4-DDJNL-27055-15		L						
C4-SVQBR-27055-16	117.5°	R	3	2.17	1.063	VB1604	M3.5	.9
C4-SVQBL-27055-16		L						

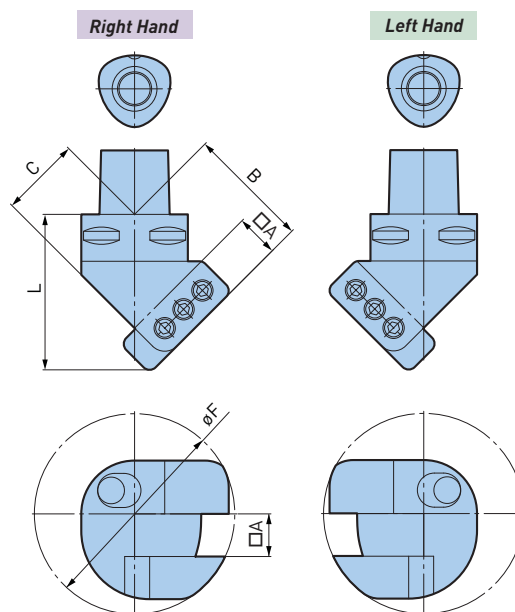
ACCESSORIES

 CLAMP PIECE PG. 348	 SCREW PG. 348	 SPRING PG. 348	 CLAMP SCREW SET PG. 349	 INSERT CLAMPING SCREW SET PG. 349

TURNING TOOLS

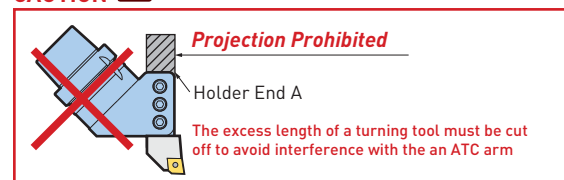
SQUARE HOLDER (BIG CAPTO)

For Square Holder Turning Applications



Catalog Number	Hand	A	B	C	L	ØF	Weight (lbs.)
C5-45-BH20R-5838	R	20mm	2.28	1.50	2.87	3.70	2.6
C5-45-BH20L-5838	L						
C6-45-BH1.000R-3.25	R	1.000	2.80	1.81	4.33	4.65	5.5
C6-45-BH1.000L-3.25	L						
C6-45-BH25R-7752	R	25mm	3.03	2.05	3.94	4.65	5.5
C6-45-BH25L-7752	L						
C8-45-BH32R-85109	R	32mm	3.35	4.29	5.71	5.31	17.0
C8-45-BH32L-85109	L						

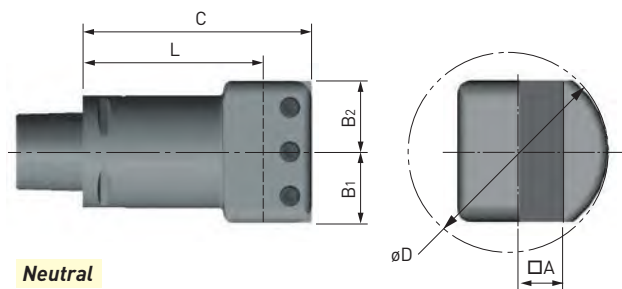
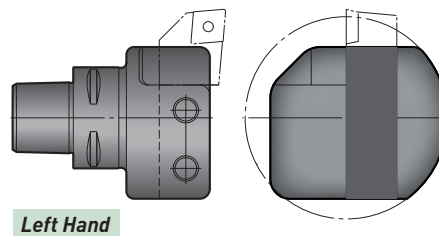
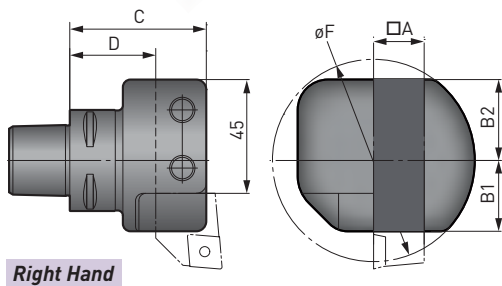
CAUTION



TURNING TOOLS

SQUARE HOLDER (BIG CAPTO)

For Square Holder Turning Applications



Catalog Number	Hand	□A	B1	B2	C	L	øD	Weight (lbs.)
C3-90-BH16R-2547	R	16mm	1.06	.98	1.85	1.22	2.76	1.3
C3-90-BH16L-2547	L							
C4-90-BH20R-2854	R	20mm	1.26	1.10	2.13	1.34	3.15	2.1
C4-90-BH20L-2854	L							
C5-90-BH20N-32058	N	20mm	1.26	1.26	2.28	1.50	3.15	2.0
C5-90-BH20N-32105					4.13	2.56		4.9
C6-90-BH20N-32060	N	20mm	1.26	1.26	2.36	1.57	3.15	5.3
C6-90-BH20N-32115					4.53	3.74		7.5
C6-90-BH1.000N-5.125	N	1.000	1.58	1.58	5.12	4.12	3.94	9.3
C6-90-BH25N-40071		25mm	1.57	1.57	2.80	1.81		7.3
C6-90-BH25N-40130	N				5.12	4.13	3.94	9.3
C8-90-BH25N-40071	N	32mm	.98	1.58	2.80	1.81	5.04	7.5
C8-90-BH32N-51085			2.01	2.01	2.56	2.09		13.2
C8-90-BH32N-51165					6.50	5.24		19.2

TURNING TOOLS

SQUARE HOLDER

For Turning Applications

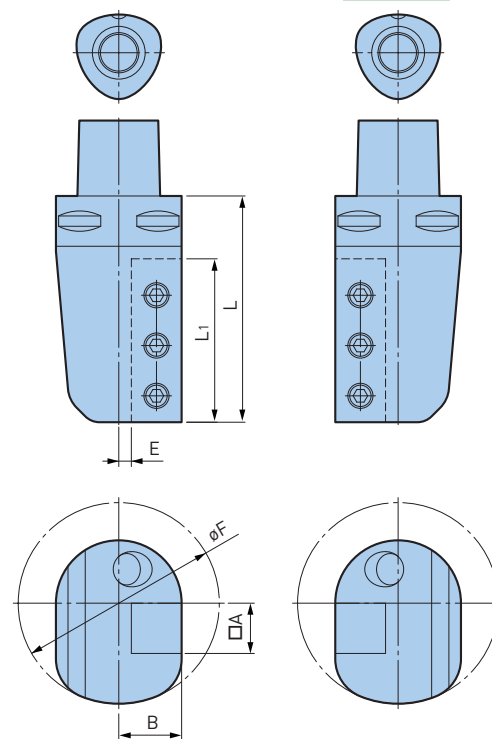


(BIG CAPTO 180° TYPE)

Catalog Number	Hand	□A	B	L	L ₁	E	øF	Weight (lbs.)
C3-180-BH16R-2058	R	16mm	.79	2.38	1.46	.16	2.56	1.3
C3-180-BH16L-2058	L							
C4-180-BH20R-2265	R	20mm	.87	2.56	1.57	.08	2.76	1.9
C4-180-BH20L-2265	L							
C5-180-BH20R-2590	R	20mm	.98	3.54	2.56	.20	3.15	3.5
C5-180-BH20L-2590	L							
C6-180-BH1.000R-4.375	R	1.000	1.16	4.33	3.15	.24	3.94	6.8
C6-180-BH1.000L-4.375	L							
C6-180-BH20R-32100	R	20mm	1.24	3.94	2.56	.45	3.15	5.7
C6-180-BH20L-32100	L							
C6-180-BH25R-32120S	R	25mm	1.16	4.72	3.15	.18	3.54	6.8
C6-180-BH25L-32120S	L							
C8-180-BH25R-32120	R	25mm	1.50	4.72	3.23	.51	3.94	11.5
C8-180-BH25L-32120	L							
C8-180-BH32R-40125	R	32mm	1.57	4.92	3.35	.24	5.04	13.2
C8-180-BH32L-40125	L							

Right Hand

Left Hand



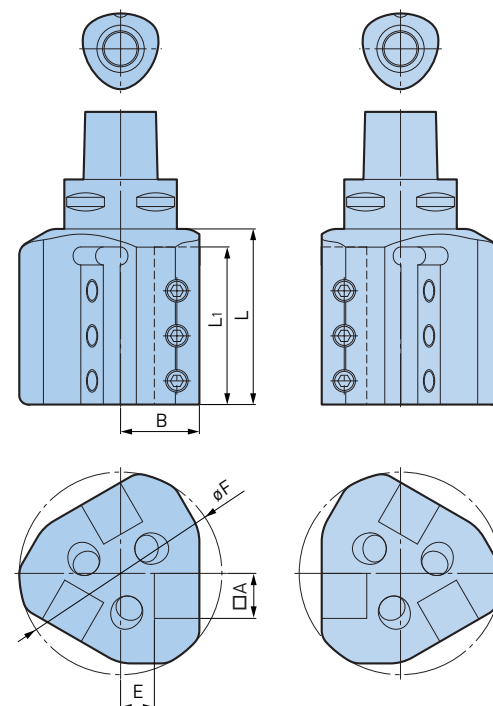
Right Hand

Left Hand



(BIG CAPTO 180° MULTI TYPE)

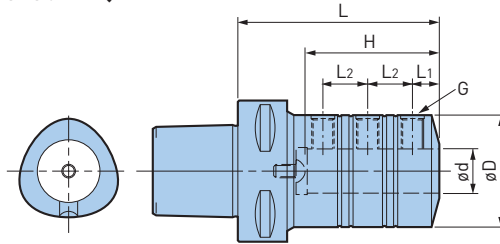
Catalog Number	Hand	□A	B	L	L ₁	E	øF	Weight (lbs.)
C5-180-3BH20R-100	R	20mm	1.38	3.94	2.76	.59	3.54	5.7
C5-180-3BH20L-100	L							
C6-180-3BH20R-110	R	20mm	1.38	4.33	2.76	.59	3.54	7.1
C6-180-3BH20L-110	L							
C6-180-3BH25R-125	R	25mm	1.77	4.91	3.15	.79	4.33	10.1
C6-180-3BH25L-125	L							
C8-180-3BH25R-130	R	25mm	1.77	5.12	3.54	.79	4.33	13.4
C8-180-3BH25L-130	L							



TURNING TOOLS

BORING BAR HOLDER (BIG CAPTO)

CLAMPING RANGE: ϕ .625"-1.500" (ϕ 6-50mm)



Catalog Number	ød	øD	L	L1	L2	Bore Depth H	G	Weight (lbs.)
C3-BSL 6-35	6mm	.906	1.38	.19	.35	.87	M5 P0.8	.4
C3-BSL 8-35	8mm	.984		.24	.39		M6 P1.0	.4
C3-BSL10-35	10mm	1.142		.31	.47		M6 P1.0	.2
C3-BSL12-40	12mm	1.339	1.57	.31	.47	1.06	M8 P1.0	.6
C4-BSL 6- 40	6mm	.906	1.57	.19	.35	.91	M5 P0.8	.7
C4-BSL 8- 40	8mm	.984		.24	.39		M6 P1.0	.7
C4-BSL10- 40	10mm	1.142		.31	.47		M6 P1.0	.7
C4-BSL12- 45	12mm	1.339	1.77	.31	.47	1.10	M8 P1.0	.8
C4-BSL16- 50	16mm	1.575	1.97	.39	.55	1.30	M10 P1.25	1.1
C4-BSL20- 60	20mm	1.969	2.36	.47	.59	1.69	M10 P1.25	1.6
C5-BSL6-70	6mm	.906	2.76	.20	.31	1.61	M5xP0.8	1.3
C5-BSL8-70	8mm	.984		.24	.39		M6xP1.0	1.3
C5-BSL10-70	10mm	1.142		.31	.47		M8xP1.0	1.3
C5-BSL12-80	12mm	1.339	3.15	.31	.63	2.09	M10xP1.25	1.8
C5-BSL16-90	16mm	1.575	3.54	.39	.83	2.56		2.2
C5-BSL20-90	20mm	1.969		.47	.79	2.36		2.9
C5-BSL25-100	25mm	2.165	3.94	.55	.91	2.76	M12xP1.5	3.5
C5-BSL32-110	32mm	2.520	4.33	.63	1.02	3.07		4.6
C5-BSL40-130	40mm	3.150	5.12	.71	1.26	3.66	M16xP1.5	8.1
C6-BSL.625-3.5	.625	1.575	3.50	.39	.83	2.56	M10xP1.25	3.7
C6-BSL.750-3.5	.750	1.969		.47	.79	2.36		4.4
C6-BSL1.000-4	1.000	2.165	4.00	.55	.91	2.76	M12xP1.5	5.1
C6-BSL1.250-4.5	1.250	2.520	4.50	.63	1.02	3.07		6.2
C6-BSL1.500-5	1.500	3.150	5.00	.71	1.26	3.66	M16xP1.5	9.5
C6-BSL6-70	6mm	.906	2.76	.20	.31	1.61	M5xP0.8	3.1
C6-BSL8-70	8mm	.984		.24	.39		M6xP1.0	2.9
C6-BSL10-70	10mm	1.142		.31	.47		M8xP1.0	2.9
C6-BSL12-80	12mm	1.339	3.15	.31	.63	2.09		3.3
C6-BSL16-90	16mm	1.575	3.54	.39	.83	2.56	M10xP1.25	3.7
C6-BSL20-90	20mm	1.969	3.94	.47	.87	2.36		4.4
C6-BSL25-100	25mm	2.165		.55	1.02	2.76	M12xP1.5	5.1
C6-BSL32-110	32mm	2.520		.63	1.18	3.07		6.2
C6-BSL40-130	40mm	3.150	5.12	.71	1.26	3.66	M16xP1.5	9.5
C6-BSL50-135	50mm	3.543	5.31	.71	1.18	3.46	M16 P1.5	9.9
C8-BSL16-90	16mm	1.575	3.54	.39	.83	2.56	M10xP1.25	6.4
C8-BSL20-100	20mm	1.969	3.94	.47	.87	2.76		7.3
C8-BSL25-110	25mm	2.165	4.33	.55	1.02	3.15	M12xP1.5	7.9
C8-BSL32-120	32mm	2.520	4.72	.63	1.18	3.46		9.0
C8-BSL40-130	40mm	3.150	5.12	.71	1.26	3.66	M16xP1.5	12.1
C8-BSL50-140	50mm	3.543	5.51	.71	1.42	4.13	M16 P1.5	11.9

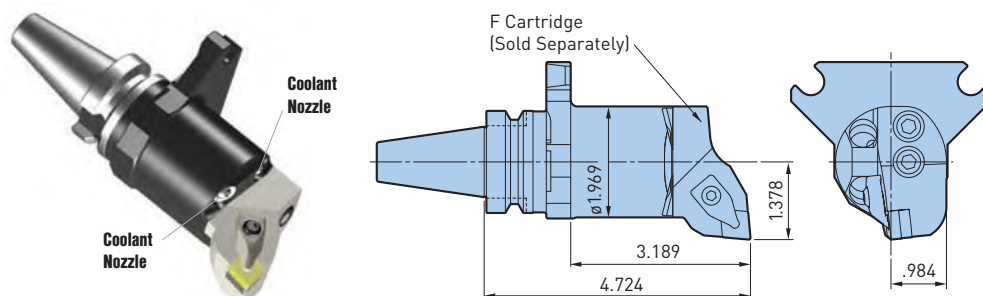
- Plug A and Plug B are included
- Interchangeable between center-through and side-through coolant supply by using plugs

TURNING TOOLS

TOOLING EXCLUSIVELY FOR THE BROTHER SPEEDIO (M200XD1/M200X3/M300XD1)

BASIC HOLDER (90° F TYPE)

For external turning



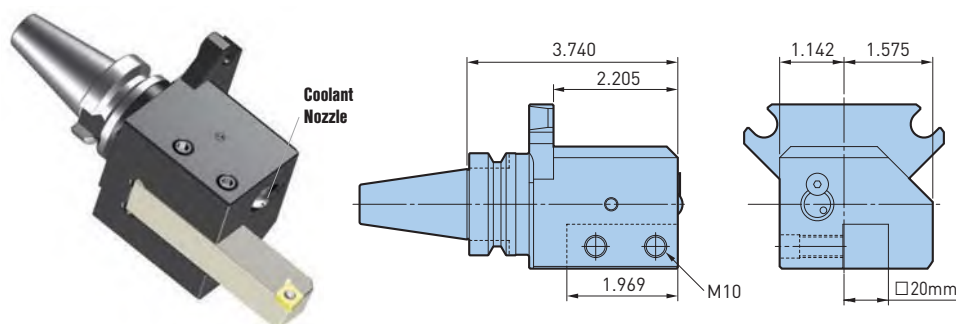
Catalog Number	Weight (lbs)
BBT30/BR-F50-85	4.0

- A variety of cartridges available according to the application

SQUARE TOOL HOLDER

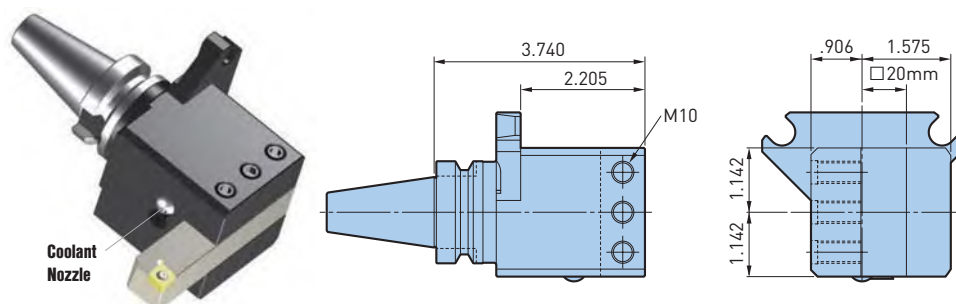
For external turning

(180° TYPE)



Catalog Number	Weight (lbs)
BBT30/BR-180-BH20L-95	4.9

(90° TYPE)

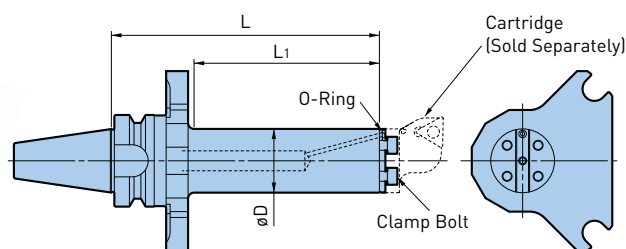


Catalog Number	Weight (lbs)
BBT30/BR-90-BH20N-95	5.1

TURNING TOOLS

TURNING ADAPTER

For internal turning

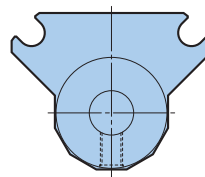
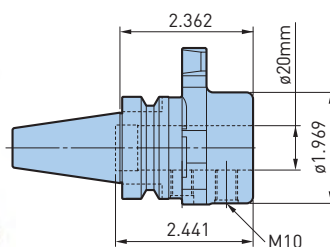


Catalog Number	Cartridge	øD	Minimum Bore Diameter	L	L1	Clamp Bolt (1 pc.)	O-Ring Set (2 pcs.)	Weight (lbs)
BBT30/BR-TAD40XR-135	B32-□	1.26	1.57	5.31	3.66	C0510(M5×10L)	SDB20 OR-2P	2.9
BBT30/BR-TAD50XR-168	B40-□	1.57	1.97	6.61	4.96	C0610(M6×10L)		4.4

- Clamp bolts (3 pieces) and O-rings (2 pieces) are included
- Cartridges and inserts are not included; must be ordered separately
- Coolant through is standard for all models

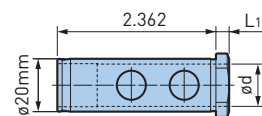
SIDE LOCK HOLDER FOR BORING BAR

For internal turning



Catalog Number	Weight (lbs)
BBT30/BR-SL20-60	2.2

BSLA SLEEVE



Catalog Number	ød	L1
BSLA20-6	6mm	.20
BSLA20-8	8mm	.28
BSLA20-10	10mm	.20
BSLA20-12	12mm	.20
BSLA20-16	16mm	.20

PULL STUD



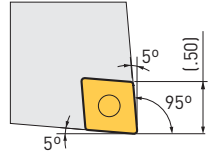
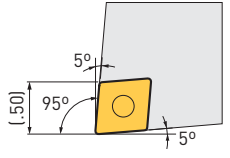
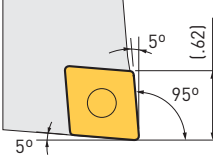
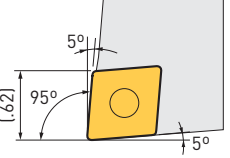
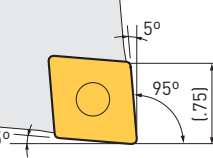
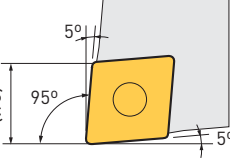
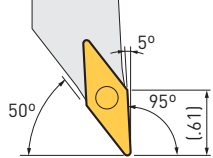
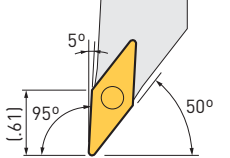
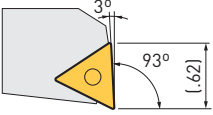
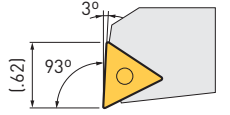
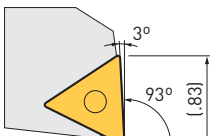
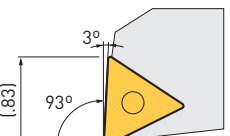
Center Through

Catalog Number
P30T-2MG

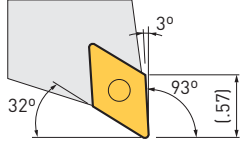
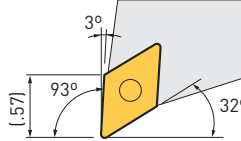
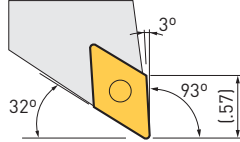
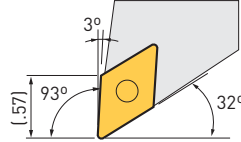
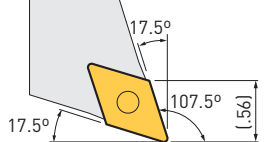
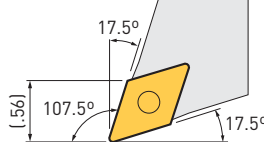
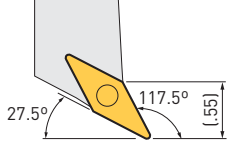
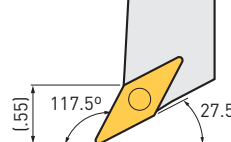
Catalog Number
P30T-2MGH3

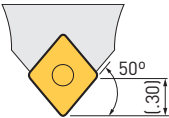
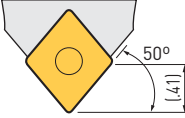
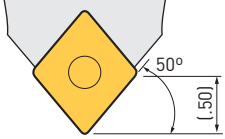
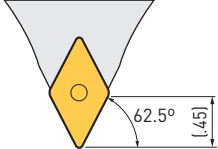
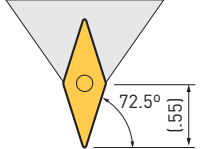
ACCESSORIES

SELECTION GUIDE

Entering Angle	Insert	Cartridge		Right hand	Left hand
		S Type	F Type		
95°	CN1204	No.1	No.10-1		
	CN1606	No.8-1	No.10-2		
	CN1906	No.8-2			
	VB1604 VC1604	No.7			
93°	TN1604	No.2-1	No.12		
	TN2204	No.2-2			

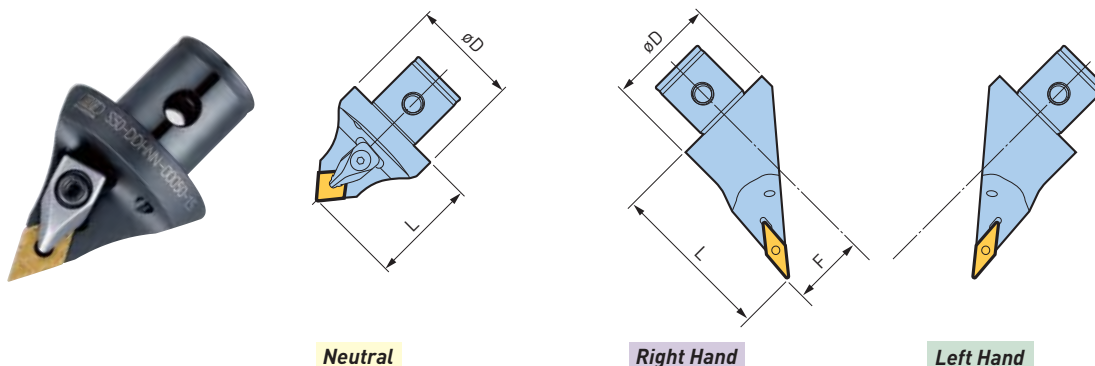
SELECTION GUIDE

Entering Angle	Insert	Cartridge		Right hand	Left hand
		S Type	F Type		
93°	DN1504 (DN1506)	No.4	No.13		
	DN1504 (DN1506)	No.6	No.18		
107.5°	DN1504 (DN1506)	No.3			
117.5°	VB1604 VC1604	No.5	No.15		

Neutral				
CN12	CN16	CN19	DN1504 (DN1506)	VB1604 / VC1604
No.1	No.8-1	No.8-2	No.3	No.5
				

ACCESSORIES

CARTRIDGES (45° TYPE S)



Lead Angle	Type	Catalog Number	Hand	Insert	L	F	øD	Clamp Piece
5°	S50	S50-DCLNN-00050-12	N	CN1204 Rhombic 80°	1.97	0	1.97	CP2
	S63	S63-DCLNN-00060-16		CN1606 Rhombic 80°	2.36		2.48	CP3
		S63-DCLNN-00060-19		CN1906 Rhombic 80°				CP5
3°	S50	S50-DTJNR-00050-16	R	TN1604 Triangle 60°	1.97	0	1.97	CP1
		S50-DTJNL-00050-16	L	TN2204 Triangle 60°				CP2
		S50-DTJNR-00050-22	R					
		S50-DTJNL-00050-22	L					
3°	S50	S50-DDJNR-00050-15	R	* DN1504 DN1506 Rhombic 55°	1.97	0	1.97	CP2
		S50-DDJNL-00050-15	L		2.95	1.30		
		S50-DDJNR-33075-15	R					
		S50-DDJNL-33075-15	L					
17.5°	S50	S50-DDHNN-00050-15	N		1.97	0		
5°	S50	S50-SVLBR-33075-16	R	VB1604 VC1604 Rhombic 35°	2.95	1.30	1.97	** M3.5
		S50-SVLBL-33075-16	L		1.97	0		
27.5°	S50	S50-SVQBN-00050-16	N					

*DN1504 (3/16" thickness) carbide shim is included as standard, in case of DN1506 insert (1/4" thickness), please replace the standard carbide shim with DNS1506 (option)

**M3.5 is screw-on type

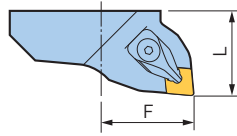
- Wrench and insert must be ordered separately
- Accepts standard ISO inserts

ACCESSORIES

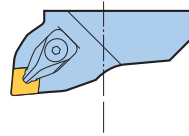
 CLAMP PIECE PG. 348	 SCREW PG. 348	 SPRING PG. 348	 CLAMP SCREW SET PG. 349	 INSERT CLAMPING SCREW SET PG. 349

ACCESSORIES

CARTRIDGES (90° TYPE F)



Right Hand



Left Hand

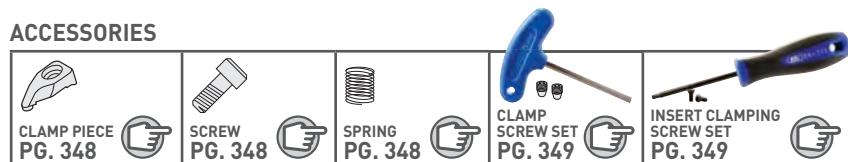
Lead Angle	Type	Catalog Number	Hand	Insert	L	F	Clamp Piece
5°	F50	F50-DCLNR-35035-12	R	CN1204 Rhombic 80°	1.38	1.38	CP2
	F63	F63-DCLNR-45035-12	R			1.77	
	F50	F50-DCLNL-35035-12	L			1.38	
	F63	F63-DCLNL-45035-12	L			1.77	
	F50	F50-DCLNR-35035-16	R	CN1606 Rhombic 80°	1.38	1.38	CP3
	F63	F63-DCLNR-45035-16	R			1.77	
	F50	F50-DCLNL-35035-16	L			1.38	
	F63	F63-DCLNL-45035-16	L			1.77	
3°	F50	F50-DTJNR-35035-16	R	TN1604 Triangle 60°	1.38	1.38	CP1
	F63	F63-DTJNR-45035-16	R			1.77	
	F50	F50-DTJNL-35035-16	L			1.38	
	F63	F63-DTJNL-45035-16	L			1.77	
3°	F50	F50-DDJNR-35035-15	R	* DN1504 DN1506 Rhombic 55°	1.38	1.38	CP2
	F63	F63-DDJNR-45035-15	R			1.77	
	F50	F50-DDJNL-35035-15	L			1.38	
	F63	F63-DDJNL-45035-15	L			1.77	
	F50	F50-DDJNR-35050-15	R		1.97	1.38	CP2
	F63	F63-DDJNR-45055-15	R		2.17	1.77	
	F50	F50-DDJNL-35050-15	L		1.97	1.38	
	F63	F63-DDJNL-45055-15	L		2.17	1.77	
27.5°	F63	F63-SVQBR-45035-16	R	VB1604 VC1604 Rhombic 35°	1.38	1.77	** M3.5
	F63	F63-SVQBL-45035-16	L			1.77	

*DN1504 (3/16" thickness) carbide shim is included as standard, in case of DN1506 insert (1/4" thickness), please replace the standard carbide shim with DNS1506 (option)

**M3.5 is screw-on type

- Wrench and insert must be ordered separately,
- Accepts standard ISO inserts

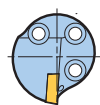
ACCESSORIES



ACCESSORIES

CARTRIDGE (TURNING ADAPTERS)

Screw-On Type (For Positive Insert)



Right Hand

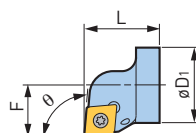


Fig. 1

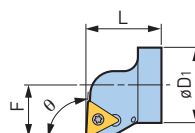


Fig. 2

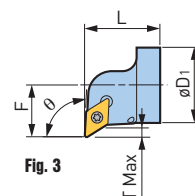


Fig. 3

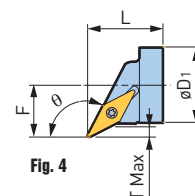


Fig. 4

Catalog Number	Fig.	Insert	Hand	øD1	F	L	T Max	θ	Screw Set	Carbide Shim	Pin	Bolt	Weight (lbs)			
B32-SCLCR-22032-12	1	CC1204	R	1.26	.87	1.26	—	95°	S5S-20IP	—	—	—	.2			
B32-STUCR-22032-11	2	TC1102						93°	S2.5S-7IP							
B32-STUPR-22032-16		TP1604							S4S-15IP							
B32-SDUCR-22032-11	3	DC11T3					.16	S3.5S-15IP	VBS1604					VBP1604	VB-M3.5-4	
B32-SVUBR-22032-16	4	VB1604					.20									
B32-SVPBR-22032A-16							.06			117.5°						
B40-SCLCR-27032-12	1	CC1204	R	1.57	1.06	1.57	—	95°		S5S-20IP	—	—	—			.4
B40-STUCR-27032-11	2	TC1102						93°		S2.5S-7IP						
B40-STUPR-27032-16		TP1604							S4S-15IP							
B40-SDUCR-27032-11	3	DC11T3					.16	S3.5S-15IP	VBS1604	VBP1604				VB-M3.5-4		
B40-SVUBR-27032-16	4	VB1604					.24									
B40-SVPBR-27032A-16							.12				117.5°					

- Wrenches and screws are included
- Inserts must be ordered separately
- Insert clamp screw set (sold separately) contains 1 wrench and 10 screws

INSERT CLAMPING SET

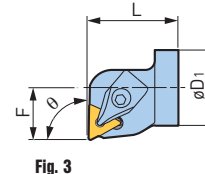
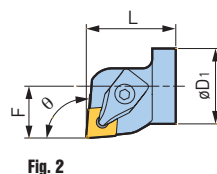
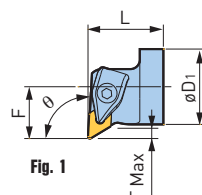
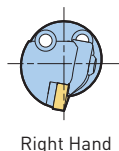
Catalog Number	Clamping Screw	Wrench
S3S-10IP	M3 P7	FS-10IP
S3.5S-15IP	M3.5 P8	FS-15IP
S4S-15IP	M4 P8	FS-15IP
S5S-20IP	M5 P12	FS-20IP

- Wrench can be purchased individually from set

ACCESSORIES

CARTRIDGE (TURNING ADAPTERS)

Double Clamp Type (For Negative Insert)



Catalog Number	Fig.	Insert	Hand	øD1	F	L	T Max	θ	Clamp Piece	Carbide Shim	Weight (lbs)
B32-DDUNR-22032-11	1	DN1104	R	1.26	.87	1.26	.16	93°	CP7	DNS1104C	.2
B32-DCLNR-22038-12	2	CN1204				1.50	—	95°	CP2	CNS1204C	
B32-DTFNR-22038-16	3	TN1604						91°	CP1	TNS1604C	
B40-DDUNR-27032-15	1	DN1506 (DN1504)	R	1.57	1.06	1.26	.24	93°	CP2	DNS1506C (DNS1504C)	.4
B40-DCLNR-27038-12	2	CN1204				1.50	—	95°	CP2	CNS1204C	
B40-DTFNR-27038-16	3	TN1604						91°	CP1	TNS1604C	

* Carbide shim for DN1506 (thickness 6.35mm) is included; when using DN1504 (thickness 4.76mm) inserts, replace with carbide shim DNS1504C (sold separately)

- Wrenches and screws for the carbide seat are included
- Wrench for tightening the clamp piece and inserts (standard ISO) must be ordered separately

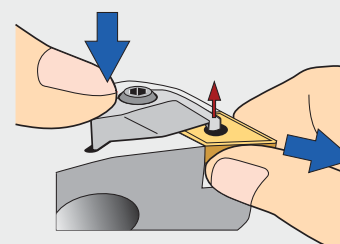
Double Clamp To Secure The Insert

Easy Attachment and Detachment of Insert

The double clamp pushes the insert downward. At the same time, a draw force is applied to the insert restraint surface. Secure insert clamping is achieved.

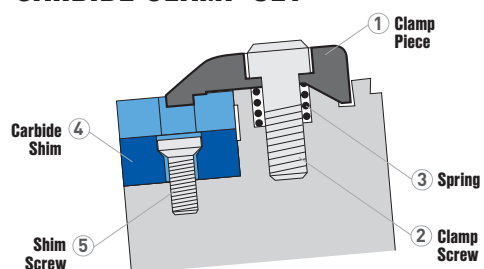
The built-in spring makes it easy to attach and detach the insert.

Loosen the clamp bolt one turn and lightly press the bridge with your finger, the tip of the bridge will pop up.



ACCESSORIES

CARBIDE CLAMP SET



Catalog Number	1 Clamp Piece 	2 Screw 	3 Spring 	Insert
SCP1	CP1	M5 P20	ø8x10	TN1604
SCP2	CP2		ø6.8x11.5	CN1204, TN2204, DN1504, DN1506
SCP2S❖				DN1504, DN1506
SCP3	CP3		ø8x10	CN1606
SCP5	CP5			CN1906
SCP7	CP7			DN1104, CN0903, CN0904

- Clamp piece, screw and spring are included; wrench must be ordered separately (Model: T-4)
- Set model SCP2S marked ❖ is exclusively for C4-DDHNN-00075-15

CARBIDE SHIM SET

Catalog Number	4 Carbide Shim	5 Screw 	Torx Size	Insert
STNS1604	TNS1604	M3 P7	T10	TN1604
STNS1604C	TNS1604	M3 P7	10IP	TN1604
STNS2204	TNS2204	M4 P8	T15	TN2204
SDNS1104C	DNS1104C	M3 P7	10IP	DN1104
SDNS1504	DNS1504	M4 P8	T15	DN1504
SDNS1504C	DNS1504C	M4 P8	15IP	DN1504
SDNS1506	DNS1506	M4 P8	T15	DN1506
SDNS1506C	DNS1506C	M4 P8	15IP	DN1506
SCNS0903C	CNS0903C	M3 P7	10IP	CN0903
SCNS0904C	CNS0904C	M3 P7	10IP	CN0904
SCNS1204	CNS1204	M4 P8	T15	CN1204
SCNS1204C	CNS1204C	M4 P8	15IP	CN1204
SCNS1606	CNS1606	M5 P12	T20	CN1606
SCNS1906	CNS1906	M5 P12	T20	CN1906

- Carbide shim and screw are included; wrench must be ordered separately (Model: DA-T10, DA-T15, DA-T20)

ACCESSORIES

CLAMP SCREW SET

For Type S Basic Holder



Catalog Number	Type	Screw Size	Wrench Model
CK55	S50	M10 P1.0	CK-T5
CK65	S63	M12 P1.0	CK-T6

INSERT CLAMPING SCREW SET

For VB1604/VC1604 Inserts



Catalog Number
S3508D5

Contents

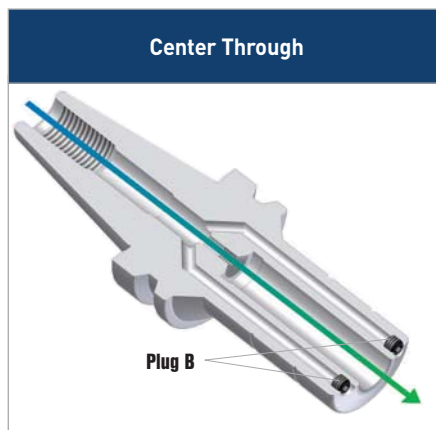
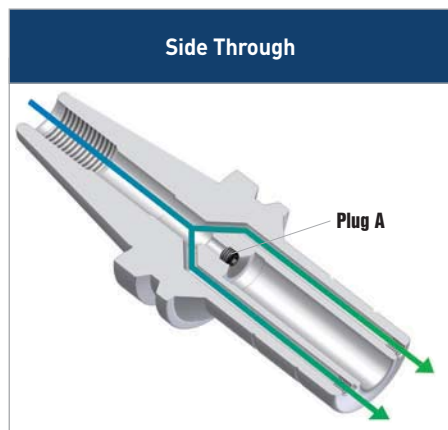
M3.5 screws: 10 pcs.

Wrench **DA-T15**: 1 pc.

ACCESSORIES

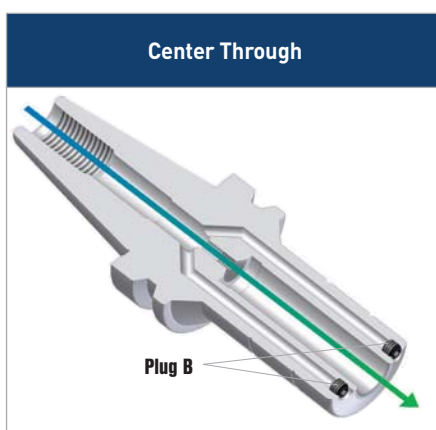
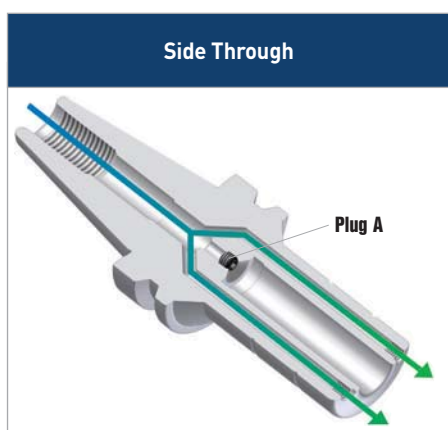
BSL SPARE PARTS

FOR BCV



Catalog Number	Plug A	Plug B
BSL.625	M6xP1.0	M6xP1.0
BSL.750		
BSL1.000		
BSL1.250		
BSL1.500		
BSL2.000		

FOR BBT

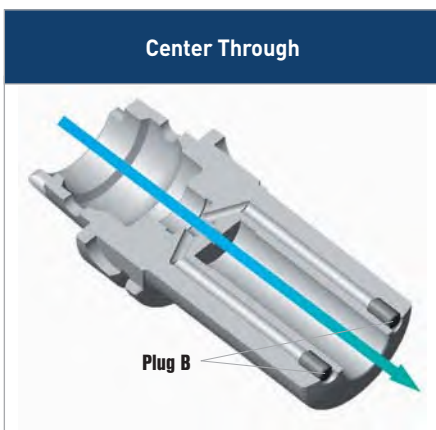
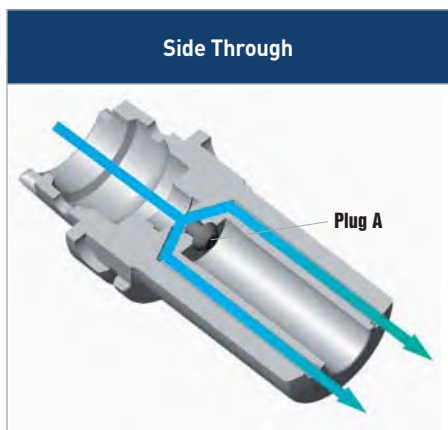


Catalog Number	Plug A	Plug B
BSL8	M6x5L	M4x4L
BSL10		M5x5L
BSL16		M6x5L
BSL20		
BSL25	M8x8L	
BSL32		
BSL40		
BSL50	M10x10L	

• Plug A and Plug B are included

Right or Left Hand Adjustment is Possible

FOR HSK-T



Catalog Number	Plug A	Plug B
BSL6	M5 P0.8	M4xP0.7
BSL8	M6 P1.0	
BSL10		M5xP0.8
BSL12		M6xP1.0
BSL16	M6 P1.0❖	
BSL20		
BSL25	T63:M6 P1.0❖, T100:M8 P1.25❖	
BSL32	M8 P1.25❖	
BSL40		

• Plug A and Plug B are included
• Bottom-head bolt with models marked ❖

Right or Left Hand Adjustment is Possible

ACCESSORIES

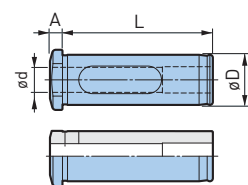
FOR BIG CAPTO

Side Through	Center Through	Catalog Number	Plug A	Plug B	Catalog Number	Plug A	Plug B
		BSL.625	M18xP1.5	M6xP1.0	BSL10	M12xP1.5	M5xP0.8
		BSL.750	M6xP1.0❖		BSL12	M14xP1.5	M6xP1.0
		BSL1.000	M8xP1.25❖		BSL16	M18xP1.5 (C5: M6xP1.0❖)	
		BSL1.250			BSL20	M6xP1.0❖	
		BSL1.500			BSL25		
		BSL6	M8xP1.25	M4xP0.7	BSL32	M8xP1.25❖	
		BSL8	M10xP1.0	M4xP0.7	BSL40		

- Plug A and Plug B are included
- Bottom-head bolt with models marked ❖

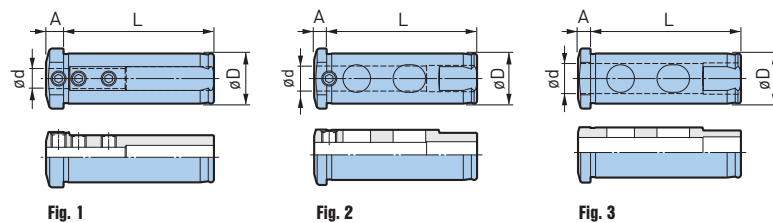
REDUCTION SLEEVE

FOR BSL SIDE LOCK HOLDER (BCV)



Catalog Number	ød	øD	L	A
BSL1.500-.375	.375	1.500	3.40	.27
BSL1.500-.500	.500			
BSL1.500-.625	.625			
BSL1.500-.750	.750			
BSL1.500-1.000	1.000			
BSL1.500-1.250	1.250	2.000	4.00	.33
BSL2.000-.625	.625			
BSL2.000-.750	.750			
BSL2.000-1.000	1.000			
BSL2.000-1.250	1.250			
BSL2.000-1.500	1.500			
BSL2.000-1.750	1.750			

FOR BSL SIDE LOCK HOLDER (BBT, HSK-T, BIG CAPTO)



Catalog Number	Fig.	ød	øD	L	A
BSLA20-6	1	6mm	20mm	2.36	.20
BSLA20-8		8mm			.28
BSLA20-10	2	10mm			.20
BSLA20-12	3	12mm			
BSLA20-16		16mm			
BSLA32-10	1	10mm	32mm	2.95	.35
BSLA32-12		12mm			
BSLA32-16	2	16mm			.24
BSLA32-20	3	20mm			
BSLA32-25		25mm			
BSLA40-16	1	16mm	40mm	1.57	.24
BSLA40-20	3	20mm			
BSLA40-25		25mm			
BSLA40-32		32mm			

TOOL HOLDER ACCESSORIES

A.8



TOOL HOLDER ACCESSORIES INDEX

MEGA MICRO CHUCK



MICRO COLLET
MICRO COLLET SET
MEGA MICRO COOLANT NUT
MEGA MICRO NUT
MEGA MICRO SEAL NUT
α TAPER CLEANER
MEGA WRENCH
MEGA TORQUE WRENCH

PG. 354

PG. 356

PG. 388

MEGA NEW BABY CHUCK



NBC NEW BABY COLLET
COLLET SET/COLLET CASE
NEW BABY ENDMILL COLLET
FONBC COOLANT COLLET
MEGA NEW BABY NUT
MEGA PERFECT SEAL
ADJUSTING SCREW
COLLET EJECTOR
COLLET REMOVER
α TAPER CLEANER
MEGA WRENCH
MEGA TORQUE WRENCH

PG. 358

PG. 366

PG. 411

PG. 371

PG. 388

MEGA ER GRIP



ERC COLLET
ERC END MILL COLLET
MEGA ER NUT
MEGA ER SOLID NUT
ER NUT
MEGA ER PERFECT SEAL
ADJUSTING SCREW
MEGA WRENCH

PG. 372

PG. 376

PG. 411

PG. 388

MEGA E CHUCK



MEGA E COLLET
MEGA E NUT
α TAPER CLEANER
ADJUSTING SCREW
MEGA E PERFECT SEAL
MEGA WRENCH
MEGA TORQUE WRENCH

PG. 378

PG. 379

PG. 388

MEGA DOUBLE POWER CHUCK



PJC STRAIGHT COLLET
PSC STRAIGHT COLLET
AXIAL ADJUSTING SCREW
MEGA WRENCH

PG. 381

PG. 388

NEW Hi-POWER MILLING CHUCK



PJC STRAIGHT COLLET
PSC STRAIGHT COLLET
C STRAIGHT COLLET
OCA STRAIGHT COLLET
AXIAL ADJUSTING SCREW
FACE MILL ARBOR
JACOBS TAPER ARBOR
MORSE TAPER HOLDER
WRENCH

PG. 381

PG. 386

PG. 387

HYDRAULIC CHUCK



PJC STRAIGHT COLLET
PSC STRAIGHT COLLET
GRIP BAR FOR CONFIRMING GRIPPING FORCE

PG. 381

PG. 393

NEW BABY CHUCK



NBC NEW BABY COLLET
COLLET SET/COLLET CASE
ADJUSTING SCREW
COLLET EJECTOR
COLLET REMOVER
α TAPER CLEANER
NEW BABY WRENCH
TORQUE WRENCH

PG. 358

PG. 368

PG. 411

PG. 371

PG. 370

MEGA SYNCHRO TAPPING HOLDERS



TAP HOLDERS

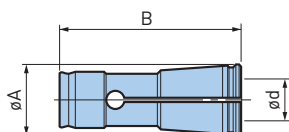
PG. 394

COLLETS

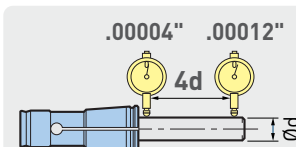
MEGA MICRO COLLET

Available in .004" (.1mm) diameter increments to suit all cutting tool shank sizes with maximum accuracy. Despite their compact size, high clamping force and accuracy are achieved.

**HIGH
PRECISION**



Guaranteed Max Runout



**1µm
AT COLLET NOSE**
3µm at end of test bar

All BIG Collets are AA Grade and inspected twice for accuracy

MEGA 3S

Catalog Number	Clamping Range ød
NBC3S-0.5AA	.018-.022
NBC3S-0.6AA	.022-.026
NBC3S-0.7AA	.026-.030
NBC3S-0.8AA	.030-.033
NBC3S-0.9AA	.033-.037
NBC3S-1AA	.037-.041
NBC3S-1.1AA	.041-.045
NBC3S-1.2AA	.045-.049
NBC3S-1.3AA	.049-.053
NBC3S-1.4AA	.053-.057
NBC3S-1.5AA	.057-.061
NBC3S-1.6AA	.061-.065
NBC3S-1.7AA	.065-.069
NBC3S-1.8AA	.069-.073
NBC3S-1.9AA	.073-.077
NBC3S-2AA	.077-.081
NBC3S-2.1AA	.081-.085
NBC3S-2.2AA	.085-.089
NBC3S-2.3AA	.089-.093
NBC3S-2.4AA	.093-.096
NBC3S-2.5AA	.096-.100
NBC3S-2.6AA	.100-.104
NBC3S-2.7AA	.104-.108
NBC3S-2.8AA	.108-.112
NBC3S-2.9AA	.112-.116
NBC3S-3AA	.116-.120
NBC3S-3.1AA	.120-.124
NBC3S-3.175AA	.123-.127
NBC3S-3.2AA	.124-.128

øA=.24 (6.06mm) B=.75 (18.8mm)

MEGA 4S

Catalog Number	Clamping Range ød
NBC4S-0.5AA	.018-.022
NBC4S-0.6AA	.022-.026
NBC4S-0.7AA	.026-.030
NBC4S-0.8AA	.030-.033
NBC4S-0.9AA	.033-.037
NBC4S-1AA	.037-.041
NBC4S-1.1AA	.041-.045
NBC4S-1.2AA	.045-.049
NBC4S-1.3AA	.049-.053
NBC4S-1.4AA	.053-.057
NBC4S-1.5AA	.057-.061
NBC4S-1.6AA	.061-.065
NBC4S-1.7AA	.065-.069
NBC4S-1.8AA	.069-.073
NBC4S-1.9AA	.073-.077
NBC4S-2AA	.077-.081
NBC4S-2.1AA	.081-.085
NBC4S-2.2AA	.085-.089
NBC4S-2.3AA	.089-.093
NBC4S-2.4AA	.093-.096
NBC4S-2.5AA	.096-.100
NBC4S-2.6AA	.100-.104
NBC4S-2.7AA	.104-.108
NBC4S-2.8AA	.108-.112
NBC4S-2.9AA	.112-.116
NBC4S-3AA	.116-.120
NBC4S-3.1AA	.120-.124
NBC4S-3.175AA	.123-.127
NBC4S-3.2AA	.124-.128
NBC4S-3.3AA	.128-.132
NBC4S-3.4AA	.132-.136
NBC4S-3.5AA	.136-.140
NBC4S-3.6AA	.140-.144
NBC4S-3.7AA	.144-.148
NBC4S-3.8AA	.148-.152
NBC4S-3.9AA	.152-.156
NBC4S-4AA	.156-.159

øA=.29 (7.4mm) B=.89 (22.5mm)

MEGA 6S

Catalog Number	Clamping Range ød
NBC6S-0.5AA	.018-.022
NBC6S-0.6AA	.022-.026
NBC6S-0.7AA	.026-.030
NBC6S-0.8AA	.030-.033
NBC6S-0.9AA	.033-.037
NBC6S-1AA	.037-.041
NBC6S-1.1AA	.041-.045
NBC6S-1.2AA	.045-.049
NBC6S-1.3AA	.049-.053
NBC6S-1.4AA	.053-.057
NBC6S-1.5AA	.057-.061
NBC6S-1.6AA	.061-.065
NBC6S-1.7AA	.065-.069
NBC6S-1.8AA	.069-.073
NBC6S-1.9AA	.073-.077
NBC6S-2AA	.077-.081
NBC6S-2.1AA	.081-.085
NBC6S-2.2AA	.085-.089
NBC6S-2.3AA	.089-.093
NBC6S-2.4AA	.093-.096
NBC6S-2.5AA	.096-.100
NBC6S-2.6AA	.100-.104
NBC6S-2.7AA	.104-.108
NBC6S-2.8AA	.108-.112
NBC6S-2.9AA	.112-.116
NBC6S-3AA	.116-.120
NBC6S-3.1AA	.120-.124
NBC6S-3.175AA	.123-.127
NBC6S-3.2AA	.124-.128
NBC6S-3.3AA	.128-.132
NBC6S-3.4AA	.132-.136
NBC6S-3.5AA	.136-.140
NBC6S-3.6AA	.140-.144
NBC6S-3.7AA	.144-.148
NBC6S-3.8AA	.148-.152
NBC6S-3.9AA	.152-.156
NBC6S-4AA	.156-.159

Catalog Number	Clamping Range ød
NBC6S-4.1AA	.159-.163
NBC6S-4.2AA	.163-.167
NBC6S-4.3AA	.167-.171
NBC6S-4.4AA	.171-.175
NBC6S-4.5AA	.175-.179
NBC6S-4.6AA	.179-.183
NBC6S-4.7AA	.183-.187
NBC6S-4.7625AA	.186-.189
NBC6S-4.8AA	.187-.191
NBC6S-4.9AA	.191-.195
NBC6S-5AA	.195-.199
NBC6S-5.1AA	.199-.203
NBC6S-5.2AA	.203-.207
NBC6S-5.3AA	.207-.211
NBC6S-5.4AA	.211-.215
NBC6S-5.5AA	.215-.219
NBC6S-5.6AA	.219-.222
NBC6S-5.7AA	.222-.226
NBC6S-5.8AA	.226-.230
NBC6S-5.9AA	.230-.234
NBC6S-6AA	.234-.238

øA=.37 (9.4mm) B=.96 (24.5mm)

COLLETS

MEGA 8S

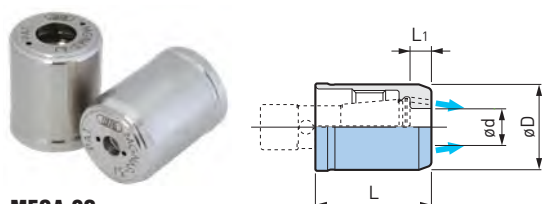
Catalog Number	Clamping Range ϕd	Catalog Number	Clamping Range ϕd
NBC8S-3AA	.116-.120	NBC8S-6.1AA	.238-.242
NBC8S-3.1AA	.120-.124	NBC8S-6.2AA	.242-.246
NBC8S-3.175AA	.123-.127	NBC8S-6.3AA	.246-.250
NBC8S-3.2AA	.124-.128	NBC8S-6.4AA	.250-.254
NBC8S-3.3AA	.128-.132	NBC8S-6.5AA	.254-.258
NBC8S-3.4AA	.132-.136	NBC8S-6.6AA	.258-.262
NBC8S-3.5AA	.136-.140	NBC8S-6.7AA	.262-.266
NBC8S-3.6AA	.140-.144	NBC8S-6.8AA	.266-.270
NBC8S-3.7AA	.144-.148	NBC8S-6.9AA	.270-.274
NBC8S-3.8AA	.148-.152	NBC8S-7AA	.274-.278
NBC8S-3.9AA	.152-.156	NBC8S-7.1AA	.278-.281
NBC8S-4AA	.156-.159	NBC8S-7.2AA	.281-.285
NBC8S-4.1AA	.159-.163	NBC8S-7.3AA	.285-.289
NBC8S-4.2AA	.163-.167	NBC8S-7.4AA	.289-.293
NBC8S-4.3AA	.167-.171	NBC8S-7.5AA	.293-.297
NBC8S-4.4AA	.171-.175	NBC8S-7.6AA	.297-.301
NBC8S-4.5AA	.175-.179	NBC8S-7.7AA	.301-.305
NBC8S-4.6AA	.179-.183	NBC8S-7.8AA	.305-.309
NBC8S-4.7AA	.183-.187	NBC8S-7.9AA	.309-.313
NBC8S-4.8AA	.187-.191	NBC8S-8AA	.313-.317
NBC8S-4.9AA	.191-.195		
NBC8S-5AA	.195-.199		
NBC8S-5.1AA	.199-.203		
NBC8S-5.2AA	.203-.207		
NBC8S-5.3AA	.207-.211		
NBC8S-5.4AA	.211-.215		
NBC8S-5.5AA	.215-.219		
NBC8S-5.6AA	.219-.222		
NBC8S-5.7AA	.222-.226		
NBC8S-5.8AA	.226-.230		
NBC8S-5.9AA	.230-.234		
NBC8S-6AA	.234-.238		

$\phi A = .47$ (12mm) $B = 1.06$ (27mm)

NUTS

MEGA MICRO COOLANT NUT (PAT. PENDING)

Provides efficient coolant supply for micro cutting tools. Ideal design for high-speed micro machining up to $\phi 6$ mm.



MEGA 3S

Catalog Number	ød	øD	L	L1
MGN3S-2J	2mm	.39 (10mm)	.59 (15mm)	.12 (3mm)
MGN3S-3J	3mm		.53 (13.5mm)	.06 (1.5mm)

MEGA 6S

Catalog Number	ød	øD	L	L1
MGN6S-2J	2mm	.55 (14mm)	.75 (19mm)	.14 (3.5mm)
MGN6S-3J	3mm			
MGN6S-4J	4mm			
MGN6S-5J	5mm	.67 (17mm)	.06 (1.5mm)	
MGN6S-6J	6mm			

MEGA4S

Catalog Number	ød	øD	L	L1
MGN4S-2J	2mm	.47 (12mm)	.65 (16.5mm)	.14 (3.5mm)
MGN4S-3J	3mm			
MGN4S-4J	4mm			

MEGA 8S

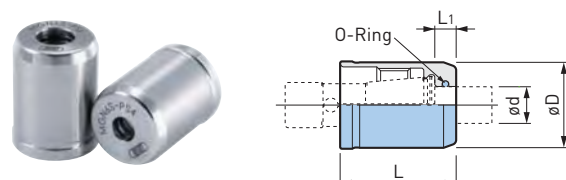
Catalog Number	ød	øD	L	L1
MGN8S-3J	3mm	.71 (18mm)	.80 (20.2mm)	.14 (3.5mm)
MGN8S-4J	4mm			
MGN8S-5J	5mm			
MGN8S-6J	6mm			
MGN8S-8J	8mm		.73 (18.5mm)	.07 (1.8mm)



Up to 35% Higher Tool Lifetime Compared to Standard Nut.



MEGA MICRO SEAL NUT



MEGA 6S

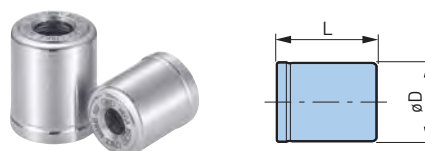
Catalog Number	ød	øD	L	L1	Replacement O-Ring
MGN6S-PS3	3mm	.55 (14mm)	.75 (19mm)	.14 (3.5mm)	PS3-OR
MGN6S-PS3.175	.125				
MGN6S-PS4	4mm				PS4-OR
MGN6S-PS5	5mm				PS5-OR
MGN6S-PS6	6mm				PS6-OR

MEGA 8S

Catalog Number	ød	øD	L	L1	Replacement O-Ring
MGN8S-PS3	3mm	.71 (18mm)	.80 (20.2mm)	.14 (3.5mm)	PS3-OR
MGN8S-PS4	4mm				PS4-OR
MGN8S-PS5	5mm				PS5-OR
MGN8S-PS6	6mm				PS6-OR
MGN8S-PS7	7mm				PS7-OR
MGN8S-PS8	8mm				PS8-OR

• Replacement o-ring sold in packages of 5 pcs.

MEGA MICRO NUT



Catalog Number	øD	L	Body Type
MGN3S	.39 (10mm)	.51 (13mm)	MEGA3S
MGN4S	.47 (12mm)	.57 (14.5mm)	MEGA4S
MGN6S	.55 (14mm)	.67 (17mm)	MEGA6S
MGN8S	.71 (18mm)	.73 (18.5mm)	MEGA8S

COLLET CASES & CLEANERS

COLLET CASE (FOR MEGA MICRO CHUCK)

Organizes collet management and ideal for maintaining collet precision.



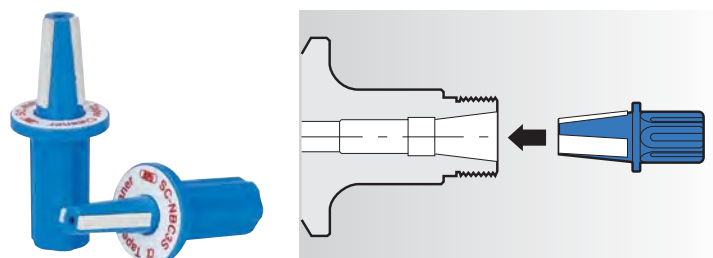
Provided with a Polypropylene Case

Catalog Number	Compatible Micro Collet	Number of Holes	Case Size (LxWxH)
NBB3S	NBC3S	50	7.8 x 6.7 x 1.97 (200mm x 170mm x 50mm)
NBB4S	NBC4S		
NBB6S	NBC6S	60	
NBB8S	NBC8S		

- Case size includes handle

α TAPER CLEANER (FOR MEGA MICRO CHUCK)

Removes particles and oil from the chuck bore taper.



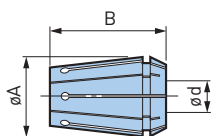
Catalog Number	Chuck Body
SC-NBC3S	MEGA3S
SC-NBC4S	MEGA4S
SC-NBC6S	MEGA6S
SC-NBC8S	MEGA8S

COLLETS

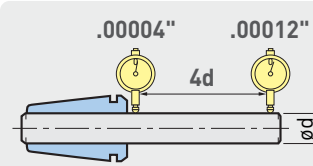
NEW BABY COLLET

The NEW BABY COLLET is world renowned for its unmatched accuracy and precision. It offers runout accuracy of .00004" (.001mm) T.I.R. at the collet nose.

**HIGH
PRECISION**



Guaranteed Max Runout



All BIG Collets are AA Grade and inspected twice for accuracy

MEGA 6N/NBS6

Catalog Number	Clamping Range ød
NBC6-0.5AA	.010-.020
NBC6-0.75AA	.020-.030
NBC6-1AA	.030-.039
NBC6-1.25AA	.039-.049
NBC6-1.5AA	.049-.059
NBC6-1.75AA	.059-.069
NBC6-2AA	.069-.079
NBC6-2.25AA	.079-.089
NBC6-2.5AA	.089-.098
NBC6-2.75AA	.098-.108
NBC6-3AA	.108-.118
NBC6-3.175AA	.115-.125
NBC6-3.25AA	.118-.128
NBC6-3.5AA	.128-.138
NBC6-3.75AA	.138-.148
NBC6-4AA	.148-.157
NBC6-4.25AA	.157-.167
NBC6-4.5AA	.167-.177
NBC6-4.75AA	.177-.187
NBC6-5AA	.187-.197
NBC6-5.25AA	.197-.207
NBC6-5.5AA	.207-.217
NBC6-5.75AA	.217-.226
NBC6-6AA	.226-.236

øA=.37 (9.5mm) B=.55 (14mm)

MEGA 8N/NBS8

Catalog Number	Clamping Range ød
NBC8-0.75AA	.020-.030
NBC8-1AA	.030-.039
NBC8-1.25AA	.039-.049
NBC8-1.5AA	.049-.059
NBC8-1.75AA	.059-.069
NBC8-2AA	.069-.079
NBC8-2.25AA	.079-.089
NBC8-2.5AA	.089-.098
NBC8-2.75AA	.098-.108
NBC8-3AA	.108-.118
NBC8-3.175AA	.115-.125
NBC8-3.5AA	.118-.138
NBC8-4AA	.138-.157
NBC8-4.5AA	.157-.177
NBC8-5AA	.177-.197
NBC8-5.25AA	.187-.207
NBC8-5.5AA	.197-.217
NBC8-5.75AA	.207-.226
NBC8-6AA	.217-.236
NBC8-6.5AA	.236-.256
NBC8-7AA	.256-.276
NBC8-7.5AA	.276-.295
NBC8-8AA	.295-.315

øA=.49 (12.5mm) B=.71 (18mm)

MEGA 10N/NBS10

Catalog Number	Clamping Range ød
NBC10-1.75AA	.059-.069
NBC10-2AA	.069-.079
NBC10-2.25AA	.079-.089
NBC10-2.5AA	.089-.098
NBC10-2.75AA	.098-.108
NBC10-3AA	.108-.118
NBC10-3.175AA	.115-.125
NBC10-3.25AA	.108-.128
NBC10-3.5AA	.118-.138
NBC10-3.75AA	.128-.147
NBC10-4AA	.138-.157
NBC10-4.5AA	.157-.177
NBC10-5AA	.177-.197
NBC10-5.25AA	.187-.207
NBC10-5.5AA	.197-.217
NBC10-5.75AA	.207-.226
NBC10-6AA	.217-.236
NBC10-6.5AA	.236-.256
NBC10-7AA	.256-.276
NBC10-7.5AA	.276-.295
NBC10-8AA	.295-.315
NBC10-8.5AA	.315-.335
NBC10-9AA	.335-.354
NBC10-9.5AA	.354-.375
NBC10-10AA	.376-.394

øA=.65 (16.5mm) B=1.06 (27mm)

MEGA 13N/NBS13

Catalog Number	Clamping Range ød
NBC13-3AA	.098-.118
NBC13-3.25AA	.108-.128
NBC13-3.175AA	.115-.125
NBC13-3.5AA	.118-.138
NBC13-3.75AA	.128-.147
NBC13-4AA	.138-.157
NBC13-4.25AA	.147-.167
NBC13-4.5AA	.157-.177
NBC13-4.75AA	.167-.187
NBC13-5AA	.177-.197
NBC13-5.25AA	.187-.207
NBC13-5.5AA	.197-.217
NBC13-5.75AA	.207-.226
NBC13-6AA	.217-.236
NBC13-6.5AA	.236-.256
NBC13-7AA	.256-.276
NBC13-7.5AA	.276-.295
NBC13-8AA	.295-.315
NBC13-8.5AA	.315-.335
NBC13-9AA	.335-.354
NBC13-9.5AA	.354-.375
NBC13-10AA	.376-.394
NBC13-10.5AA	.394-.413
NBC13-11AA	.413-.433
NBC13-11.5AA	.433-.453
NBC13-12AA	.453-.472
NBC13-12.5AA	.472-.492
NBC13-13AA	.492-.512

øA=.81 (20.5mm) B=1.22 (31mm)

- Below collets not included in NEW BABY COLLET SETS; see pg. 361 for more information on collet sets
- NBC8-3.175AA, 5.25AA, 5.75AA
- NBC10-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
- NBC13-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
- NBC16-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
- NBC20-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA

COLLETS

MEGA 16N/NBS16

Catalog Number	Clamping Range ϕ d
NBC16-3AA	.098-.118
NBC16-3.25AA	.108-.128
NBC16-3.5AA	.118-.138
NBC16-3.75AA	.128-.147
NBC16-4AA	.138-.157
NBC16-4.25AA	.147-.167
NBC16-4.5AA	.157-.177
NBC16-4.75AA	.167-.187
NBC16-5AA	.177-.197
NBC16-5.25AA	.187-.207
NBC16-5.5AA	.197-.217
NBC16-5.75AA	.207-.226
NBC16-6AA	.217-.236
NBC16-6.5AA	.236-.256
NBC16-7AA	.256-.276
NBC16-7.5AA	.276-.295
NBC16-8AA	.295-.315
NBC16-8.5AA	.315-.335
NBC16-9AA	.335-.354
NBC16-9.5AA	.354-.375
NBC16-10AA	.376-.394
NBC16-10.5AA	.394-.413
NBC16-11AA	.413-.433
NBC16-11.5AA	.433-.453
NBC16-12AA	.453-.472
NBC16-12.5AA	.472-.492
NBC16-13AA	.492-.512
NBC16-13.5AA	.512-.531
NBC16-14AA	.531-.551
NBC16-14.5AA	.551-.571
NBC16-15AA	.571-.591
NBC16-15.5AA	.591-.610
NBC16-16AA	.610-.630

ϕ A=1.00 (25.5mm) B=1.38 (35mm)

MEGA 20N/NBS20

Catalog Number	Clamping Range ϕ d
NBC20-3AA	.098-.118
NBC20-3.25AA	.108-.128
NBC20-3.5AA	.118-.138
NBC20-3.75AA	.128-.147
NBC20-4AA	.138-.157
NBC20-4.25AA	.147-.167
NBC20-4.5AA	.157-.177
NBC20-4.75AA	.167-.187
NBC20-5AA	.177-.197
NBC20-5.25AA	.187-.207
NBC20-5.5AA	.197-.217
NBC20-5.75AA	.207-.226
NBC20-6AA	.217-.236
NBC20-6.5AA	.236-.256
NBC20-7AA	.256-.276
NBC20-7.5AA	.276-.295
NBC20-8AA	.295-.315
NBC20-8.5AA	.315-.335
NBC20-9AA	.335-.354
NBC20-9.5AA	.354-.375
NBC20-10AA	.376-.394
NBC20-10.5AA	.394-.413
NBC20-11AA	.413-.433
NBC20-11.5AA	.433-.453
NBC20-12AA	.453-.472
NBC20-12.5AA	.472-.492
NBC20-13AA	.492-.512
NBC20-13.5AA	.512-.531
NBC20-14AA	.531-.551
NBC20-14.5AA	.551-.571
NBC20-15AA	.571-.591
NBC20-15.5AA	.591-.610
NBC20-16AA	.610-.630
NBC20-16.5AA	.630-.650
NBC20-17AA	.650-.669
NBC20-17.5AA	.669-.689
NBC20-18AA	.689-.709
NBC20-18.5AA	.709-.728
NBC20-19AA	.728-.750
NBC20-19.5AA	.751-.768
NBC20-20AA	.768-.787

ϕ A=1.12 (28.5mm) B=1.50 (38mm)

MEGA 25N

Catalog Number	Clamping Range ϕ d
NBC25-16AA	.610-.630
NBC25-16.5AA	.630-.650
NBC25-17AA	.650-.669
NBC25-17.5AA	.669-.689
NBC25-18AA	.689-.709
NBC25-18.5AA	.709-.728
NBC25-19AA	.728-.748
NBC25-19.5AA	.748-.768
NBC25-20AA	.768-.787
NBC25-20.5AA	.787-.807
NBC25-21AA	.807-.827
NBC25-21.5AA	.827-.846
NBC25-22AA	.846-.866
NBC25-22.5AA	.866-.886
NBC25-23AA	.886-.906
NBC25-23.5AA	.906-.925
NBC25-24AA	.925-.945
NBC25-24.5AA	.945-.964
NBC25-25AA	.964-.984
NBC25-25.4AA	.980-1.000

ϕ A=1.40 (35.5mm) B=2.05 (52mm)

- Below collets not included in NEW BABY COLLET SETS; see pg. 361 for more information on collet sets
NBC8-3.175AA, 5.25AA, 5.75AA
NBC10-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
NBC13-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
NBC16-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
NBC20-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA

CAUTION

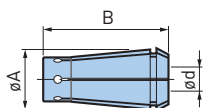
Collapsibility is .010 (.25mm) for NBC6 and .020 (.5mm) for NBC8-NBC20. For best performance, cutting tool shanks should be cylindrical without flats and be as long as the clamping section of the collet bore.

COLLETS

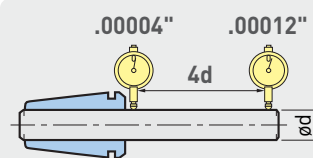
NEW BABY END MILL COLLET

The NEW BABY COLLET is world renowned for its unmatched accuracy and precision. It offers runout accuracy of .00004" (.001mm) T.I.R. at the collet nose.

**HIGH
PRECISION**



Guaranteed Max Runout



MEGA 6N/NBS6

Catalog Number	Clamping Range ϕd
NBC6-1/8EAA	.125
NBC6-3/16EAA	.187
NBC6-3EAA	3.0mm
NBC6-4EAA	4.0mm
NBC6-5EAA	5.0mm
NBC6-6EAA	6.0mm

$\phi A = .36$ (9.2mm) $B = .67$ (17mm)

MEGA 8N/NBS8

Catalog Number	Clamping Range ϕd
NBC8-1/8EAA	.125
NBC8-3/16EAA	.187
NBC8-1/4EAA	.250
NBC8-3EAA	3.0mm
NBC8-4EAA	4.0mm
NBC8-5EAA	5.0mm
NBC8-6EAA	6.0mm
NBC8-8EAA	8.0mm

$\phi A = .47$ (12mm) $B = .79$ (20mm)

MEGA 10N/NBS10

Catalog Number	Clamping Range ϕd
NBC10-1/8EAA	.125
NBC10-3/16EAA	.187
NBC10-1/4EAA	.250
NBC10-3/8EAA	.375
NBC10-3EAA	3.0mm
NBC10-4EAA	4.0mm
NBC10-5EAA	5.0mm
NBC10-6EAA	6.0mm
NBC10-8EAA	8.0mm
NBC10-10EAA	10.0mm

$\phi A = .63$ (16mm) $B = 1.26$ (32mm)

MEGA 13N/NBS13

Catalog Number	Clamping Range ϕd
NBC13-1/8EAA	.125
NBC13-3/16EAA	.187
NBC13-1/4EAA	.250
NBC13-3/8EAA	.375
NBC13-1/2EAA	.500
NBC13-3EAA	3.0mm
NBC13-4EAA	4.0mm
NBC13-5EAA	5.0mm
NBC13-6EAA	6.0mm
NBC13-8EAA	8.0mm
NBC13-10EAA	10.0mm
NBC13-12EAA	12.0mm

$\phi A = .79$ (20mm) $B = 1.50$ (38mm)

MEGA 16N/NBS16

Catalog Number	Clamping Range ϕd
NBC16-1/8EAA	.125
NBC16-3/16EAA	.187
NBC16-1/4EAA	.250
NBC16-3/8EAA	.375
NBC16-1/2EAA	.500
NBC16-5/8EAA	.625
NBC16-3EAA	3.0mm
NBC16-4EAA	4.0mm
NBC16-5EAA	5.0mm
NBC16-6EAA	6.0mm
NBC16-8EAA	8.0mm
NBC16-10EAA	10.0mm
NBC16-12EAA	12.0mm
NBC16-14EAA	14.0mm
NBC16-16EAA	16.0mm

$\phi A = .98$ (25mm) $B = 1.65$ (42mm)

MEGA 20N/NBS20

Catalog Number	Clamping Range ϕd
NBC20-1/8EAA	.125
NBC20-3/16EAA	.187
NBC20-1/4EAA	.250
NBC20-3/8EAA	.375
NBC20-1/2EAA	.500
NBC20-5/8EAA	.625
NBC20-3/4EAA	.750
NBC20-3EAA	3.0mm
NBC20-4EAA	4.0mm
NBC20-5EAA	5.0mm
NBC20-6EAA	6.0mm
NBC20-8EAA	8.0mm
NBC20-10EAA	10.0mm
NBC20-12EAA	12.0mm
NBC20-14EAA	14.0mm
NBC20-16EAA	16.0mm
NBC20-20EAA	20.0mm

$\phi A = 1.10$ (28mm) $B = 1.77$ (45mm)

CAUTION

This collet is not compatible with Profit Maker Tools.
The tolerance of the cutting tool shank must be within h7.

COLLET SETS & CASES

COLLET SET (FOR NEW BABY)

The NEW BABY COLLET SET contains all the required collets to cover entire clamping range.



Provided with a
Polypropylene Case

Catalog Number	Capacity	Number of Collet	Case Size (LxWxH)	Corresponding Chuck Model
SNBC6(AA)-22	.010-.236	22	7.87 x 6.69 x 1.97 (200 x 170 x 50)	MEGA6N / NBS6
SNBC8(AA)-20	.020-.315	20		MEGA8N / NBS8
SNBC10(AA)-20	.059-.394	20		MEGA10N / NBS10
SNBC13(AA)-21	.098-.512	21	9.65 x 8.27 x 2.36 (245 x 210 x 60)	MEGA13N / NBS13
SNBC16(AA)-27	.098-.630	27	10.83 x 9.05 x 2.56 (275 x 230 x 65)	MEGA16N / NBS16
SNBC20(AA)-35	.098-.787	35	12.20 x 10.24 x 2.95 (310 x 260 x 75)	MEGA20N / NBS20
SNBC25(AA)-19	.610-.984	19		MEGA25N

- Below collets not included in NEW BABY COLLET SETS
NBC8-3.175AA, 5.25AA, 5.75AA
NBC10-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
NBC13-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
NBC16-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
NBC20-3.175AA, 3.25AA, 3.75AA, 4.25AA, 4.75AA, 5.25AA, 5.75AA
- Provided in an exclusive storage box

COLLET CASE (FOR NEW BABY)

Exclusive case to protect and maintain the high precision collets.



Provided with a
Polypropylene Case

Catalog Number	Number of Holes	Case Size (LxWxH)	Corresponding Chuck Model
NBB6	60	7.87 x 6.69 x 1.97 (200 x 170 x 50)	NBC6 / FONBC6
NBB8	50		NBC8 / FONBC8
NBB10	40		NBC10 / FONBC10
NBB13	35	9.65 x 8.27 x 2.36 (245 x 210 x 60)	NBC13 / FONBC13
NBB16	35	10.83 x 9.05 x 2.56 (275 x 230 x 65)	NBC16 / FONBC16
NBB20	45	12.20 x 10.24 x 2.95 (310 x 260 x 75)	NBC20 / FONBC20
NBB25	28		NBC25 / FONBC25

- The NEW BABY COLLET CASE cannot be used for End Mill type

COLLETS

FONBC COOLANT COLLET (FOR MEGA NEW BABY CHUCK & NEW BABY CHUCK)

CLAMPING DIAMETER: ϕ .114"-1.000"

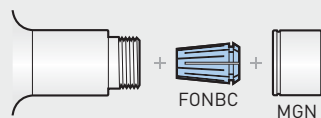
An ideal collet for through-tool use with tools with oil holes such as oil hole drills.

MAX COOLANT
PRESSURE
1,000
PSI

For Tools with
Oil Holes

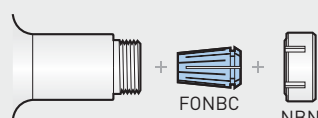


FOR MEGA NEW BABY CHUCK

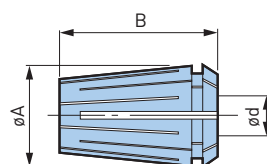


Use with the standard accessory MGN nut.

FOR NEW BABY CHUCK



Use with the standard accessory NBN nut.



MEGA 6N/NBS6

Catalog Number	Clamping Size ϕ d
FONBC6-3AA	.118❖
FONBC6-3.25AA	.124-.130
FONBC6-3.5AA	.134-.138
FONBC6-3.75AA	.144-.148
FONBC6-4AA	.154-.157
FONBC6-4.25AA	.163-.167
FONBC6-4.5AA	.173-.177
FONBC6-4.75AA	.183-.187
FONBC6-5AA	.193-.197
FONBC6-5.25AA	.203-.207
FONBC6-5.5AA	.213-.217
FONBC6-5.75AA	.222-.226
FONBC6-6AA	.232-.236

ϕ A=.36 (9.5mm) B=.55 (14mm)

❖ No collapsibility

MEGA 8N/NBS8

Catalog Number	Clamping Size ϕ d
FONBC8-3AA	.114-.118
FONBC8-3.5AA	.134-.138
FONBC8-4AA	.154-.157
FONBC8-4.5AA	.173-.177
FONBC8-5AA	.193-.197
FONBC8-5.5AA	.213-.217
FONBC8-6AA	.232-.236
FONBC8-6.5AA	.250-.256
FONBC8-7AA	.271-.276
FONBC8-7.5AA	.291-.295
FONBC8-8AA	.311-.315

ϕ A=.49 (12.5mm) B=.71 (18mm)

MEGA 10N/NBS10

Catalog Number	Clamping Size ϕ d
FONBC10-3AA	.114-.118
FONBC10-3.5AA	.134-.138
FONBC10-4AA	.154-.157
FONBC10-4.5AA	.173-.177
FONBC10-5AA	.193-.197
FONBC10-5.5AA	.213-.217
FONBC10-6AA	.232-.236
FONBC10-6.5AA	.250-.256
FONBC10-7AA	.271-.276
FONBC10-7.5AA	.291-.295
FONBC10-8AA	.311-.315
FONBC10-8.5AA	.331-.335
FONBC10-9AA	.350-.354
FONBC10-9.5AA	.370-.375
FONBC10-10AA	.390-.394

ϕ A=.65 (16.5mm) B=1.06 (27mm)

MEGA 13N/NBS13

Catalog Number	Clamping Size ϕ d
FONBC13-3AA	.118❖
FONBC13-3.5AA	.134-.138
FONBC13-4AA	.138-.157
FONBC13-4.5AA	.173-.177
FONBC13-5AA	.193-.197
FONBC13-5.5AA	.213-.217
FONBC13-6AA	.232-.236
FONBC13-6.5AA	.250-.256
FONBC13-7AA	.271-.276
FONBC13-7.5AA	.291-.295
FONBC13-8AA	.311-.315
FONBC13-8.5AA	.331-.335
FONBC13-9AA	.350-.354
FONBC13-9.5AA	.370-.375
FONBC13-10AA	.390-.394
FONBC13-10.5AA	.409-.413
FONBC13-11AA	.429-.433
FONBC13-11.5AA	.449-.453
FONBC13-12AA	.468-.472
FONBC13-12.5AA	.488-.492
FONBC13-13AA	.508-.512

ϕ A=.81 (20.5mm) B=1.22 (31mm)

❖ No collapsibility

COLLETS

MEGA 16N/NBS16

Catalog Number	Clamping Size ϕ d
FONBC16-5AA	.193-.197
FONBC16-5.5AA	.213-.217
FONBC16-6AA	.232-.236
FONBC16-6.5AA	.250-.256
FONBC16-7AA	.272-.276
FONBC16-7.5AA	.291-.295
FONBC16-8AA	.311-.315
FONBC16-8.5AA	.331-.335
FONBC16-9AA	.350-.354
FONBC16-9.5AA	.371-.375
FONBC16-10AA	.390-.394
FONBC16-10.5AA	.409-.413
FONBC16-11AA	.429-.433
FONBC16-11.5AA	.449-.453
FONBC16-12AA	.468-.472
FONBC16-12.5AA	.488-.492
FONBC16-13AA	.508-.512
FONBC16-13.5AA	.527-.531
FONBC16-14AA	.547-.551
FONBC16-14.5AA	.567-.571
FONBC16-15AA	.587-.591
FONBC16-15.5AA	.606-.610
FONBC16-16AA	.625-.630

$\phi A=1.00$ (25.5mm) B=1.38 (35mm)

MEGA 20N/NBS20

Catalog Number	Clamping Size ϕ d
FONBC20-5AA	.193-.197
FONBC20-5.5AA	.213-.217
FONBC20-6AA	.232-.236
FONBC20-6.5AA	.250-.256
FONBC20-7AA	.272-.276
FONBC20-7.5AA	.291-.295
FONBC20-8AA	.311-.315
FONBC20-8.5AA	.331-.335
FONBC20-9AA	.351-.354
FONBC20-9.5AA	.371-.375
FONBC20-10AA	.390-.394
FONBC20-10.5AA	.409-.413
FONBC20-11AA	.429-.433
FONBC20-11.5AA	.449-.453
FONBC20-12AA	.468-.472
FONBC20-12.5AA	.488-.492
FONBC20-13AA	.508-.512
FONBC20-13.5AA	.527-.531
FONBC20-14AA	.547-.551
FONBC20-14.5AA	.567-.571
FONBC20-15AA	.587-.591
FONBC20-15.5AA	.606-.610
FONBC20-16AA	.625-.630
FONBC20-16.5AA	.646-.650
FONBC20-17AA	.665-.669
FONBC20-17.5AA	.685-.689
FONBC20-18AA	.705-.709
FONBC20-18.5AA	.724-.728
FONBC20-19AA	.746-.750
FONBC20-19.5AA	.764-.768
FONBC20-20AA	.783-.787

$\phi A=1.12$ (28.5) B=1.50 (38mm)

MEGA 25N/NBS25

Catalog Number	Clamping Size ϕ d
FONBC25-16AA	.625-.630
FONBC25-17AA	.665-.669
FONBC25-18AA	.705-.709
FONBC25-19AA	.746-.750
FONBC25-20AA	.783-.787
FONBC25-21AA	.823-.827
FONBC25-22AA	.862-.866
FONBC25-23AA	.902-.906
FONBC25-24AA	.941-.945
FONBC25-25AA	.980-.984
FONBC25-25.4AA	.996-1.000

$\phi A=1.40$ (35.5mm) B=2.05 (52mm)

CAUTION

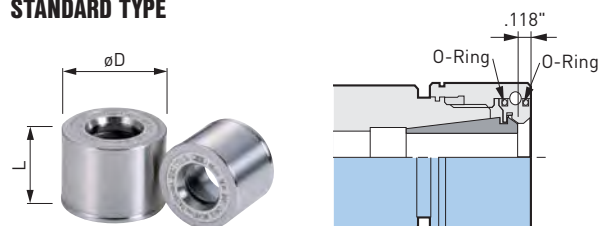
Collapsibility is .004" (.1mm) for FONBC sealed collets. For best performance, cutting tool shanks should be cylindrical without flats and be as long as the clamping section of the collet bore.

NUTS

MEGA NEW BABY NUT

A high precision nut with excellent sealing properties, preventing the intrusion of coolant.

STANDARD TYPE



Catalog Number	øD	L	Body Type
MGN6	.79 (20mm)	.81 (20.5mm)	MEGA6N
MGN8	.98 (25mm)	.91 (23mm)	MEGA8N
MGN10	1.18 (30mm)	.94 (24mm)	MEGA10N
MGN13	1.38 (35mm)	1.06 (27mm)	MEGA13N
MGN16	1.65 (42mm)		MEGA16N
MGN20	1.81 (46mm)		MEGA20N
MGN25	2.36 (60mm)	1.22 (31mm)	MEGA25N

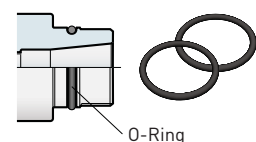
FLAT TYPE

For flood coolant only



Catalog Number	øD	L	Body Type
MGN6F	.79 (20mm)	.71 (18mm)	MEGA6N
MGN8F	.98 (25mm)	.79 (20mm)	MEGA8N
MGN10F	1.18 (30mm)	.83 (21mm)	MEGA10N
MGN13F	1.38 (35mm)	.94 (24mm)	MEGA13N
MGN16F	1.65 (42mm)	.96 (24.5mm)	MEGA16N
MGN20F	1.81 (46mm)		MEGA20N

TOOL HOLDER BODY O-RING REPLACEMENT



Catalog Number	Body Type
MG6NOR-2P	MEGA6N
MG8NOR-2P	MEGA8N
MG10NOR-2P	MEGA10N
MG13NOR-2P	MEGA13N
MG16NOR-2P	MEGA16N
MG20NOR-2P	MEGA20N
MG25NOR-2P	MEGA25N

• Sold in packages of 2 pcs.

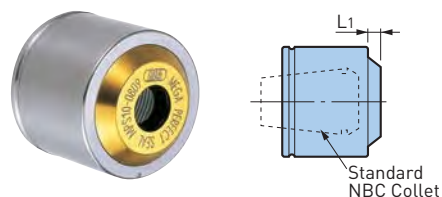


NUTS

MEGA PERFECT SEAL

CLAMPING RANGE: ϕ .118"-.787"

Unique design increases sealing performance with higher coolant pressure to create a perfect seal. Standard NBC Collet can be used.



Two-Way Coolant



**MAX COOLANT
PRESSURE
1,000
PSI**

MEGA 6N

Catalog Number	L1	Cutter Shank ϕ	Collet Model
MPS6-03035	.091	.118-.138	NBC6-3-3.75
MPS6-0304		.118-.157	NBC6-3-4.25
MPS6-04045		.157-.177	NBC6-4-4.75
MPS6-0405		.157-.197	NBC6-4-5.25
MPS6-05055		.197-.217	NBC6-5-5.75
MPS6-0506		.197-.236	NBC6-5-6

• PS RING is included

MEGA 8N

Catalog Number	L1	Cutter Shank ϕ	Collet Model
MPS8-03035	.154	.118-.138	NBC8-3-4
MPS8-0304		.118-.157	NBC8-3-4.5
MPS8-04045		.157-.177	NBC8-4-5
MPS8-0405		.157-.197	NBC8-4-5.5
MPS8-05055		.197-.217	NBC8-5-6
MPS8-0506		.197-.236	NBC8-5-6.5
MPS8-06065	.134	.236-.256	NBC8-6-7
MPS8-0607		.236-.276	NBC8-6-7.5
MPS8-07075		.276-.295	NBC8-7-8
MPS8-0708		.276-.315	NBC8-7-8

• PS RING is included

MEGA 10N

Catalog Number	L1	Cutter Shank ϕ	Collet Model
MPS10-03035	.154	.118-.138	NBC10-3-4
MPS10-0304		.118-.157	NBC10-3-4.5
MPS10-04045		.157-.177	NBC10-4-5
MPS10-0405		.157-.197	NBC10-4-5.5
MPS10-05055		.197-.217	NBC10-5-6
MPS10-0506		.197-.236	NBC10-5-6.5
MPS10-06065	.169	.236-.256	NBC10-6-7
MPS10-0607		.236-.276	NBC10-6-7.5
MPS10-07075		.276-.295	NBC10-7-8
MPS10-0708		.276-.315	NBC10-7-8.5
MPS10-08085	.138	.315-.335	NBC10-8-9
MPS10-0809		.315-.354	NBC10-8-9.5
MPS10-09095		.354-.375	NBC10-9-10
MPS10-0910		.354-.394	NBC10-9-10

• PS RING is included

MEGA 13N

Catalog Number	L1	Cutter Shank ϕ	Collet Model
MPS13-03035	.169	.118-.138	NBC13-3-4
MPS13-0304		.118-.157	NBC13-3-4.5
MPS13-04045		.157-.177	NBC13-4-5
MPS13-0405		.157-.197	NBC13-4-5.5
MPS13-05055		.197-.217	NBC13-5-6
MPS13-0506		.197-.236	NBC13-5-6.5
MPS13-06065	.181	.236-.256	NBC13-6-7
MPS13-0607		.236-.276	NBC13-6-7.5
MPS13-07075		.276-.295	NBC13-7-8
MPS13-0708		.276-.315	NBC13-7-8.5
MPS13-08085	.193	.315-.335	NBC13-8-9
MPS13-0809		.315-.354	NBC13-8-9.5
MPS13-09095		.354-.375	NBC13-9-10
MPS13-0910		.354-.394	NBC13-9-10.5
MPS13-10105	.165	.394-.413	NBC13-10-11
MPS13-1011		.394-.433	NBC13-10-11.5
MPS13-11115		.433-.453	NBC13-11-12
MPS13-1112		.433-.472	NBC13-11-12.5
MPS13-12125		.472-.492	NBC13-12-13
MPS13-1213		.472-.512	NBC13-12-13

• PS RING is included

NUTS

MEGA 16N

Catalog Number	L ₁	Cutter Shank ø	Collet Model
MPS16-03035	.157	.118-.138	NBC16-3-4
MPS16-0304		.118-.157	NBC16-3-4.5
MPS16-04045		.157-.177	NBC16-4-5
MPS16-0405		.157-.197	NBC16-4-5.5
MPS16-05055		.197-.217	NBC16-5-6
MPS16-0506		.197-.236	NBC16-5-6.5
MPS16-06065	.169	.236-.256	NBC16-6-7
MPS16-0607		.236-.276	NBC16-6-7.5
MPS16-07075		.276-.295	NBC16-7-8.5
MPS16-0708		.276-.315	NBC16-7-8.5
MPS16-08085	.181	.315-.335	NBC16-8-9
MPS16-0809		.315-.354	NBC16-8-9.5
MPS16-09095		.354-.375	NBC16-9-10
MPS16-0910		.354-.394	NBC16-9-10.5
MPS16-10105	.201	.394-.413	NBC16-10-11
MPS16-1011		.394-.433	NBC16-10-11.5
MPS16-11115		.433-.453	NBC16-11-12
MPS16-1112		.433-.472	NBC16-11-12.5
MPS16-12125		.472-.492	NBC16-12-13
MPS16-1213	.161	.472-.512	NBC16-12-13.5
MPS16-1314		.512-.551	NBC16-13-14.5
MPS16-1415		.551-.591	NBC16-14-15.5
MPS16-1516		.591-.630	NBC16-15-16

- PS RING is included

MEGA 20N

Catalog Number	L ₁	Cutter Shank ø	Collet Model
MPS20-03035	.157	.118-.138	NBC20-3-4
MPS20-0304		.118-.157	NBC20-3-4.5
MPS20-04045		.157-.177	NBC20-4-5
MPS20-0405		.157-.197	NBC20-4-5.5
MPS20-05055		.197-.217	NBC20-5-6
MPS20-0506		.197-.236	NBC20-5-6.5
MPS20-06065	.169	.236-.256	NBC20-6-7
MPS20-0607		.236-.276	NBC20-6-7.5
MPS20-07075		.276-.295	NBC20-7-8
MPS20-0708		.276-.315	NBC20-7-8.5
MPS20-08085	.181	.315-.335	NBC20-8-9
MPS20-0809		.315-.354	NBC20-8-9.5
MPS20-09095		.354-.375	NBC20-9-10
MPS20-0910		.354-.394	NBC20-9-10.5
MPS20-10105	.201	.394-.413	NBC20-10-11
MPS20-1011		.394-.433	NBC20-10-11.5
MPS20-11115		.433-.453	NBC20-11-12
MPS20-1112		.433-.472	NBC20-11-12.5
MPS20-12125		.472-.492	NBC20-12-13
MPS20-1213	.205	.472-.512	NBC20-12-13.5
MPS20-1314		.512-.551	NBC20-13-14.5
MPS20-1415		.551-.591	NBC20-14-15.5
MPS20-1516		.591-.630	NBC20-15-16.5
MPS20-1617	.181	.630-.669	NBC20-16-17.5
MPS20-1718		.669-.709	NBC20-17-18.5
MPS20-1819		.709-.750	NBC20-18-19.5
MPS20-1920		.751-.787	NBC20-19-20

- PS RING is included

CAUTION

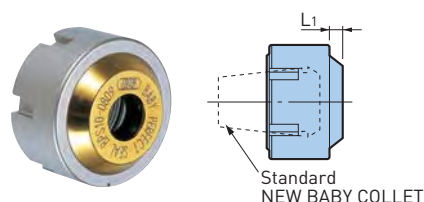
For Jet Through application by removing the PS RING, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

NUTS

BABY PERFECT SEAL

CLAMPING RANGE: ϕ .118"-.787"

Unique design increases sealing performance with higher coolant pressure to create a perfect seal and reliable coolant supply to the tool tip.



NBS6

Catalog Number	L1	Cutter Shank ϕ	Collet Model
BPS6-03035	.091	.118-.138	NBC6-3-3.75
BPS6-0304		.118-.157	NBC6-3-4.25
BPS6-04045		.157-.177	NBC6-4-4.75
BPS6-0405		.157-.197	NBC6-4-5.25
BPS6-05055		.197-.217	NBC6-5-5.75
BPS6-0506		.197-.236	NBC6-5-6

- PS RING is included

NBS10

Catalog Number	L1	Cutter Shank ϕ	Collet Model
BPS10-03035	.154	.118-.138	NBC10-3-4
BPS10-0304		.118-.157	NBC10-3-4.5
BPS10-04045		.157-.177	NBC10-4-5
BPS10-0405		.157-.197	NBC10-4-5.5
BPS10-05055		.197-.217	NBC10-5-6
BPS10-0506		.197-.236	NBC10-5-6.5
BPS10-06065	.169	.236-.256	NBC10-6-7
BPS10-0607		.236-.276	NBC10-6-7.5
BPS10-07075		.276-.295	NBC10-7-8
BPS10-0708		.276-.315	NBC10-7-8.5
BPS10-08085	.138	.315-.335	NBC10-8-9
BPS10-0809		.315-.354	NBC10-8-9.5
BPS10-09095		.354-.375	NBC10-9-10
BPS10-0910		.354-.394	NBC10-9-10

- PS RING is included

Two-Way Coolant



**MAX COOLANT
PRESSURE
1,000
PSI**

NBS8

Catalog Number	L1	Cutter Shank ϕ	Collet Model
BPS8-03035	.154	.118-.138	NBC8-3-4
BPS8-0304		.118-.157	NBC8-3-4.5
BPS8-04045		.157-.177	NBC8-4-5
BPS8-0405		.157-.197	NBC8-4-5.5
BPS8-05055		.197-.217	NBC8-5-6
BPS8-0506		.197-.236	NBC8-5-6.5
BPS8-06065	.134	.236-.256	NBC8-6-7
BPS8-0607		.236-.276	NBC8-6-7.5
BPS8-07075		.276-.295	NBC8-7-8
BPS8-0708		.276-.315	NBC8-7-8

- PS RING is included

NBS13

Catalog Number	L1	Cutter Shank ϕ	Collet Model
BPS13-03035	.169	.118-.138	NBC13-3-4
BPS13-0304		.118-.157	NBC13-3-4.5
BPS13-04045		.157-.177	NBC13-4-5
BPS13-0405		.157-.197	NBC13-4-5.5
BPS13-05055		.197-.217	NBC13-5-6
BPS13-0506		.197-.236	NBC13-5-6.5
BPS13-06065	.181	.236-.256	NBC13-6-7
BPS13-0607		.236-.276	NBC13-6-7.5
BPS13-07075		.276-.295	NBC13-7-8
BPS13-0708		.276-.315	NBC13-7-8.5
BPS13-08085	.193	.315-.335	NBC13-8-9
BPS13-0809		.315-.354	NBC13-8-9.5
BPS13-09095		.354-.375	NBC13-9-10
BPS13-0910		.354-.394	NBC13-9-10.5
BPS13-10105	.165	.394-.413	NBC13-10-11
BPS13-1011		.394-.433	NBC13-10-11.5
BPS13-11115		.433-.453	NBC13-11-12
BPS13-1112		.433-.472	NBC13-11-12.5
BPS13-12125		.472-.492	NBC13-12-13
BPS13-1213		.472-.512	NBC13-12-13

- PS RING is included

NUTS

NBS16

Catalog Number	L1	Cutter Shank ø	Collet Model
BPS16-03035	.157	.118-.138	NBC16-3-4
BPS16-0304		.118-.157	NBC16-3-4.5
BPS16-04045		.157-.177	NBC16-4-5
BPS16-0405		.157-.197	NBC16-4-5.5
BPS16-05055		.197-.217	NBC16-5-6
BPS16-0506		.197-.236	NBC16-5-6.5
BPS16-06065	.169	.236-.256	NBC16-6-7
BPS16-0607		.236-.276	NBC16-6-7.5
BPS16-07075		.276-.295	NBC16-7-8
BPS16-0708		.276-.315	NBC16-7-8.5
BPS16-08085	.181	.315-.335	NBC16-8-9
BPS16-0809		.315-.354	NBC16-8-9.5
BPS16-09095		.354-.375	NBC16-9-10
BPS16-0910		.354-.394	NBC16-9-10.5
BPS16-10105	.201	.394-.413	NBC16-10-11
BPS16-1011		.394-.433	NBC16-10-11.5
BPS16-11115		.433-.453	NBC16-11-12
BPS16-1112		.433-.472	NBC16-11-12.5
BPS16-12125	.161	.472-.492	NBC16-12-13
BPS16-1213		.472-.512	NBC16-12-13.5
BPS16-1314		.512-.551	NBC16-13-14.5
BPS16-1415		.551-.591	NBC16-14-15.5
BPS16-1516		.591-.630	NBC16-15-16

- PS RING is included

NBS20

Catalog Number	L1	Cutter Shank ø	Collet Model
BPS20-03035	.157	.118-.138	NBC20-3-4
BPS20-0304		.118-.157	NBC20-3-4.5
BPS20-04045		.157-.177	NBC20-4-5
BPS20-0405		.157-.197	NBC20-4-5.5
BPS20-05055		.197-.217	NBC20-5-6
BPS20-0506		.197-.236	NBC20-5-6.5
BPS20-06065	.169	.236-.256	NBC20-6-7
BPS20-0607		.236-.276	NBC20-6-7.5
BPS20-07075		.276-.295	NBC20-7-8
BPS20-0708		.276-.315	NBC20-7-8.5
BPS20-08085	.181	.315-.335	NBC20-8-9
BPS20-0809		.315-.354	NBC20-8-9.5
BPS20-09095		.354-.375	NBC20-9-10
BPS20-0910		.354-.394	NBC20-9-10.5
BPS20-10105	.201	.394-.413	NBC20-10-11
BPS20-1011		.394-.433	NBC20-10-11.5
BPS20-11115		.433-.453	NBC20-11-12
BPS20-1112		.433-.472	NBC20-11-12.5
BPS20-12125	.161	.472-.492	NBC20-12-13
BPS20-1213		.472-.512	NBC20-12-13.5
BPS20-1314		.512-.551	NBC20-13-14.5
BPS20-1415		.551-.591	NBC20-14-15.5
BPS20-1516		.591-.630	NBC20-15-16.5
BPS20-1617	.181	.630-.669	NBC20-16-17.5
BPS20-1718		.669-.709	NBC20-17-18.5
BPS20-1819		.709-.750	NBC20-18-19.5
BPS20-1920		.751-.787	NBC20-19-20

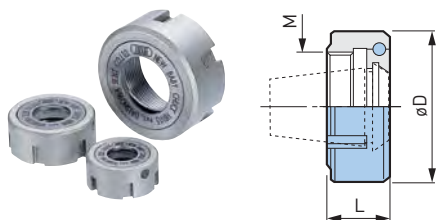
- PS RING is included

CAUTION

For Jet Through application by removing the PS RING, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

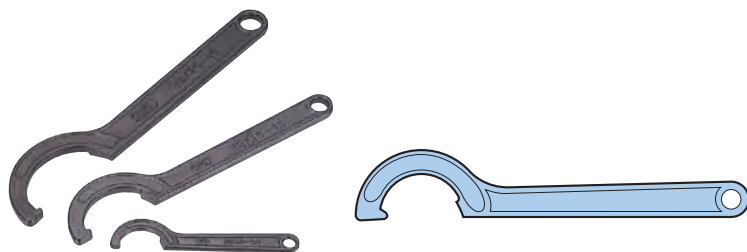
NUTS & WRENCHES

NEW BABY NUT



Catalog Number	øD	L	M	Body Type
NBN6	.79 (20mm)	.37 (9.5mm)	M12 P1	NBS6
NBN8	.98 (25mm)	.43 (11mm)	M16 P1	NBS8
NBN10	1.18 (30mm)	.49 (12.5mm)	M21 P1	NBS10
NBN13	1.38 (35mm)	.63 (16mm)	M26 P1	NBS13
NBN16	1.65 (42mm)		M32 P1	NBS16
NBN20	1.81 (46mm)		M36 P1	NBS20

SPANNER WRENCH (FOR NEW BABY CHUCKS & MEGA ER GRIP)



Catalog Number	Nut Diameter	NBN Nut	BPS Sealed Nut
NBK6	.79 (20mm)	NBN6	BPS6
NBK8	.98 (25mm)	NBN8	BPS8
NBK10	1.18 (30mm)	NBN10	BPS10
NBK13	1.38 (35mm)	NBN13	BPS13
NBK16	1.65 (42mm)	NBN16	BPS16
NBK20	1.81 (46mm)	NBN20	BPS20

TORQUE WRENCH (FOR NEW BABY CHUCKS)

Wrench with torque limiter.



Catalog Number		Nut Model
NBK6TL	NBK6TLS❖	NBN6/BPS6
NBK8TL	NBK8TLS❖	NBN8/BPS8
NBK10TL	NBK10TLS❖	NBN10/BPS10
NBK13TL	—	NBN13/BPS13
NBK16TL	—	NBN16/BPS16
NBK20TL	—	NBN20/BPS20

• For ø3mm or smaller shank tools use TLS models marked ❖

ACCESSORIES

COLLET EJECTOR

Easily and quickly insert/remove small sizes of NEW BABY COLLETS from MEGA NUTS & NEW BABY NUTS.



(FOR NEW BABY COLLET)

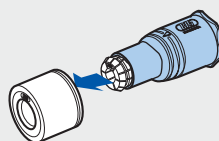
Catalog Number	Nut	Collet
NBC6-CE	MGN6, NBN6	NBC6
NBC8-CE	MGN8, NBN8	NBC8
NBC10-CE	MGN10, NBN10	NBC10
NBC13-CE	MGN13, NBN13	NBC13

(FOR NEW BABY END MILL COLLET)

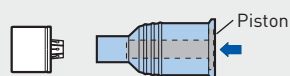
Catalog Number	Nut	Collet
NBC6E-CE	MGN6, NBN6	NBC6E
NBC8E-CE	MGN8, NBN8	NBC8E
NBC10E-CE	MGN10, NBN10	NBC10E
NBC13E-CE	MGN13, NBN13	NBC13E

How to Insert a Collet

1. Insert the collet into the Collet Ejector. Then insert it into the nut.

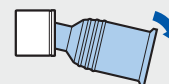


2. Depress the piston and remove the Collet Ejector.

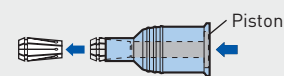


How to Remove a Collet

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



2. Depress the piston and the collet will be removed.

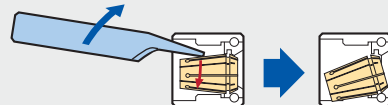


COLLET REMOVER

Eases removal of the collet from the nut. Especially helpful for small collet series (MEGA6N to 13N).



How to Use

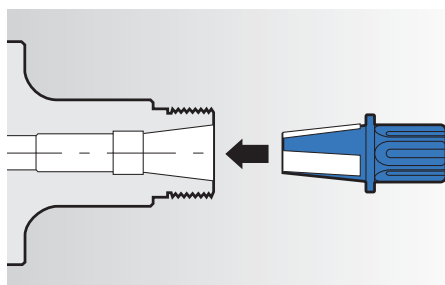


Catalog Number

NBJ

α TAPER CLEANER (FOR MEGA NEW BABY CHUCKS & NEW BABY CHUCKS)

To maintain the accuracy of high precision collet chucks by cleaning the internal collet taper.



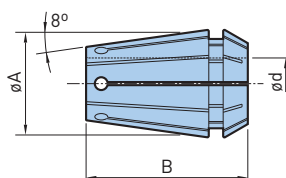
Catalog Number	Chuck Body
SC-NBC6	MEGA6N, NBS6
SC-NBC8	MEGA8N, NBS8
SC-NBC10	MEGA10N, NBS10
SC-NBC13	MEGA13N, NBS13
SC-NBC16	MEGA16N, NBS16
SC-NBC20	MEGA20N, NBS20

COLLETS

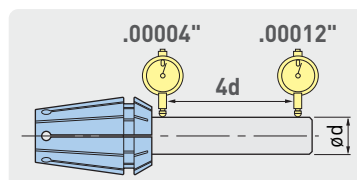
ERC COLLET

CLAMPING RANGE: ϕ .075"-.787"

Each ERC collet is inspected twice (0° and 180°) at 4 times diameter to guarantee the runout accuracy. The "AA grade" is marked on only those collets that pass the inspection process for accuracy.



Guaranteed Max Runout



MEGA ER11

Catalog Number	Clamping Range ϕd
ERC11-3AA	.108-.118
ERC11-3.25AA	.118-.128
ERC11-3.5AA	.128-.138
ERC11-3.75AA	.138-.148
ERC11-4AA	.148-.157
ERC11-4.25AA	.157-.167
ERC11-4.5AA	.167-.177
ERC11-4.75AA	.177-.187
ERC11-5AA	.187-.197
ERC11-5.25AA	.197-.207
ERC11-5.5AA	.207-.217
ERC11-5.75AA	.217-.226
ERC11-6AA	.217-.236

$\phi A = .43$ (11mm) $B = .71$ (18mm)

MEGA ER16

Catalog Number	Clamping Range ϕd
ERC16-2AA	.075-.079
ERC16-2.1AA	.079-.083
ERC16-2.2AA	.083-.087
ERC16-2.3AA	.087-.091
ERC16-2.4AA	.091-.094
ERC16-2.5AA	.094-.098
ERC16-2.6AA	.098-.102
ERC16-2.7AA	.102-.106
ERC16-2.8AA	.106-.110
ERC16-2.9AA	.110-.114
ERC16-3AA	.108-.118
ERC16-3.25AA	.118-.128
ERC16-3.5AA	.128-.138
ERC16-3.75AA	.138-.148
ERC16-4AA	.148-.157
ERC16-4.25AA	.157-.167
ERC16-4.5AA	.167-.177
ERC16-4.75AA	.177-.187
ERC16-5AA	.187-.197
ERC16-5.25AA	.197-.207
ERC16-5.5AA	.207-.217
ERC16-5.75AA	.217-.226
ERC16-6AA	.217-.236
ERC16-6.5AA	.236-.256
ERC16-7AA	.256-.276
ERC16-7.5AA	.276-.295
ERC16-8AA	.295-.315
ERC16-8.5AA	.315-.335
ERC16-9AA	.335-.354
ERC16-9.5AA	.354-.375
ERC16-10AA	.376-.394

$\phi A = .63$ (16mm) $B = 1.08$ (27.5mm)

MEGA ER20

Catalog Number	Clamping Range ϕd
ERC20-3AA	.108-.118
ERC20-3.25AA	.118-.128
ERC20-3.5AA	.128-.138
ERC20-3.75AA	.138-.148
ERC20-4AA	.148-.157
ERC20-4.25AA	.157-.167
ERC20-4.5AA	.167-.177
ERC20-4.75AA	.177-.187
ERC20-5AA	.187-.197
ERC20-5.25AA	.197-.207
ERC20-5.5AA	.207-.217
ERC20-5.75AA	.217-.226
ERC20-6AA	.217-.236
ERC20-6.5AA	.236-.256
ERC20-7AA	.256-.276
ERC20-7.5AA	.276-.295
ERC20-8AA	.295-.315
ERC20-8.5AA	.315-.335
ERC20-9AA	.335-.354
ERC20-9.5AA	.354-.375
ERC20-10AA	.376-.394
ERC20-10.5AA	.394-.413
ERC20-11AA	.413-.433
ERC20-11.5AA	.433-.453
ERC20-12AA	.453-.472
ERC20-12.5AA	.472-.492
ERC20-13AA	.492-.512

$\phi A = .79$ (20mm) $B = 1.24$ (31.5mm)

COLLETS

MEGA ER25

Catalog Number	Clamping Range ϕ d
ERC25-3AA	.108-.118
ERC25-3.25AA	.118-.128
ERC25-3.5AA	.128-.138
ERC25-3.75AA	.138-.148
ERC25-4AA	.148-.157
ERC25-4.25AA	.157-.167
ERC25-4.5AA	.167-.177
ERC25-4.75AA	.177-.187
ERC25-5AA	.187-.197
ERC25-5.25AA	.197-.207
ERC25-5.5AA	.207-.217
ERC25-5.75AA	.217-.226
ERC25-6AA	.217-.236
ERC25-6.5AA	.236-.256
ERC25-7AA	.256-.276
ERC25-7.5AA	.276-.295
ERC25-8AA	.295-.315
ERC25-8.5AA	.315-.335
ERC25-9AA	.335-.354
ERC25-9.5AA	.354-.375
ERC25-10AA	.376-.394
ERC25-10.5AA	.394-.413
ERC25-11AA	.413-.433
ERC25-11.5AA	.433-.453
ERC25-12AA	.453-.472
ERC25-12.5AA	.472-.492
ERC25-13AA	.492-.512
ERC25-13.5AA	.512-.531
ERC25-14AA	.531-.551
ERC25-14.5AA	.551-.571
ERC25-15AA	.571-.591
ERC25-15.5AA	.591-.610
ERC25-16AA	.610-.630

$\phi A = .98$ (25mm) B=1.34 (24mm)

MEGA ER32

Catalog Number	Clamping Range ϕ d
ERC32-3AA	.108-.118
ERC32-3.25AA	.118-.128
ERC32-3.5AA	.128-.138
ERC32-3.75AA	.138-.148
ERC32-4AA	.148-.157
ERC32-4.25AA	.157-.167
ERC32-4.5AA	.167-.177
ERC32-4.75AA	.177-.187
ERC32-5AA	.187-.197
ERC32-5.25AA	.197-.207
ERC32-5.5AA	.207-.217
ERC32-5.75AA	.217-.226
ERC32-6AA	.217-.236
ERC32-6.5AA	.236-.256
ERC32-7AA	.256-.276
ERC32-7.5AA	.276-.295
ERC32-8AA	.295-.315
ERC32-8.5AA	.315-.335
ERC32-9AA	.335-.354
ERC32-9.5AA	.354-.375
ERC32-10AA	.376-.394
ERC32-10.5AA	.394-.413

Catalog Number	Clamping Range ϕ d
ERC32-11AA	.413-.433
ERC32-11.5AA	.433-.453
ERC32-12AA	.453-.472
ERC32-12.5AA	.472-.492
ERC32-13AA	.492-.512
ERC32-13.5AA	.512-.531
ERC32-14AA	.531-.551
ERC32-14.5AA	.551-.571
ERC32-15AA	.571-.591
ERC32-15.5AA	.591-.610
ERC32-16AA	.610-.630
ERC32-16.5AA	.630-.650
ERC32-17AA	.650-.670
ERC32-17.5AA	.670-.690
ERC32-18AA	.690-.709
ERC32-18.5AA	.709-.728
ERC32-19AA	.728-.749
ERC32-19.5AA	.750-.768
ERC32-20AA	.768-.787

$\phi A = 1.26$ (32mm) B=1.58 (40mm)

- BIG's ERC collets have a maximum clamping capacity of $.020/\phi$ (.5mm/ ϕ)
- To obtain the best runout accuracy and rigidity, ERC collets for smaller tools have a reduced clamping range
- For best results, users should avoid clamping tools with shank diameters less than the recommended clamping range

CAUTION

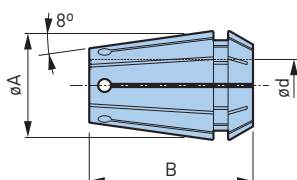
Conventional DIN collets have a clamping range of 1mm/ ϕ . Never use ERC collets for more than $.020/\phi$ (.5mm/ ϕ) below nominal size. To maintain the accuracy of the tool assembly, do not use collets and nuts manufactured by another company with the chuck body of BIG's MEGA ER GRIP. We cannot guarantee the accuracy stated for our collets if they are assembled on the chuck body of another manufacturer.

COLLETS

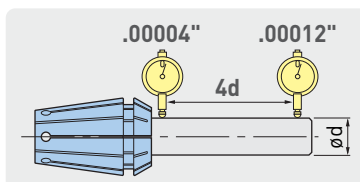
ERC END MILL COLLET

CLAMPING RANGE: ϕ .125"-.750" (ϕ 3-20mm)

"Just fit" collet for end mills. Nominal sizes of collets for the most popular end mill shank reduces the unsupported overhang of the collet when clamped into the chuck body. This increases the rigidity of the tool assembly in the horizontal direction which is very important to end milling operations. Available in both metric and inch sizes.



Guaranteed Max Runout



MEGA ER16

Catalog Number	Clamping Range ϕd
ERC16-1/8EAA	.125
ERC16-3/16EAA	.188
ERC16-1/4EAA	.250
ERC16-5/16EAA	.312
ERC16-3/8EAA	.375
ERC16-3EAA	3mm
ERC16-4EAA	4mm
ERC16-5EAA	5mm
ERC16-6EAA	6mm
ERC16-7EAA	7mm
ERC16-8EAA	8mm
ERC16-9EAA	9mm
ERC16-10EAA	10mm

$\phi A = .63$ (16mm) $B = 1.08$ (27.5mm)

MEGA ER20

Catalog Number	Clamping Range ϕd
ERC20-1/8EAA	.125
ERC20-3/16EAA	.188
ERC20-1/4EAA	.250
ERC20-5/16EAA	.312
ERC20-3/8EAA	.375
ERC20-7/16EAA	.438
ERC20-1/2EAA	.500
ERC20-3EAA	3mm
ERC20-4EAA	4mm
ERC20-5EAA	5mm
ERC20-6EAA	6mm
ERC20-7EAA	7mm
ERC20-8EAA	8mm
ERC20-9EAA	9mm
ERC20-10EAA	10mm
ERC20-11EAA	11mm
ERC20-12EAA	12mm

$\phi A = .79$ (20mm) $B = 1.24$ (31.5mm)

MEGA ER25

Catalog Number	Clamping Range ϕd
ERC25-1/8EAA	.125
ERC25-3/16EAA	.188
ERC25-1/4EAA	.250
ERC25-5/16EAA	.312
ERC25-3/8EAA	.375
ERC25-7/16EAA	.438
ERC25-1/2EAA	.500
ERC25-9/16EAA	.563
ERC25-5/8EAA	.625
ERC25-3EAA	3mm
ERC25-4EAA	4mm
ERC25-5EAA	5mm
ERC25-6EAA	6mm
ERC25-7EAA	7mm
ERC25-8EAA	8mm
ERC25-9EAA	9mm
ERC25-10EAA	10mm
ERC25-11EAA	11mm
ERC25-12EAA	12mm
ERC25-13EAA	13mm
ERC25-14EAA	14mm
ERC25-15EAA	15mm
ERC25-16EAA	16mm

$\phi A = .98$ (25mm) $B = 1.34$ (34mm)

MEGA ER32

Catalog Number	Clamping Range ϕd
ERC32-1/8EAA	.125
ERC32-3/16EAA	.188
ERC32-1/4EAA	.250
ERC32-5/16EAA	.312
ERC32-3/8EAA	.375
ERC32-7/16EAA	.438
ERC32-1/2EAA	.500
ERC32-9/16EAA	.563
ERC32-5/8EAA	.625
ERC32-3/4EAA	.750
ERC32-3EAA	3mm
ERC32-4EAA	4mm
ERC32-5EAA	5mm
ERC32-6EAA	6mm
ERC32-7EAA	7mm
ERC32-8EAA	8mm
ERC32-9EAA	9mm
ERC32-10EAA	10mm
ERC32-11EAA	11mm
ERC32-12EAA	12mm
ERC32-13EAA	13mm
ERC32-14EAA	14mm
ERC32-15EAA	15mm
ERC32-16EAA	16mm
ERC32-18EAA	18mm
ERC32-20EAA	20mm

$\phi A = 1.26$ (32mm) $B = 1.58$ (40mm)

NUTS

A Variety of Nuts are Available For MEGA ER CHUCKS



MEGA ER PERFECT SEAL



MEGA WRENCH

Capable of sealing high pressure coolant up to 1000 PSI. For applications with coolant supplied through the tools. Mega Wrench is used for tightening.



MEGA ER NUT



MEGA WRENCH

High accuracy and clamping force are provided with thrust ball bearings. Ideal for solid carbide drills and reamers. Slot-free outer diameter increases rigidity of the nut itself. The one-way clutch of the Mega Wrench tightens the nut securely and easily by ratchet function.



MEGA ER SOLID NUT



MEGA WRENCH

High performance solid nut with surface treatment for friction reduction. Slot-free outer diameter increases rigidity of the nut itself. The one-way clutch of the Mega Wrench tightens the nut securely and easily by ratchet function.



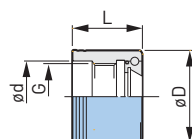
ER NUT



SPANNER WRENCH

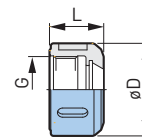
Basic nut with surface treatment for friction reduction. Spanner wrench is used for tightening.

MEGA ER NUT



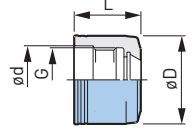
Catalog Number	øD	L	G	ød	Wrench Type	Body Type
MERN11	.787	.709	M14×P0.75	.575	MGR20L	MEGAER11
MERN16	1.181	.984	M22×P1.5	.906	MGR30L	MEGAER16
MERN20	1.378	1.043	M25×P1.5	1.063	MGR35L	MEGAER20
MERN25	1.654	1.083	M32×P1.5	1.319	MGR42L	MEGAER25
MERN32	1.969	1.189	M40×P1.5	1.614	MGR50L	MEGAER32

ER NUT



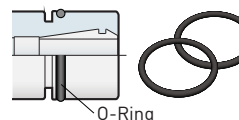
Catalog Number	øD	L	G	Spanner Type	Body Type
ERN11	.748	.484	M14×P0.75	NBK6	ER11
ERN16	1.181	.748	M22×P1.5	NBK10	ER16
ERN20	1.378	.807	M25×P1.5	NBK13	ER20
ERN25	1.654	.846	M32×P1.5	NBK16	ER25
ERN32	1.969	.945	M40×P1.5	FK45-50L	ER32

MEGA ER SOLID NUT



Catalog Number	øD	L	G	ød	Wrench Type	Body Type
MER16SN	1.181	.984	M22×P1.5	.906	MGR30L	MEGAER16
MER20SN	1.378	1.043	M25×P1.5	1.063	MGR35L	MEGAER20
MER25SN	1.654	1.083	M32×P1.5	1.319	MGR42L	MEGAER25
MER32SN	1.969	1.189	M40×P1.5	1.614	MGR50L	MEGAER32

TOOL HOLDER BODY O-RING REPLACEMENT



Catalog Number	Body Type
MER16OR	MEGAER16
MER20OR	MEGAER20
MER25OR	MEGAER25
MER32OR	MEGAER32

• Sold in packages of 2 pcs.

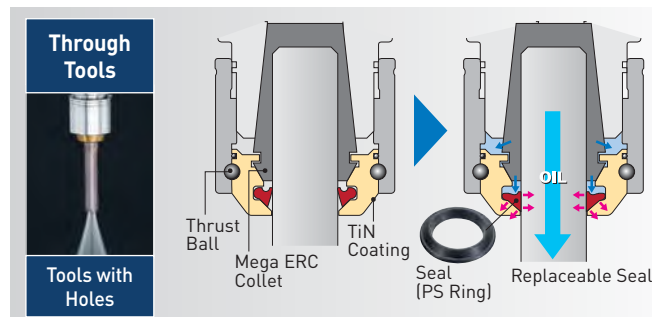
NUTS

MEGA ER PERFECT SEAL

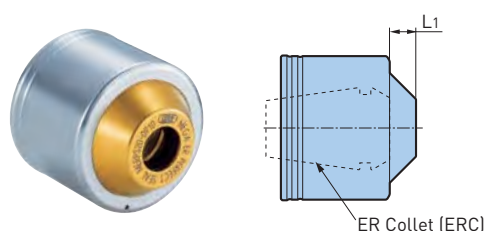
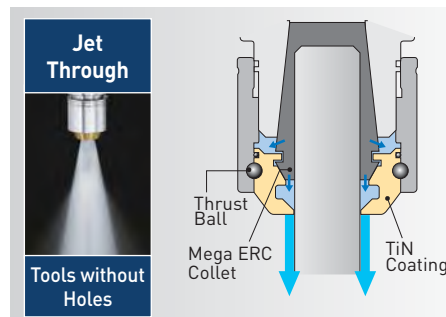
Sealed collet nut for coolant-through tools.

MAX COOLANT
PRESSURE
1,000
PSI

With PS RING



Without PS RING



MEGA ER16

Catalog Number	L1	Cutter Shank ø	Collet Model (Inch)	Collet Model (Metric)
MERPS16-030035	.252	.118-.138	ERC16-1/8E	ERC16-3-3.75
MERPS16-035040		.138-.157	—	ERC16-3.5-4.25
MERPS16-040045		.157-.177	—	ERC16-4-4.75
MERPS16-045050		.177-.197	ERC16-3/16E	ERC16-4.5-5.25
MERPS16-050055		.197-.217	—	ERC16-5-6
MERPS16-055060		.217-.236	—	ERC16-5.5-6.5
MERPS16-060065	.268	.236-.256	ERC16-1/4E	ERC16-6-7
MERPS16-065070		.256-.276	—	ERC16-6.5-7.5
MERPS16-070075		.276-.295	—	ERC16-7-8
MERPS16-075080		.295-.315	ERC16-5/16E	ERC16-7.5-8.5
MERPS16-080085	.240	.315-.335	—	ERC16-8-9
MERPS16-085090		.335-.354	—	ERC16-8.5-9.5
MERPS16-090095		.354-.375	ERC16-3/8E	ERC16-9-10
MERPS16-095100		.374-.394	—	ERC16-9.5-10

MEGA ER20

Catalog Number	L1	Cutter Shank ø	Collet Model (Inch)	Collet Model (Metric)
MERPS20-030035	.252	.118-.138	ERC20-1/8E	ERC20-3-3.75
MERPS20-035040		.138-.157	—	ERC20-3.5-4.25
MERPS20-040045		.157-.177	—	ERC20-4-4.75
MERPS20-045050		.177-.197	ERC20-3/16E	ERC20-4.5-5.25
MERPS20-050055		.197-.217	—	ERC20-5-6
MERPS20-055060		.217-.236	—	ERC20-5.5-6.5
MERPS20-060065	.268	.236-.256	ERC20-1/4E	ERC20-6-7
MERPS20-065070		.256-.276	—	ERC20-6.5-7.5
MERPS20-070075		.276-.295	—	ERC20-7-8
MERPS20-075080		.295-.315	ERC20-5/16E	ERC20-7.5-8.5
MERPS20-080085	.272	.315-.335	—	ERC20-8-9
MERPS20-085090		.335-.354	—	ERC20-8.5-9.5
MERPS20-090095		.354-.375	ERC20-3/8E	ERC20-9-10
MERPS20-095100		.374-.394	—	ERC20-9.5-10.5
MERPS20-100105	.260	.394-.413	—	ERC20-10-11
MERPS20-105110		.413-.433	—	ERC20-10.5-11.5
MERPS20-110115		.433-.453	ERC20-7/16E	ERC20-11-12
MERPS20-115120		.453-.472	—	ERC20-11.5-12.5
MERPS20-120125		.472-.492	—	ERC20-12-13
MERPS20-125130		.492-.512	ERC20-1/2E	ERC20-12.5-13

NUTS & NUT ACCESSORIES

MEGA ER25

Catalog Number	L1	Cutter Shank ø	Collet Model (Inch)	Collet Model (Metric)
MERPS25-030035	.248	.118-.138	ERC25-1/8E	ERC25-3-3.75
MERPS25-035040		.138-.157	—	ERC25-3.5-4.25
MERPS25-040045		.157-.177	—	ERC25-4-4.75
MERPS25-045050		.177-.197	ERC25-3/16E	ERC25-3-4.5-5.25
MERPS25-050055		.197-.217	—	ERC25-5-6
MERPS25-055060		.217-.236	—	ERC25-5.5-6.5
MERPS25-060065	.264	.236-.256	ERC25-1/4E	ERC25-6-7
MERPS25-065070		.256-.276	—	ERC25-6.5-7.5
MERPS25-070075		.276-.295	—	ERC25-7-8
MERPS25-075080		.295-.315	ERC25-5/16E	ERC25-7.5-8.5
MERPS25-080085	.268	.315-.335	—	ERC25-8-9
MERPS25-085090		.335-.354	—	ERC25-8.5-9.5
MERPS25-090095		.354-.375	ERC25-3/8E	ERC25-9-10
MERPS25-095100		.374-.394	—	ERC25-9.5-10.5
MERPS25-100105	.287	.394-.413	—	ERC25-10-11
MERPS25-105110		.413-.433	—	ERC25-10.5-11.5
MERPS25-110115		.433-.453	ERC25-7/16E	ERC25-11-12
MERPS25-115120		.453-.472	—	ERC25-11.5-12.5
MERPS25-120125		.472-.492	—	ERC25-12-13
MERPS25-125130		.492-.512	ERC25-1/2E	ERC25-12.5-13
MERPS25-130140	.260	.512-.551	—	ERC25-13-14.5
MERPS25-140150		.551-.591	ERC25-9/16E	ERC25-14-15.5
MERPS25-150160		.591-.630	ERC25-5/8E	ERC25-15-16

MEGA ER32

Catalog Number	L1	Cutter Shank ø	Collet Model (Inch)	Collet Model (Metric)
MERPS32-030035	.244	.118-.138	ERC32-1/8E	ERC32-3-3.75
MERPS32-035040		.138-.157	—	ERC32-3.5-4.25
MERPS32-040045		.157-.177	—	ERC32-4-4.75
MERPS32-045050		.177-.197	ERC32-3/16E	ERC32-4.5-5.25
MERPS32-050055		.197-.217	—	ERC32-5-6
MERPS32-055060		.217-.236	—	ERC32-5.5-6.5
MERPS32-060065	.260	.236-.256	ERC32-1/4E	ERC32-6-7
MERPS32-065070		.256-.276	—	ERC32-6.5-7.5
MERPS32-070075		.276-.295	—	ERC32-7-8
MERPS32-075080		.295-.315	ERC32-5/16E	ERC32-7.5-8.5
MERPS32-080085	.264	.315-.335	—	ERC32-8-9
MERPS32-085090		.335-.354	—	ERC32-8.5-9.5
MERPS32-090095		.354-.375	ERC32-3/8E	ERC32-9-10
MERPS32-095100		.374-.394	—	ERC32-9.5-10.5
MERPS32-100105	.283	.394-.413	—	ERC32-10-11
MERPS32-105110		.413-.433	—	ERC32-10.5-11.5
MERPS32-110115		.433-.453	ERC32-7/16E	ERC32-11-12
MERPS32-115120		.453-.472	—	ERC32-11.5-12.5
MERPS32-120125		.472-.492	—	ERC32-12-13
MERPS32-125130		.492-.512	ERC32-1/2E	ERC32-12.5-13.5
MERPS32-130140	.287	.512-.551	—	ERC32-13-14.5
MERPS32-140150		.551-.591	ERC32-9/16E	ERC32-14-15.5
MERPS32-150160		.591-.630	ERC32-5/8E	ERC32-15-16.5
MERPS32-160170	.307	.630-.669	—	ERC32-16-17.5
MERPS32-170180		.669-.709	—	ERC32-17-18.5
MERPS32-180190		.709-.748	—	ERC32-18-19.5
MERPS32-190200		.748-.787	ERC32-3/4E	ERC32-19-20

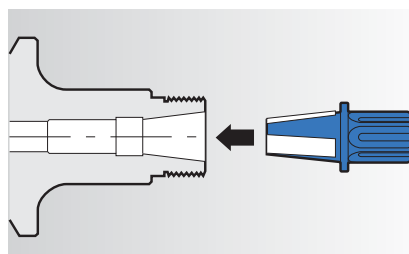
• PS RING is included

ACCESSORIES



α TAPER CLEANER (FOR ER COLLET CHUCKS)

To maintain the accuracy of high precision collet chucks by cleaning the internal collet taper.

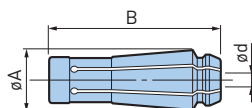


Catalog Number	Chuck Body
SC-MER11	ER11
SC-MER16	ER16
SC-MER20	ER20
SC-MER25	ER25
SC-MER32	ER32

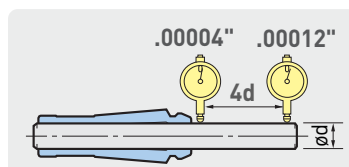
COLLETS & CLEANING ACCESSORIES

MEGA E COLLET

CLAMPING RANGE: ϕ .125"-.500" (ϕ 3-12mm)



Guaranteed Max Runout



All BIG Collets are AA Grade and inspected twice for accuracy

MEGA 6E

Catalog Number	Clamping Range ϕ d
MEC6-1/8AA	.125
MEC6-3/16AA	.187
MEC6-1/4AA	.250
MEC6-3AA	3mm
MEC6-4AA	4mm
MEC6-5AA	5mm
MEC6-6AA	6mm

ϕ A=.44 [11.3mm] B=1.37 [34.9mm]

MEGA 8E

Catalog Number	Clamping Range ϕ d
MEC8-1/8AA	.125
MEC8-3/16AA	.187
MEC8-1/4AA	.250
MEC8-3AA	3mm
MEC8-4AA	4mm
MEC8-5AA	5mm
MEC8-6AA	6mm
MEC8-7AA	7mm
MEC8-8AA	8mm

ϕ A=.56 [14.1mm] B=1.55 [39.4mm]

MEGA 10E

Catalog Number	Clamping Range ϕ d
MEC10-1/8AA	.125
MEC10-3/16AA	.187
MEC10-1/4AA	.250
MEC10-5/16AA	.312
MEC10-3/8AA	.375
MEC10-3AA	3mm
MEC10-4AA	4mm
MEC10-5AA	5mm
MEC10-6AA	6mm
MEC10-7AA	7mm
MEC10-8AA	8mm
MEC10-9AA	9mm
MEC10-10AA	10mm

ϕ A=.67 [17.1mm] B=1.80 [45.7mm]

MEGA 13E

Catalog Number	Clamping Range ϕ d
MEC13-1/8AA	.125
MEC13-3/16AA	.187
MEC13-1/4AA	.250
MEC13-5/16AA	.312
MEC13-3/8AA	.375
MEC13-7/16AA	.437
MEC13-1/2AA	.500
MEC13-3AA	3mm
MEC13-4AA	4mm
MEC13-5AA	5mm
MEC13-6AA	6mm
MEC13-7AA	7mm
MEC13-8AA	8mm
MEC13-9AA	9mm
MEC13-10AA	10mm
MEC13-12AA	12mm

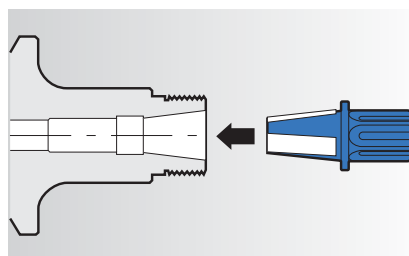
ϕ A=.81 [20.6mm] B=1.89 [47.9mm]

CAUTION

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

α TAPER CLEANER (FOR MEGA E CHUCKS)

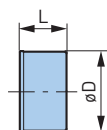
To maintain the accuracy of high precision collet chucks by cleaning the internal collet taper.



Catalog Number	Chuck Body
SC-MEC6	MEGA6E
SC-MEC8	MEGA8E
SC-MEC10	MEGA10E
SC-MEC13	MEGA13E

NUTS

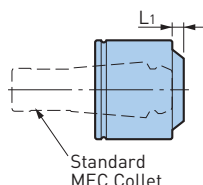
MEGA E NUT



Catalog Number	øD	L	Body Type
MEN6	.98 (25mm)	.81 (20.5mm)	MEGA6E
MEN8	1.18 (30mm)	.87 (22mm)	MEGA8E
MEN10	1.38 (35mm)	.89 (22.5mm)	MEGA10E
MEN13	1.65 (42mm)	.96 (24.5mm)	MEGA13E

MEGA E PERFECT SEAL

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



MEGA6E

Catalog Number	L1	Cutter Shank ø	Collet Model
EPS6-03	.220	.118	MEC6-3
EPS6-04	.205	4mm (1/8)	MEC6-4
EPS6-05		5mm (3/16)	MEC6-5
EPS6-06		.236	MEC6-6

- PS RING is included

MEGA10E

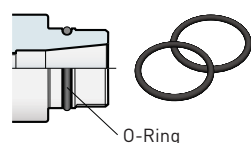
Catalog Number	L1	Cutter Shank ø	Collet Model
EPS10-03	.252	.118	MEC10-3
EPS10-04	.236	4mm (1/8)	MEC10-4
EPS10-05		5mm (3/16)	MEC10-5
EPS10-06		.236	MEC10-6
EPS10-07	.248	7mm (1/4)	MEC10-7
EPS10-08		8mm (5/16)	MEC10-8
EPS10-09	.224	.354	MEC10-9
EPS10-10		10mm (3/8)	MEC10-10

- PS RING is included

CAUTION

For Jet Through application by removing the PS RING, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

TOOL HOLDER BODY O-RING REPLACEMENT



Catalog Number	Body Type
MG6EOR	MEGA6E
MG8EOR	MEGA8E

Catalog Number	Body Type
MG10EOR	MEGA10E
MG13EOR	MEGA13E

- Sold in packages of 2 pcs.

Two-Way Coolant



Through Tools

Tools with Holes



Jet Through

Tools without Holes

MAX COOLANT PRESSURE
1,000 PSI

MEGA8E

Catalog Number	L1	Cutter Shank ø	Collet Model
EPS8-03	.252	.118	MEC8-3
EPS8-04	.236	4mm (1/8)	MEC8-4
EPS8-05		5mm (3/16)	MEC8-5
EPS8-06		.236	MEC8-6
EPS8-07	.220	7mm (1/4)	MEC8-7
EPS8-08		.315	MEC8-8

- PS RING is included

MEGA13E

Catalog Number	L1	Cutter Shank ø	Collet Model
EPS13-03	.252	.118	MEC13-3
EPS13-04	.236	4mm (1/8)	MEC13-4
EPS13-05		5mm (3/16)	MEC13-5
EPS13-06		.236	MEC13-6
EPS13-07	.248	7mm (1/4)	MEC13-7
EPS13-08		8mm (5/16)	MEC13-8
EPS13-09	.256	.354	MEC13-9
EPS13-10		10mm (3/8)	MEC13-10
EPS13-11	.244	.433	MEC13-11
EPS13-12		12mm (7/16)	MEC13-12
EPS13-13		13mm (1/2)	MEC13-1/2

- PS RING is included

O-RING

PS RING

Perfect Seal replacement seals



FOR MEGA PERFECT SEAL

Catalog Number	MPS Model
PS-0304	MPS□-03035, 0304
PS-0405	MPS□-04045, 0405
PS-0506	MPS□-05055, 0506
PS-0607	MPS□-06065, 0607
PS-0708	MPS□-07075, 0708

Catalog Number	MPS Model
PS-0809	MPS□-08085, 0809
PS-0910	MPS□-09095, 0910
PS-1011	MPS□-10105, 1011
PS-1112	MPS□-11115, 1112
PS-1213	MPS□-12125, 1213

Catalog Number	MPS Model
PS-1314	MPS□-1314
PS-1415	MPS□-1415
PS-1516	MPS□-1516
PS-1617	MPS□-1617
PS-1718	MPS□-1718
PS-1819	MPS□-1819
PS-1920	MPS□-1920

- 1 package contains 5 pcs. (1 size)

FOR MEGA ER PERFECT SEAL

Catalog Number	MERPS Model
PS-0304	MERPS□-030035, 035040
PS-0405	MERPS□-040045, 045050
PS-0506	MERPS□-050055, 055060
PS-0607	MERPS□-060065, 065070
PS-0708	MERPS□-070075, 075080

Catalog Number	MERPS Model
PS-0809	MERPS□-080085, 085090
PS-0910	MERPS□-090095, 095100
PS-1011	MERPS□-100105, 105110
PS-1112	MERPS□-110115, 115120
PS-1213	MERPS□-120125, 125130

Catalog Number	MERPS Model
PS-1314	MERPS□-130140
PS-1415	MERPS□-140150
PS-1516	MERPS□-150160
PS-1617	MERPS□-160170
PS-1718	MERPS□-170180
PS-1819	MERPS□-180190
PS-1920	MERPS□-190200

- 1 package contains 5 pcs. (1 size)

FOR MEGA E PERFECT SEAL

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

Catalog Number	EPS Model
PS-0809	EPS□-09
PS-0910	EPS□-10
PS-1011	EPS□-11
PS-1112	EPS□-12
PS-1213	EPS□-13

- 1 package contains 5 pcs. (1 size)

FOR NEW BABY PERFECT SEAL

Catalog Number	BPS Model
PS-0304	BPS□-03035, 0304
PS-0405	BPS□-04045, 0405
PS-0506	BPS□-05055, 0506
PS-0607	BPS□-06065, 0607
PS-0708	BPS□-07075, 0708

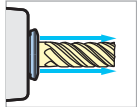
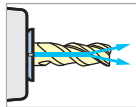
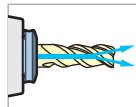
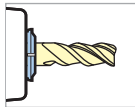
Catalog Number	BPS Model
PS-0809	BPS□-08085, 0809
PS-0910	BPS□-09095, 0910
PS-1011	BPS□-10105, 1011
PS-1112	BPS□-11115, 1112
PS-1213	BPS□-12125, 1213

Catalog Number	BPS Model
PS-1314	BPS□-1314
PS-1415	BPS□-1415
PS-1516	BPS□-1516
PS-1617	BPS□-1617
PS-1718	BPS□-1718
PS-1819	BPS□-1819
PS-1920	BPS□-1920

- 1 package contains 5 pcs. (1 size)

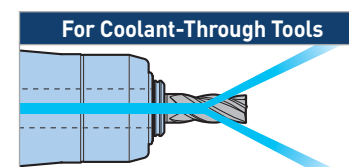
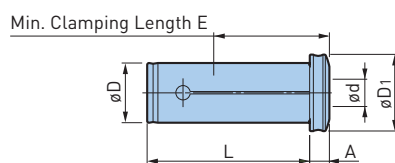
COLLETS

STRAIGHT COLLET SELECTION GUIDE

	PJC COLLET  Peripheral Coolant Supply	OCA COLLET  Coolant Through Tool Supply	PSC COLLET  Coolant Through Tool Supply	C COLLET  W/O Center Coolant
MEGA-D MEGA DOUBLE POWER CHUCK				
MEGA-DS MEGA DOUBLE POWER CHUCK				
HMC NEW Hi-POWER MILLING CHUCK				
HDC HYDRAULIC CHUCK				

PSC STRAIGHT COLLET

Reduction sleeve for small diameter cutters used in NEW Hi-POWER MILLING CHUCKS, MEGA DOUBLE POWER CHUCKS and HYDRAULIC CHUCKS.



Catalog Number	Clamping Range øD	øD	L	A	D1	E	
PSC.750-1/4	.250	.750	2.40	.32	1.06	1.58	
PSC.750-3/8	.375					1.78	
PSC.750-1/2	.500			.34	1.10	1.97	
PSC.750-5/8	.625						
PSC1.250-1/2	.500	1.250	2.91	.34	1.50	1.97	
PSC1.250-5/8	.625					2.09	
PSC1.250-3/4	.750			.36		2.21	
PSC1.250-7/8	.875			.37		2.33	
PSC1.250-1	1.000					2.41	
PSC20-3	3mm	20mm	61mm	7.7mm	27mm	31mm	
PSC20-4	4mm			7.5mm			39mm
PSC20-5	5mm					8.2mm	
PSC20-6	6mm			45mm			
PSC20-7	7mm				8.7mm		28mm
PSC20-8	8mm						
PSC20-9	9mm						
PSC20-10	10mm						
PSC20-11	11mm						
PSC20-12	12mm						
PSC20-13	13mm						
PSC20-14	14mm						
PSC20-15	15mm						
PSC20-16	16mm						

Catalog Number	Clamping Range øD	øD	L	A	D1	E	
PSC32-6	6mm	32mm	74mm	7.5mm	38mm	39mm	
PSC32-7	7mm			8.2mm		40mm	
PSC32-8	8mm						
PSC32-9	9mm						
PSC32-10	10mm			8.7mm		45mm	
PSC32-11	11mm						
PSC32-12	12mm						
PSC32-13	13mm						50mm
PSC32-14	14mm						
PSC32-15	15mm						
PSC32-16	16mm			51mm			
PSC32-18	18mm					53mm	
PSC32-19	19mm						
PSC32-20	20mm			9.2mm			56mm
PSC32-21	21mm						
PSC32-22	22mm						
PSC32-23	23mm			9.5mm		59mm	
PSC32-24	24mm						
PSC32-25	25mm						

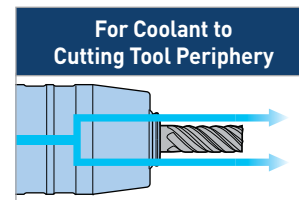
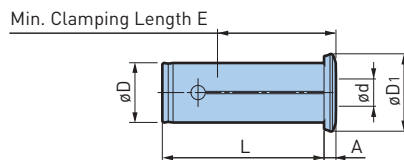
- MEGA D/DS, HMC and HDC chucks allow through-tool coolant when PSC collet is used
- The maximum tool insertion depth from the flange of PSC20-16 collet is 59mm

COLLETS

PJC STRAIGHT COLLET

CLAMPING RANGE: ϕ .250"-1.000" (ϕ 3-32mm)

Reduction sleeve for small diameter cutters used in NEW Hi-POWER MILLING CHUCKS, MEGA DOUBLE POWER CHUCKS AND HYDRAULIC CHUCKS.



Catalog Number	Clamping Range ød	øD	L	A	D ₁	E	
PJC.500D-1/4	.250	.500	1.59	.21	.80	1.38	
PJC.500D-3/8	.375			.22		1.54	
PJC.750-1/4	.250	.750	2.40	.21	1.06	1.54	
PJC.750-3/8	.375			.22		1.78	
PJC.750-1/2	.500			.27		1.97	
PJC.750-5/8	.625			.29			
PJC1.000-1/4	.250	1.000	2.68	.20	1.28	1.54	
PJC1.000-3/8	.375						1.78
PJC1.000-1/2	.500						1.97
PJC1.000-5/8	.625			.21		2.09	
PJC1.000-3/4	.750			.24		2.21	
PJC1.250-1/2	.500	1.250	2.91	.20	1.54	1.97	
PJC1.250-5/8	.625						2.09
PJC1.250-3/4	.750						2.21
PJC1.250-7/8	.875						2.25
PJC1.250-1	1.000			.21		2.41	
PJC12D-6❖	6mm	12mm	40mm	5.4mm	20.4mm	35mm	
PJC12D-8❖	8mm					5.6mm	37mm
PJC12D-10❖	10mm						39mm
PJC16-6	6mm	16mm	54mm	6.0mm	23mm	39mm	
PJC16-8	8mm			6.3mm		40mm	
PJC16-10	10mm					45mm	
PJC16-12	12mm					48mm	
PJC20-3	3mm	20mm	61mm	5.2mm	27mm	31mm	
PJC20-4	4mm						
PJC20-5	5mm						
PJC20-6	6mm						39mm
PJC20-7	7mm			5.7mm		40mm	
PJC20-8	8mm						
PJC20-9	9mm						
PJC20-10	10mm						
PJC20-11	11mm			6.4mm		45mm	
PJC20-12	12mm			6.8mm		50mm	
PJC20-13	13mm						
PJC20-14	14mm						
PJC20-15	15mm						
PJC20-16	16mm			7.3mm			

Catalog Number	Clamping Range ϕd	ϕD	L	A	D_1	E
PJC25-6	6mm	25mm	68mm	5.0mm	32.5mm	39mm
PJC25-8	8mm					40mm
PJC25-10	10mm					45mm
PJC25-12	12mm					50mm
PJC25-16	16mm			5.4mm		53mm
PJC25-18	18mm			5.8mm		55mm
PJC25-20	20mm			6.5mm		56mm
PJC32-6	6mm	32mm	74mm	5.0mm	39mm	39mm
PJC32-8	8mm					40mm
PJC32-10	10mm					45mm
PJC32-12	12mm					50mm
PJC32-14	16mm					53mm
PJC32-16	18mm					56mm
PJC32-20	20mm					61mm
PJC32-25	25mm			5.4mm		
PJC42-16	16mm	42mm	83mm	5.0mm	50.5mm	53mm
PJC42-20	20mm					56mm
PJC42-25	25mm					61mm
PJC42-32	32mm					66mm

- MEGA D/DS and HMC chucks allow jet through coolant when PJC collet is used
- The maximum tool insertion depth from the flange of PJC20-16 collet is 58mm
- PJC12 collets marked ❖ are dedicated for HMC12J and cannot be used with hydraulic chucks

CAUTION

PJC.500 & PJC12 can be used only for HMC12J. Never use with HDC.

COLLETS & O-RINGS

PS RING

For coolant-through tools. Specially designed sealant is used inside the PSC Straight Collet.



Catalog Number	PSC Collet Model	
	Metric	Inch
PS-0304	PSC□-3,4	—
PS-0405	PSC□-5	—
PS-0506	PSC□-6	—
PS-0607	PSC□-7	PSC□-.250
PS-0708	PSC□-8	—
PS-0809	PSC□-9	—
PS-0910	PSC□-10	PSC□-.375
PS-1011	PSC□-11	—
PS-1112	PSC□-12	—
PS-1213	PSC□-13	PSC□-.500
PS-1314	PSC□-14	—
PS-1415	PSC□-15	—
PS-1516	PSC□-16	PSC□-.625
PS-1718	PSC□-18	—
PS-1819	PSC□-19	PSC□-.750
PS-1920	PSC□-20	—
PS-2021	PSC□-21	—
PS-2223	PSC□-22,23	—
PS-2324	PSC□-24	—
PS-2526	PSC□-25	PSC□-1.000

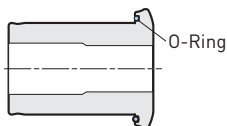
• 1 package contains 5 pcs. (1 size)

CAUTION

The PS RING must be replaced if damage is causing coolant to leak.

O-RING

For maintenance, common for PJC, PSC.



Catalog Number	Collet Model
PJC12DOR-2PS	PJC.500D, PJC12D
PJC16OR-2P	PJC16
PJC20OR-2P	PJC20, PSC20, .750
PJC25OR-2P	PJC25, 1.000
PJC32OR-2P	PJC32, PSC32, 1.250
PJC42OR-2P	PJC42

• 2-piece set

CAUTION

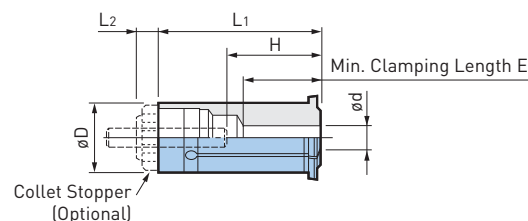
Replace if the o-ring is damaged.

COLLETS

C COLLETS

CLAMPING RANGE: ø.250"-1.000" (ø6-40mm)

Reduction sleeve for smaller diameter cutters used in Hi-POWER MILLING CHUCKS and MEGA DOUBLE POWER CHUCKS.



REDUCTION COLLETS

Catalog Number	Clamping Range ød	øD	L1	L2	H		E	Collet Stopper (Optional)
					Max	Min		
C.750-1/4	.250	.750	2.37	.32	1.19	1.89	1.19	AC20CS
C.750-5/16	.312				1.26		1.26	
C.750-3/8	.375				1.46		1.46	
C.750-7/16	.437							
C.750-1/2	.500							
C.750-9/16	.562							
C.750-5/8	.625		2.05	—	2.05	—	2.05	❖
C.750-6	6mm		60mm	8mm	30mm	48mm	30mm	AC25CS
C.750-8	8mm				32mm		32mm	
C.750-10	10mm				37mm		37mm	
C.750-12	12mm				40mm		40mm	
C.750-14	14mm						40mm	
C.750-16	16mm						46mm	46mm
C1.000-1/4	.250		1.000	2.70	.32	1.19	2.29	1.19
C1.000-3/8	.375	1.46				1.46		
C1.000-1/2	.500	1.82				1.82		
C1.000-5/8	.625	2.05				2.05		
C1.000-3/4	.750	2.05				2.05		
C1.250-1/4	.250	1.250	2.92	.40	1.19	2.44	1.19	AC32CS
C1.250-5/16	.312				1.26		1.26	
C1.250-3/8	.375				1.46		1.46	
C1.250-7/16	.437							
C1.250-1/2	.500							
C1.250-9/16	.562							
C1.250-5/8	.625				1.82		1.82	
C1.250-11/16	.687				1.97		1.97	
C1.250-3/4	.750				2.05		2.05	
C1.250-13/16	.812				2.17		2.17	
C1.250-7/8	.875							
C1.250-15/16	.937							
C1.250-1	1.000							
C1.250-12	12mm				74mm		10mm	
C1.250-14	14mm		40mm	40mm				
C1.250-16	16mm		46mm	46mm				
C1.250-20	20mm		52mm	52mm				
C1.250-25	25mm		55mm	55mm				
C16-6	6mm	16mm	52	6	30	47	30	AC16CS
C16-8	8mm				32		32	
C16-10	10mm				37		37	
C16-12	12mm				37		37	
C20-1/4	.250	20mm	2.37	.32	1.19	1.89	1.19	AC20CS
C20-3/8	.375				1.46		1.46	
C20-1/2	.500			—	1.82		1.82	
C20-5/8	.625							❖

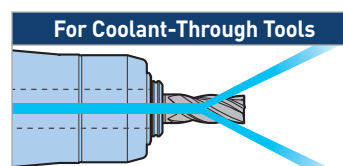
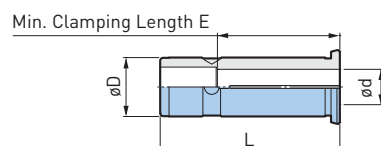
Catalog Number	Clamping Range ød	øD	L1	L2	H		E	Collet Stopper (Optional)
					Max	Min		
C20-6	6mm	20mm	60	8mm	30mm	48mm	30mm	AC20CS
C20-8	8mm				32mm		32mm	
C20-10	10mm				37mm		37mm	
C20-12	12mm				40mm		40mm	
C20-14	14mm				46mm		46mm	
C20-16	16mm				50mm		50mm	
C20-18	18mm	52	—	—	46mm	—	46mm	❖
C20-18	18mm				50mm		50mm	
C25-6	6mm	25mm	68.5	8mm	30mm	58mm	30mm	AC25CS
C25-8	8mm				62mm		62mm	
C25-10	10mm				37mm		37mm	
C25-12	12mm				45mm		45mm	
C25-14	14mm				46mm		46mm	
C25-16	16mm				48mm		48mm	
C25-18	18mm	32mm	2.92	.40	52mm	2.44	52mm	AC32CS
C25-20	20mm				52mm		52mm	
C32-1/4	.250				1.19		1.19	
C32-3/8	.375				1.46		1.46	
C32-1/2	.500				1.82		1.82	
C32-5/8	.625				1.97		1.97	
C32-3/4	.750				2.17		2.17	
C32-1	1.000	32mm	74mm	10mm	2.17	62mm	2.17	AC32CS
C32-6	6mm				30mm		30mm	
C32-8	8mm				32mm		32mm	
C32-10	10mm				37mm		37mm	
C32-12	12mm				40mm		40mm	
C32-14	14mm				46mm		46mm	
C32-16	16mm				50mm		50mm	
C32-18	18mm				52mm		52mm	
C32-19	19mm				55mm		55mm	
C32-20	20mm				55mm		55mm	
C32-22	22mm				55mm		55mm	
C32-24	24mm				55mm		55mm	
C32-25	25mm				55mm		55mm	
C32-30	30mm				55mm		55mm	
C42-6	6mm	42mm	89mm	10mm	30mm	77mm	30mm	AC4CS
C42-8	8mm				34mm		34mm	
C42-10	10mm				40mm		40mm	
C42-12	12mm				46mm		46mm	
C42-16	16mm				52mm		52mm	
C42-20	20mm				57mm		57mm	
C42-25	25mm				62mm		62mm	
C42-31	31mm				62mm		62mm	
C42-32	32mm				62mm		62mm	
C42-40	40mm				62mm		62mm	

• Collet stopper [pg. 387] cannot be used with models marked ❖

COLLETS

OCA COLLETS CLAMPING RANGE: $\varnothing 6$ -32mm

Reduction sleeve for smaller diameter cutters used in Hi-POWER MILLING CHUCKS and MEGA DOUBLE POWER CHUCKS.



- Recommended Only for HMC(S) Type Holders

METALLIC SEALED COOLANT COLLETS

Catalog Number	Clamping Range $\varnothing d$	$\varnothing D$	L	E
OCA16-6	6mm	16mm	58mm	36mm
OCA16-8	8mm			37mm
OCA16-10	10mm			38mm
OCA16-12	12mm			42mm
OCA20-6	6mm	20mm	62mm	36mm
OCA20-8	8mm			37mm
OCA20-10	10mm			38mm
OCA20-12	12mm		61mm	42mm
OCA20-14	14mm			52mm
OCA20-16	16mm			
OCA25-6	6mm	25mm	72.5mm	36mm
OCA25-8	8mm			37mm
OCA25-10	10mm			38mm
OCA25-12	12mm			44mm
OCA25-14	14mm		71.5mm	44mm
OCA25-16	16mm			52mm
OCA25-18	18mm			
OCA25-20	20mm			
OCA32-6	6mm	32mm	79.5mm	36mm
OCA32-8	8mm			37mm
OCA32-10	10mm			38mm
OCA32-12	12mm			44mm
OCA32-13	13mm			46mm
OCA32-14	14mm			48mm
OCA32-15	15mm			50mm
OCA32-16	16mm			52mm
OCA32-17	17mm		78.5mm	52mm
OCA32-18	18mm			
OCA32-19	19mm			
OCA32-20	20mm			
OCA32-21	21mm			
OCA32-22	22mm			
OCA32-23	23mm			
OCA32-24	24mm			
OCA32-25	25mm			
OCA32-27	27mm			
OCA32-28	28mm			
OCA32-29	29mm			

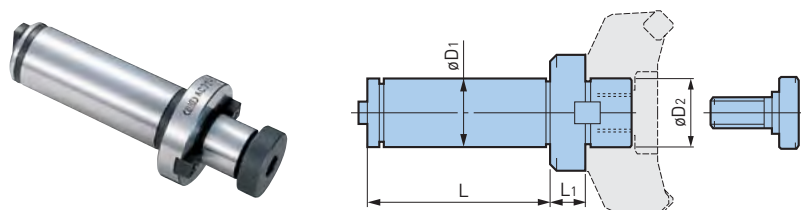
Catalog Number	Clamping Range $\varnothing d$	$\varnothing D$	L	E
OCA42-6	6mm	42mm	79.5mm	36mm
OCA42-8	8mm			37mm
OCA42-10	10mm			38mm
OCA42-12	12mm			44mm
OCA42-16	16mm		78.5mm	52mm
OCA42-19	19mm			
OCA42-20	20mm			55mm
OCA42-24	24mm			
OCA42-25	25mm			
OCA42-31	31mm			58mm
OCA42-32	32mm			

- Capable of supplying coolant-through tool
- Use with cutting tools with oil holes
- For the MEGA DS chuck use the PSC Collet

BASIC ARBORS

ADJUSTABLE FACE MILL ARBOR (FOR NEW HI-POWER MILLING CHUCK)

An arbor for mounting JIS Standard B4114 face milling cutters.

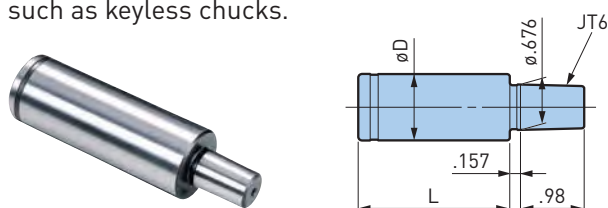


Catalog Number	øD1	øD2	L	L1	Cutter Diameter
AC32-F3	32mm	25.4mm	3.35	.61	3 (80mm)
AC32-F4		31.75mm		.69	4 (100mm)
AC42-F3	42mm	25.4mm	4.13	.63	3 (80mm)
AC42-F4		31.75mm		.71	4 (100mm)

- Axial Adjusting Screw is required for axial adjustment
- Use JIS B4114 face milling cutters

JACOBS TAPER ARBOR (FOR NEW HI-POWER MILLING CHUCK)

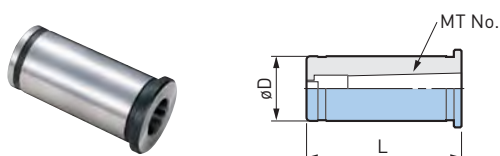
An arbor for mounting Jacobs taper holders such as keyless chucks.



Catalog Number	øD	L
C20-JT6	20mm	3.15
C25-JT6	25mm	3.35
C32-JT6	32mm	3.66
C42-JT6	42mm	4.21

MORSE TAPER HOLDER (FOR NEW HI-POWER MILLING CHUCK)

A holder for mounting Morse taper shank drills or reamers.

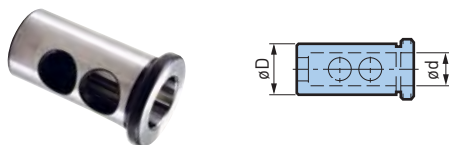


Catalog Number	øD	L
C20-MT1	20mm	2.36
C20-MT2		2.83
C25-MT1	25mm	2.36
C25-MT2		2.83
C32-MT1	32mm	2.34
C32-MT2		2.83
C32-MT3		3.54
C42-MT1	42mm	2.34
C42-MT2		2.83
C42-MT3		3.54
C42-MT4		4.49

WRENCHES

OSL REDUCTION COLLET

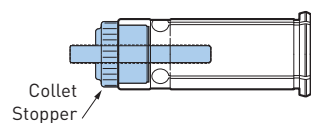
Exclusive Collet for Hi-JET HOLDER



Catalog Number	ød	øD
OSL1.250-.750	.750	1.250
OSL1.250-1.000	1.000	1.250
OSL1.500-1.000	1.000	1.500
OSL1.500-1.250	1.250	1.500

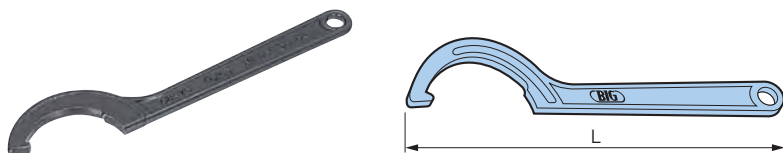
COLLET STOPPER (FOR C COLLETS)

Stopper for tool length adjustment in Hi-POWER MILLING CHUCKS and MEGA DOUBLE POWER CHUCKS.



Collet	Catalog Number
C16-□	AC16CS
C20-□	AC20CS
C25-□	AC25CS
C32-□	AC32CS
C42-□	AC42CS

SPANNER WRENCH (FOR NEW HI-POWER MILLING CHUCK)



Catalog Number	Nut Diameter	L	Holder Type	
			Metric	Inch
FK31-33	1.22-1.30 [31-33mm]	6.0	HMC12J	HMC.500J
FK45-50L	1.69-1.97 [43-50mm]	9.5	HMC16S	HMC.750S
			HMC20S	
FK52-55	2.05-2.17 [52-55mm]	8.7	HMC25S(BT/BBT30)	—
FK58-62	2.28-2.44 [58-62mm]	9.4	HMC20	HMC.750
			HMC25	HMC1.000
FK58-62L		11.5	HMC25S	HMC1.000S
			HMC32S(BT/BBT30)	
FK68-75L	2.68-2.95 [68-75mm]	12.5	HMC32S	HMC1.250S
FK80-90	3.15-3.54 [80-90mm]	11.0	HMC32	HMC1.250
FK80-90L		14.6	HMC42S	
FK92-100	3.62-3.94 [92-100mm]	11.0	HMC42	HMC1.500
			HMC50.8	
FK110-115	4.33-4.53 [110-115mm]	13.2	—	HMC2.000

WRENCHES

MEGA WRENCH (FOR MEGA CHUCK SERIES)

One-way clutch system applies tightening force to entire nut periphery evenly. Prevents wrench slippage for a safe and secure tightening operation.



Catalog Number	ød	Body Model				
		MEGA MICRO CHUCK	MEGA NEW BABY CHUCK	MEGA E CHUCK	MEGA ER GRIP	MEGA SYNCHRO
MGR10	.39 [10mm]	MEGA3S	—	—	—	—
MGR12	.47 [12mm]	MEGA4S	—	—	—	—
MGR14	.55 [14mm]	MEGA6S	—	—	—	—
MGR16	.63 [16mm]	—	—	—	—	MGT6
MGR18	.71 [18mm]	MEGA8S	—	—	—	—
MGR20	.79 [20mm]	—	MEGA6N	—	—	—
MGR20L	.79 [20mm]	—	—	—	—	MGT12
MGR25	.98 [25mm]	—	MEGA8N	MEGA6E	—	—
MGR30	1.18 [30mm]	—	MEGA10N	MEGA8E	—	MGT20
MGR30L	1.18 [30mm]	—	MEGA10N	MEGA8E	—	MGT30L
MGR35	1.38 [35mm]	—	MEGA13N	MEGA10E	—	—
MGR42	1.65 [42mm]	—	MEGA16N	MEGA13E	—	—
MGR46	1.81 [46mm]	—	MEGA20N	—	—	—

Catalog Number	ød	Body Model				
		MEGA NEW BABY CHUCK	MEGA DOUBLE POWER CHUCK	NEW Hi- POWER MILLING CHUCK	MEGA PERFECT GRIP	MEGA ER GRIP
MGR30L	1.18 [30mm]	—	—	—	—	MEGAER16
MGR35L	1.38 [35mm]	—	—	—	—	MEGAER20
MGR38L	1.50 [38mm]	—	MEGA12(1/2")DS-□	—	—	—
MGR42L	1.65 [42mm]	—	MEGA16(5/8")DS-□A (BCV40,BBT40, HSK-A63/F63)	—	—	MEGAER25
MGR43L	1.69 [43mm]	—	—	HMC16S	—	—
MGR46L	1.81 [46mm]	—	MEGA16DS [BBT30/50, HSK-A40/A50/A100/A125]	—	MEGA16DPG	—
MGR50L	1.97 [50mm]	—	MEGA20(3/4")DS-□A (BCV40,BBT40, HSK-A63/F63) MEGA20(3/4")DS [BBT30, HSK-A50]	HMC20(3/4")JS	—	MEGAER32
MGR55L	2.17 [55mm]	—	—	HMC25S [BT/BBT30]	—	—
MGR59L	2.32 [59mm]	—	—	HMC25(1")JS	—	—
MGR60L	2.36 [60mm]	MEGA25N	MEGA20(3/4")DS [BCV50,BBT50, HSK-A100/A125]	HMC20	MEGA20(3/4")DPG	—
MGR62L	2.44 [62mm]	—	MEGA25(1")DS-□A (BCV40,BBT40, HSK-A63/F63)	HMC25 HMC32S (BT/BBT30)	—	—
MGR68L	2.68 [68mm]	—	—	HMC32(1 1/4")JS	—	—
MGR70L	2.76 [70mm]	—	MEGA25(1")DS [BCV50,BBT50, HSK-A100/A125] MEGA32(1 1/4")DS-□A (BCV40,BBT40, HSK-A63/F63)	—	MEGA25(1")DPG	—
MGR80L	3.15 [80mm]	—	MEGA32(1 1/4")DS [BCV50, BBT50, HSK-A100/A125]	HMC32(1 1/4")	MEGA32(1 1/4")DPG	—
MGR85L	3.35 [85mm]	—	—	HMC42S	—	—
MGR99L	3.90 [99mm]	—	MEGA42DS	HMC42	—	—
MGR105L	4.13 [105mm]	—	MEGA50DS	—	—	—

TORQUE WRENCHES

MEGA TORQUE WRENCH (FOR MEGA CHUCK SERIES)

MEGA WRENCH with torque limiter.



Catalog Number	ød	Body Model			
		MEGA MICRO	MEGA NEW BABY CHUCK	MEGA E CHUCK	MEGA SYNCHRO
MGR10TL	.39 [10mm]	MEGA3S	—	—	—
MGR12TL	.47 [12mm]	MEGA4S	—	—	MGT3
MGR12TLS❖			—	—	—
MGR14TL	.55 [14mm]	MEGA6S	—	—	—
MGR14TLS❖			—	—	—
MGR16TTL	.63 [16mm]	—	—	—	MGT6
MGR18TL	.71 [18mm]	MEGA8S	—	—	—
MGR20TL	.79 [20mm]	—	MEGA6N	—	—
MGR20TLS❖		—		—	—
MGR20TTL		—	—	—	MGT12
MGR25TL	.98 [25mm]	—	MEGA8N	MEGA6E	—
MGR25TLS❖		—		—	—
MGR30TL	1.18 [30mm]	—	MEGA10N	MEGA8E	—
MGR30TLS❖		—		—	—
MGR30TTL		—	—	—	MGT20
MGR35TL	1.38 [35mm]	—	MEGA13N	MEGA10E	—
MGR42TL	1.65 [42mm]	—	MEGA16N	MEGA13E	—
MGR46TL	1.81 [46mm]	—	MEGA20N	—	—
MGR60TL	2.36 [60mm]	—	MEGA25N	—	—

• For ø3mm or smaller shank tools use TLS models marked ❖

DIGITAL TORQUE WRENCHES

MEGA TORQUE WRENCH BODY



Catalog Number	MGR-TL/P
Torque Range	5-50 Nm
Minimum Read (Digit)	.01 Nm
Display	7 LCD segments 4 digits, numerical display High precision LED indicator five-level display
Basic Function	Battery level display (three levels) Peak hold function Auto power-off (1 hour) Tightening completion alarm > beep sound emission and vibrations
Power Supply	Two AA batteries
Battery life	Approx. 70 hours (100 times/h)
Operating Temperature	32° F - 104° F (recommended: 59° F - 86° °F) without dew condensing
Weight	1.19 lbs (excluding MEGA Wrench Adapter)

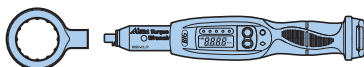
• Batteries not included; use batteries commercially available on the market

MEGA TORQUE WRENCH ADAPTER (OPTIONAL)



Catalog Number	Overall Length L	øD	H	Weight (lbs.)	Suitable Collet Chuck	
					MEGA NEW BABY CHUCK	MEGA E CHUCK
MGR20A-N	13.976	1.417	.630	.29	MEGA6N	—
MGR25A-N	14.134	1.732	.787	.40	MEGA8N	MEGA6E
MGR30A-N	14.252	1.969	.787	.49	MEGA10N	MEGA8E
MGR35A-N	13.350	2.165	.787	.51	MEGA13N	MEGA10E
MGR42A-N	14.488	2.441	.787	.55	MEGA16N	MEGA13E
MGR46A-N	14.567	2.598	.787	.60	MEGA20N	—

MEGA TORQUE WRENCH SET



Catalog Number	Set Contents
SMGR-TL/P	1x Body 6x Mega Wrench Adapters (MGR20A-N through MGR46A-N)



EXCLUSIVE STORAGE CASE

Easy to carry and safely store the equipment. Molds for (1) Body and (6) Mega Wrench Adapters. Standard accessory for the body (MGR-TL/P) and set (SMGR-TL/P) models.

CLEANERS

α WIPER CLEANER

Perfect for HYDRAULIC CHUCKS and SHRINK FIT HOLDERS. Easy cleaning of smaller cylindrical bores by simply inserting and removing before cutting tool insertion.

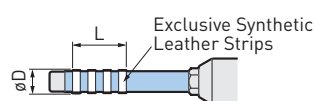


Fig. 1

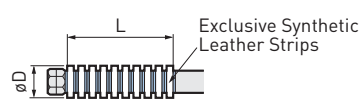


Fig. 2

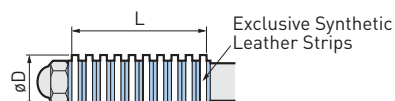


Fig. 3

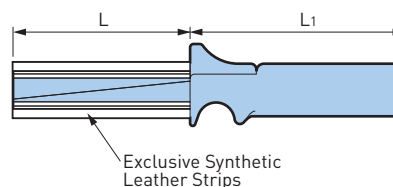
Catalog Number	Fig.	øD	L
AWC1/4	1	.250	.79
AWC5/16	2	.312	.79
AWC3/8		.375	1.02
AWC7/16		.437	1.22
AWC1/2		.500	1.22
AWC9/16		.562	1.22
AWC3	1	3mm	.28
AWC4		4mm	
AWC5	2	5mm	.79
AWC6		6mm	
AWC7	3	7mm	
AWC8		8mm	
AWC9		9mm	
AWC10		10mm	
AWC11		11mm	
AWC12		12mm	1.22



CLEANERS

TK CLEANER

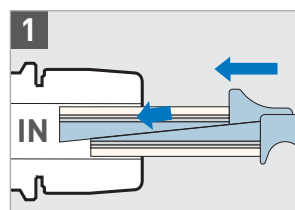
Perfect for HYDRAULIC CHUCKS, MILLING CHUCKS and SHRINK FIT HOLDERS. It is very difficult to remove oil and chips stuck to clamping bores, even with a wiping cloth or air spray. TK Cleaner cleans the clamping bore of a tool holder to maintain the high performance of tool holders.



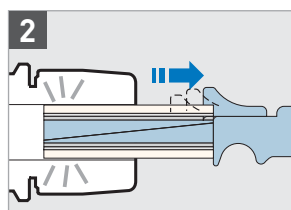
Catalog Number	Bore ø (metric)	Bore ø (inch)	L	L1	Leather Strip Qty.
TKC13	13mm	.500	2.36	4.17	2
TKC14	14mm	—			
TKC15	15mm	—			
TKC16	16mm	.625	2.76		
TKC18	18mm	—			
TKC19	19mm	—			
TKC20	20mm	.750	3.15	4.17	3
TKC22	22mm	—			
TKC24	24mm	—			
TKC25	25mm	1.000	3.94	4.76	4
TKC28	28mm	—			
TKC31	31mm	—			
TKC32	32mm	1.250	4.13		
TKC40	40mm	—			
TKC42	42mm	—			



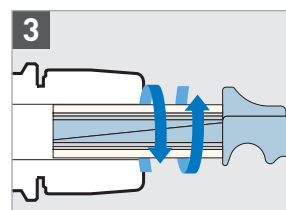
How to Use



Slide the upper section forward to reduce diameter and insert in the clamping bore.



Spring action draws back the sliding section when released so the cleaning strips contact the bore surface.



Rotate and remove the TK Cleaner to clear oil and particles.

SCREWS

GRIP BAR (FOR HYDRAULIC CHUCK)

For confirming gripping force.



Catalog Number	Chuck Bore
TSB3.175	.125
TSB.250	.250
TSB.375	.375
TSB.500	.500
TSB.625	.625
TSB.750	.750
TSB1.000	1.000
TSB1.250	1.250
TSB3	3mm
TSB4	4mm
TSB5	5mm

Catalog Number	Chuck Bore
TSB6	6mm
TSB7	7mm
TSB8	8mm
TSB9	9mm
TSB10	10mm
TSB11	11mm
TSB12	12mm
TSB13	13mm
TSB14	14mm
TSB15	15mm
TSB16	16mm

Catalog Number	Chuck Bore
TSB18	18mm
TSB19	19mm
TSB20	20mm
TSB22	22mm
TSB24	24mm
TSB25	25mm
TSB28	28mm
TSB31	31mm
TSB32	32mm
TSB42	42mm

• For details of usage, refer to the hydraulic chuck operation manual

SCREWS (FOR HYDRAULIC CHUCK)

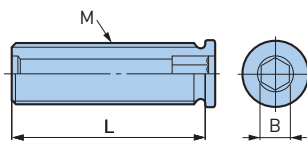


Fig. 1

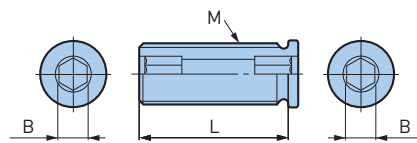
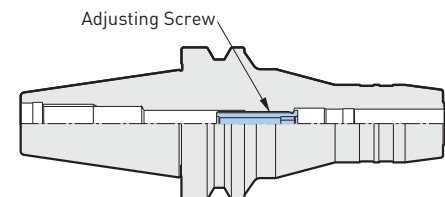


Fig. 2



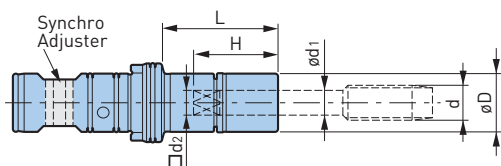
Catalog Number	Fig.	M (Left Hand Thread)	L	B
HDA6-05013	1	M5x.8	.51	2.5mm
HDA6-05020			.79	
HDA6-05032			1.26	
HDA8-06013	1	M6x1	.51	3mm
HDA8-06020			.79	
HDA8-06032			1.26	
HDA10-08015	1	M8x1	.59	4mm
HDA10-08032			1.26	
HDA12-10010	1	M10x1	.39	5mm
HDA12-10025			.98	
HDA12-10032			1.26	
HDA16-12015	1	M12x1	.59	6mm
HDA16-12030			1.18	
HDA16-12037			1.46	
HDA20-16015	1	M16x1	.59	6mm
HDA25-16033	1	M16x1	1.30	6mm
HDA25-16039			1.54	

Catalog Number	Fig.	M (Left Hand Thread)	L	B
HDA6-05013W	2	M5x.8	.51	2.5mm
HDA6-05020W			.79	
HDA6-05032W			1.26	
HDA8-06013W	2	M6x1	.51	3mm
HDA8-06020W			.79	
HDA8-06032W			1.26	
HDA10-08015W	2	M8x1	.59	4mm
HDA10-08032W			1.26	
HDA12-10025W	2	M10x1	.98	5mm
HDA12-10032W			1.26	
HDA16-12015W	2	M12x1	.59	4mm
HDA16-12030W			1.18	
HDA16-12037W			1.46	
HDA20-16015W	2	M16x1	.59	4mm
HDA25-16033W	2	M16x1	1.18	4mm
HDA25-16039W			1.46	

TAP HOLDERS

ANSI STANDARD

AVAILABLE IN
SHORT - EXTRA LONG
1.25", 3", 4", 6" & 8"



MGT6-INCH STYLE (øD=.63, 16mm)

Catalog Number	Tapping Range d	ød1	□d2	H	L
MGT6-No.6-1.25	No.2-6	.141	.110	.82	1.25
MGT6-No.6-3					3.00
MGT6-No.6-4					4.00
MGT6-No.6-6					6.00
MGT6-No.8-1.25	No.8	.168	.131	.88	1.25
MGT6-No.8-3					3.00
MGT6-No.8-4					4.00
MGT6-No.8-6					6.00
MGT6-No.10-1.25	No.10	.194	.152	1.00	1.25
MGT6-No.10-3					3.00
MGT6-No.10-4					4.00
MGT6-No.10-6					6.00
MGT6-No.10-8	No.10	.194	.152	1.00	8.00
MGT6-No.12-1.25					1.25
MGT6-No.12-3					3.00
MGT6-No.12-4					4.00
MGT6-No.12-6	No.12	.220	.165	1.03	6.00
MGT6-No.12-8					8.00

• Nut is included; wrench must be ordered separately

MGT12-INCH STYLE (øD=.79, 20mm)

Catalog Number	Tapping Range d	ød1	□d2	H	L
MGT12-AU1/4-1.25	AU1/4	.255	.191	1.14	1.25
MGT12-AU1/4-3					3.00
MGT12-AU1/4-4					4.00
MGT12-AU1/4-6					6.00
MGT12-AU1/4-8	AU5/16	.318	.238	1.20	8.00
MGT12-AU5/16-1.25					1.25
MGT12-AU5/16-3					3.00
MGT12-AU5/16-4					4.00
MGT12-AU5/16-6	AU7/16	.323	.242	1.23	6.00
MGT12-AU5/16-8					8.00
MGT12-AU7/16-1.25					1.25
MGT12-AU7/16-3					3.00
MGT12-AU7/16-4					4.00
MGT12-AU7/16-6	AU7/16	.323	.242	1.23	6.00
MGT12-AU7/16-8					8.00

• Nut is included; wrench must be ordered separately

ACCESSORIES



TAP HOLDERS

MGT 20-INCH STYLE (øD=1.18, 30mm)

Catalog Number	Tapping Range d	ød1	□d2	H	L
MGT20-AU1/2-1.5	AU1/2	.367	.275	1.26	1.50
MGT20-AU1/2-3.5					3.50
MGT20-AU1/2-4.5					4.50
MGT20-AU1/2-6					6.00
MGT20-AU3/8-1.5	AU3/8	.381	.286	1.26	1.50
MGT20-AU3/8-3.5					3.50
MGT20-AU3/8-4.5					4.50
MGT20-AU3/8-6					6.00
MGT20-AU9/16-1.5	AU9/16	.429	.322	1.41	1.50
MGT20-AU9/16-3.5					3.50
MGT20-AU9/16-4.5					4.50
MGT20-AU9/16-6					6.00
MGT20-AU5/8-1.5	AU5/8	.480	.360	1.47	1.50
MGT20-AU5/8-3.5					3.50
MGT20-AU5/8-4.5					4.50
MGT20-AU5/8-6					6.00
MGT20-AU11/16-1.5	AU11/16	.542	.406	1.53	1.50
MGT20-AU11/16-3.5					3.50
MGT20-AU11/16-4.5					4.50
MGT20-AU11/16-6					6.00
MGT20-AU3/4-1.5	AU3/4	.590	.442	1.59	1.50
MGT20-AU3/4-3.5					3.50
MGT20-AU3/4-4.5					4.50
MGT20-AU3/4-6					6.00
MGT20-AP1/8-1.5	AP1/8	.4375	.328	1.20	1.50
MGT20-AP1/8-3.5					3.50
MGT20-AP1/8-4.5					4.50
MGT20-AP1/8-6					6.00
MGT20-AP1/4-1.5	AP1/4	.5625	.421	1.22	1.50
MGT20-AP1/4-3.5					3.50
MGT20-AP1/4-4.5					4.50
MGT20-AP1/4-6					6.00

• Nut is included; wrench must be ordered separately

ACCESSORIES

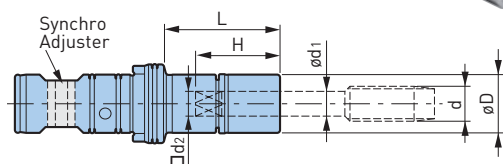


TAP HOLDERS

JIS STANDARD



AVAILABLE IN
SHORT - EXTRA LONG
30mm, 70mm, 100mm,
150mm & 200mm



MGT6—METRIC STYLE (øD=16mm)

Catalog Number	Tapping Range d			ød1	ød2	H	L
	Metric	Pipe	Unify				
MGT6-M2-30	M2	—	JIS No.3 JIS No.4	3.0	2.5	19	30
MGT6-M2-70							70
MGT6-M2-100							100
MGT6-M2-150							150
MGT6-M3-30	M3	—	JIS No.5 JIS No.6	4.0	3.2	21	30
MGT6-M3-70							70
MGT6-M3-100							100
MGT6-M3-150							150
MGT6-M4-30	M4	—	JIS No.8	5.0	4.0	25	30
MGT6-M4-70							70
MGT6-M4-100							100
MGT6-M4-150							150
MGT6-M4-200	M5	—	JIS No.10 JIS No.12	5.5	4.5	25	200
MGT6-M5-30							30
MGT6-M5-70							70
MGT6-M5-100							100
MGT6-M5-150	M6	—	JIS U1/4	6.0	4.5	25	150
MGT6-M5-200							200
MGT6-M6U1/4-30							30
MGT6-M6U1/4-70							70
MGT6-M6U1/4-100	M6	—	JIS U1/4	6.0	4.5	25	100
MGT6-M6U1/4-150							150
MGT6-M6U1/4-200							200

- Nut is included, wrench must be ordered separately
- All dimensions shown in millimeters

MGT12—METRIC STYLE (øD=20mm)

Catalog Number	Tapping Range d			ød1	ød2	H	L
	Metric	Pipe	Unify				
MGT12-M6U1/4-30	M6	—	JIS U1/4	6.0	4.5	27	30
MGT12-M6U1/4-70							70
MGT12-M6U1/4-100							100
MGT12-M6U1/4-150							150
MGT12-M6U1/4-200	—	—	JIS U5/16	6.1	5.0	28	200
MGT12-U5/16-30							30
MGT12-U5/16-70							70
MGT12-U5/16-100							100
MGT12-U5/16-150	M7 M8	—	—	6.2	5.0	28	150
MGT12-U5/16-200							200
MGT12-M8-30							30
MGT12-M8-70							70
MGT12-M8-100	M9 M10	—	JIS U3/8	7.0	5.5	28	100
MGT12-M8-150							150
MGT12-M8-200							200
MGT12-M10U3/8-30							30
MGT12-M10U3/8-70	—	JIS P1/8	JIS U7/16	8.0	6.0	29	70
MGT12-M10U3/8-100							100
MGT12-M10U3/8-150							150
MGT12-M10U3/8-200							200
MGT12-U7/16P1/8-30	M12	—	—	8.5	6.5	29	30
MGT12-U7/16P1/8-70							70
MGT12-U7/16P1/8-100							100
MGT12-U7/16P1/8-150							150
MGT12-U7/16P1/8-200	M12	—	—	8.5	6.5	29	200
MGT12-M12-30							30
MGT12-M12-70							70
MGT12-M12-100							100
MGT12-M12-150	M12	—	—	8.5	6.5	29	150
MGT12-M12-200							200

- Nut is included, wrench must be ordered separately
- All dimensions shown in millimeters

ACCESSORIES



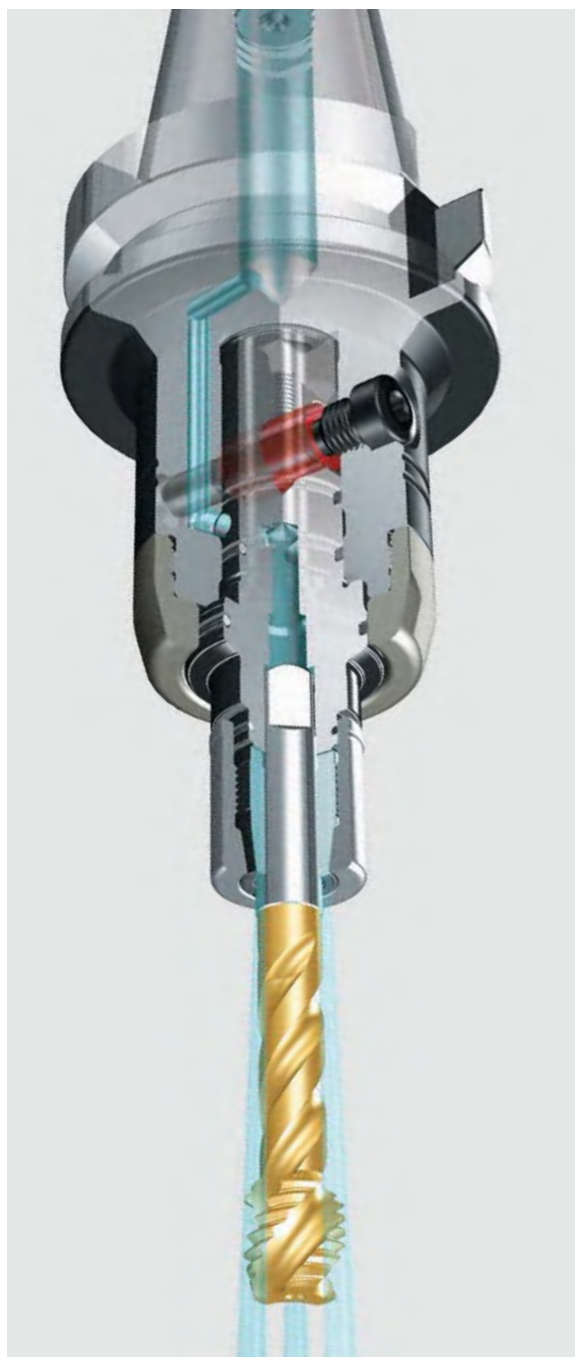
TAP HOLDERS

MGT20—METRIC STYLE (øD=30mm)

Catalog Number	Tapping Range d			ød1	□d2	H	L
	Metric	Pipe	Unify				
MGT20-M12-35	M12	—	—	8.5	6.5	29	35
MGT20-M12-85							85
MGT20-M12-115							115
MGT20-M12-150							150
MGT20-U1/2-35	—	—	JIS U1/2	9.0	7.0	30	35
MGT20-U1/2-85							85
MGT20-U1/2-115							115
MGT20-U1/2-150							150
MGT20-M14U9/16-35	M14	—	JIS U9/16	10.5	8.0	33	35
MGT20-M14U9/16-85							85
MGT20-M14U9/16-115							115
MGT20-M14U9/16-150							150
MGT20-P1/4-35	—	JIS P1/4	—	11.0	9.0	31	35
MGT20-P1/4-85							85
MGT20-P1/4-115							115
MGT20-P1/4-150							150
MGT20-U5/8-35	—	—	JIS U5/8	12.0	9.0	34	35
MGT20-U5/8-85							85
MGT20-U5/8-115							115
MGT20-U5/8-150							150
MGT20-M16-35	M16	—	—	12.5	10.0	35	35
MGT20-M16-85							85
MGT20-M16-115							115
MGT20-M16-150							150
MGT20-M18U3/4-35	M18	—	JIS U3/4	14.0	11.0	36	35
MGT20-M18U3/4-85							85
MGT20-M18U3/4-115							115
MGT20-M18U3/4-150							150
MGT20-P3/8-35	M20	JIS P3/8	—	14.0	11.0	33	35
MGT20-P3/8-85							85
MGT20-P3/8-115							115
MGT20-P3/8-150							150
MGT20-M20-35		—	—	15.0	12.0	37	35
MGT20-M20-85							85
MGT20-M20-115							115
MGT20-M20-150							150

- Nut is included, wrench must be ordered separately
- All dimensions shown in millimeters

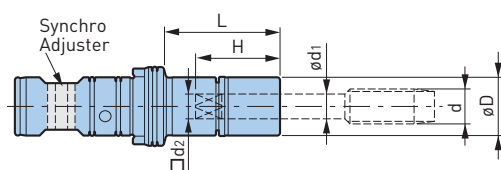
ACCESSORIES



TAP HOLDERS

DIN & ISO STANDARD

AVAILABLE IN
SHORT - EXTRA LONG
30mm, 70mm, 100mm,
150mm & 200mm



MGT6-METRIC STYLE (øD=16mm)

Catalog Number	Tapping Range d					ød1	□d2	H	L
	DIN371	DIN376	DIN353	ISO529	ISO2284				
MGT6-031025-30	—	—	—	M3	—	3.15	2.5	20	30
MGT6-031025-70									70
MGT6-031025-100									100
MGT6-031025-150									150
MGT6-035027-30	M3	M5	—	—	—	3.5	2.7	21	30
MGT6-035027-70									70
MGT6-035027-100									100
MGT6-035027-150									150
MGT6-040032-30	—	—	—	M4	—	4.0	3.15	21	30
MGT6-040032-70									70
MGT6-040032-100									100
MGT6-040032-150									150
MGT6-045034-30	M4	M6	—	—	—	4.5	3.4	21	30
MGT6-045034-70									70
MGT6-045034-100									100
MGT6-045034-150									150
MGT6-050040-30	—	—	—	M5	—	5.0	4.0	25	30
MGT6-050040-70									70
MGT6-050040-100									100
MGT6-050040-150									150
MGT6-050040-200									200
MGT6-060049-30	M5 M6	M8	—	—	—	6.0	4.9	26	30
MGT6-060049-70									70
MGT6-060049-100									100
MGT6-060049-150									150
MGT6-060049-200									200

- Nut is included, wrench must be ordered separately
- All dimensions shown in millimeters

ACCESSORIES



TAP HOLDERS

MGT12—METRIC STYLE (øD=20mm)

Catalog Number	Tapping Range d					ød1	□d2	H	L
	DIN371	DIN376	DIN353	ISO529	ISO2284				
MGT12-060049-30	M5 M6	M8	—	—	—	6.0	4.9	28	30
MGT12-060049-70									70
MGT12-060049-100									100
MGT12-060049-150									150
MGT12-060049-200									200
MGT12-063050-30	—	—	—	M6	—	6.3	5.0	28	30
MGT12-063050-70									70
MGT12-063050-100									100
MGT12-063050-150									150
MGT12-063050-200									200
MGT12-070055-30	—	M10	1/8	—	—	7.0	5.5	28	30
MGT12-070055-70									70
MGT12-070055-100									100
MGT12-070055-150									150
MGT12-070055-200									200
MGT12-080063-30	M8	—	—	M8	1/8	8.0	6.3	29	30
MGT12-080063-70									70
MGT12-080063-100									100
MGT12-080063-150									150
MGT12-080063-200									200
MGT12-090071-30	—	M12	—	M12	—	9.0	7.1	30	30
MGT12-090071-70									70
MGT12-090071-100									100
MGT12-090071-150									150
MGT12-090071-200									200
MGT12-100080-35❖	M10	—	—	M10	1/4	10.0	8.0	33	35
MGT12-100080-85❖									85
MGT12-100080-115❖									115
MGT12-100080-150❖									150

- Nut is included, wrench must be ordered separately
- Models marked ❖ nut diameter is ø30mm
- All dimensions shown in millimeters

ACCESSORIES



TAP HOLDERS

DIN & ISO STANDARD

AVAILABLE IN
SHORT 4", LONG 6" &
EXTRA LONG 8"



MGT20—METRIC STYLE (øD=30mm)

Catalog Number	Tapping Range d					ød1	□d2	H	L
	DIN371	DIN376	DIN353	ISO529	ISO2284				
MGT20-090071-35	—	M12	—	M12	—	9.0	7.1	30	35
MGT20-090071-85									85
MGT20-090071-115									115
MGT20-090071-150									150
MGT20-100080-35	M10	—	—	M10	1/4	10.0	8.0	33	35
MGT20-100080-85									85
MGT20-100080-115									115
MGT20-100080-150									150
MGT20-110090-35	—	M14	1/4	—	—	11.0	9.0	34	35
MGT20-110090-85									85
MGT20-110090-115									115
MGT20-110090-150									150
MGT20-112090-35	—	—	—	M14	—	11.2	9.0	34	35
MGT20-112090-85									85
MGT20-112090-115									115
MGT20-112090-150									150
MGT20-120090-35	—	M16	3/8	—	—	12.0	9.0	34	35
MGT20-120090-85									85
MGT20-120090-115									115
MGT20-120090-150									150
MGT20-125100-35	—	—	—	M16	3/8	12.5	10.0	35	35
MGT20-125100-85									85
MGT20-125100-115									115
MGT20-125100-150									150
MGT20-140110-35	—	M18	—	—	—	14.0	11.0	36	35
MGT20-140110-85									85
MGT20-140110-115									115
MGT20-140110-150									150
MGT20-140112-35	—	—	—	M18 M20	—	14.0	11.2	36	35
MGT20-140112-85									85
MGT20-140112-115									115
MGT20-140112-150									150
MGT20-160120-35	—	M20	1/2	—	—	16.0	12.0	37	35
MGT20-160120-150									150

- Nut is included, wrench must be ordered separately
- All dimensions shown in millimeters

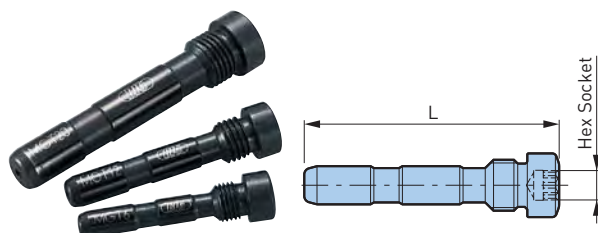
ACCESSORIES



TAP HOLDERS

MGT SET SCREW

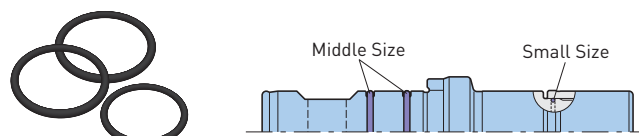
Secures the Tap Holder Into the Body



Catalog Number	Hex Socket Size	L	Body
MGT6SS	4mm	1.38	MGT6
MGT12SS	4mm	1.57	MGT12
MGT20SS	5mm	2.09	MGT20

O-RING

For MEGA SYNCHRO Tapping Holder

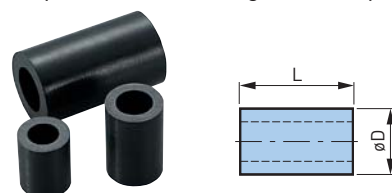


Catalog Number	Tap Holder
MGT60R	MGT6-d-□
MGT120R	MGT12-d-□
MGT200R	MGT20-d-□

- Set includes 1 small & 2 middle sizes

SYNCHRO ADJUSTER (SOFT TYPE)

Replaceable Bushing in the Tap Holder

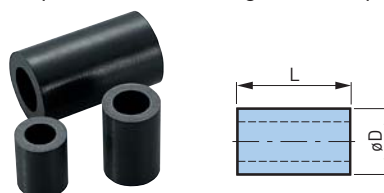


Catalog Number	øD	L	Body
MGT6SA-5P	.35	.43	MGT6
MGT12SA-5P	.39	.59	MGT12
MGT20SA-5P	.55	.94	MGT20

- Sold in packages of 5 pcs.
- Soft type is included in our standard MEGA SYNCHRO tapping holders

SYNCHRO ADJUSTER (MEDIUM TYPE)

Replaceable Bushing in the Tap Holder

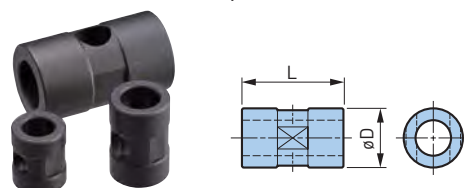


Catalog Number	øD	L	Body
MGT6SAM	.35	.43	MGT6
MGT12SAM	.39	.59	MGT12
MGT20SAM	.55	.94	MGT20

- Sold in packages of 1 pcs.

SYNCHRO ADJUSTER (HARD TYPE)

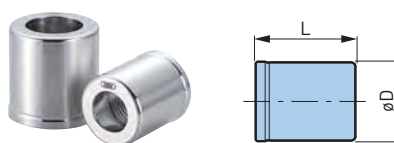
Replaceable Bushing in the Tap Holder for Eccentric Relief Taps



Catalog Number	øD	L	Body
MGT6SAH	.35	.43	MGT6
MGT12SAH	.39	.59	MGT12
MGT20SAH	.55	.94	MGT20

- Sold in packages of 1 pcs.

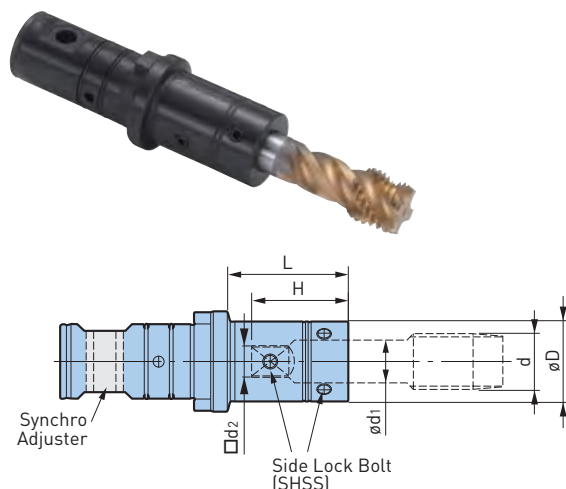
NUT



Catalog Number	øD	L	Tap Holder
MGN6T	.63 [16mm]	.75	MGT6
MGN12T	.79 [20mm]	.83	MGT12
MGN20T	1.18 [30mm]	.94	MGT20

TAP HOLDERS

DIN, ISO, ANSI & JIS STANDARD



MGT36

Inch Style ANSI Standard

Catalog Number	Tapping Range d	ød1	□d2	øD	H	L
MGT36-AU13/16-2.5	AU13/16	.652	.489	1.24	1.79	2.50
MGT36-AU7/8-2.5	AU7/8	.697	.523	1.34	1.85	
MGT36-AU15/16-2.5	AU15/16	.760	.570	1.57	1.93	
MGT36-AU1-2.5	AU1	.800	.600	1.62	2.07	
MGT36-AU1-1/8-2.5	AU1-1/8	.896	.672	1.69	2.13	
MGT36-AU1-1/4-2.5	AU1-1/4	1.021	.766	1.97	2.38	
MGT36-AU1-3/8-2.5	AU1-3/8	1.108	.831	2.09	2.44	
MGT36-AU1-1/2-2.5	AU1-1/2	1.233	.925	2.20	2.50	3.00
MGT36-AP3/8-2.5	AP3/8	.700	.531	1.34	1.37	2.50
MGT36-AP1/2-2.5	AP1/2	.688	.515	1.34	1.61	
MGT36-AP3/4-2.5	AP3/4	.906	.679	1.69	1.75	
MGT36-AP1-2.5	AP1	1.125	.843	2.09	1.87	

Metric Style JIS Standard

Catalog Number	Tapping Range d	ød1	□d2	øD	H	L
MGT36-M20-65	M20	15mm	12mm	32mm	1.57	65mm
MGT36-M20-150						150mm
MGT36-M22-65	M22	17mm	13mm	34mm	1.73	65mm
MGT36-M22-150						150mm
MGT36-M24-65	M24	19mm	15mm	39mm	1.81	65mm
MGT36-M24-150						150mm
MGT36-M27-65	M27	20mm	15mm	40mm	1.97	65mm
MGT36-M27-150						150mm
MGT36-M30-65	M30	23mm	17mm	43mm	2.05	65mm
MGT36-M30-150						150mm

Catalog Number	Tapping Range d	ød1	□d2	øD	H	L
MGT36-M33-65	M33	25mm	19mm	49mm	2.25	65mm
MGT36-M33-150						150mm
MGT36-M36-65	M36	28mm	21mm	52mm	2.40	65mm
MGT36-M36-150						150mm
MGT36-P1/2-65	P1/2	18mm	14mm	35mm	1.65	65mm
MGT36-P1/2-150						150mm
MGT36-P3/4-65	P3/4	23mm	17mm	43mm	1.85	65mm
MGT36-P3/4-150						150mm
MGT36-P1-65	P1	26mm	21mm	50mm	1.81	65mm
MGT36-P1-150						150mm

Metric Style DIN & ISO Standard

Catalog Number	Tapping Range d				ød1	□d2	øD	H	L
	DIN376	DIN353	ISO529	ISO2284					
MGT36-180145-65	M22,M24	5/8	—	—	18mm	14.5mm	35mm	1.77	65mm
MGT36-200160-65	M27	3/4	M27,M30	3/4	20mm	16mm	40mm	2.01	
MGT36-220180-65	M30	7/8	—	—	22mm	18mm	42mm	2.09	
MGT36-250200-65	M33	1	M36	1	25mm	20mm	49mm	2.28	
MGT36-280220-65	M36	—	—	—	28mm	22mm	52mm	2.44	

- Adjusting screw is included

CAUTION

Tap with eccentric thread relief, having no margin on tap periphery may cause oversize threads. In such case, tap with con-eccentric thread relief is recommended.

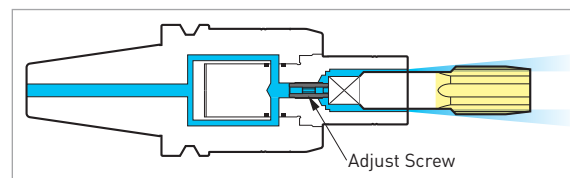
TAP HOLDERS

ADJUST SCREW

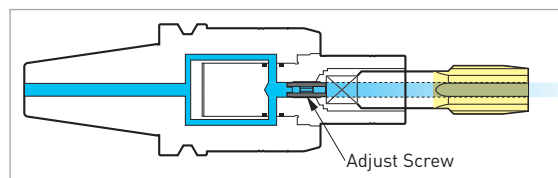
Aids Easy Adjustment of Tap Projection Length.

- Adjustment of tap projection length (adjustable amount: 3mm)
- Coolant supply adjustable in 2 ways by reversing the Adjust Screw

TAP WITHOUT HOLE



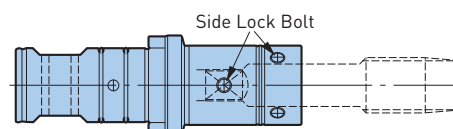
TAP WITH HOLE



Catalog Number	Tap Holder
MGT36AJ	MGT36

SIDE LOCK BOLT SET

Spare locking screw to clamp a tap.



Catalog Number	ANSI Tap Holder Model	JIS Tap Holder Model	Bolt Size
MGT36SL6	MGT36-AU7/8-2.5	MGT36-M20-□	M6x8L (x4) + M6x10L (x2)
	MGT36-AP3/8-2.5	MGT36-M22U7/8-□	
	MGT36-AP1/2-2.5	MGT36-P1/2-□	
MGT36SL8	MGT36-AU1-2.5	MGT36-M24-□	M8x10L (x4) + M8x12L (x2)
	MGT36-AU1.1/8-2.5	MGT36-M27U1-□	
	MGT36-AP3/4-2.5	MGT36-M30-□	
MGT36SL10	MGT36-AU1.1/4-2.5	MGT36-P3/4-□	M10x12L (x4) + M10x14L (x2)
	MGT36-AU1.3/8-2.5	MGT36-M33-□	
	MGT36-AP1-2.5	MGT36-M36-□	
	—	MGT36-P1-□	

SET SCREW



Catalog Number	Tap Holder
MGT36SS	MGT36

SYNCHRO ADJUSTER



Catalog Number	Tap Holder
MGT36SA-5P	MGT36

- Sold in packages of 5 pcs.

O-RING SET

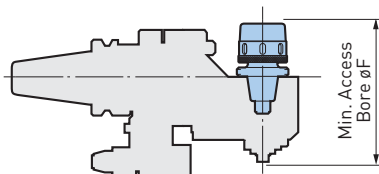


Catalog Number	Tap Holder
MGT36OR	MGT36

- Sold in packages of 2 pcs.

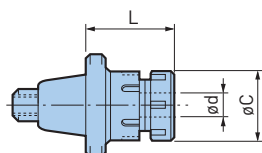
ANGLE HEADS

AG35 ADAPTERS



øF=Minimum Bore Size that an AG35 Adapter Can Fit Into, Excluding the Cutting Tool

NEW BABY CHUCK



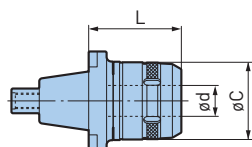
Catalog Number	ød	L	øC	øF	Weight (lbs.)
AG35-NBS10	.059-.394	1.850	1.181	6.378	1.3
AG35-NBS13	.098-.512	2.126	1.378	6.614	1.5
AG35-NBS16	.098-.630		1.654	6.693	1.8
AG35-NBS20	.098-.787		1.811		2.0

- Collet and wrench must be ordered separately; adjusting screw is included

ACCESSORIES



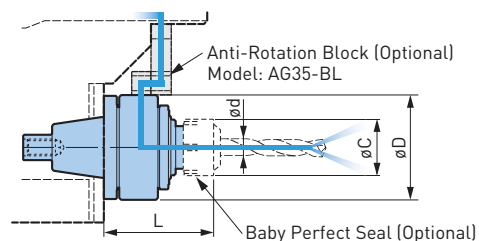
NEW HI-POWER MILLING CHUCK



Catalog Number	ød	L	øC	øF	Wrench	Weight (lbs.)
AG35-HMC.750S	.750	2.362	1.970	7.008	FK45-50L	3.3
AG35-HMC20S	20mm					3.3

- Wrench is included (Model: FK45-50L)

ACCESSORIES

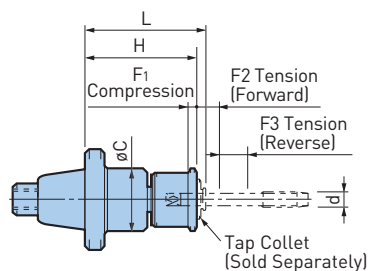


HI-JET HOLDER

Catalog Number	ød	øC	øD	L	øF	Weight (lbs.)
AG35-ONBS13N	.118-.512	1.378	2.559	2.677	7.323	2.4
AG35-ONBS20N	.118-.787	1.811			7.402	2.6

- Baby Perfect Seal Nut with sealing mechanism is required (optional accessory)
- Collet and wrench must be ordered separately
- Anti-rotation block set must be ordered separately (Model: AG35-BL)

ACCESSORIES

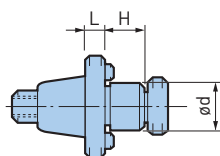


AUTO TAPPER TYPE B

Catalog Number	ød	L	øC	H	F1	F2	F3	Weight (lbs.)
AG35-ATB12E	No.6-U1/2	3.150	1.594	2.835	.020	.197	.157	2.2
AG35-ATB20E	U3/8-U3/4	4.528	2.264	4.035		.256	.197	3.7

- Tap collets with torque control or positive drive available upon request

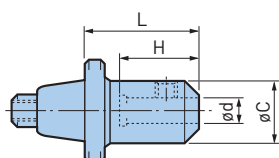
ANGLE HEADS



SHELL MILL/FACE MILL ADAPTER

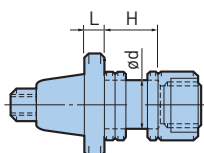
Catalog Number	ød	L	H	Weight (lbs.)
AG35-SM1.000-20	1.000	.787	.689	2.2
AG35-FMH22-30	22mm	1.181	.708	2.2
AG35-FMH27-20	27mm	.787	.787	2.2

- Cutter face protrudes by 7.5mm from the 125mm diameter housing with the following combination; AG35-FMH27-20 + 50mm thick tool



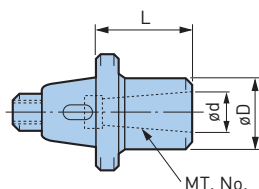
END MILL ADAPTER

Catalog Number	ød	L	øC	H	øF	Weight (lbs.)
AG35-EM.750	.750	3.248	1.750	3.880	7.756	3.0



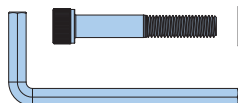
STUB ARBOR

Catalog Number	ød	L	H	Weight (lbs.)
AG35-SA1.000	1.000	.394	1.181	2.8



MORSE TAPER ADAPTER

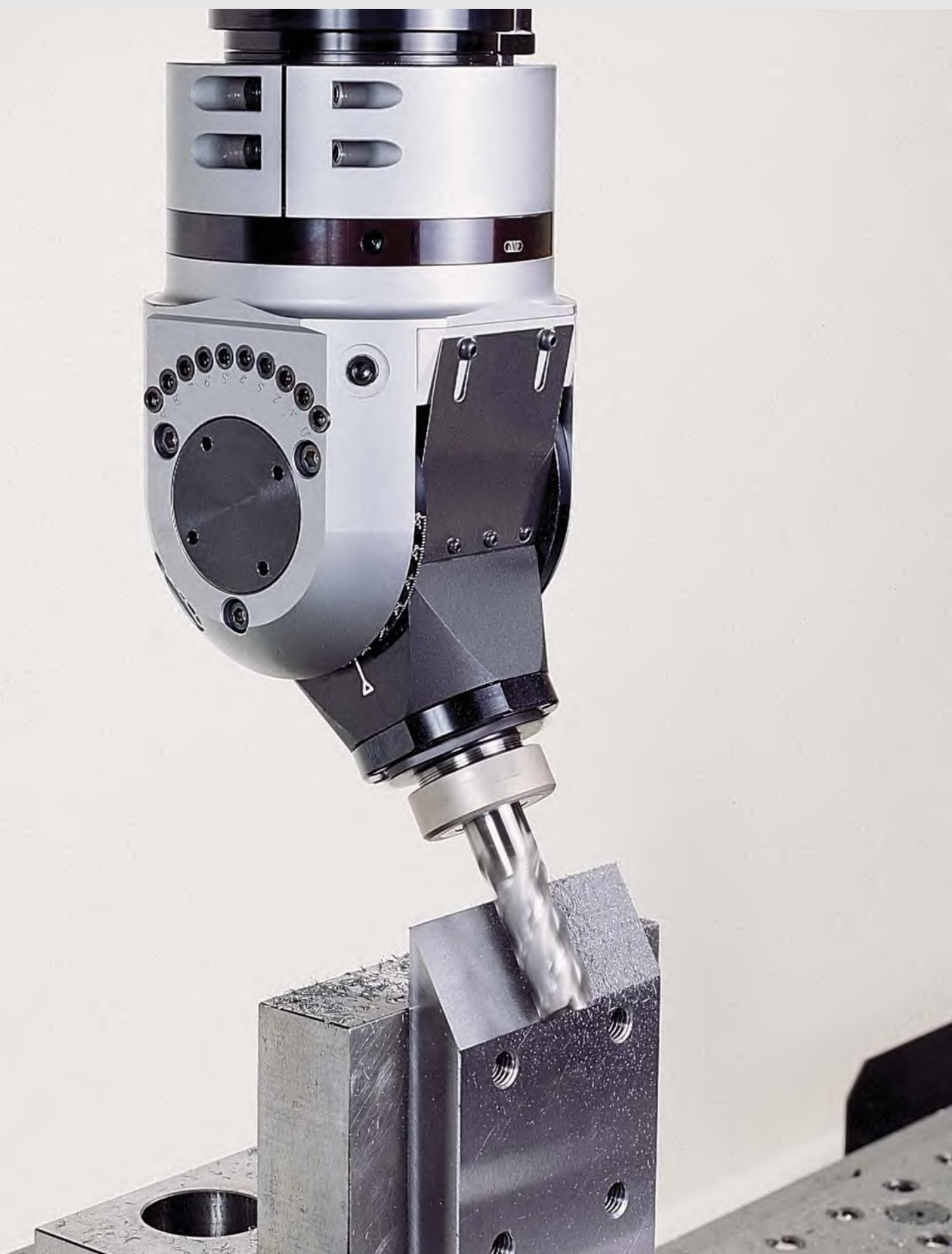
Catalog Number	ød	MT. No.	øD	L	øF	Weight (lbs.)
AG35-MT1	.475	1	.984	1.969	6.457	1.3
AG35-MT2	.700	2	1.260	2.362	6.890	1.5



ADAPTER DRAW BAR SET

Catalog Number
AG35-DBS

- Draw bar set contains 1 screw, 1 washer, and 1 wrench



STOP BLOCKS

SET UP INFORMATION

Preparing the Stop Block

For ANGLE HEADS. The ANGLE HEAD utilizes a locating pin that engages with the stop block, which is mounted to the machine spindle to prevent radial movement of the ANGLE HEAD during operation. Therefore, it is necessary to use a stop block with the proper dimensions to match the locating pin of the ANGLE HEAD. Please contact a BIG DAISHOWA agent if using an existing stop block.



Standard Setup of the Locating Pin

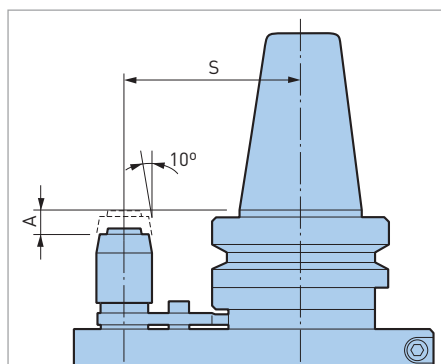
Please note that the "S" dimension and Fixed Length "A" are not adjustable by the user. If the standard dimensional values shown below are not suitable for your machine, please contact a BIG DAISHOWA agent.

"S" Dimension

The distance from the centerline of the ANGLE HEAD spindle to the centerline of the locating pin.

Fixed Length "A"

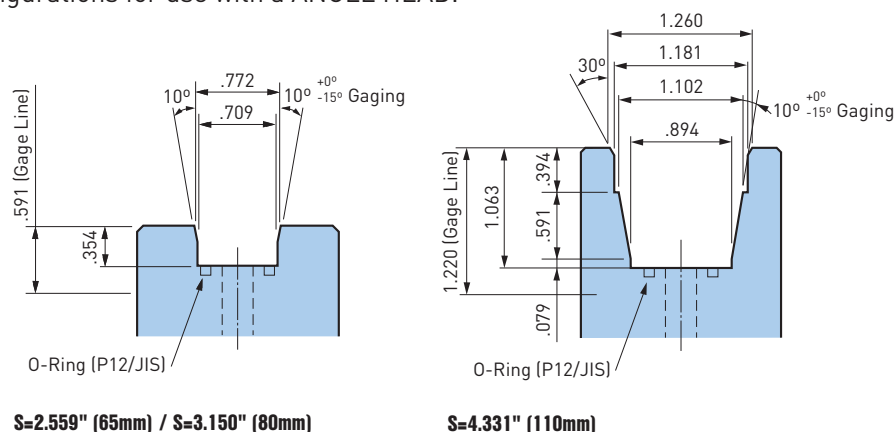
The axial distance from the gage line to the top of the locating pin, when the locating pin is properly engaged in the stop block.



Catalog Number	Dimension S	Fixed Length A
BCV/BDV/BBT40 HSK-A63	2.559	.315
BCV/BDV/BBT50 HSK-A100	4.331	.236

STOP BLOCK DIMENSIONS

Please order a stop block from the machine tool builder. Refer to the following diagrams for the proper stop block groove dimensions and configurations for use with a ANGLE HEAD.



CAUTION

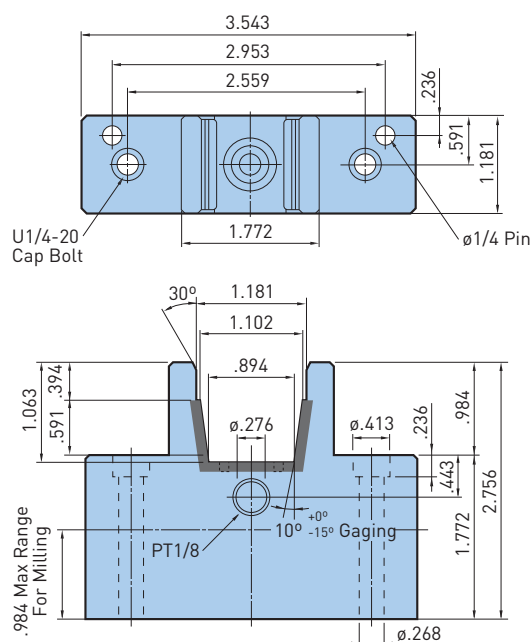
For a BCB50/BBT50 unit with an 3.150" "S" dimension, please use the stop block dimensions for BCB40/BBT40, as the locating pin dimension differs from that of a standard unit with a 4.331" "S" dimension.

STOP BLOCKS

SEMI-FINISHED STOP BLOCK

A semi-finished stop block has the proper groove form for use with AIR POWER SPINDLE, HIGH SPINDLE and Hi-JET HOLDER, as well as additional material to allow the customer to machine the block to the correct height.

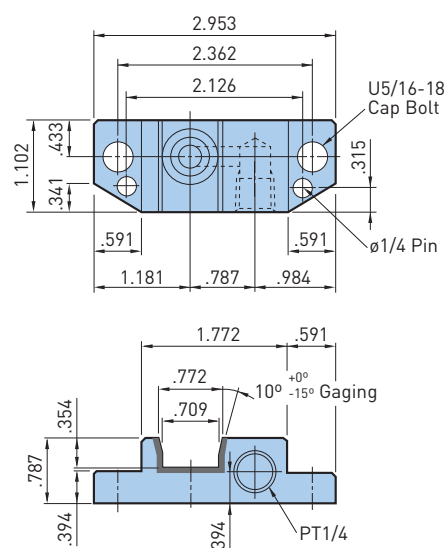
If a pre-made stop block is unobtainable from the machine tool builder, a semi-finished stop block can be used. Please consult with the machine tool builder for selection, machining, and mounting of the semi-finished stop block.



ANGLE HEADS (S=4.331)

Catalog Number
SB-G/E

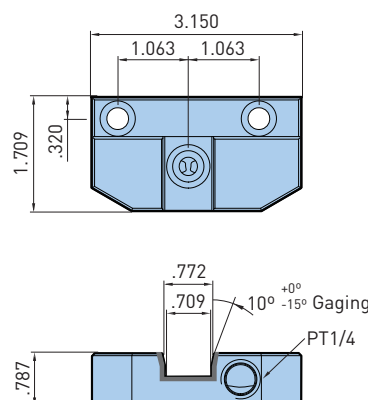
- Area marked ■ indicates heat treatment (HRC45-50), all other surfaces can be milled
- Adjustment to the required height by milling the base
- Fix the stop block by inserting two dowel pins ($\phi 1/4$)



PROFIT MAKER (S=2.559, 3.150)

Catalog Number
SB-F

- Area marked ■ indicates heat treatment (HRC45-50), all other surfaces can be milled
- Fix the stop block by inserting two dowel pins ($\phi 1/4$)
- Stop block SB-F is not height-adjustable



PROFIT MAKER

Catalog Number
SB-H40

- Area marked ■ indicates heat treatment (HRC45-50), all other surfaces can be milled
- For use with most Haas 40 taper machines

LOCATING PIN

SET UP INFORMATION

Preparing the Locating Pin and Stop Block

For AIR POWER SPINDLE, HIGH SPINDLE & Hi-JET HOLDER. The AIR POWER SPINDLE, HIGH SPINDLE and Hi-JET HOLDER utilize a locating pin that engages with the stop block, which is mounted to the machine spindle. Please refer to the following instructions to select/adjust the locating pin, and to prepare it for the stop block.

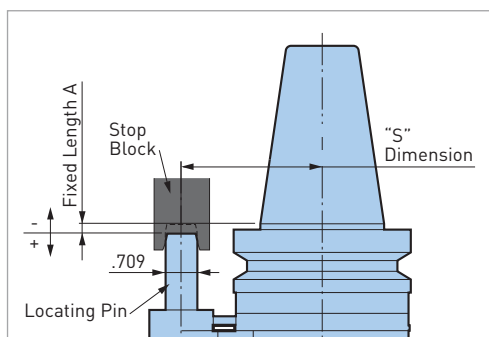
Standard Setup of the Locating Pin

"S" Dimension

The distance from the centerline of the holder to the centerline of the locating pin. Please note that this dimension is not adjustable by the user.

Fixed Length "A"

The axial distance from the gage line of the spindle to the bottom of the groove on the stop block. This dimension is adjustable by the user. Three (3) locating pin models are available: LP-A, LP-B, and LP-C. Each locating pin is adjustable to provide a different range of Fixed Length "A", as shown in the tables below. Please specify the required Fixed Length "A" when ordering. Otherwise, it will be delivered set at the standard, .236".



Catalog Number	"S" Dimension
BCV/CV/BBT40	2.559
BCV/CV/BBT50	3.150

FOR HIGH SPINDLE

Catalog Number	BCV40	BCV50	BBT40	BBT50
LP-A	-.354 / +.236	-.157 / +.433	-.945 / -.354	-.354 / +.236
LP-B	+.236 / +.827	+.433 / +1.024	-.354 / +.236	+.236 / +.827
LP-C	+.827 / +1.417	+1.024 / +1.614	+.236 / +.827	+.827 / +1.417

- Models marked ■ indicates adjustable range of the standard setup

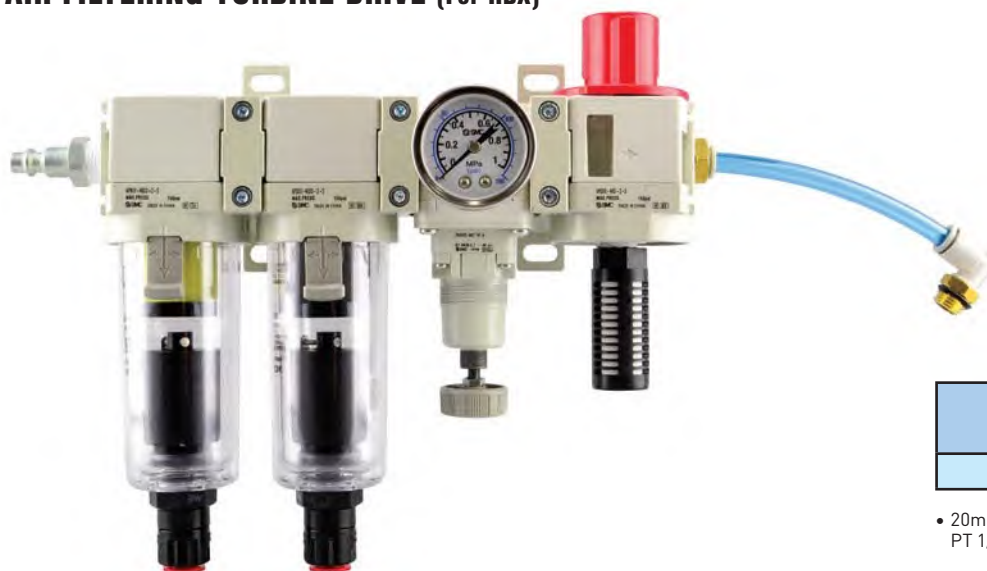
FOR HI-JET HOLDER

Catalog Number	CV/BT40	CV/BT50	CV40-OSL1.250	CV50-OSL2.000	BT50-OSL2.000
LP-A	-.236 / +.354	-.354 / +.236	-.197 / +.394	-.079 / +.512	+.118 / +.709
LP-B	+.354 / +.945	+.236 / +.827	+.394 / +.984	+.512 / +1.102	+.709 / +1.299
LP-C	+.945 / +1.535	+.827 / +1.417	+.984 / +1.575	+1.102 / +1.535	+1.299 / +1.535

- Models marked ■ indicates adjustable range of the standard setup

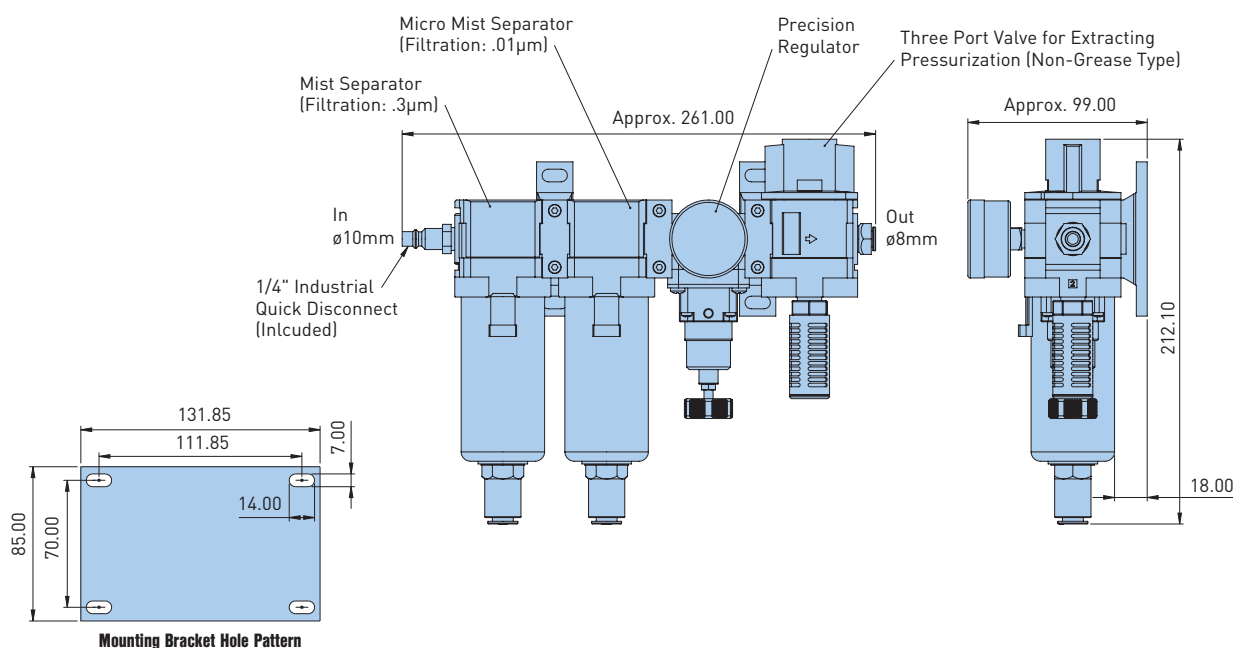
AIR FILTER REGULATOR

AIR FILTERING TURBINE DRIVE (For RBX)

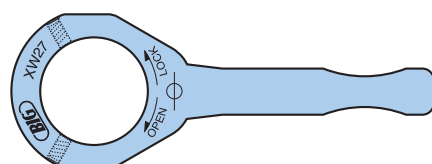


Catalog Number
XF1-NPT

- 20m of ø8mm tubing and PT 1/4 loose fitting included



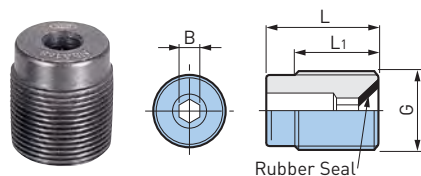
AIR POWER SPINDLE WRENCH



Catalog Number
XW27

SCREWS & BOLTS

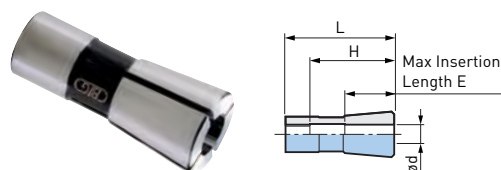
ADJUSTING SCREW



Catalog Number	G	L	L1	B	Body Model
NBA6B	M7	.47 (12mm)	.39 (10mm)	.08 (2mm)	MEGA6N/MEGA6E/NBS6/MEGAER11
NBA8B	M9	.51 (13mm)		.10 (2.5mm)	MEGA8N/MEGA8E/NBS8
NBA10B	M11	.63 (16mm)	.47 (12mm)	.12 (3mm)	MEGA10N/MEGAER16/MEGA10E/NBS10
NBA13B	M14	.79 (20mm)	.59 (15mm)	.16 (4mm)	MEGA13N/MEGAER20/MEGA13E/NBS13
NBA16B	M18				MEGA16N/MEGAER25/NBS16
NBA20B	M21				MEGA20N/MEGAER32/NBS20
NBA25B	M27				MEGA25N

SLENDER DRIVE COLLET

Exclusive Collet for ANGLE HEAD AG90 Slender Drive



Catalog Number	ød	H	E	L	Wrench	Wrench Size
CA4-3	3mm	12.8mm	7.5mm	16.5mm	DA-T1	Torx-T10
CA4-3.5	3.5mm					
CA4-4	4mm					
CA6-3	3mm	16mm	7.5mm	22mm	DA-T20	Torx-T20
CA6-4	4mm					
CA6-5	5mm					
CA6-6	6mm					

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

SCREWS & BOLTS

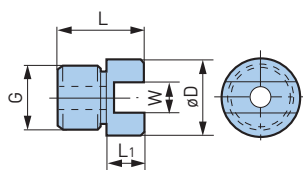
SET SCREW



Catalog Number	Holder	Thread Size
11.690.517	EM.250	1/4"-28
11.690.518	EM.375	3/8"-24
11.690.519	EM.500	7/16"-20
11.690.520	EM.625	9/16"-18
11.690.521	EM.750	5/8"-18

Catalog Number	Holder	Thread Size
11.690.522	EM1.000	3/4"-16
11.690.522	EM1.250	3/4"-16
11.690.522	EM1.500	3/4"-16
11.690.524	EM2.000	1"-14

ADJUSTING SCREW



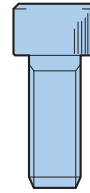
Catalog Number	øD	L	L1	G	W	MEGA DS	HMC
HMA-M16S	.71	1.06	.24	M16 P1.5	.39	MEGA.750DS	HMC.750S
						MEGA1.000DS	HMC1.000S
						MEGA20D(DS)	HMC20(S)
						MEGA25D(DS)	HMC25(S)
						MEGA1.250DS (BCV40)	HMC32S
						MEGA32D(DS) (BBT30/40)	
HMA-M24	1.185	1.42	.37	M24 P1.5	.39	MEGA1.250DS	HMC32
						MEGA1.500DS	
						MEGA32D(DS)	HMC42(S)
						MEGA42D(DS)	
						MEGA50D(DS)	

SCREWS & BOLTS

LOCK SCREW

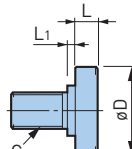
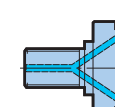


Catalog Number	Adapter	Thread Size
11.690.710	SMC.750	3/8"-24
11.690.711	SMC1.000	1/2"-20
11.690.712	SMC1.250	5/8"-18
11.690.713	SMC1.500	3/4"-16
11.690.714	SMC2.000	1"-14
11.690.715	SMC2.500	1"-14

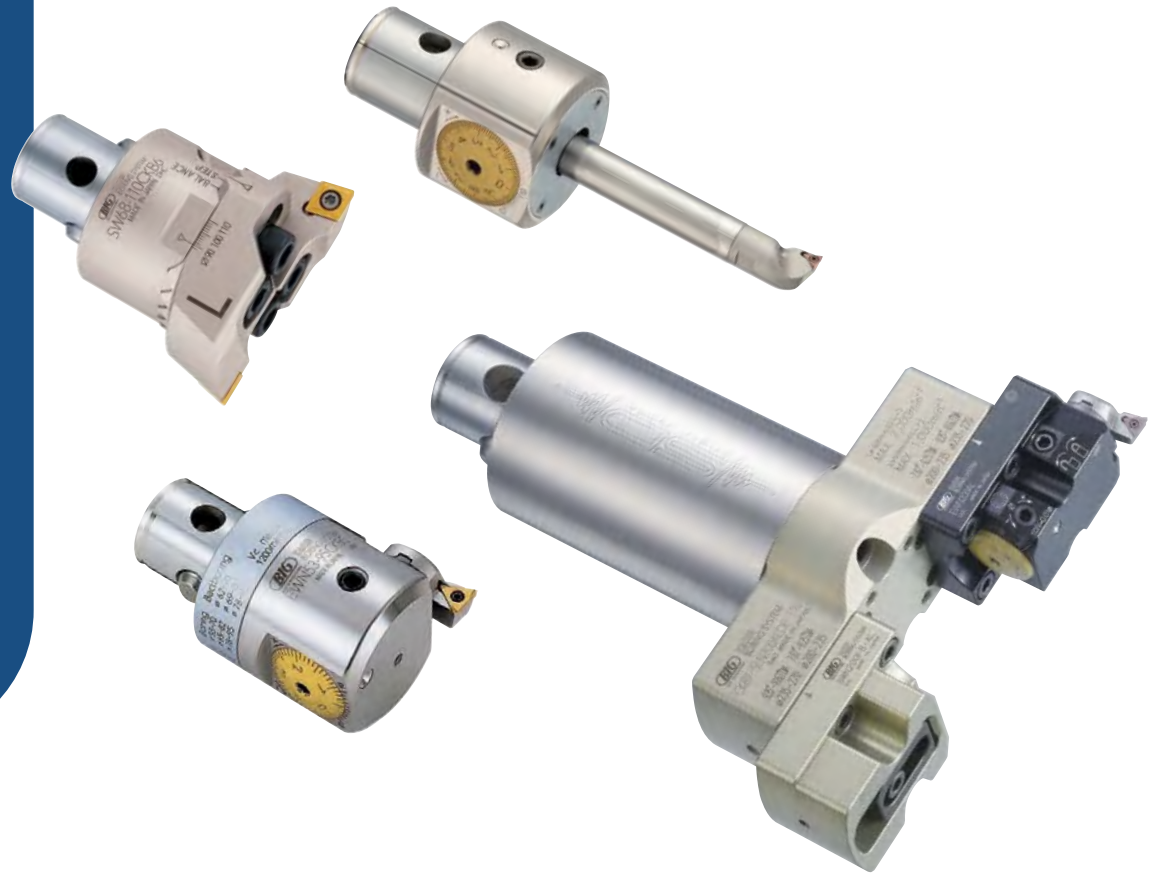


Catalog Number	Adapter	Thread Size
11.690.704	FMH16	M8 P1.25
11.690.705	FMH22	M10 P1.5
11.690.706	FMH27	M12 P1.75
11.690.707	FMH32	M16 P2
11.690.708	FMH40	M20 P2.5

CLAMP BOLT (FOR FMH/FMA)

 		øD	L	L1	G
Catalog Number	Catalog Number (Coolant Hole)				
MBA-M12	TMBA-M12	33mm	.394	.079	M12
MBA-M12H	—			—	
MBA-M16	TMBA-M16	40mm	.394	.236	M16
MBA-M16H	—			—	
MBA-M20	TMBA-M20	50mm	.551	.236	M20
MBA-M20H	—			—	

KAISER BORING SYSTEM



KAISER BORING SYSTEM INDEX

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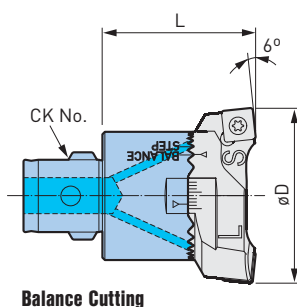
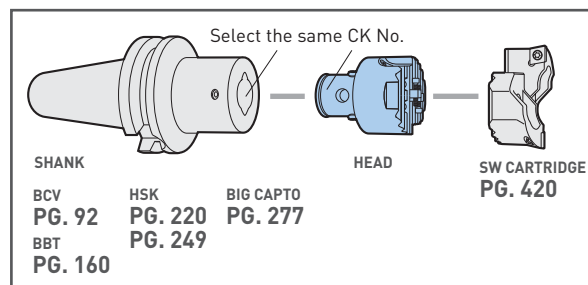
KAISER ROUGH BORING HEADS

SW BORING HEAD

RANGE: ϕ .787"-8.000"

High rigidity head for roughing.

US PATENT #
8,747,034



Balance Cutting

A TYPE FOR THROUGH-HOLES (4 CORNERS OF THE INSERT CAN BE USED)

øD	Catalog Number	CK No.	Cartridge	L	Clamp Bolt Set (Spare)	Belleville Spring Set (Spare)	Weight (lbs.)
.787-1.024	SW20-31CKB1	CK1	SW2026A	1.280	SW20SS	SW20BS	.2
.984-1.220			SW2531A				.2
.984-1.299	SW25-40CKB2	CK2	SW2533A	1.398	SW25SS	SW25BS	.4
1.260-1.575			SW3240A				.4
1.260-1.654	SW32-51CKB3	CK3	SW3242A	1.575	SW32SS	SW32BS	.7
1.614-2.008			SW4151A				.7
1.614-2.126	SW41-66CKB4	CK4	SW4154A	1.853	SW41SS	SW41BS	1.1
2.087-2.598			SW5366A				1.1
2.087-2.756	SW53-86CKB5	CK5	SW5370A	2.244	SW53SS	SW53BS	1.8
2.717-3.386			SW6986A				2.0
2.678-3.543	SW68-110CKB6	CK6	SW6890A	2.795	SW68SS		3.5
3.465- 4.331			SW88110A				4.0
3.858-4.961	SW98-153CKB6	CK6	SW98126A	2.795	SW98SS	SW98BS	6.2
4.921-6.023			SW125153A				6.6
3.858-4.961	SW98-153CKB7	CK7	SW98126A	3.425			8.4
4.921-6.024			SW125153A				9.0
5.827-6.929	SW148-203CKB6	CK6	SW148176A	2.795			8.0
6.890-8.000			SW175203A				8.4
5.827-6.929	SW148-203CKB7	CK7	SW148176A	4.606			14.1
6.890-8.000			SW175203A				14.6

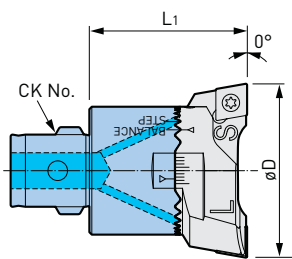
- Clamping screws and belleville springs are included; cartridges and inserts must be ordered separately
- Compatible set items are not included ordered separately if required
- Coolant through is standard for all the SW heads
- The diameter range is the value when nose radius .016 is used for insert SC/CC06, and nose radius .031 for insert SC/CC09 and SC/CC12

ACCESSORIES

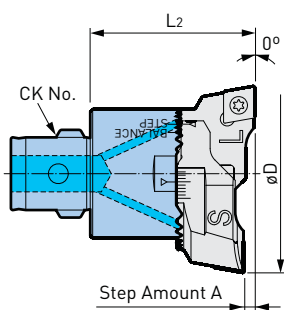
EXTENSIONS & REDUCTIONS PG. 454	SPARE PARTS PG. 482	INSERTS PG. 470	APPLICATION ADVICE PG. 478

KAISER ROUGH BORING HEADS

E TYPE FOR BLIND HOLES (TO SHAPE FLAT SURFACES)



Balance Cutting

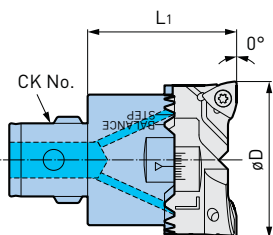


Step Cutting

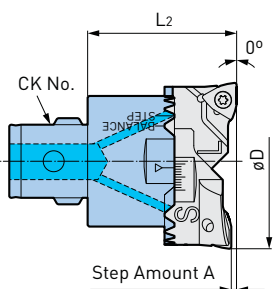
øD	Catalog Number	CK No.	Cartridge	L1	L2	A	Clamp Bolt Set (Spare)	Belleville Spring Set (Spare)	Weight (lbs.)
.787-1.024	SW20-31CKB1	CK1	SW2026E	1.280	1.283	.008	SW20SS	SW20BS	.2
.984-1.220			SW2531E						.2
.984-1.299	SW25-40CKB2	CK2	SW2533E	1.398	1.402		SW25SS	SW25BS	.4
1.260-1.575			SW3240E						.4
1.260-1.654	SW32-51CKB3	CK3	SW3242E	1.575	1.579		SW32SS	SW32BS	.7
1.614-2.008			SW4151E						.7
1.614-2.126	SW41-66CKB4	CK4	SW4154E	1.850	1.858	SW41SS	SW41BS	1.1	
2.087-2.598			SW5366E					1.1	
2.087-2.756	SW53-86CKB5	CK5	SW5370E	2.244	2.252	SW53SS	SW53BS	1.8	
2.717-3.386			SW6986E					2.0	
2.678-3.543	SW68-110CKB6	CK6	SW6890E❖	2.795	2.803	SW68SS		3.5	
3.465-4.331			SW88110E❖					4.0	
3.858-4.961	SW98-153CKB6	CK6	SW98126E❖	2.795	2.083	.016	SW98SS	SW98BS	6.2
4.921-6.023			SW125153E❖						6.6
3.858-4.961	SW98-153CKB7	CK7	SW98126E❖	3.425	3.433				8.4
4.921-6.024			SW125153E❖						9.0
5.827-6.929	SW148-203CKB6	CK6	SW148176E❖	2.795	2.803				8.0
6.890-8.000			SW175203E❖						8.4
5.827-6.929	SW148-203CKB7	CK7	SW148176E❖	4.606	4.614				14.1
6.890-8.000			SW175203E❖						14.6

- Clamping screws and belleville springs are included; cartridges and inserts must be ordered separately
- Compatible set items are not included ordered separately if required
- Coolant through is standard for all the SW heads
- The diameter range is the value when nose radius .016 is used for insert SC/CC06, and nose radius .031 for insert SC/CC09 and SC/CC12
- Cartridge models with ❖ are also available for longer cutting edge inserts; change the end of the model number from E to EL when ordering; for detail see page 420

N TYPE FOR BLIND HOLES (6 CORNERS OF THE INSERT CAN BE USED)



Balance Cutting



Step Cutting

øD	Catalog Number	CK No.	Cartridge	L1	L2	A	Clamp Bolt Set (Spare)	Belleville Spring Set (Spare)	Weight (lbs.)	
1.260-1.654	SW32-51CKB3	CK3	SW3242N	1.575	1.579	.008	SW32SS	SW32BS	.7	
1.614-2.008			SW4151N						.9	
1.614-2.126	SW41-66CKB4	CK4	SW4154N	1.850	1.858	.016	SW41SS	SW41BS	1.1	
2.087-2.598			SW5366N						1.1	
2.087-2.756	SW53-86CKB5	CK5	SW5370N	2.244	2.252		SW53SS	SW53BS	2.0	
2.717-3.386			SW6986N						2.2	
2.678-3.543	SW68-110CKB6	CK6	SW6890N	2.795	2.803		SW68SS		3.7	
3.465- 4.331			SW88110N						4.2	
3.858-4.961	SW98-153CKB6	CK6	SW98126N	2.795	2.083		SW98SS	SW98BS	6.4	
4.921-6.023			SW125153N						6.8	
3.858-4.961	SW98-153CKB7	CK7	SW98126N	3.425	3.433				SW98BS	8.6
4.921-6.024			SW125153N							9.3
5.827-6.929	SW148-203CKB6	CK6	SW148176N	2.795	2.803					8.2
6.890-8.000			SW175203N							8.6
5.827-6.929	SW148-203CKB7	CK7	SW148176N	4.606	4.614	14.3				
6.890-8.000			SW175203N			14.8				

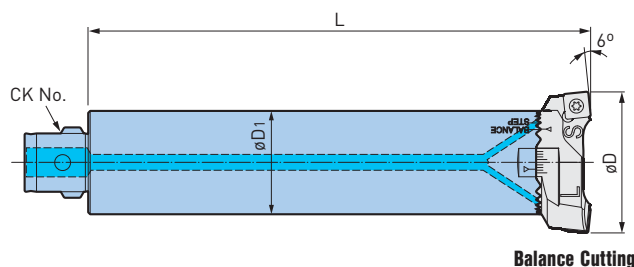
- Clamping screws and belleville springs are included; cartridges and inserts must be ordered separately
- Compatible set items are not included ordered separately if required
- Coolant through is standard for all the SW heads
- The diameter range is the value when nose radius .031 is used for insert ZN05 and ZN08

KAISER ROUGH BORING HEADS

SMART DAMPER BORING SW

RANGE: ϕ .787"-8.000"

SW rough boring head integrated with SMART DAMPER eliminates chatter in heavy work loads

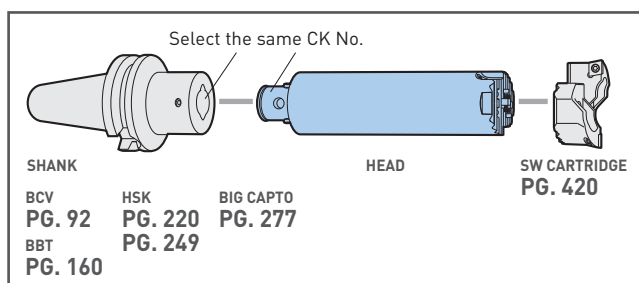
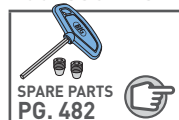


A TYPE FOR THROUGH-HOLES (4 CORNERS OF THE INSERT CAN BE USED)

øD	Catalog Number	CK No.	Cartridge	Insert Model	øD1	L	Clamp Bolt Set (Spare)	Belleville Spring Set (Spare)	Weight (lbs.)						
.787-1.023	CK1-SW20DP-105❖	CK1	SW2026A	SC06	.748	4.134	SW20SS	SW20BS	.7						
.984-1.220			SW2531A												
.984-1.299	CK2-SW25DP-130❖	CK2	SW2533A		.945	5.118	SW25SS	SW25BS	1.3						
1.260-1.575			SW3240A												
1.260-1.653	CKB3-SW32DP-170	CK3	SW3242A	SC09	1.220	6.693	SW32SS	SW32BS	2.9						
1.614-2.008			SW4151A												
1.614-2.160	CKB4-SW41DP-190	CK4	SW4154A		1.535	7.480	SW41SS	SW41BS	5.3						
2.087-2.598			SW5366A												
2.087-2.756	CKB5-SW53DP-220	CK5	SW5370A	SC12	1.968	8.661	SW53SS	SW53BS	9.9						
2.717-3.385			SW6986A												
2.677-3.543	CKB6-SW68DP-245	CK6	SW6890A		2.520	9.646	SW68SS	SW68BS	18.3						
3.465-4.331			SW88110A												
3.858-4.960	CKB6-SW98DP-260		SW98126A							10.236	SW98SS	SW98BS	19.4		
4.921-6.024			SW125153A												
3.858-4.961	CKB7-SW98DP-260	CK7	SW98126A		3.543	10.236	SW98SS	SW98BS	36.2						
4.921-6.024			SW125153A												
5.827-6.929	CKB6-SW148DP-260	CK6	SW148176A		2.520				10.236	SW98SS	SW98BS	20.5			
6.890-8.000			SW175203A												
5.827-6.929	CKB7-SW148DP-260	CK7	SW148176A		3.543							10.236	SW98SS	SW98BS	37.3
6.890-8.000			SW175203A												

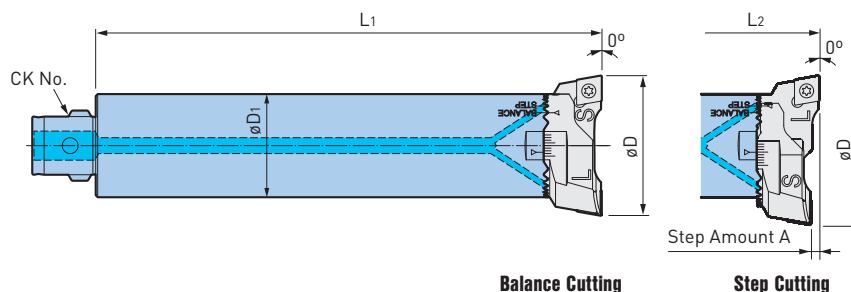
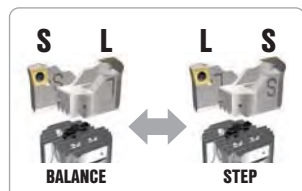
- Clamp screws and belleville springs are included; cartridges and inserts must be ordered separately
- Compatible set items are not included ordered separately if required
- CK1 and CK2 are interchangeable with CKB shanks, extensions, etc
- Coolant through is standard for all the SW heads
- The diameter range is the value when inserts with nose radius .031 are used

ACCESSORIES



KAISER ROUGH BORING HEADS

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

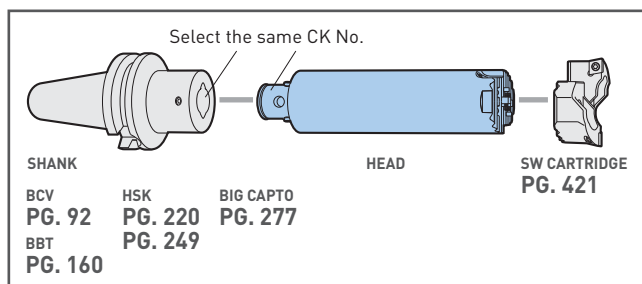
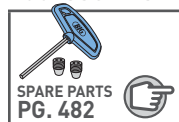


E TYPE FOR BLIND HOLES (TO SHAPE FLAT SURFACES)

øD	Catalog Number	CK No.	Cartridge	Insert Model	øD1	L1	L2	A	Clamp Bolt Set (Spare)	Belleville Spring Set (Spare)	Weight (lbs.)
.787-1.023	CK1-SW20DP-105❖	CK1	SW2026E	CC06	.748	4.134	4.138	.008	SW20SS	SW20BS	.7
.984-1.220			SW2531E								
.984-1.299	CK2-SW25DP-130❖	CK2	SW2533E	CC06	.945	5.118	5.122		SW25SS	SW25BS	1.3
1.260-1.575			SW3240E								
1.260-1.653	CKB3-SW32DP-170	CK3	SW3242E	CC09	1.220	6.693	6.697	.016	SW32SS	SW32BS	2.9
1.614-2.008			SW4151E								
1.614-2.160	CKB4-SW41DP-190	CK4	SW4154E	CC09	1.535	7.480	7.488		SW41SS	SW41BS	5.3
2.087-2.598			SW5366E								
2.087-2.756	CKB5-SW53DP-220	CK5	SW5370E	CC12	1.968	8.661	8.669	.016	SW53SS	SW53BS	9.9
2.717-3.385			SW6986E								
2.677-3.543	CKB6-SW68DP-245	CK6	SW6890E	CC12	2.520	9.646	9.654		SW68SS	SW68BS	18.3
3.465-4.331			SW88110E								
3.858-4.960	CKB6-SW98DP-260	CK6	SW98126E	CC12	3.543	10.236	10.244	.016	SW98SS	SW98BS	19.4
4.921-6.024			SW125153E								
3.858-4.961	CKB7-SW98DP-260	CK7	SW98126E	CC12	3.543	10.236	10.244		SW98SS	SW98BS	36.2
4.921-6.024			SW125153E								
5.827-6.929	CKB6-SW148DP-260	CK6	SW148176E	CC12	2.520	10.236	10.244	.016	SW98SS	SW98BS	20.5
6.890-8.000			SW175203E								
5.827-6.929	CKB7-SW148DP-260	CK7	SW148176E	CC12	3.543	10.236	10.244		SW98SS	SW98BS	37.3
6.890-8.000			SW175203E								

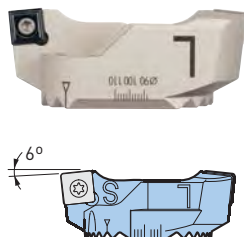
- Clamp screws and belleville springs are included; cartridges and inserts must be ordered separately
- Compatible set items are not included ordered separately if required
- CK1 and CK2 are interchangeable with CKB shanks, extensions, etc
- Coolant through is standard for all the SW heads
- The diameter range is the value when inserts with nose radius .031 are used

ACCESSORIES



KAISER ROUGH BORING HEADS

SW CARTRIDGE PAT.
RANGE: ϕ .787"-8.000"

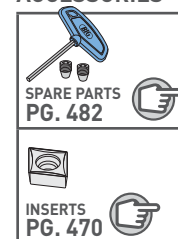


A TYPE FOR THROUGH-HOLES (4 CORNERS OF THE INSERT CAN BE USED)

ϕ D	Catalog Number	Head Type	Insert	Insert Clamp Screw Set
.787-1.024	SW2026A	SW 20	SC..0602	S2.5S-7IP
.984-1.220	SW2531A			
.984-1.299	SW2533A	SW 25	SC..0602	S2.5S-7IP
1.260-1.575	SW3240A			
1.260-1.654	SW3242A	SW 32	SC..0903	S4S-15IP
1.614-2.008	SW4151A			
1.614-2.126	SW4154A	SW 41	SC..0903	S4S-15IP
2.087-2.598	SW5366A			
2.087-2.756	SW5370A	SW 53	SC..1204	S5S-20IP
2.717-3.386	SW6986A			
2.677-3.543	SW6890A	SW 68	SC..1204	S5S-20IP
3.465-4.331	SW88110A			
3.858-4.961	SW98126A	SW 98	SC..1204	S5S-20IP
4.921-6.024	SW125153A			
5.827-6.929	SW148176A	SW148	SC..1204	S5S-20IP
6.890-8.000	SW175203A			

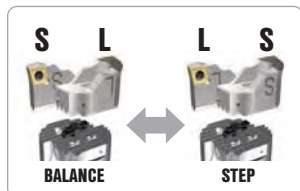
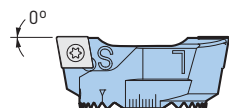
- Each cartridge model consists of a pair of cartridges and an insert clamping wrench
- Inserts must be ordered separately
- Step cutting is not available
- The diameter range is the value when nose radius .016 is used for insert SC06, and nose radius .031 for insert SC09 and SC12
- The insert clamping screw set (optional) contains 10 screws and 1 wrench

ACCESSORIES



KAISER ROUGH BORING HEADS

E TYPE FOR BLIND HOLES (TO SHAPE FLAT SURFACES)

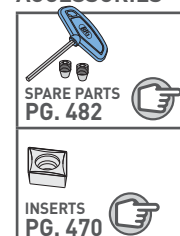


Adapted for both balance and step cutting by simple replacement of standard cartridges (for blind holes).

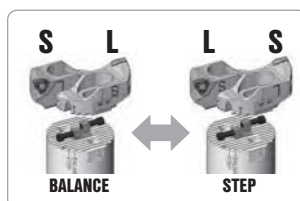
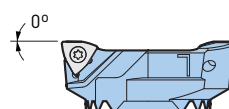
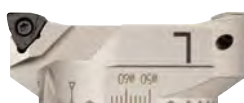
øD	Catalog Number	Head Type	Insert	Insert Clamp Screw Set
.787-1.024	SW2026E	SW20	CC..0602	S2.5S-7IP
.984-1.220	SW2531E			
.984-1.299	SW2533E	SW25	CC..0602	S2.5S-7IP
1.260-1.575	SW3240E			
1.260-1.654	SW3242E	SW32	CC..0903	S4S-15IP
1.614-2.008	SW4151E			
1.614-2.126	SW4154E	SW41	CC..0903	S4S-15IP
2.087-2.598	SW5366E			
2.087-2.756	SW5370E	SW53	CC..1204	S5S-20IP
2.717-3.386	SW6986E			
2.677-3.543	SW6890E	SW68	CC..1204	S5S-20IP
2.677-3.543	SW6890EL		CC..1605	
3.465-4.331	SW88110E		CC..1204	
3.465-4.331	SW88110EL		CC..1605	
3.858-4.961	SW98126E	SW98	CC..1204	S5S-20IP
3.858-4.961	SW98126EL		CC..1605	
4.921-6.024	SW125153E		CC..1204	
4.921-6.024	SW125153EL		CC..1605	
5.827-6.929	SW148176E	SW148	CC..1204	S5S-20IP
5.827-6.929	SW148176EL		CC..1605	
6.890-8.000	SW175203E		CC..1204	
6.890-8.000	SW175203EL		CC..1605	

- Each cartridge model consists of a pair of cartridges and an insert clamping wrench
- Inserts must be ordered separately
- The diameter range is the value when nose radius .016 is used for insert CC06, and nose radius .031 for insert CC09 and CC12
- The insert clamping screw set (optional) contains 10 screws and 1 wrench
- EL type Cartridge with long cutting edge cannot be used with the #30 shank holder

ACCESSORIES



N TYPE FOR BLIND HOLES (6 CORNERS OF THE INSERT CAN BE USED)

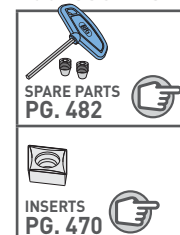


Adapted for both balance and step cutting by simple replacement of standard cartridges (for blind holes).

øD	Catalog Number	Head Type	Insert	Insert Clamp Screw Set
1.260-1.654	SW3242N	SW 32	ZN..0503	S2.508S-7IP
1.614-2.008	SW4151N			
1.614-2.126	SW4154N	SW 41	ZN..0503	S2.508S-7IP
2.087-2.598	SW5366N			
2.087-2.756	SW5370N	SW 53	ZN..0805	S412S-15IP
2.717-3.386	SW6986N			
2.677-3.543	SW6890N	SW 68	ZN..0805	S412S-15IP
3.465-4.331	SW88110N			
3.858-4.961	SW98126N	SW 98	ZN..0805	S412S-15IP
4.921-6.024	SW125153N			
5.827-6.929	SW148176N	SW148	ZN..0805	S412S-15IP
6.890-8.000	SW175203N			

- Each cartridge model consists of a pair of cartridges and an insert clamping wrench
- Inserts must be ordered separately
- The insert clamping screw set (optional) contains 10 screws and 1 wrench

ACCESSORIES

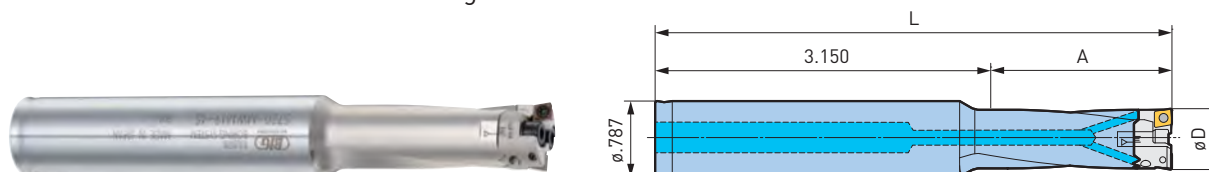


KAISER ROUGH BORING HEADS

MW BORING HEAD PAT.

RANGE: ϕ .630"-.827"

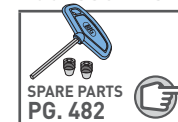
Delivers high-efficiency, precision rough boring in small diameters with a 2-insert design.



ϕD	Catalog Number	Cartridge	L	A	Spare Clamp Bolt Set	Spare Belleville Spring (4pcs)	Weight (lbs.)
.630-.748	ST20-MW1619-45	MW1619E	5.354	1.772	MW16SS	MW16BS	.53
	ST20-MW1619-60		5.945	2.362			.57
.709-.827	ST20-MW1821-50	MW1821E	5.551	1.969			.57
	ST20-MW1821-65		6.142	2.559			.62

- Clamp Bolts and Belleville Springs are included with the body; cartridges and inserts must be ordered separately
- Cartridge models are a 2-piece set
- Cartridge includes insert clamping screws and wrench
- The weight is that of the body and cartridge combined
- The spare Clamp Screw Set contains two clamping screws and two washers

ACCESSORIES



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

Cutting Conditions

Workpiece Material	Cutting Speed Vc (SFM)	Feed Rate f (IPR)	Cutting Depth (in/ ϕ)
Carbon Steel	430-600	.004-.008	.080-.120
Stainless Steel	330-460	.006-.010	.060-.100
Cast Iron	400-660	.004-.012	.040-.160
Aluminum	600-925	.008-.012	.060-.160

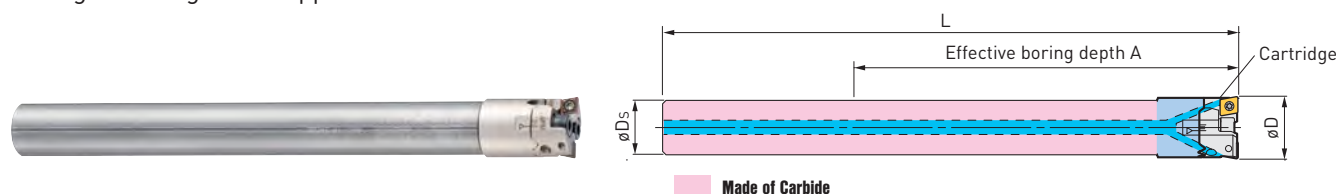
- Generally for use with center-through coolant
- Cutting speed must be lowered for external oil supply
- Blind hole processing may damage inserts and tools, as cutting chips clog at the back of the hole
- Remove cutting chips at the small bottom of the hole several times for processing

KAISER ROUGH BORING HEADS

MW BORING HEAD (CARBIDE SHANK TYPE)

RANGE: ϕ .630"-.827"

Optimized for high-performance deep hole boring in through-hole applications.



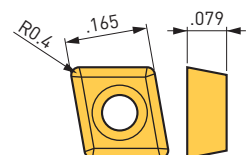
ϕD	Catalog Number	Insert Holder	ϕD_s	L	A	Clamp Bolt Set	Clamp Shim Set	Weight (lbs)
.630-.748	ST14W-MW16-110	MW1619E	.551	5.945	4.331	MW16SS	MW16BS	.79
.709-.827	ST16W-MW18-115	MW1821E	.630	6.772	4.530			1.19

- Clamp Bolts and Belleville Springs are included with the body; cartridges and inserts must be ordered separately
- Cartridge models are a 2-piece set
- Cartridge includes insert clamping screws and wrench
- The weight is that of the body and cartridge combined
- The carbide shank and boring head are integrated and cannot be sold separately
- Exclusive for use with through holes; do not use it with blind holes
- The spare Clamp Screw Set contains two clamping screws and two washers

ACCESSORIES



INDEXABLE INSERTS



No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	MW0404F(Z30P)	.016	2	Steel / Stainless Steel	Coated Carbide (P30)
2	MW0404S(Z30K)	.016	2	Cast Iron GG/GGG	Coated Carbide (K30)
3	MW0404E(D15N)	.016	2	Aluminium/Nonferrous	DLC Coated Carbide (N15)

- Inserts are sold in packages of 10 pcs.
- Order example: MW0404F Z30P----10 pcs. in a package

INSERT CLAMPING SCREW SET



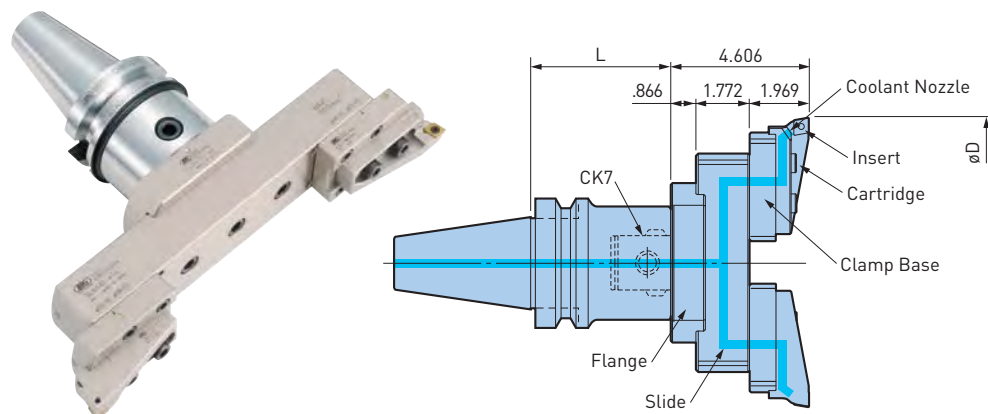
Set Model	Screw Caps	Wrench
S1.6S-T6	M1.6x4.2	FA-T6

- 10 screws and 1 wrench are included in a set

KAISER ROUGH BORING HEADS

TW BORING HEAD (STANDARD TYPE) RANGE: $\phi 7.874''$ - $32.677''$

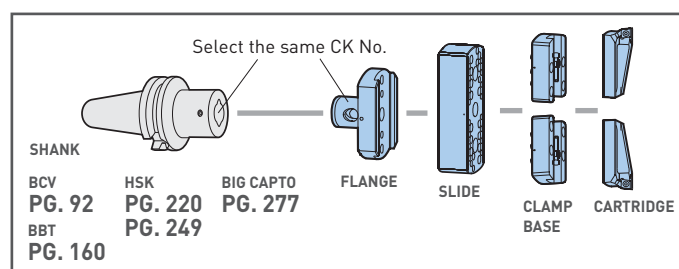
CK7 large-diameter boring series for heavy cutting.



Cartridge Type	ϕD	CK7		Slide		Clamp Base (2-piece Set)	Weight (lbs.)	Cartridge (2-piece Set)		Insert
		Flange	Weight (lbs.)	Slide	Weight (lbs.)			Cartridge (2-piece Set)	Weight (lbs.)	
A Type for Through-Holes	7.874-10.630	FLN135 (FLN135/90)	6.1	SLN200-270	8.4	CB-TW200E	4.0	 TW200A	1.6	SC12
	10.630-13.386			SLN270-340	12.1					
	13.386-16.142			SLN340-410	15.9					
	16.142-18.898			SLN410-480	19.0					
	18.898-21.654			SLN480-550	23.4					
	21.654-24.409	FLN220 (FLN220/90)	8.8	SLN550-620❖	27.1					
	24.409-27.165			SLN620-690❖	30.9					
	27.165-29.921			SLN690-760❖	34.6					
	29.921-32.677			SLN760-830❖	38.4					
E/EL Type for Blind Holes	7.874-10.630	FLN135 (FLN135/90)	6.1	SLN200-270	8.4	CB-TW200E	4.0	 TW200E TW200EL	1.6	CC12 (TW200E) CC16 (TW200EL)
	10.630-13.386			SLN270-340	12.1					
	13.386-16.142			SLN340-410	15.9					
	16.142-18.898			SLN410-480	19.0					
	18.898-21.654			SLN480-550	23.4					
	21.654-24.409	FLN220 (FLN220/90)	8.8	SLN550-620❖	27.1					
	24.409-27.165			SLN620-690❖	30.9					
	27.165-29.921			SLN690-760❖	34.6					
	29.921-32.677			SLN760-830❖	38.4					

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

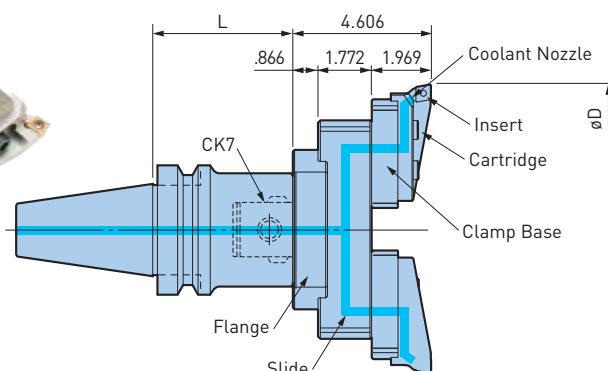
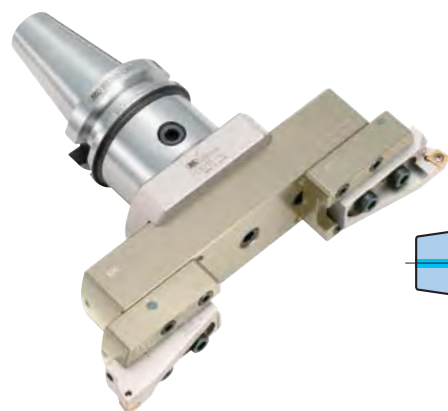
ACCESSORIES



KAISER ROUGH BORING HEADS

TW BORING HEAD (HIGH-SPEED TYPE) RANGE: $\phi 7.874''$ - $32.677''$

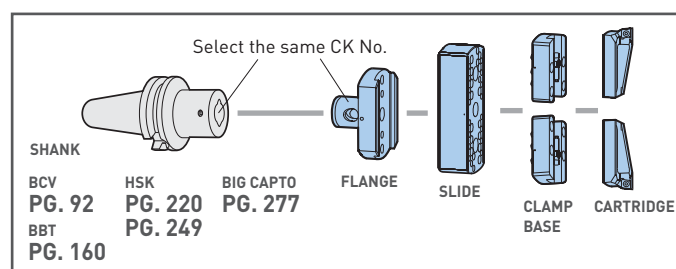
CK7 large-diameter boring series featuring aluminum components for high-speed cutting.



Cartridge Type	ϕD	CK7		Aluminum Slide		Aluminum Clamp Base (2-piece Set)	Weight (lbs.)	Cartridge (2-piece Set)	Weight (lbs.)	Insert
		Flange	Weight (lbs.)	Aluminum Slide	Weight (lbs.)					
A Type for Through-Holes	7.874-10.630	FLN135 (FLN135/90)	6.1	SLN200-270AL	3.2	CB-TW200E-AL	1.8		1.6	SC12
	10.630-13.386			SLN270-340AL	4.5					
	13.386-16.142			SLN340-410AL	5.8					
	16.142-18.898			SLN410-480AL	7.1					
	18.898-21.654			SLN480-550AL	8.5					
	21.654-24.409	FLN220 (FLN220/90)	8.8	SLN550-620AL❖	9.8					
	24.409-27.165			SLN620-690AL❖	11.1					
	27.165-29.921			SLN690-760AL❖	12.4					
	29.921-32.677			SLN760-830AL❖	13.8					
E/EL Type for Blind Holes	7.874-10.630	FLN135 (FLN135/90)	6.1	SLN200-270AL	3.2	CB-TW200E-AL	1.8		1.6	CC12 (TW200E) CC16 (TW200EL)
	10.630-13.386			SLN270-340AL	4.5					
	13.386-16.142			SLN340-410AL	5.8					
	16.142-18.898			SLN410-480AL	7.1					
	18.898-21.654			SLN480-550AL	8.5					
	21.654-24.409	FLN220 (FLN220/90)	8.8	SLN550-620AL❖	9.8					
	24.409-27.165			SLN620-690AL❖	11.1					
	27.165-29.921			SLN690-760AL❖	12.4					
	29.921-32.677			SLN760-830AL❖	13.8					

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

ACCESSORIES



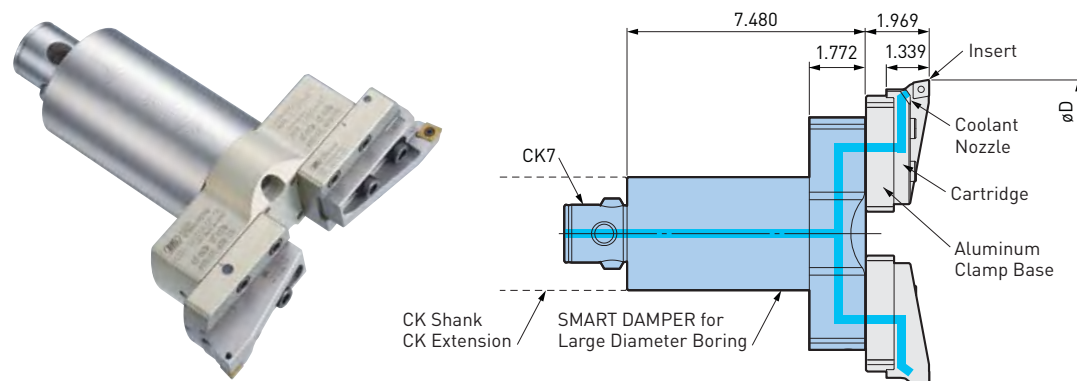
KAISER ROUGH BORING HEADS



SMART DAMPER BORING TW200 (LARGE DIAMETER TYPE)

RANGE: $\phi 7.756$ " - 13.386 "

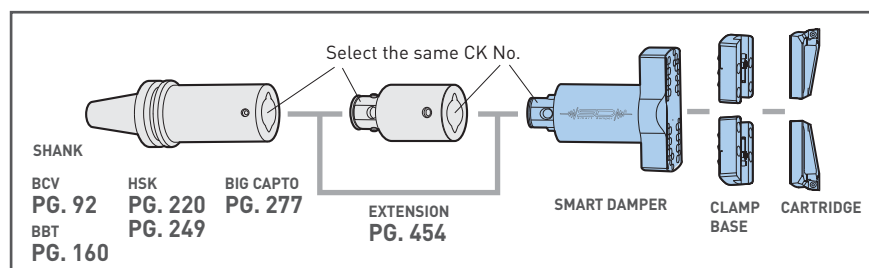
Extended length large diameter slides with integral SMART DAMPER mechanism for anti-vibration.



ϕD	CK7	Weight (lbs.)	Aluminum Clamp Base (2-piece Set)	Weight (lbs.)	Cartridge (2-piece Set)		Insert
						Weight (lbs.)	
7.756-10.630	CKB7-SLN200ALDP-190	26.2	CB-TW200-AL	1.8	A Type for Through Hole TW200A	1.6	SC12
					E Type for Blind Holes TW200E	1.6	CC12
10.630-13.386	CKB7-SLN270ALDP-190	27.5			EL Type for Blind Holes TW200EL	1.6	CC16

- Clamp Bases and Cartridges are sold as a two-piece set; the weight in the table is that of 2 pieces
- Inserts must be ordered separately
- Cutting edge and drive keys are aligned in the same direction

ACCESSORIES



KAISER ROUGH BORING HEADS

SQUARE TOOL HOLDER

□25mm square tool for lathe

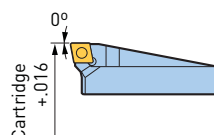


Catalog Number	Diameter	Slide	Square Size	Weight (lbs.)
BFN95	9.843-32.677	SLN200-270(AL) or longer	□25mm	2.5

- The diameter varies according to the tool and slide used
- Slide models with AL at the end are made of aluminum for lighter weight

E TYPE CARTRIDGE (FOR STEP CUTTING)

The step-cut cartridge features a cutting edge height that is .016" higher and supports efficient machining at large depths of cut, enhancing overall cutting performance.



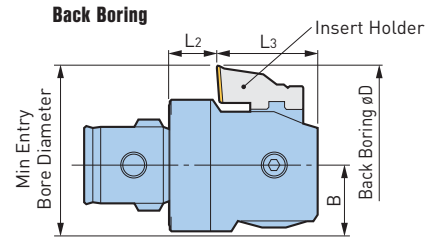
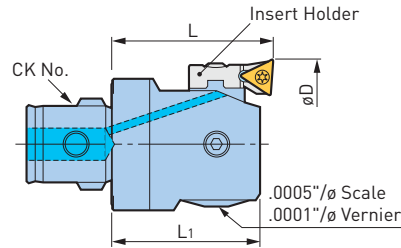
Catalog Number	Insert
TW200E-SC	CC12
TW200EL-SC	CC16

- Sold individually

KAISER FINE BORING HEADS

EWN BORING HEAD RANGE: ϕ .787"-8.000"

A .0001"/ ϕ vernier is added to the easy-to-read scale with .0005"/ ϕ increments for enhanced precision. The pre-balance design ensures stable machining accuracy, and standard back boring capability expands versatility.



$$\text{Min Bore} = B + (\text{Back Boring Diameter} / 2)$$

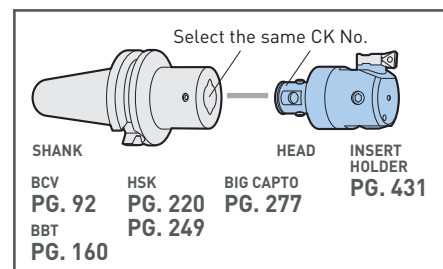
Catalog Number	CK No.	Insert Holder	Boring			Back Boring				Weight (lbs.)	Insert
			øD	L	L ₁	øD	L ₂	L ₃	B		
EWN20-36E-CKB1	CK1	ENH1-1	.787-1.024	1.280	1.161	—	.413	.748	.394	.2	TP08
		ENH1-2	.984-1.220			1.181-1.220					
		ENH1-3	1.181-1.417			1.181-1.417					
EWN25-47E-CKB2	CK2	ENH2-1	.984-1.299	1.398	1.280	—	.453	.827	.492	.3	
		ENH2-2	1.260-1.575			1.417-1.575					
		ENH2-3	1.535-1.850			1.535-1.850					
EWN32-60E-CKB3	CK3	ENH3-1	1.260-1.654	1.575	1.378	—	.394	.984	.630	.5	
		ENH3-2	1.614-2.008			1.811-2.008					
		ENH3-3	1.969-2.362			1.969-2.362					
EWN41-74E-CKB4	CK4	ENH4-1	1.614-2.162	1.850	1.693	—	.551	1.142	.787	1.8	
		ENH4-2	1.969-2.480			2.087-2.480					
		ENH4-3	2.402-2.913			2.402-2.913					
EWN53-95E-CKB5	CK5	ENH5-1	2.087-2.756	2.244	2.087	2.441-2.756	.748	1.339	1.004	1.8	
		ENH5-2	2.559-3.228			2.717-3.228					
		ENH5-3	3.071-3.740			3.071-3.740					
EWN68-150E-CKB6	CK6	ENH6-1	2.677-3.937	2.795	2.646	3.150-3.937	.866	1.780	1.280	3.8	
		ENH6-2	3.701-4.961			3.701-4.961					
		ENH6-3	4.646-5.906			4.646-5.906					
EWN100-203E-CKB6	CK6	ENH6-1	3.937-6.024	2.795	2.646	4.409-6.024	.866	1.780	1.791	5.4	
		ENH6-2	4.961-7.047			4.961-7.047					
		ENH6-3	5.906-8.000			5.906-8.000					
EWN100-203E-CKB7	CK7	ENH6-1	3.937-6.024	3.425	3.276	4.409-6.024	1.496	1.780	1.791	8.8	
		ENH6-2	4.961-7.047			4.961-7.047					
		ENH6-3	5.906-8.000			5.906-8.000					

- Max and min diameters are the values when nose radius .008 is used for insert TP08, and nose radius .016 for insert TC11
- During back boring, the rotation direction will be reversed
- Inserts and insert holders are not included; must be ordered separately

CAUTION

The maximum allowable cutting speed V_c of the EWN BORING HEAD is 3,900 SFM, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.

ACCESSORIES



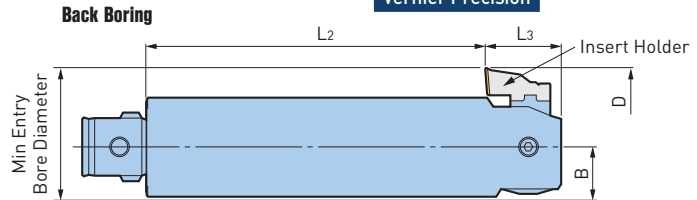
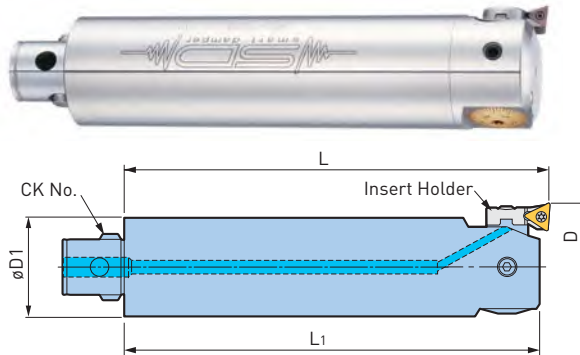
KAISER FINE BORING HEADS



SMART DAMPER BORING EWN

RANGE: ϕ .787"-8.000"

EWN fine boring head integrated with SMART DAMPER eliminates chatter.



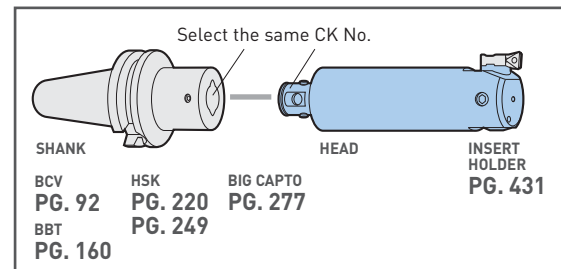
$$\text{Min Bore} = B + (\text{Back Boring Diameter} / 2)$$



Catalog Number	CK No.	Insert Holder	Boring			Back Boring			B	øD1	Weight (lbs.)	Insert
			øD	L	L1	øD	L2	L3				
CK1-EWN20EDP-100	CK1	ENH1-1	.787-1.024	3.937	3.819	—	3.071	.866	.394	.748	.9	TP..08
		ENH1-2	.984-1.220			—						
		ENH1-3	1.181-1.417			—						
CK2-EWN25EDP-125	CK2	ENH2-1	.984-1.299	4.921	4.803	—	3.976	.945	.472	.945	1.5	
		ENH2-2	1.260-1.575			—						
		ENH2-3	1.535-1.850			1.654-1.850						
CKB3-EWN32EDP-160	CKB3	ENH3-1	1.260-1.654	6.299	6.102	—	5.115	.984	.630	1.220	2.6	
		ENH3-2	1.614-2.008			—						
		ENH3-3	1.970-2.362			2.244-2.362						
CKB4-EWN41EDP-185	CKB4	ENH4-1	1.614-2.162	7.283	7.126	—	5.984	1.142	.787	1.535	5.1	
		ENH4-2	1.969-2.480			2.420-2.480						
		ENH4-3	2.402-2.913			2.638-2.913						
CKB5-EWN53EDP-210	CKB5	ENH5-1	2.087-2.756	8.268	8.110	—	6.772	1.339	.984	1.969	9.7	
		ENH5-2	2.559-3.228			2.913-3.228						
		ENH5-3	3.070-3.740			3.071-3.740						
CKB6-EWN68EDP-240	CKB6	ENH6-1	2.677-3.937	9.449	9.291	3.543-3.937	7.520	1.772	1.299	2.520	18.3	
		ENH6-2	3.700-4.960			3.701-4.961						
		ENH6-3	4.646-5.906			4.646-5.906						
CKB6-EWN100EDP-240	CKB6	ENH6-1	3.937-6.024	9.449	9.291	4.213-6.024	7.520	1.772	1.772	2.520	19.4	
		ENH6-2	4.961-7.047			4.961-7.047						
		ENH6-3	5.906-8.000			5.906-8.000						
CKB7-EWN100EDP-240	CKB7	ENH6-1	3.937-6.024	9.449	9.291	4.567-6.024	7.520	1.772	1.772	3.543	36.1	
		ENH6-2	4.961-7.047			4.961-7.047						
		ENH6-3	5.906-8.000			5.906-8.000						

- The diameter range is the values when nose radius .008 is used for insert TP08, and radius .016 for insert TC11
- During back boring, the rotation direction will be reversed
- Inserts and insert holders are not included; must be ordered separately
- CK1 and CK2 are interchangeable with CKB shanks, extensions, etc

ACCESSORIES



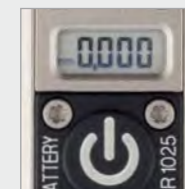
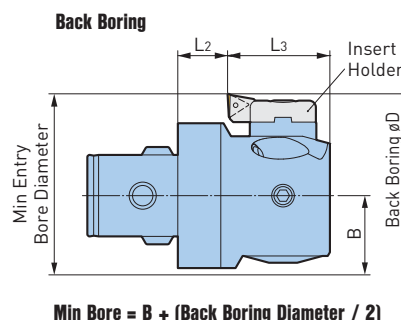
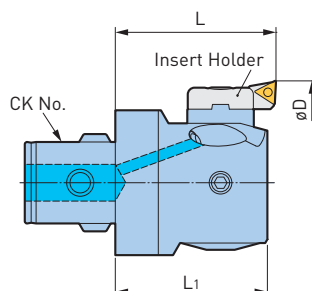
KAISER FINE BORING HEADS

EWE DIGITAL BORING HEAD

RANGE: $\phi 1.614$ "-8.000" ($\phi 41$ - $\phi 203$ mm)

An advanced digital boring head, crafted with ultra-precision technology. The digital display enables instant reading of adjustment values, and the fully waterproof and dustproof structure (equivalent to IP69K) ensures durability in any environment.

Resolution:
.00005"/ ϕ
(.001mm/ ϕ)



Accurately displays the actual movement amount.
Simple operation allows ON and ZERO RESET with a single button.

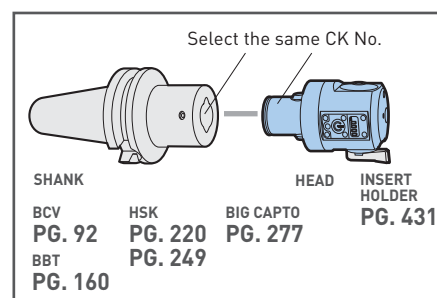
Catalog Number	CK No.	Insert Holder	Boring			Back Boring				Weight (lbs.)	Insert
			ϕD	L	L1	ϕD	L2	L3	B		
EWE41-74CKB4	CK4	ENH4-1	1.614-2.126	1.850	1.693	—	.551	1.142	.787	.9	TC..11
		ENH4-2	1.969-2.480			2.087-2.48					
		ENH4-3	2.402-2.913			2.402-2.913					
EWE53-95CKB5	CK5	ENH5-1	2.087-2.756	2.244	2.087	2.441-2.756	.748	1.339	1.004	1.5	TC..11
		ENH5-2	2.559-3.228			2.559-3.228					
		ENH5-3	3.071-3.740			3.071-3.74					
EWE68-150CKB6	CK6	ENH6-1	2.677-3.937	2.795	2.646	3.15-3.937	.866	1.780	1.280	3.7	TC..11
		ENH6-2	3.701-4.961			3.701-4.961					
		ENH6-3	4.646-5.906			4.646-5.906					
EWE100-203CKB6	CK6	ENH6-1	3.937-6.024	2.795	2.646	4.409-6.024	.866	1.78	1.791	5.5	TC..11
		ENH6-2	4.961-7.047			4.961-7.047					
		ENH6-3	5.906-8.000			5.906-8.000					
EWE100-203CKB7	CK7	ENH6-1	3.937-6.024	3.425	3.276	4.409-6.024	1.496	1.78	1.791	8.8	TC..11
		ENH6-2	4.961-7.047			4.961-7.047					
		ENH6-3	5.906-8.000			5.906-8.000					

- Battery: CR1025 1 pc (standard accessory)
- Max and Min diameters are the values when an insert with nose radius .016 is used
- During back boring, the rotation direction will be reversed
- Inserts and insert holders are not included; must be ordered separately
- Center-through coolant pressure should not exceed 580 PSI

CAUTION

The maximum allowable cutting speed V_c of the EWE BORING HEAD is 3,900 SFM, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.

ACCESSORIES



KAISER FINE BORING HEADS

INSERT HOLDER



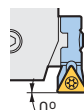
FOR TP/TC INSERT



Head Type	Catalog Number	Insert	Insert Clamp Screw Set
EWN20	ENH1-1	TP..08	S2S-6IP
	ENH1-2		
	ENH1-3		
	ENH1-1TP07	TP..07	10.694.103
EWN25	ENH2-1	TP..08	S2S-6IP
	ENH2-2		
	ENH2-3		
	ENH2-1TP07	TP..07	10.694.103
EWN32	ENH3-1	TP..08	S2S-6IP
	ENH3-2		
	ENH3-3		
EWN41 EWE41	ENH4-1	TC..11	S2.5S-7IP
	ENH4-2		
	ENH4-3		
EWN53 EWE53	ENH5-1	TC..11	S2.5S-7IP
	ENH5-2		
	ENH5-3		
EWN68 EWE68 EWN100 EWE100	ENH6-1	TC..11	S2.5S-7IP
	ENH6-2		
	ENH6-3		

• Inserts must be ordered separately

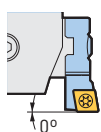
FOR TP/TC INSERT



Head Type	Catalog Number	Insert	Insert Clamp Screw Set
EWN(E)41	ENH4-1E	TC..11	S2.5S-7IP
	ENH4-2E		
	ENH4-3E		
EWN(E)53	ENH5-1E	TC..11	S2.5S-7IP
	ENH5-2E		
	ENH5-3E		
EWN(E)68 EWN(E)100	ENH6-1E	TC..11	S2.5S-7IP
	ENH6-2E		
	ENH6-3E		

• Inserts must be ordered separately

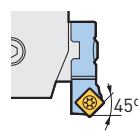
FOR CC INSERT



Head Type	Catalog Number	Insert	Insert Clamp Screw Set
EWN(E)41	ENH4-1F	CC..06	S2.5S-7IP
	ENH4-2F		
	ENH4-3F		
EWN(E)53	ENH5-1F	CC..06	S2.5S-7IP
	ENH5-2F		
	ENH5-3F		
EWN(E)68 EWN(E)100	ENH6-1F	CC..07	S3S-10IP
	ENH6-2F		
	ENH6-3F		

• Inserts must be ordered separately

FOR SC INSERT



Head Type	Catalog Number	Insert	Insert Clamp Screw Set
EWN(E)41	ENH4-1S	SC..06	S2.5S-7IP
	ENH4-2S		
	ENH4-3S		
EWN(E)53	ENH5-1S	SC..06	S2.5S-7IP
	ENH5-2S		
	ENH5-3S		
EWN(E)68 EWN(E)100	ENH6-1S	SC..07	S3S-10IP
	ENH6-2S		
	ENH6-3S		

• Inserts must be ordered separately

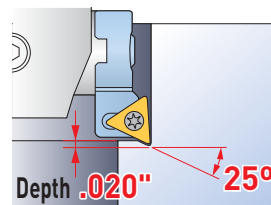
ACCESSORIES



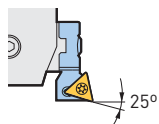
KAISER FINE BORING HEADS

INSERT HOLDER (TO UNDERCUT CORNERS)

Insert holder capable of boring and grooving (recessing).



FOR TP/TC INSERT



Head Type	Catalog Number	Insert	Insert Clamp Screw Set
EWN 32	ENH3-1J	TP..08	S2S-6IP
	ENH3-2J		
	ENH3-3J		
EWN41 EWE41	ENH4-1J	TP..08	S2S-6IP
EWN53 EWE53	ENH5-1J	TP..08	S2S-6IP
	ENH5-2J		
	ENH5-3J		
EWN68 EWE68 EWN100 EWE100	ENH6-1J	TC..11	S2.5S-7IP
	ENH6-2J		
	ENH6-3J		

- T Max and L are the values when nose radius .008 is used for insert TP08, and nose radius .016 for insert TC11
- Inserts must be ordered separately

ACCESSORIES

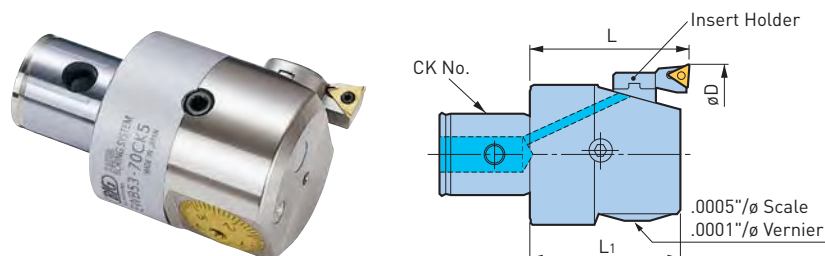


KAISER FINE BORING HEADS

EWB BORING HEAD

RANGE: $\phi 1.260$ "- 4.134 " ($\phi 32$ - $\phi 105$ mm)

Ultra-precision boring head with a $\phi .0005$ " increment scale, featuring automatic precision balancing that enables high-speed machining with exceptional dynamic stability and accuracy.



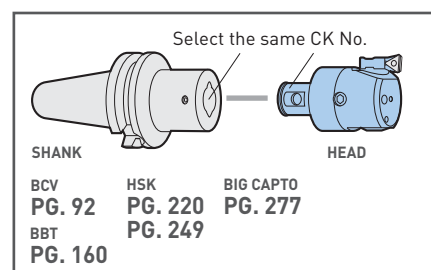
ϕD	Catalog Number	CK No.	L	L1	Weight (lbs.)	Insert Holder	Insert
1.260-1.654	EWB32-42E-CK3	CK3	1.575	1.457	.4	EBH3-1	TP..08
1.614-2.126	EWB41-54E-CK4	CK4	1.850	1.693	.8	EBH4-1	TC..11
2.087-2.756	EWB53-70E-CK5	CK5	2.244	2.087	1.7	EBH5-1	
2.677-3.465	EWB68-88E-CK6	CK6	2.795	2.638	3.6	EBH6-1	
3.346-4.134	EWB85-105E-CK6	CK6	2.795	2.638	3.7	EBH6-1	

- The diameter range is the values when nose radius .008 is used for insert TP08, and radius .016 for insert TC11
- Insert holder is included; Inserts must be ordered separately

CAUTION

The maximum allowable cutting speed V_c of the EWB BORING HEAD is 6,600 SFM, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.

ACCESSORIES



INSERT HOLDER



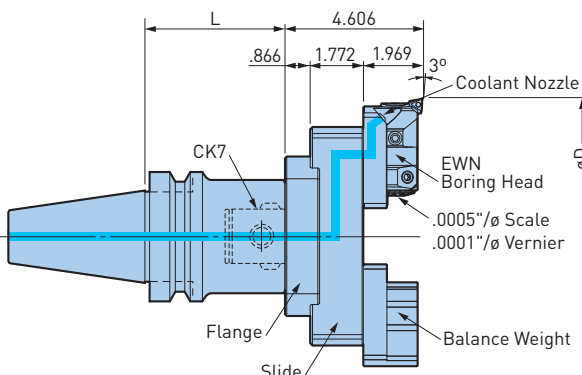
Catalog Number	Head Type	Insert	Insert Clamping Screw Set
EBH3-1	EWB32-42CK3	TP08	S2S-T6
EBH4-1	EWB41-54CK4	TC11	S2.5S-T7
EBH5-1	EWB53-70CK5		
EBH6-1	EWB68-88CK6 EWB85-105CK6		

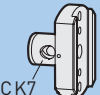
- EWB Boring Heads are provided with an insert holder; for replacement, order using the above model numbers

KAISER FINE BORING HEADS

EWN200 BORING HEAD (STANDARD TYPE) RANGE: $\phi 7.874''$ - $32.677''$

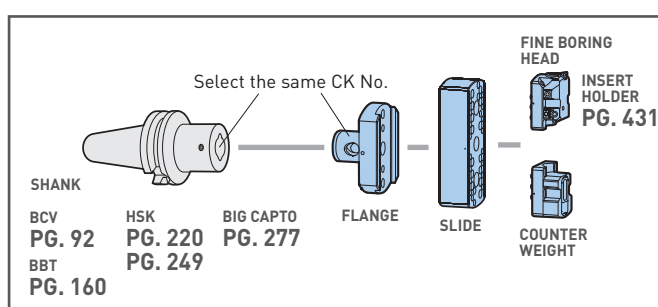
The fine boring system is delivering high precision and performance for large diameters.



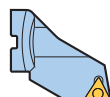
ϕD (with ENH7-1 Insert Holder)									Insert
	Flange	Weight (lbs.)	Slide	Weight (lbs.)	EWN Boring Head	Weight (lbs.)	Balance Weight*	Weight (lbs.)	
7.874-10.630	FLN135 [FLN135/90]	6.1	SLN200-270	8.4	EWN200E	3.2	BWN200FBE	3.2	TC11
10.630-13.386			SLN270-340	12.1					
13.386-16.142			SLN340-410	15.9					
16.142-18.898			SLN410-480	19.0					
18.898-21.654			SLN480-550	23.4					
21.654-24.409	FLN220 [FLN220/90]	8.8	SLN550-620❖	27.1					
24.409-27.165			SLN620-690❖	30.9					
27.165-29.921			SLN690-760❖	34.6					
29.921-32.677			SLN760-830❖	38.4					

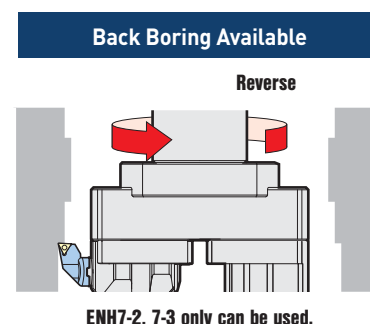
- * Balance weights can be adjusted according to the diameter
- Inserts and insert holders are not included; must be ordered separately
- Center-through coolant supply is available, except for ❖ marked models
- Cutting edge and drive keys are aligned in the same direction
(It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used)

ACCESSORIES



INSERT HOLDER

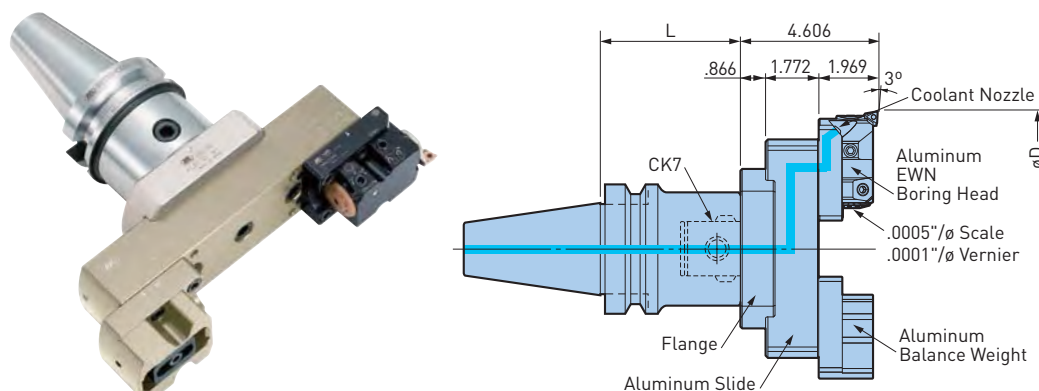
Base Insert Holder		Optional Insert Holders			
ENH7-1 	ENH7-2  +.984"/dia	ENH7-3  +1.969"/dia	ENH7-1J (for recessing)  25° Max Depth .024	ENH7-1F  0°	ENH7-1S  45°
		Insert TC11		Insert CC07	Insert SC07



KAISER FINE BORING HEADS

EWN200 BORING HEAD (HIGH-SPEED TYPE) RANGE: $\phi 7.874''$ - $32.677''$

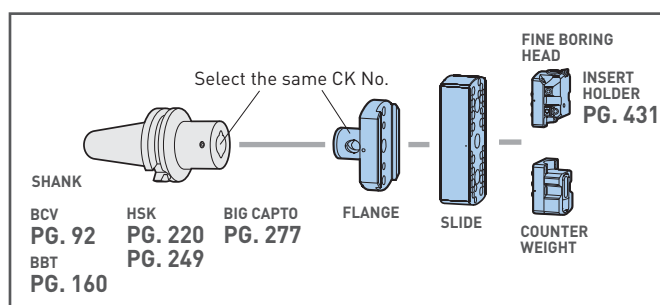
By combining a lightweight aluminum slide, EWN Boring Head, and a balance weight, we've reduced overall tool weight without compromising on performance.



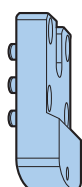
ϕD (with ENH7-1 Insert Holder)									Insert
	Flange	Weight (lbs.)	Aluminum Slide	Weight (lbs.)	Aluminum EWN Boring Head	Weight (lbs.)	Aluminum Balance Weight*	Weight (lbs.)	
7.874-10.630	FLN135 (FLN135/90)	6.1	SLN200-270AL	3.2	EWN200EAL	1.8	BWN200FBE-AL	1.8	TC11
10.630-13.386			SLN270-340AL	4.5					
13.386-16.142			SLN340-410AL	5.8					
16.142-18.898			SLN410-480AL	7.1					
18.898-21.654			SLN480-550AL	8.5					
21.654-24.409	FLN220 (FLN220/90)	8.8	SLN550-620AL ✦	9.8					
24.409-27.165			SLN620-690AL ✦	11.1					
27.165-29.921			SLN690-760AL ✦	12.4					
29.921-32.677			SLN760-830AL ✦	13.8					

- * Balance weights can be adjusted according to the diameter
- Inserts and insert holders are not included; must be ordered separately
- Center-through coolant supply is available, except for ✦ marked models
- Cutting edge and drive keys are aligned in the same direction
(It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used)

ACCESSORIES



SIMPLE BALANCE WEIGHT



Low-cost balance weights are also available.
Use under 800m/min to 2,600SFM

Catalog Number	Weight (lbs.)	Head
BWN200PB	3.2	EWN200 (Standard Type)
BWN200PB-AL	1.8	EWN200AL (High-speed Type)

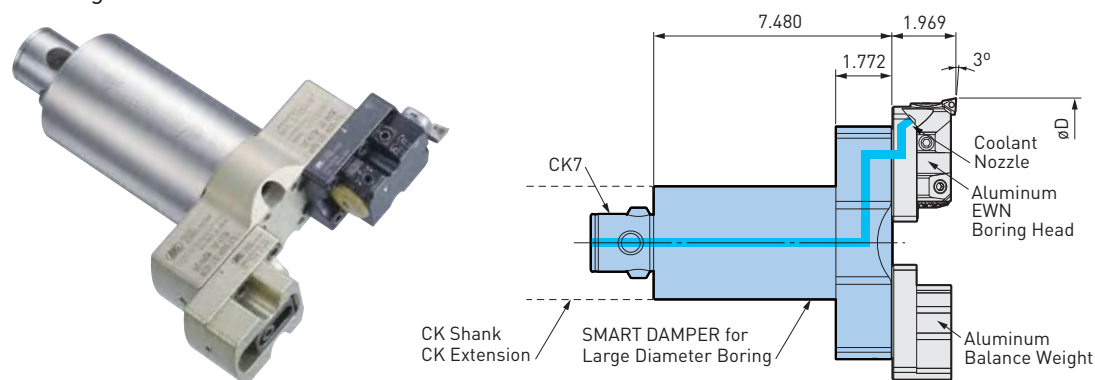
- Weights cannot be adjusted

KAISER FINE BORING HEADS

SMART DAMPER BORING EWN (LARGE DIAMETER TYPE)

RANGE: $\phi 7.87$ " - 13.386"

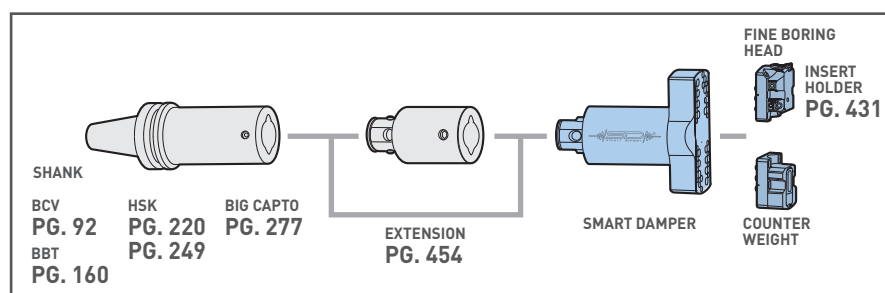
A lightweight aluminum slide, combined with a SMART DAMPER featuring an integrated anti-vibration mechanism.



ϕD (with ENH7-1 Insert Holder)							Insert
	SMART DAMPER	Weight (lbs.)	Aluminum EWN Boring Head	Weight (lbs.)	Aluminum Balance Weight	Weight (lbs.)	
7.87-10.630	CKB7-SLN200ALDP-190	26.2	EWN200EAL	1.8	BWN200FBE-AL	1.8	TC11
10.630-13.386	CKB7-SLN270ALDP-190	27.5					

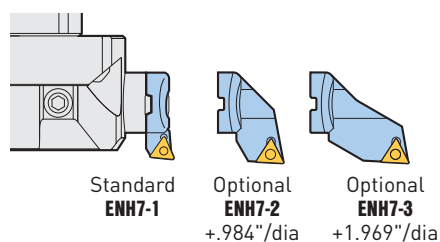
- Inserts and insert holders are not included; must be ordered separately
- Center-through coolant supply is available, except for $\diamond$ marked models
- Cutting edge and drive keys are aligned in the same direction

ACCESSORIES

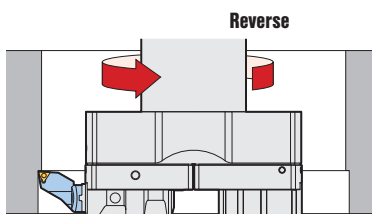


3 Types of Insert Holders

By replacing the insert holder, the machining diameter range can be expanded.



Back Boring Available



Back boring can be done with ENH7-2 and 3.
ENH7-1 cannot be used for back boring.

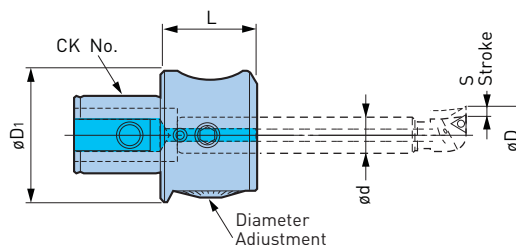
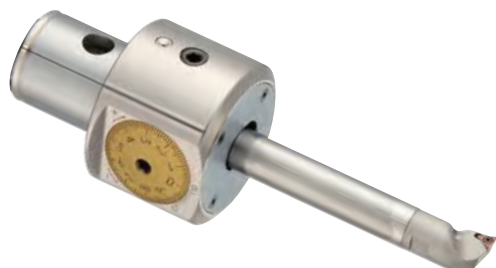
KAISER FINE BORING HEADS



EWN BORING HEAD (CENTRIC BORING BAR TYPE)

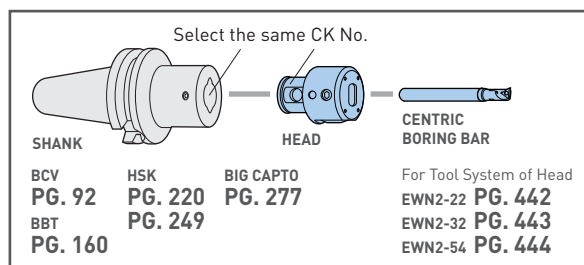
RANGE: ϕ .039"-2.126"

Ultra-precision head with tenths adjustments. Equipped with a full range of carbide bars, to meet the challenges of small diameter deep hole machining. The inch graduated scale offers precise, reliable adjustments.



ϕD	Catalog Number	CK No.	ϕd	ϕD_1	L	S	Diameter Adjustment	Max RPM	Weight (lbs.)
.039-.591	EWN04-15E-CK3	CK3	7mm	1.18	.87	-0.008-+.080	.0005" Scale (.0001" Vernier)	20,000	.3
.039-.866	EWN2-22E-CK4	CK4	10mm	1.54	1.12	0-+.087	.0005" Scale (.0001" Vernier)	16,000	.6
.039-1.260	EWN2-32E-CK5	CK5	12mm	1.97	1.42	0-+.138	.0002" Scale (.00005" Vernier)	14,000	1.1
.039-2.126	EWN2-54EM-CK6	CK6	16mm	2.50	1.77	0-+.177	.0002" Scale (.00005" Vernier)	10,000	2.4
.039-2.126	EWN2-54E-CK6	CK6	.625	2.50	1.77	0-+.177	.0002" Scale (.00005" Vernier)	10,000	2.4

ACCESSORIES



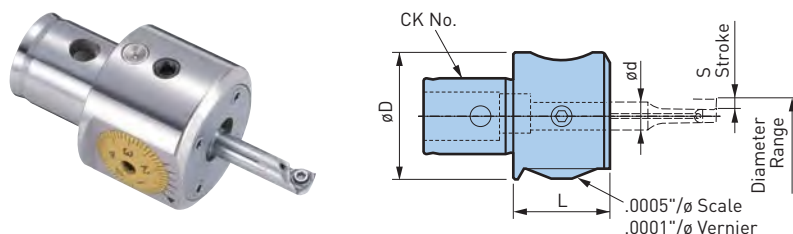
KAISER FINE BORING HEADS



EWN04-15 BORING HEAD

RANGE: ϕ .039"-.591"

Micro-boring head with an outer diameter of ϕ 1.181

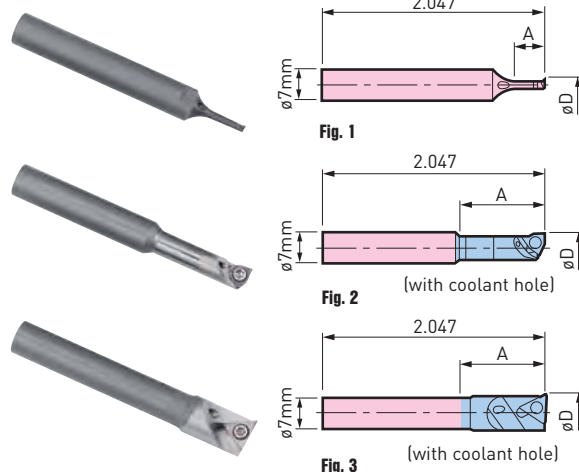


Catalog Number	Diameter Range	CK No.	ϕ D	ϕ d	L	S	Max Speed	Weight (lbs.)
EWN04-15E-CK3	.039-.591	CK3	1.181	7mm	.866	-.008 - +.079	20,000	.3

- Boring cutter must be ordered separately

BORING CUTTER

EWN04-15



Made of Carbide

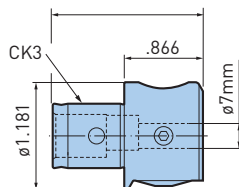
ϕ D	Fig.	Catalog Number	Engraved Number	A	Insert
.039-.059	1	ST7W-EB1-3	615.524	.118	Integrated Carbide Shank
.055-.079		ST7W-EB1.5-5	615.525	.197	
.075-.118		ST7W-EB2-7	615.501	.236	
.114-.157		ST7W-EB3-10	615.502	.394	
.154-.197		ST7W-EB4-13	615.503	.512	
.193-.236		ST7W-EB5-16	615.504	.630	
.228-.276	2	ST7W-EB6-20	615.505	.787	WC02
.268-.315		ST7W-EB7-20	615.506		
.307-.354	3	ST7W-EB8-20	615.507	1.181	TP07
.346-.394		ST7W-EB9-20	615.508		
.386-.472		ST7W-EB10-20	615.509		
.465-.591		ST7W-EB12-30	615.511		

- Inserts must be ordered separately

KAISER FINE BORING HEADS

EWN04-15 BORING HEAD

Max Tool Insertion Amount = 1.654

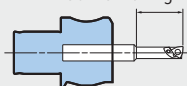


EWN04-15E-CK3

Stroke -.008" - +.079"

ST7W-EB1-EB7
ST7-REB

A = Effective Boring Depth



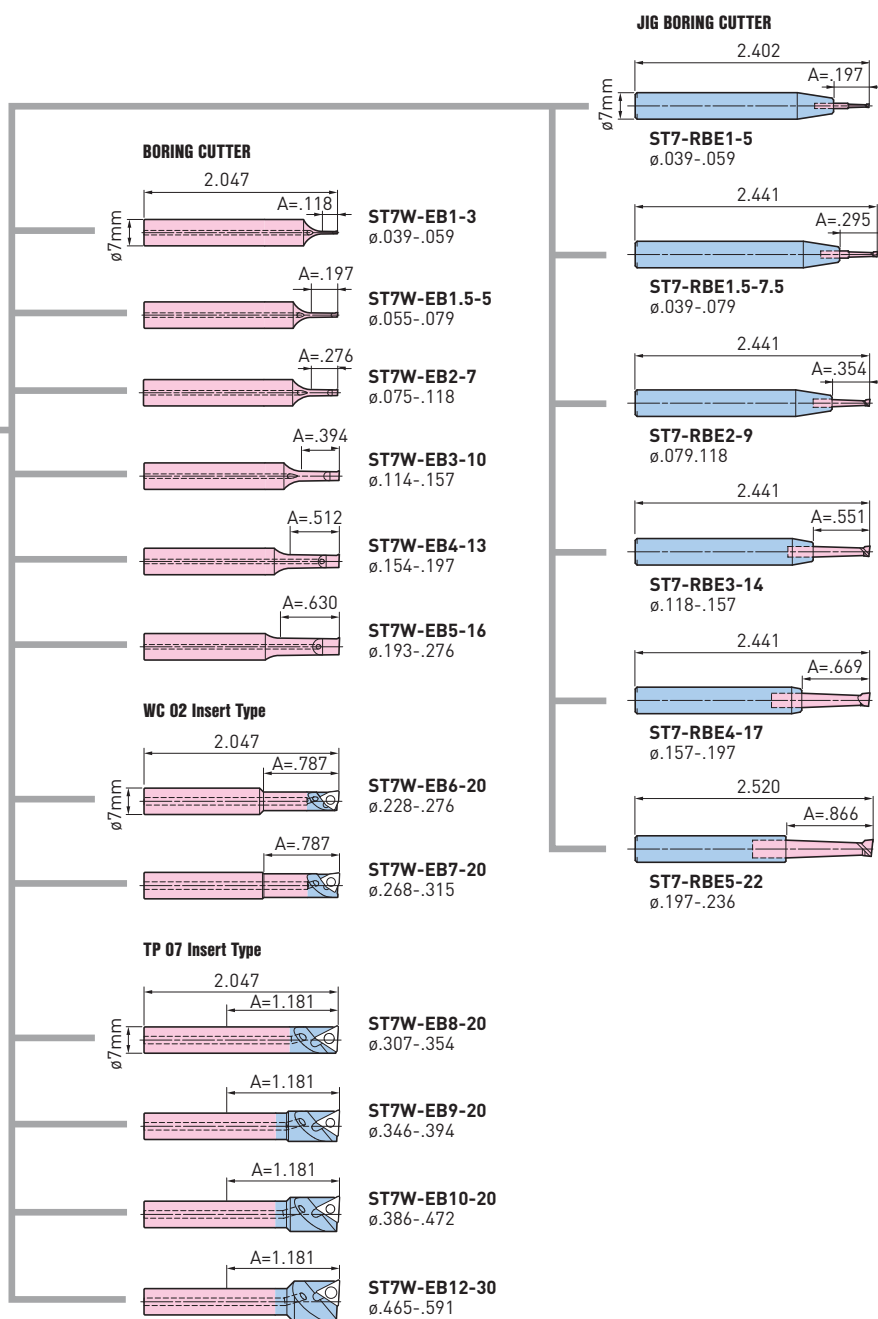
ST7W-EB8-EB12

A = Projection Length (Max)



Made of Carbide

ACCESSORIES



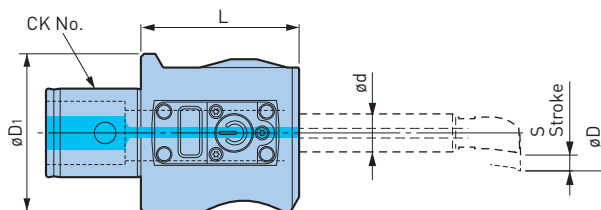
KAISER FINE BORING HEADS

EWE DIGITAL BORING HEAD (CENTRIC BORING BAR TYPE)

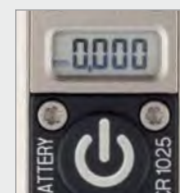
Designed with an IP69K-rated structure, it provides complete protection against water and dust, ensuring durability and reliability.



Resolution:
.00005"/ ϕ
(.001mm/ ϕ)



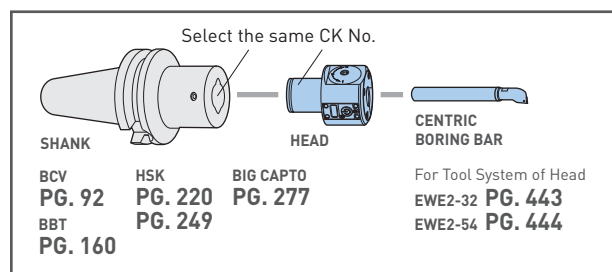
Center-Through Coolant Pressure Should Not Exceed 4MPa



Accurately displays the actual movement amount.
Simple operation allows ON and ZERO RESET with a single button.

ϕD	Catalog Number	CK No.	ϕd	$\phi D1$	L	S	Max RPM	Weight (lbs.)
.039-1.260	EWE2-32CK5	CK5	12mm	1.97	1.97	-0.02-+0.08	16,000	1.4
.039-2.126	EWE2-54CK6	CK6	16mm	2.50	1.77	-0.02-+0.10	14,000	3.0
.039-2.126	EWE2-54E-CK6	CK6	.625	2.50	1.77	-0.02-+0.10	14,000	3.0

- Battery: CR1025 1 pc (standard accessory)
- Boring cutter holder must be ordered separately
- Center-through coolant pressure should not exceed 580 PSI
- Inserts must be ordered separately



KAISER FINE BORING HEADS

JIG BORING CUTTER

DIAMETER: ϕ .039"-.354" (ϕ 1-9mm)

Designed with a sharp cutting edge, these tools are perfect for ultra-small diameter boring.

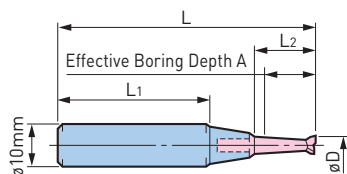


Fig. 1

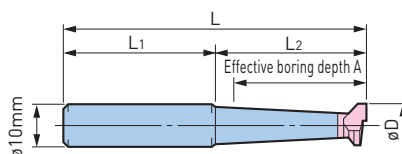
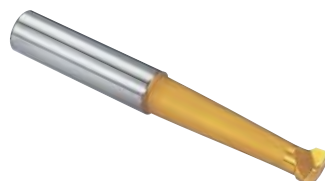
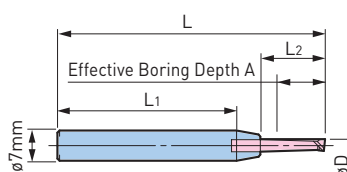


Fig. 2



Made of Carbide

ϕD_s	Catalog Number	Fig.	ϕD	A	L	L_1	L_2
10mm	RBE 1	1	.039	.157	2.402	1.417	.197
	RBE1.5		.059	.236	2.441	1.417	.295
	RBE2		.079	.315	2.441	1.417	.354
	RBE3		.118	.472	2.441	1.417	.551
	RBE4		.157	.630	2.441	1.417	.669
	RBE5		.197	.787	2.520	1.417	.866
	RBE7	2	.276	.945	2.559	1.417	1.102
	RBE9		.354	1.181	2.953	1.417	1.457

- No oil holes
- Cutting edge is TiN coated carbide

ϕD_s	Catalog Number	ϕD	A	L	L_1	L_2
7mm	ST7-RBE1-5	.039	.157	2.402	1.654	.197
	ST7-RBE1.5-7.5	.059	.236	2.441	1.654	.295
	ST7-RBE2-9	.079	.315	2.441	1.654	.354
	ST7-RBE3-14	.118	.472	2.441	1.614	.551
	ST7-RBE4-17	.157	.630	2.441	1.614	.669
	ST7-RBE5-22	.197	.787	2.520	1.614	.866

- No oil holes
- Cutting edge is TiN coated carbide

CARBIDE BORING BAR

DIAMETER: ϕ .157"-.354" (ϕ 4-9mm)

Achieve stable, ultra-small diameter boring with an insert-type solid carbide bar. This tool features a specialized insert with a large rake angle to minimize chatter, ensuring smooth and precise performance.

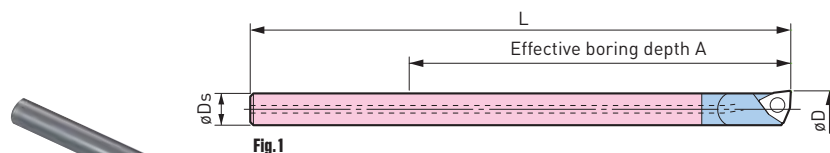


Fig. 1

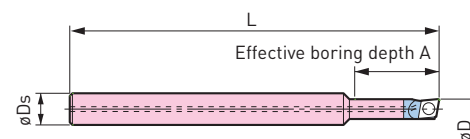
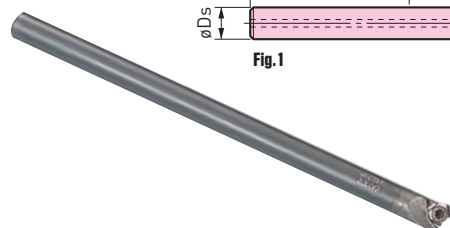


Fig. 2



Made of Carbide

Fig.	Catalog Number	ϕD_s	ϕD	A	L	Insert	Insert Clamp Screw Set
1	ST05W-EB6-60	5mm	.236-.295	2.362	3.346	WC..02	S2S-A-6IP
2	ST06W-EB4-16	6mm	.157-.197	.630	2.756	EC..03	S1.6S-T3-S
2	ST06W-EB5-20		.197-.236	.787	2.953	EC..03	S1.6S-T3
1	ST06W-EB7.5-65		.295-.354	2.559	3.740	WC..02	S2S-A-6IP

- Inserts are not included
- An exclusive straight collet is required when used with a boring head

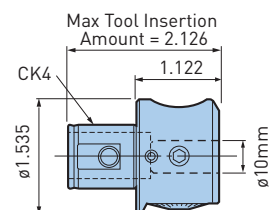
KAISER FINE BORING HEADS

EWN2-22 BORING HEAD

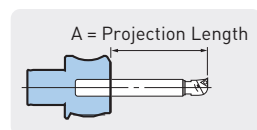
Ideal For Small Machines

RANGE: $\phi.039"$ - $.866"$

Compact head reduces interference.



EWN2-22E-CK4
Stroke 0" - .079"

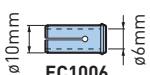
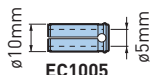


Always observe the projection length range and tool insertion limit. Use outside these ranges may result in damage to the boring head or slippage of the bar shank

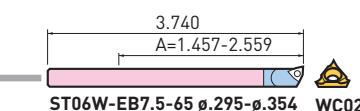
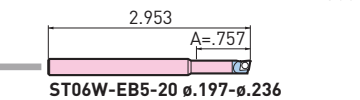
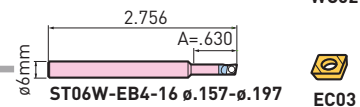
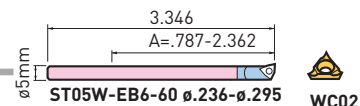
JIG BORING CUTTER, 8 Models ◀ PG. 441



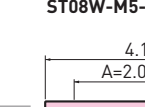
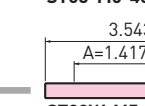
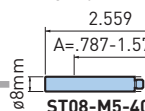
STRAIGHT COLLET ▶ PG. 446



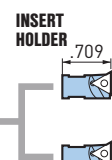
CARBIDE BORING BAR ◀ PG. 441



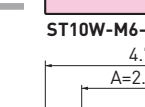
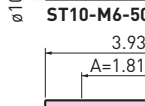
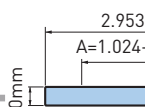
BORING BAR



M5xP.8



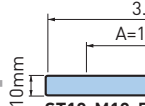
TP08
EB09N
 $\phi.354 - \phi.413$
EB10.5N
 $\phi.413 - \phi.472$



M6xP1



EB12N
 $\phi.472 - \phi.551$
EB14N
 $\phi.551 - \phi.630$
EB16N
 $\phi.630 - \phi.709$



M10xP1.25



EB18N
 $\phi.790 - \phi.787$
EB20N
 $\phi.787 - \phi.866$

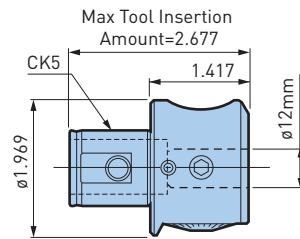
Made of Carbide

KAISER FINE BORING HEADS

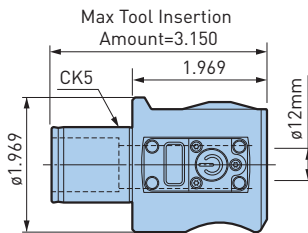
EWN2-32/EWE2-32 BORING HEAD (CENTRIC BORING BAR TYPE)

RANGE: ϕ .039"-1.260"

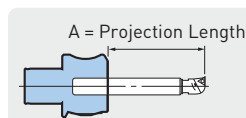
Flexible tool layout with versatile CK5 connection.



EWN2-32E-CK5
Stroke 0"-1.138"



EWE2-32CK5
Stroke .020"-0.079"



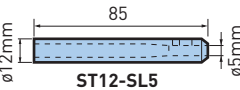
Always observe the projection length range and tool insertion limit. Use outside these ranges may result in damage to the boring head or slippage of the bar shank

STRAIGHT COLLET
EC1210

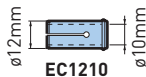
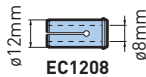
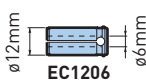
JIG BORING CUTTER, 8 Models ◀PG. 441



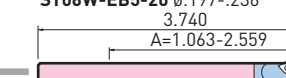
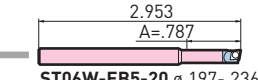
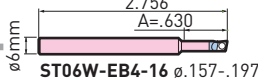
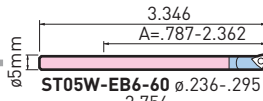
REDUCTION SLEEVE ▶PG. 446



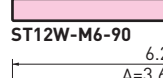
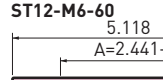
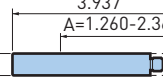
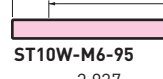
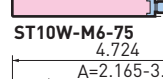
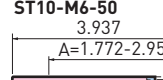
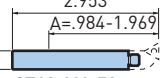
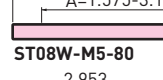
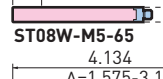
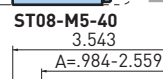
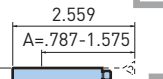
STRAIGHT COLLET ▶PG. 446



CARBIDE BORING BAR ▶PG. 441



BORING BAR



WC02

EC03

WC02

INSERT HOLDER
TP08

EB09N
 ϕ .354-.413

EB10.5N
 ϕ .413-.472

EB12N
 ϕ .472-.551

EB14N
 ϕ .551-.630

EB16N
 ϕ .630-.709

EB18N
 ϕ .709-.787

EB20N
 ϕ .787-.866

EB22N
 ϕ .866-.945

EB24N
 ϕ .945-1.024

EB26N
 ϕ 1.024-1.102

EB28N
 ϕ 1.102-1.181

EB30N
 ϕ 1.181-1.260

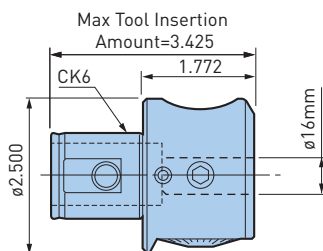
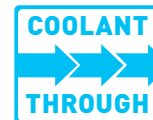
Made of Carbide

KAISER FINE BORING HEADS

EWN2-54/EWE2-54 (CENTRIC BORING BAR TYPE)

RANGE: ϕ .039"-2.126"

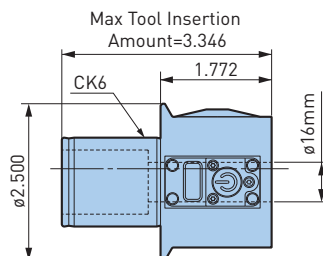
Features abundant range of tools capable of small-diameter deep boring.



EWN2-54EM-CK6

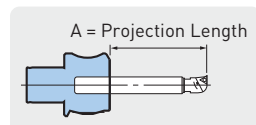
Stroke 0"-1.177"

- Center-through coolant pressure should not exceed 4MPa



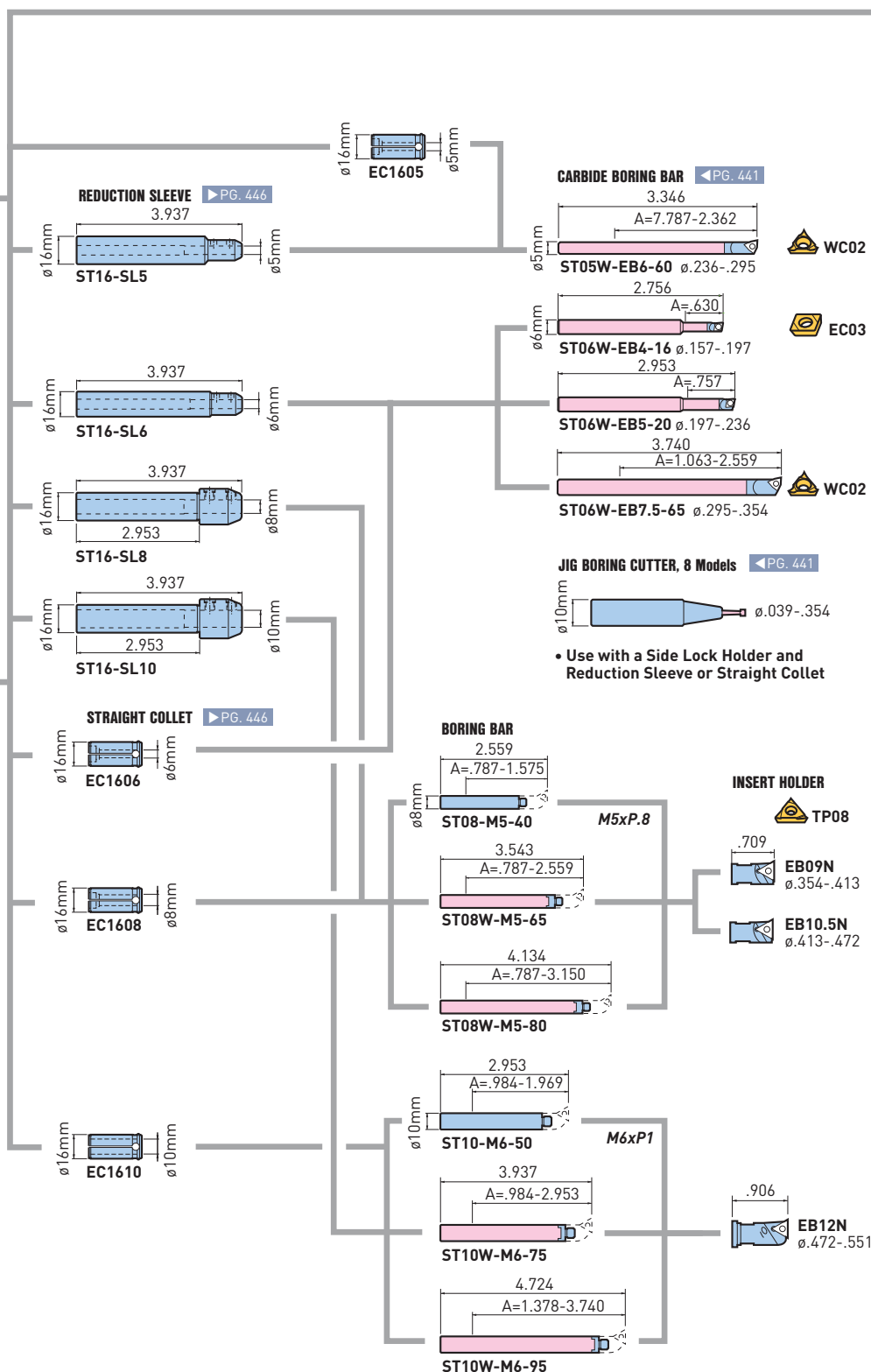
EWE2-54CK6

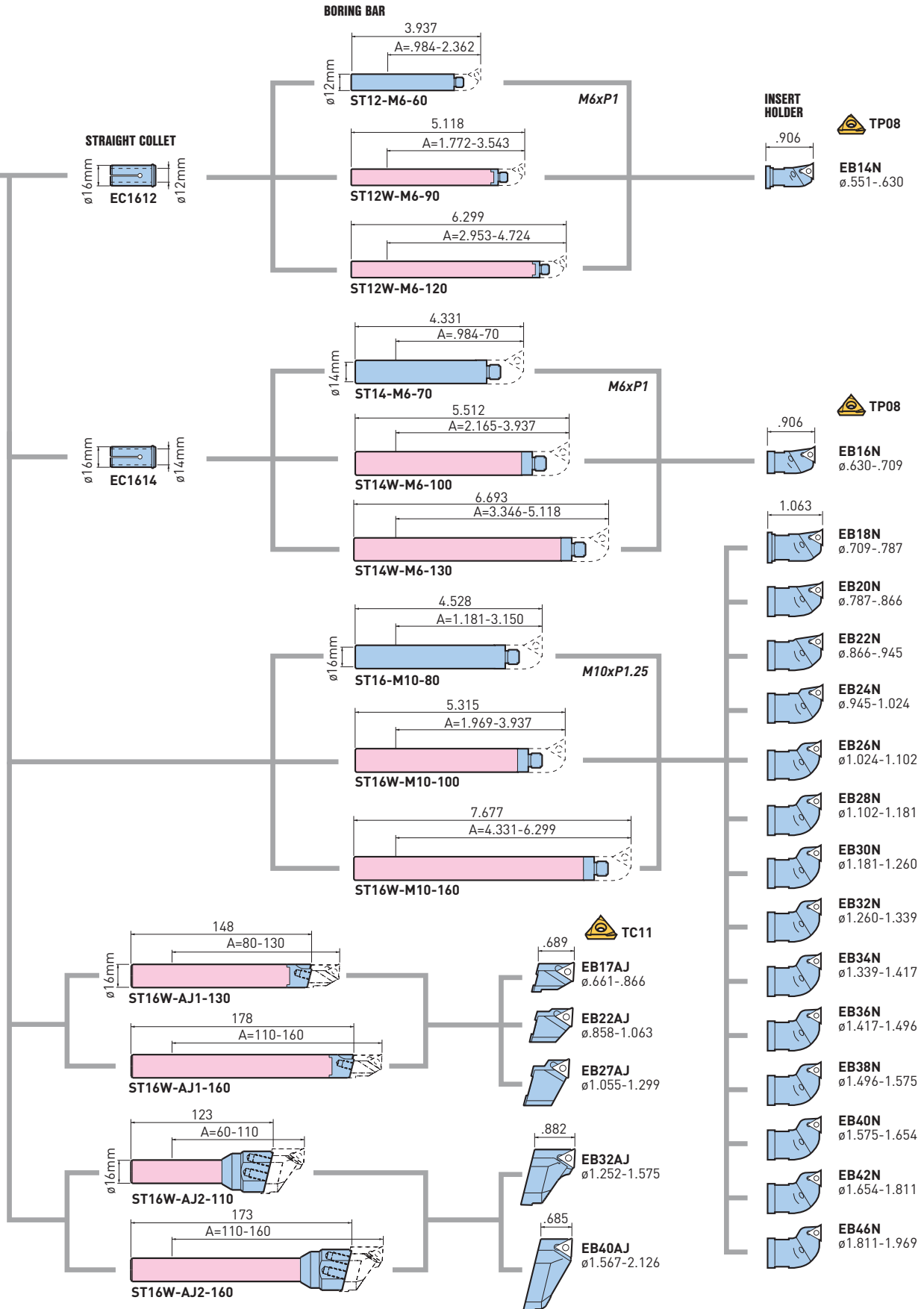
Stroke .020"-.098"



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

 Made of Carbide





KAISER FINE BORING HEADS

REDUCTION SLEEVE

(FOR EWN/EWE BORING HEAD, CENTRIC BORING BAR TYPE)

CLAMPING DIAMETER: $\phi 3.5$ -10mm

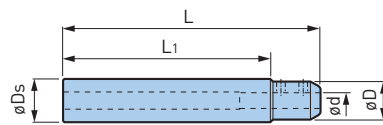


Fig. 1

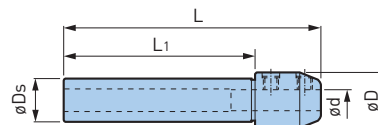
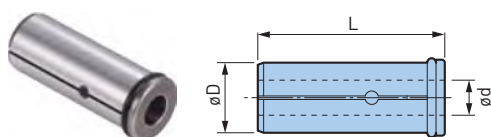


Fig. 2

Catalog Number	Fig	øDs	ød	øD	L	L1
ST12-SL3.5	1	12mm	3.5mm	.472	3.346	2.441
ST12-SL4			4mm			
ST12-SL4.5			4.5mm			
ST12-SL5			5mm			
ST12-SL6	2		6mm	.551		
ST16-SL3.5	1	16mm	3.5mm	.472	3.937	2.992
ST16-SL4			4mm			
ST16-SL4.5			4.5mm			3.071
ST16-SL5			5mm			
ST16-SL6			6mm	.551		3.110
ST16-SL7	2		7mm	.827	3.937	2.953
ST16-SL8			8mm	.866		
ST16-SL9			9mm	.906		
ST16-SL10			10mm	.945		

STRAIGHT COLLET (FOR EWN/EWE BORING HEAD, CENTRIC BORING BAR TYPE)



Catalog Number	ϕd	ϕD	L
EC10035	3.5mm	10mm	1.004
EC1004	4mm		
EC10045	4.5mm		
EC1005	5mm		
EC1006	6mm		
EC1007	7mm		
EC1008	8mm		

Catalog Number	ϕd	ϕD	L
EC1204	4mm	12mm	1.260
EC1205	5mm		
EC1206	6mm		
EC1207	7mm		
EC1208	8mm		
EC1209	9mm		
EC1210	10mm		

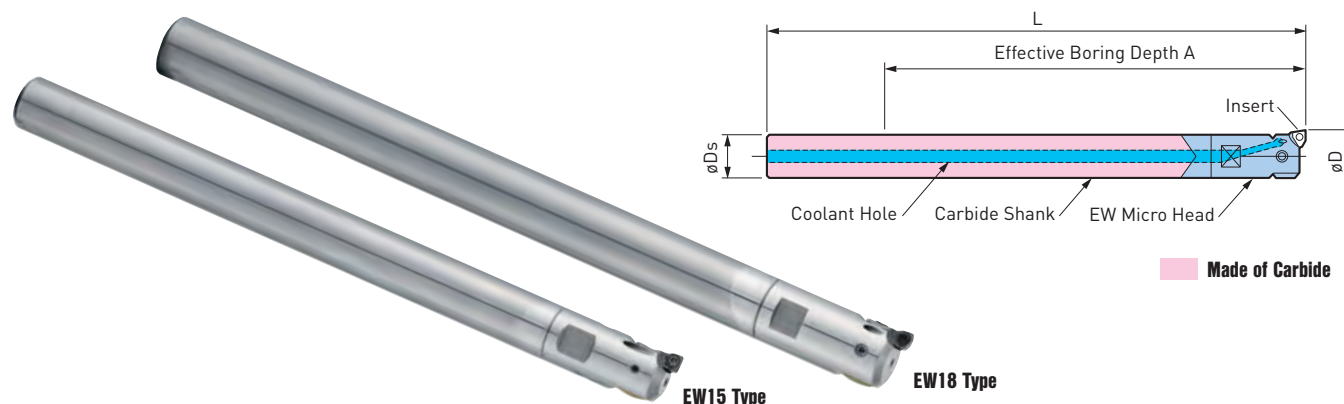
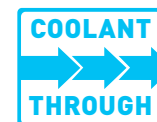
Catalog Number	ϕd	ϕD	L
EC1604	4mm	16mm	1.516
EC1605	5mm		
EC1606	6mm		
EC1607	7mm		
EC1608	8mm		
EC1609	9mm		
EC1610	10mm		
EC1611	11mm		
EC1612	12mm		
EC1613	13mm		
EC1614	14mm		

KAISER FINE BORING HEADS

EW MICRO HEAD (WITH CARBIDE SHANK)

RANGE: ϕ .590"-.866"

Featuring a compact head design while retaining the popular ϕ .0005/div. adjustment mechanism, this tool enables precision adjustments with minimal tool carrier offset, preserving high-speed capability. Its solid carbide cylindrical shank ensures high rigidity.



Catalog Number	ϕ Ds	ϕ D	L	A	Insert Holder	Insert	Weight (lbs.)
ST14W-EW15E-110	14mm	.590-.728	5.945	4.331	EN15	WC02	.2
ST14W-EW15E-140			7.126	5.512			.6
ST16W-EW18E-100	16mm	.708-.866	5.669	3.937	EN15	WC02	.6
ST16W-EW18E-160			8.031	6.299			.9

- The carbide shank and micro head are integrated and cannot be sold separately
- Insert holder is included; inserts must be ordered separately

ACCESSORIES



CAUTION

The maximum boring depth differs depending on the workpiece material.

KAISER FINE BORING HEADS

CK CARBIDE BAR

RANGE: ϕ .787"-2.362"

The solid carbide bar realizes efficient deep hole boring.

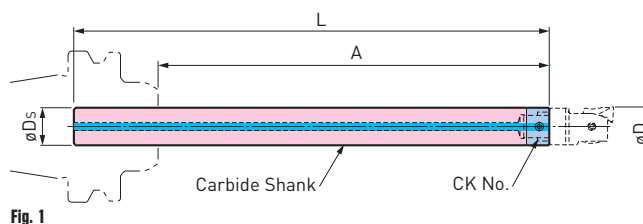
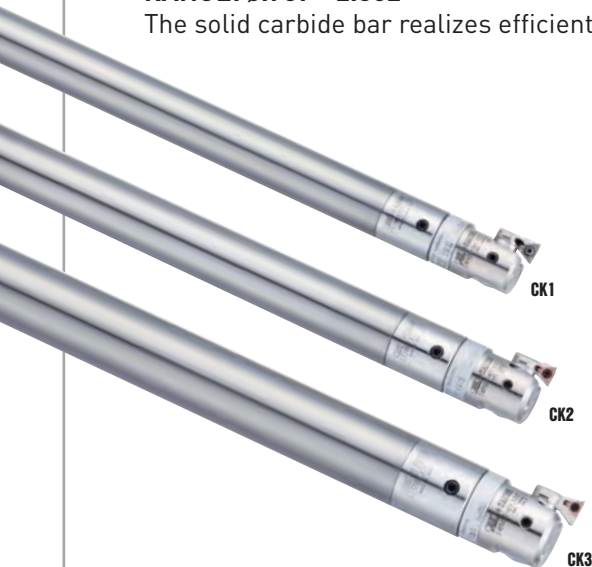


Fig. 1

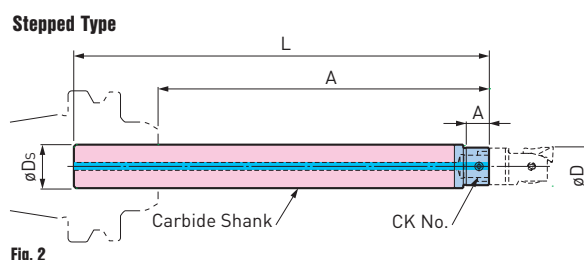


Fig. 2

 Made of Carbide

Catalog Number	CK No.	ϕD_s	Bore Diameter ϕD	L	A	Weight (lbs.)	Fig.
ST19W-CKB1-140	CK1	19mm	.787-1.417	5.512	3.819	1.1	1
ST19W-CKB1-190				7.480	5.787	1.5	
ST19W-CKB1-240				9.449	7.756	2.0	
ST22W-CKB1-210	CK1	22mm	.787-.874	8.268	.472	2.4	2
			.874-1.417		6.575		
ST24W-CKB2-160	CK2	24mm	.984-1.850	6.299	4.488	2.0	1
ST24W-CKB2-220				8.661	6.850	2.9	
ST24W-CKB2-290				11.417	9.606	3.7	
ST28W-CKB2-245	CK2	28mm	.984-1.110	9.646	.748	4.2	2
			1.110-1.850		7.835		
ST31W-CKB3-200	CK3	31mm	1.260-2.362	7.874	5.669	4.0	1
ST31W-CKB3-280				11.024	8.819	5.7	
ST31W-CKB3-350				13.780	11.575	7.3	

- The A dimension in the table is the reference value when used with Hydraulic Chuck
- Boring head and inserts are not included

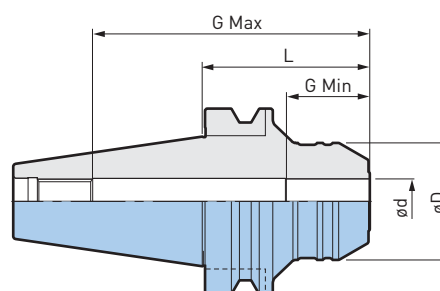
CAUTION

The maximum boring depth differs depending on the workpiece material.

KAISER FINE BORING HEADS

HYDRAULIC CHUCK (FOR CK CARBIDE BAR)

Engineered for short projection lengths and deep insertion depths, this tool features hydraulic technology for enhanced damping performance.

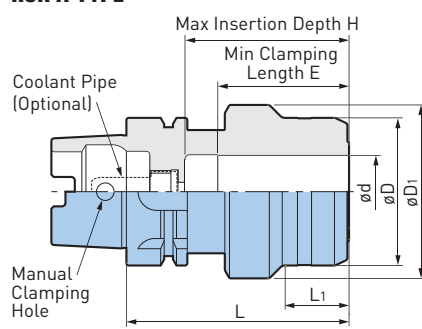


BCV/BBT TYPE

Taper	ød	Catalog Number	øD	L	G Min	G Max
CAT40	19mm	BCV40-HDC19-75	2.087	2.950	1.693	4.370
	24mm	BCV40-HDC24-75	2.480	2.950	1.772	4.094
	31mm	BCV40H-HDC31-80	2.913	3.150	2.205	2.992
CAT50	19mm	BCV50-HDC19L-90	1.937	3.543	1.693	5.866
	24mm	BCV50-HDC24L-90	2.480	3.543	1.772	5.866
	31mm	BCV50-HDC31L-90	2.913	3.543	2.205	5.787
BT40	19mm	BBT40-HDC19-75	1.937	2.950	1.693	4.370
	22mm	BBT40-HDC22-75	2.047	2.950	1.693	4.331
	24mm	BBT40-HDC24-75	2.480	2.950	1.772	4.094
	28mm	BBT40-HDC28-75	2.205	2.950	1.772	3.661
	31mm	BBT40-HDC31-75	2.913	2.950	2.205	2.992
BT50	19mm	BBT50-HDC19L-90	1.937	3.543	1.693	5.866
	22mm	BBT50-HDC22L-90	2.047	3.543	1.693	5.866
	24mm	BBT50-HDC24L-90	2.480	3.543	1.772	5.866
	28mm	BBT50-HDC28L-90	2.717	3.543	1.772	5.827
	31mm	BBT50-HDC31L-90	2.835	3.543	2.205	5.787

- Adjusting Screw cannot be used
- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck; see pg. 393

HSK-A TYPE



Catalog Number	ød	øD	øD1	L	L1	H	E	Weight (lbs.)
HSK-A63-HDC31-95	31mm	2.480	2.913	3.740	1.063	2.756	2.205	3.7

- It is recommended to use a Grip Bar to periodically confirm the gripping force of the Hydraulic Chuck; see pg. 393

ACCESSORIES



CAUTION

Do not clamp without a tool. Always insert the cutting tool into the holder beyond min. clamping length E.

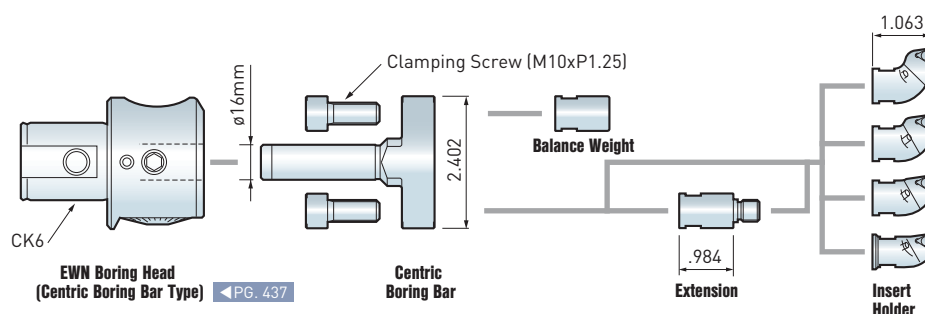
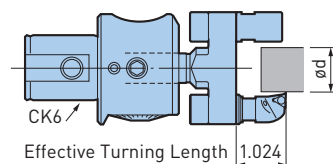
KAISER FINE BORING HEADS

PIN TURNING SERIES

Solves all the issues in contouring operations, such as roundness, surface roughness and dimensional accuracy.

S TYPE (CK6)

RANGE: ϕ .020"-1.063"



ϕd	EWN Boring Head	Centric Boring Bar	Balance Weight	Extension	Insert Holder	Insert
.020-.354	EWN2-54EM-CK6 [2.4 lbs.]	ST16-SL27-55 [.4 lbs.]	BW-M10 [.04 lbs.]	M1010-25 [.04 lbs.]	EB36N	TP..08
.354-.669					EB28N	
.669-.906					EB22N	
.906-1.063					EB18N	

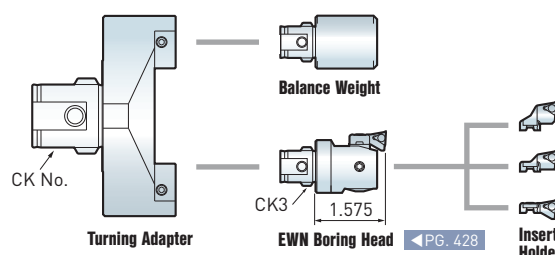
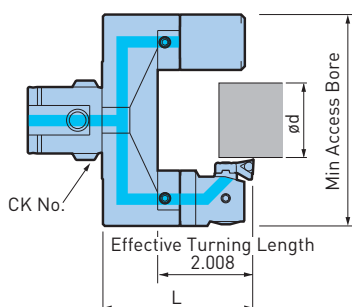
ACCESSORIES



- Max and Min diameters are the values when an insert with nose radius .008 is used
- Inserts must be ordered separately
- The Min access bore may differ depending on the offset amount
- Spindle rotation must be reverse (counterclockwise)

M TYPE (CK6/CK7)

RANGE: ϕ .984"-5.984"



Internal boring is enabled by changing the EWN Boring Head mounting direction.
(Range: ϕ 4.606-8.819)
Use in forward for internal boring.
Pay attention to the rotation direction.

ød	Turning Adapter	CK No.	EWN Boring Head	Balance Weight	Insert Holder	Insert	L
.984-1.339	CKB63-SL2552-42 (3.1 lbs.) Min Access Bore 4.606	CK6	EWN32-60E-CKB3 (.5 lbs.)	BW-CKB3-EWN (.4 lbs.)	ENH3-3	TP..08	3.228
1.339-1.693					ENH3-2		
1.693-2.047					ENH3-1		
1.969-2.323	CKB63-SL5077-42 (3.5 lbs.) Min Access Bore 5.591				ENH3-3		
2.323-2.677					ENH3-2		
2.677-3.031					ENH3-1		
2.953-3.307	CKB63-SL75102-42 (4.2 lbs.) Min Access Bore 6.575				ENH3-3		
3.307-3.661					ENH3-2		
3.661-4.016					ENH3-1		
3.937-4.291	CKB73-SL100127-47 (8.4 lbs.) Min Access Bore 7.559	CK7	ENH3-3	3.425			
4.291-4.646			ENH3-2				
4.646-5000			ENH3-1				
4.921-5.276	CKB73-SL125152-47 (9.3 lbs.) Min Access Bore 8.543		ENH3-3				
5.276-5.630			ENH3-2				
5.630-5.984			ENH3-1				

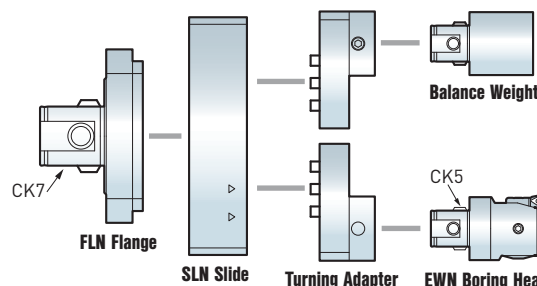
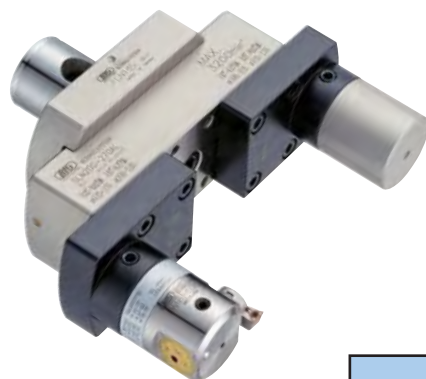
ACCESSORIES



- Max and Min diameters are the values when an insert with nose radius .008 is used
- Inserts and insert holder are not included; must be ordered separately
- For OD Turning, spindle rotation must be reverse (counterclockwise)

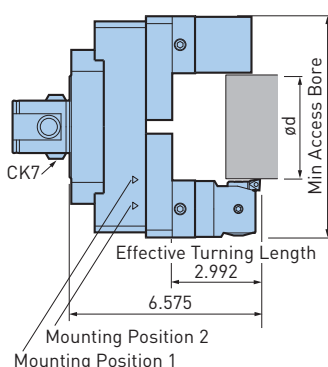
KAISER FINE BORING HEADS

L TYPE (CK7) RANGE: $\varnothing$ 1.929"-27.008"



Internal boring is enabled by changing the EWN Boring Head mounting direction. Use in forward for internal boring. Pay attention to the rotation direction.

PG. 428



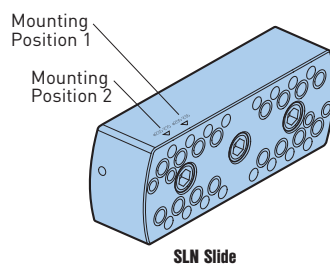
ød	FLN Flange*	SLN Slide		Min Access Bore		Turning Adapter (2 pcs./set)	EWN Boring Head	Balance Weight
		Catalog Number	Weight (lbs.)	Pos. 1	Pos. 2			
1.929-4.961	FLN135 FLN135/90 (6.1 lbs.)	SLN200-270	8.4	7.717	9.094	CBN91-CKB5-20 (2.6 lbs./1 pc)	EWN53-95E-CKB5 (2.4 lbs.) Insert TC11	BW-CKB5-EWN (2.0 lbs.)
4.685-7.717		SLN270-340	12.1	10.472	11.850			
7.441-10.472		SLN340-410	15.9	13.228	14.606			
10.197-13.228		SLN410-480	19.6	15.984	17.362			
12.953-15.984		SLN480-550	23.4	18.740	20.118			
15.709-18.740	FLN220 FLN220/90 (8.8 lbs.)	SLN550-620	27.1	21.496	22.874			
18.465-21.496		SLN620-690	30.9	24.252	25.630			
21.220-24.252		SLN690-760	34.6	27.008	28.386			
23.976-27.008		SLN760-830	38.4	29.764	31.142			

ACCESSORIES



- *Cutting edge and drive keys are aligned in the same direction; it becomes 90° offset when the FLN135/90 or FLN220/90 flange is used
- Inserts and insert holder are not included; must be ordered separately
- Lightweight aluminum slides are also available as standard
- Center-through coolant supply (SLN550-620 and larger models are not supported)
- For OD Turning, spindle rotation must be reverse (counterclockwise)

INSERT HOLDER SELECTION



ød	SLN Slide	Mounting Pos.	Insert Holder		
			ENH5-3	ENH5-2	ENH5-1
1.929-4.961	SLN200-270	1	1.929-2.598	2.441-3.11	2.913-3.583
		2	3.307-3.976	3.819-4.488	4.291-4.961
4.685-7.717	SLN270-340	1	4.685-5.354	5.197-5.866	5.669-6.339
		2	6.063-6.732	6.575-7.244	7.047-7.717
7.441-10.472	SLN340-410	1	7.441-8.110	7.953-8.622	8.425-9.094
		2	8.819-9.488	9.331-10.000	9.803-10.472
10.197-13.228	SLN410-480	1	10.197-10.866	10.709-11.378	11.181-11.850
		2	11.575-12.244	12.087-12.756	12.559-13.228
12.953-15.984	SLN480-550	1	12.953-13.622	13.465-14.134	13.937-14.606
		2	14.331-15.000	14.843-15.512	15.315-15.984
15.709-18.740	SLN550-620	1	15.709-16.378	16.220-16.89	16.693-17.362
		2	17.087-17.756	17.598-18.268	18.071-18.740
18.465-21.496	SLN620-690	1	18.465-19.134	18.976-19.646	19.449-20.118
		2	19.843-20.512	20.354-21.024	20.827-21.496
21.220-24.252	SLN690-760	1	21.220-21.890	21.732-22.402	22.205-22.874
		2	22.598-23.268	23.110-23.780	23.583-24.252
23.976-27.008	SLN760-830	1	23.976-24.646	24.488-25.157	24.961-25.630
		2	25.354-26.024	25.866-26.535	26.339-27.008

KAISER BORING ACCESSORIES

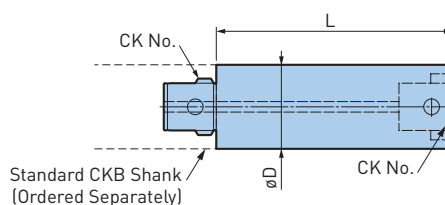
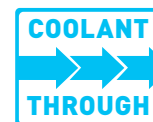


KAISER BORING ACCESSORIES INDEX

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BASIC ARBORS

SMART DAMPER EXTENSIONS



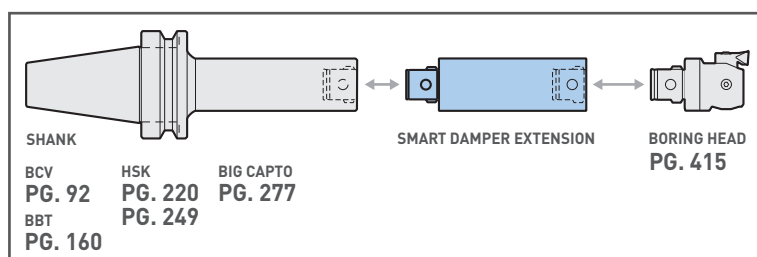
Catalog Number	CK	øD	L	Weight (lbs.)
CKB44DP-120	CK4	1.535	4.724	2.9
CKB55DP-150	CK5	1.969	5.906	5.7
CKB66DP-180	CK6	2.520	7.087	11.7

- Center-through coolant supply is available
- Should not be used with a conventional extension due to possible chatter

CAUTION

Damping function may become less effective over time due to the breakdown of special elastomers used in the damping mechanism. If excessive vibration occurs after 1 year of continued use, it is recommended to return SMART DAMPER bars for overhaul. Please contact BIG DAISHOWA for details of repair.

ACCESSORIES



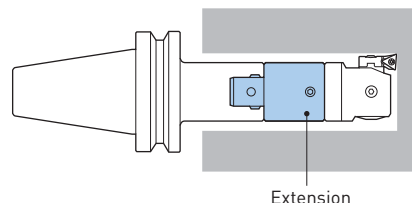
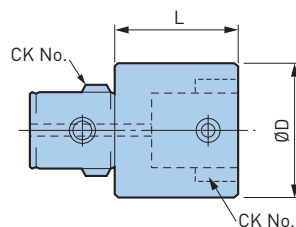
SMART DAMPER integrated with boring head is also available.

EWN BORING HEAD PG. 429

SW BORING HEAD PAT. PG. 418

BASIC ARBORS

EXTENSIONS



Catalog Number	Reference Number	CK No.	øD	L	Weight (lbs.)
CKB11-20	10.331.110	CK1	.748	.787	.1
CKB11-30	10.331.111			1.181	.2
CKB22-30	11.331.220	CK2	.945	1.181	.2
CKB22-45	11.331.221			1.772	.3
CKB33-30	11.331.330	CK3	1.220	1.181	.4
CKB33-45	11.331.331			1.772	.6
CKB44-45	11.331.440*	CK4	1.535	1.772	.9
CKB44-60	11.331.441			2.362	1.2
CKB55-60	11.331.550	CK5	1.969	2.362	1.9
CKB55-90	11.331.551			3.543	2.8
CKB66-60	11.331.660	CK6	2.520	2.362	3.0
CKB66-100	11.331.661			3.937	5.1
CKB77-105	11.331.770*	CK7	3.543	4.134	11.6
CKB77-160	11.331.771			6.299	13.5

*Length is different from original reference number

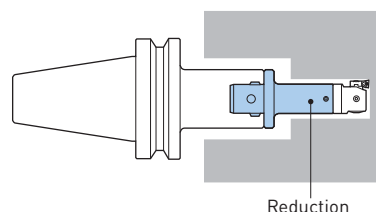
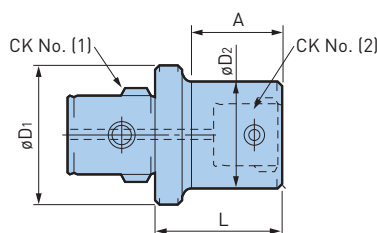
- Center-through coolant supply is available
- Using an extension to increase length may cause chatter depending on the L/D ratio

ACCESSORIES



BASIC ARBORS

REDUCTIONS



Catalog Number	Reference Number	CK No. [1]	ϕD_1	CK No. [2]	ϕD_2	L	A	Weight (lbs.)
CKB21-36	10.332.210	CK2	.945	CK1	.748	1.417	1.063	.2
CKB31-41	10.332.310	CK3	1.220	CK1	.748	1.594	1.142	.3
CKB32-35	10.332.320			CK2	.945	1.358	.906	.4
CKB41-58	10.332.410	CK4	1.535	CK1	.748	2.264	1.732	.6
CKB42-52	10.332.420			CK2	.945	2.028	1.496	.6
CKB43-47	10.332.430			CK3	1.220	1.850	1.339	.7
CKB51-58	10.332.511	CK5	1.969	CK1	.748	2.264	1.575	.8
CKB52-52	11.332.521			CK2	.945	2.028	1.339	.9
CKB52-82	11.332.520					3.209	2.520	1.1
CKB53-47	10.332.531			CK3	1.220	1.850	1.181	1.2
CKB53-77	10.332.530					3.031	2.362	1.4
CKB54-40	11.332.541			CK4	1.535	1.575	.906	1.0
CKB54-70	11.332.540					2.756	2.087	1.8
CKB61-67	10.332.611	CK6	2.520	CK1	.748	2.618	1.378	1.9
CKB62-61	11.332.621			CK2	.945	2.382	1.693	1.5
CKB62-96	11.332.620					3.760	3.071	2.2
CKB63-56	11.332.631			CK3	1.220	2.205	1.535	1.7
CKB63-91	11.332.630					3.583	2.913	2.5
CKB63-136	11.332.632					5.354	4.685	2.6
CKB64-49	11.332.641			CK4	1.535	1.929	1.260	1.8
CKB64-84	11.332.640					3.307	2.638	2.8
CKB64-129	11.332.642					5.079	4.409	3.2
CKB65-39	11.332.651			CK5	1.969	1.535	.866	2.0
CKB65-74	11.332.650					2.913	2.244	2.9
CKB65-119	11.332.652					4.685	4.016	4.4
CKB74-70	10.332.741	CK7	3.543	CK4	1.535	2.756	2.087	3.3
CKB75-60	10.332.751			CK5	1.969	2.362	1.693	3.6
CKB76-76	11.332.761			CK6	2.520	2.992	2.323	5.1
CKB76-106	11.332.760					4.173	3.504	6.8

• Center-through coolant supply is available

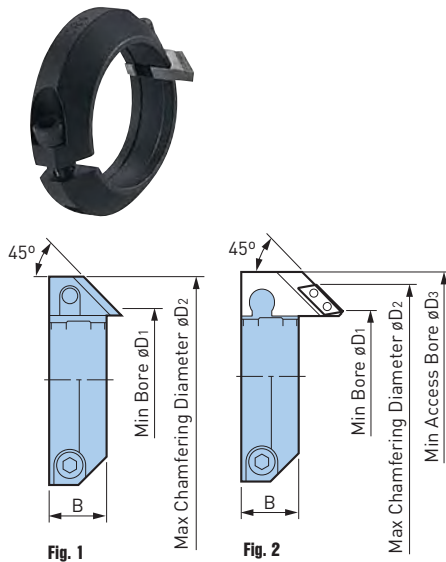
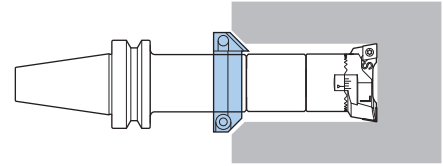
ACCESSORIES



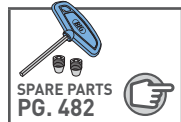
CHAMFER MILLS

CK CHAMFERING TOOL

Mount the CK Chamfering Tool onto the CK Shank body at the desired location for easy chamfering and boring in a single setup.



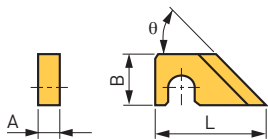
ACCESSORIES



Catalog Number	CK. No.	Blade	Fig.	øD1	øD2	øD3	B	Weight (lbs.)
CR1-35	CK1	CB1-45	1	.787	1.378	—	.512	.1
CR2-42	CK2	CB1-45	1	.984	1.654	—	.591	.2
CR3-49	CK3	CB1-45	1	1.260	1.929	—	.591	.2
CR4-57	CK4	CB1-45	1	1.614	2.244	—	.591	.3
CR5-90	CK5	CB2-45	1	2.087	3.543	—	.984	1.2
		CB2-45CW12A	2	2.165	2.953	3.465		
		CB2-45CW12B		2.756	3.543	3.819		
CR6-104	CK6	CB2-45	1	2.677	4.094	—	.984	1.5
		CB2-45CW12A	2	2.717	3.504	3.937		
		CB2-45CW12B		3.307	4.094	4.370		
CR6-138	CK6	CB2-45	1	3.858	5.433	—	.984	4.0
		CB2-45CW12A	2	4.055	4.843	5.315		
		CB2-45CW12B		4.646	5.433	5.709		
CR6-160	CK6	CB2-45	1	4.724	6.299	—	.984	5.5
		CB2-45CW12A	2	4.921	5.709	6.181		
		CB2-45CW12B		5.512	6.299	6.575		

- A 45° blade (carbide integrated type) is included with the CK Chamfering Tool
- Specify the blade model number when spare blades are required

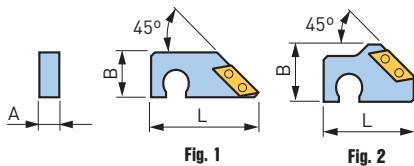
BLADE (CARBIDE INTEGRATED TYPE)



Catalog Number	L	A	B	θ	Tool
CB1-45	.925	.157	.354	45°	CR1-4
CB2-45	1.693	.315	.787		CR5-6
CB1-30	1.083	.157	.354	30°	CR1-4
CB2-30	2.047	.315	.787		CR5-6

- Tip material is M-class carbide

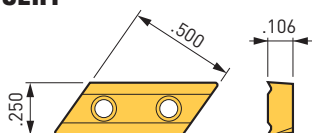
INSERT TYPE



Catalog Number	Fig.	L	A	B	Insert	Tool
CB2-45CW12A	1	1.693	.315	.709	CW1206A	CR5-6
CB2-45CW12B	2	1.417		.886		

- A wrench and screws are included. Inserts must be ordered separately

INSERT



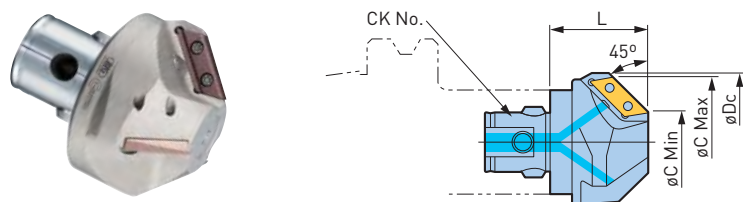
Catalog Number		
Non-Coating	ZX Coating	DLC Coating
CW1206A	CW1206A(ZX)	CW1206A(DLC)

- Insert is available from 1 pc.
- For details about 10-piece insert sets and coating, see pg. 458

CHAMFER MILLS

C-CUTTER

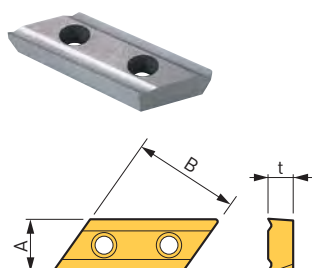
Covers a wide range of chamfering diameters and reduces the number of tools and ATC required.



Catalog Number	CK No.	Min Bore øC Min	Max Chamfer Diameter øC Max	Outer Diameter øDc	L	Number of Inserts	Insert	Clamping Screw Set	Weight (lbs.)
CKB2-C0525C	CK2	.197	.984	1.122	.984	1	CW1206A	S2S-B	.2
CKB4-C1040C	CK4	.394	1.575	1.772	1.378	2	CW1909A	S3S	.6
CKB5-C3060C	CK5	1.181	2.362	2.559	1.575	3	CW1909A	S3S	1.5
CKB6-C50100C	CK6	1.969	3.937	4.173	2.559	3	CW3115A	S5S	6.2

- Insert clamping screws and wrench are included; inserts must be ordered separately
- The screw set (optional) contains 10 insert clamp screws and 1 wrench.

INSERT



1 pc

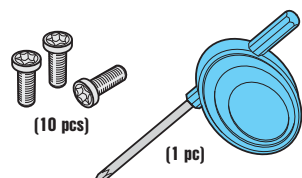
Catalog Number			A	B	t
Non-Coating	ZX Coating	DLC Coating			
CW1206A	CW1206A(ZX)	CW1206A(DLC)	.250	.500	.106
CW1909A	CW1909A(ZX)	CW1909A(DLC)	.375	.750	.177
CW3115A	CW3115A(ZX)	CW3115A(DLC)	.625	1.250	.276

10 pcs

Catalog Number		A	B	t
Non-Coating	ZX Coating			
CW1206A-10P	CW1206A(ZX)-10P	.250	.500	.106
CW1909A-10P	CW1909A(ZX)-10P	.375	.750	.177
CW3115A-10P	CW3115A(ZX)-10P	.625	1.250	.276

Non-Coating	Adopts P30-equivalent carbide material with emphasis on toughness for versatile use with materials from steel to aluminum.
ZX Coating	TiN and AlN multilayer coating increases speeds and extends insert life in chamfering of steel or cast iron.
DLC Coating	The exclusive substrate is treated with a thin DLC coating to prevent welding during aluminum machining. It retains sharpness and achieves a clean surface finish.

INSERT CLAMPING SCREW SET



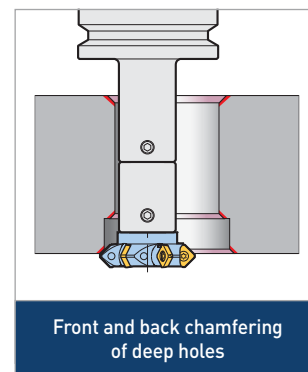
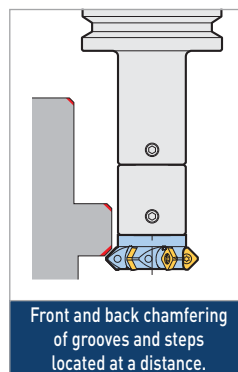
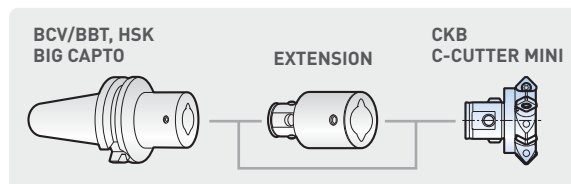
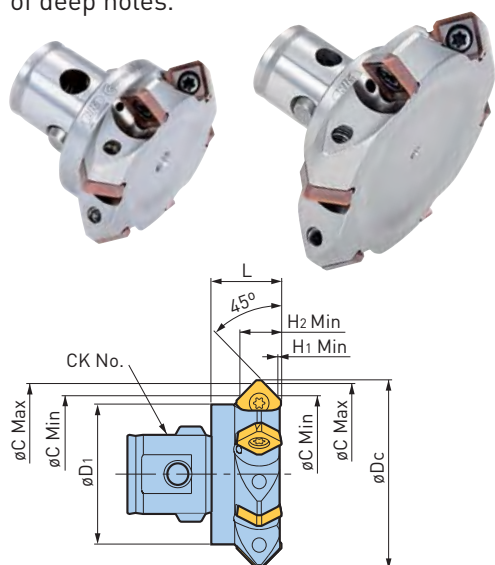
Insert	Catalog Number	Wrench
CW1206A	S2S-B	FLR-13S
CW1909A	S3S	FLR-20S
CW3115A	S5S	FLR-28S

- The set contains 10 screws and 1 wrench
- Wrenches are also available separately

CHAMFER MILLS

C-CUTTER MINI

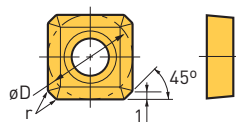
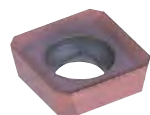
Modular system allows front and back chamfering of deep holes.



Catalog Number	CK. No.	Face Milling	øDc	øD1	L	Chamfering Dia.		H1 Min	H2 Min	Insert Model	No. of Inserts	Weight (lbs.)
						øC Min	øC Max					
CKB1-C2232-45B-20	CK1	○	1.287	.748	.787	.866	1.260	.012	.488	CM10C1	4	.1
CKB3-C3242-45B-20	CK3	○	1.681	1.220	.787	1.260	1.654	.012	.488	CM10C1	4	.3
CKB3-C5262-45B-20			2.469	1.220		2.047	2.441				6	.5
CKB4-C4252-45B-20	CK4	○	2.075	1.535	.787	1.654	2.047	.012	.488	CM10C1	6	.5
CKB5-C5262-45B-20	CK5	○	2.469	2.008	.787	2.047	2.441	.012	.488	CM10C1	6	.9
CKB6-C6575-45B-20	CK6	○	2.980	2.520	.787	2.559	2.953	.012	.488	CM10C1	8	1.6

- Wrench and screws are included; inserts must be ordered separately
- When plunge cutting, chatter may occur due to increased cutting force, so please reduce the number of inserts to 1 or 2

INSERTS



Insert Model	øD	Nose Radius	Insert Grade						Insert Clamping Screw Set
			ACP200	ACP300	CWS20A	ACM250F	DS20	NF15KA	
CM10C1	.394	.008	○	—	○	○	○	○	S4S-T15
CM10C1SE			○	—	—	—	—	—	

- Inserts are available in packages of 10 pcs.
- Please clarify the insert model and grade when ordering (ex: CM0402(ACP300))
- 10 screws and 1 wrench are included with insert clamping screw set
- It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained
- **SE** in the Insert Model means Sharp Edge Type

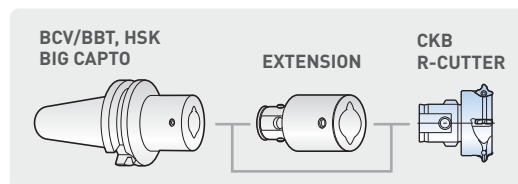
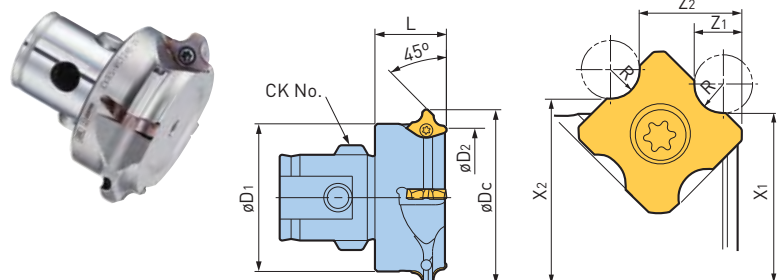
Insert Classifications

ACP200/ACP300	CWS20A	ACM250F	DS20	NF15KA
For all steel & stainless steel materials	For hardened steel	For stainless steel	For aluminum & / non-ferrous materials	For cast iron
Multi-layer PVD coating on carbide base with nanoscale TiAlN & AlCrN. Excellent performance and wear resistance.	Significantly improved toughness while maintaining hardness. Uses a tough carbide base material. AlTiSiN abrasion resistance due to the super multi-layered thin film structure of the system. Excellent PVD coated carbide.	PVD-coated carbide with excellent smoothness and resistance to welding and chipping, due to the ultra-multilayered thin film structure made of AlTiN and TiAlCrN	DLC coating on carbide base with very smooth surface for a low coefficient of friction. Excellent performance against built-up edge.	Adopts K15-equivalent carbide material with hardness & toughness for cast iron.

RADIUS MILLS

R-CUTTER

Automated rounded front & back chamfering.



Catalog Number	CK No.	øDc	øD1	øD2	L	No. of Inserts	R	X1	Z1	X2	Z2	Insert Model	Weight (lbs.)
CKB3-RC064B-15	CK3	1.457	1.220	1.150	.591	4	.02	.624	.076	.656	.228	RC06....	.3
							.04	.615	.086	.642	.218		
							.06	.605	.096	.632	.208		
							.08	.595	.106	.622	.198		
CKB5-RC124B-25	CK5	2.441	1.969	1.823	.984	4	.04	1.016	.149	1.072	.458	RC12....	1.1
							.08	.996	.169	1.052	.438		
							.12	.976	.189	1.032	.419		
							.16	.957	.208	1.012	.399		

- Insert clamping screws and wrench are included; inserts must be ordered separately
- Values in the table are reference only; measure accurate values with a presetter

INSERTS



Type	Catalog Number	Radius R	Insert Clamping Screw Set
RC06	RC06050(ACP300)	.02	S2TS-T6
	RC06100(ACP300)	.04	
	RC06150(ACP300)	.06	
	RC06200(ACP300)	.08	
RC12	RC12100(ACP300)	.04	S4S-T15
	RC12200(ACP300)	.08	
	RC12300(ACP300)	.12	
	RC12400(ACP300)	.16	

- Wrench and screws are included
- Inserts are available in packages of 10 pcs.
- Material is coated carbide
- It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained



Unique Insert Geometry

High rake angle reduces cutting resistance and minimizes the generation of burrs.

Insert set in a packet of 2 pcs. is also available.
Please add -2P before each model number.
RC06050-2P(ACP300)

Recommended Cutting Conditions

Workpiece Material	Cutting Speed (SFM)	Feed Rate (IPT)	Coolant
Structural, Carbon or Alloy Steel	330-1150	.002-.008	Dry
Prehardened Steel <HRC40	195-260	.002-.004	Wet
Stainless Steel	330-820	.003-.008	Dry/Wet
Cast Iron	330-1150	.002-.010	Dry
Aluminum	330-2625	.002-.010	Dry/Wet

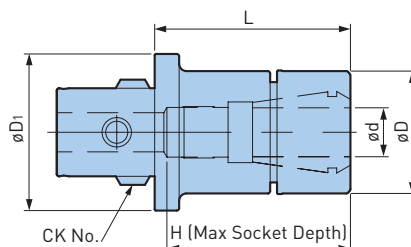
- The table is just a reference to determine cutting conditions and it should be adjusted according to the condition of the machine tool and workpiece
- Wet cutting is recommended to obtain a good surface finish
- In case built-up edge occurs cutting aluminum and stainless steel, use soluble oil

COLLET CHUCKS

MEGA ER GRIP

CLAMPING RANGE: ϕ .108"-.787" (ϕ 2.75-20mm)

For Drills, Reamers, Taps & Finishing End Mills



Catalog Number	CK No.	ϕd	ϕD	ϕD_1	L	H	Weight (lbs.)
CKB5-MEGAER32-80NL	CK5	.108-.787	1.969	1.969	3.150	2.87	4.7
CKB6-MEGAER32-80NL	CK6	.108-.787	1.969	2.520	3.150	2.95	5.8

***Nut, adjusting screw, collet and wrench are not included**

- MEGA ER GRIP is not able to use DIN6499 Form-A collets and ESX collets
- Weight does not include collet

ACCESSORIES



*MEGA NUT is the recommended nut to achieve high accuracy and clamping force

CAUTION

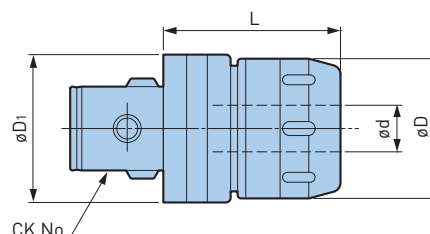
To maintain the accuracy of the tool assembly, do not use collets and nuts manufactured by another company with the chuck body of BIG's MEGA ER GRIP. We cannot guarantee the accuracy stated for our collets if they are assembled on the chuck body of another manufacturer.

MILLING CHUCKS

NEW HI-POWER MILLING CHUCK

CLAMPING RANGE: ϕ .750"-1.250" (ϕ 20-32mm)

For Heavy Duty End Milling



Catalog Number	CK No.	ϕd	ϕD	$\phi D1$	L	Weight (lbs.)
CKB5-HMC20S	CK5	20mm	1.97	1.968	2.24	1.7
CKB6-HMC.750	CK6	.750	2.36	2.500	2.95	3.7
CKB6-HMC20		20mm		2.520	2.20	2.7
CKB7-HMC1.250	CK7	1.250	3.15	3.543	4.13	9.1
CKB7-HMC32		32mm			4.02	8.7

- Wrench included
- Use c-collet for CKB5-HMC20S and CKB6-HMC20

ACCESSORIES



Straight Collet Selection Guide

Catalog Number	PJC	PSC	OCA	C
CKB5-HMC20S				○
CKB6-HMC.750	○	○		○
CKB6-HMC20				○
CKB7-HMC1.250	○	○		○
CKB7-HMC32	○	○		○

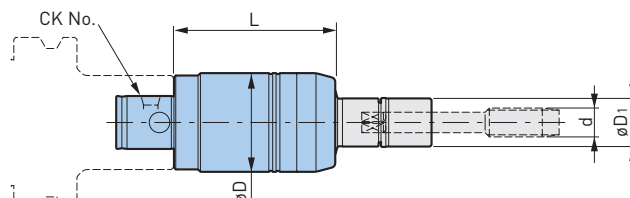
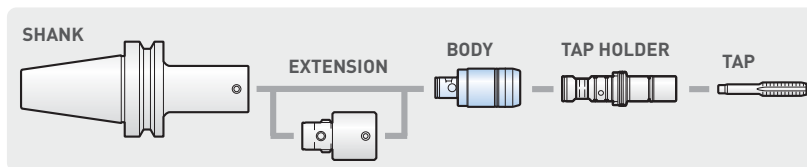
- OCA collet can be set, but cannot be used as oil feed collet because the oil leaks from the slit on the collet.

TAP HOLDERS

MEGA SYNCHRO TAPPING HOLDER

TAPPING RANGE: No.2-AU3/4 (M2-M20)

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



Catalog Number	CK	Tapping Range d* (Inch)	Tapping Range d* (Metric)	ØD	ØD1	L	Wrench	Weight (lbs.)
CKB4-MGT6-62	CKB4	No.2-No.12	M2-M6	1.417	.629	2.441	MGR16	1.1
CKB4-MGT12-67		AU1/4-AU7/16*	M6-M12	1.614	.787	2.638	MGR20L	1.3
CKB5-MGT20-87	CKB5	AU1/2-AU3/4 AP1/8-AP1/4	M12-M20	2.126	1.181	3.425	MGR30L	2.6

*AU3/8 is included in the MGT20 series

- MGT Set Screw is included; tap holder and wrench must be ordered separately

CAUTION

Cannot be used with machining center without synchronized tapping function.

ACCESSORIES

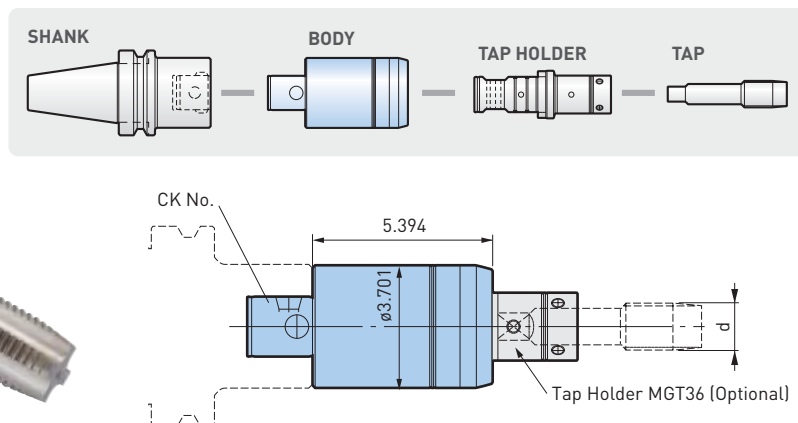
TAP HOLDER PG. 394	MEGA NUT PG. 401	SYNCHRO ADJUSTER PG. 401	O-RING PG. 401	MEGA WRENCH PG. 388	SCREW PG. 401	SPARE PARTS PG. 482

MILLING CHUCKS

MEGA SYNCHRO TAPPING HOLDER (LARGE DIAMETER TAP)

TAPPING RANGE: AU13/16-AU1-3/8 (M20-M36)

Functions smoothly under high cutting torque of large diameter tapping.



Catalog Number	CK No.	Tapping Range d (Inch)	Tapping Range d (Metric)	Weight (lbs.)
CKB7-MGT36-137	CK7	AU13/16-AU1-3/8 AP3/8-AP1	M20-M36	15.0

- MGT Set Screw and adjust screw are included, tap holder must be ordered separately

CAUTION

Cannot be used with machining center without synchronized tapping function.

ACCESSORIES



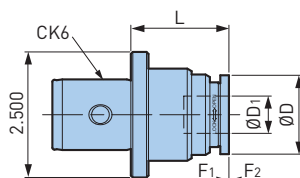
TAP HOLDERS

CK AUTO TAPPER E

For Tension & Compression Tapping Chuck

Heavy-duty tapping attachments for high production thread cutting on machine tools and machining centers.

- Extremely short, rigid design
- Large-length compensation in response to tension and compression
- Quick-change clutch for tap holders with or without torque control
- Bilz and Tapmatic compatible



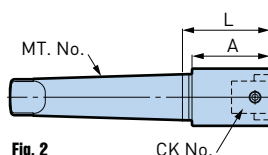
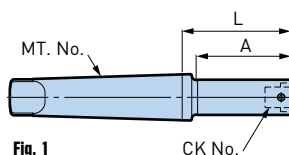
Catalog Number	Reference Number	Tapping Range	Tap Adapter Size*	ØD	ØD1	L	F1	F2	Weight (lbs.)
CK6-ATE12E	10.335.762	0-9/16	1	1.850	.748	1.969	.197	.394	1.9
CK6-ATE24E	10.335.763	5/16-7/8	2	2.520	1.220	3.150	.275	.551	3.4

*Tap collets with torque control or positive drive available upon request

SPECIALS

MORSE TAPER (CK SHANKS)

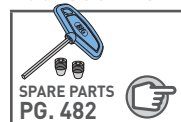
Ideal for precision boring



Catalog Number	Fig.	CK No.	L	A	Weight (lbs.)
MT3-CKB1-47	1	CK1	1.850	1.575	.9
MT3-CKB2-68	2	CK2	2.657	2.520	1.1
MT3-CKB3-64		CK3	2.520	2.323	1.3
MT3-CKB5-48		CK5	1.890	1.693	1.8
MT4-CKB1-52	1	CK1	2.028	1.575	1.5
MT4-CKB2-74		CK2	2.913	2.520	1.8
MT4-CKB3-66		CK3	2.579	2.283	2.0
MT4-CKB4-60	2	CK4	2.343	2.087	2.2
MT4-CKB5-50		CK5	1.949	1.693	2.4
MT4-CKB6-61		CK6	2.382	2.126	3.5
MT5-CKB4-86	1	CK4	3.366	3.071	4.6
MT5-CKB5-75	2	CK5	2.933	2.677	7.3
MT5-CKB6-61		CK6	2.382	2.126	9.5
MT6-CKB6-61	2	CK6	2.382	2.047	11.0

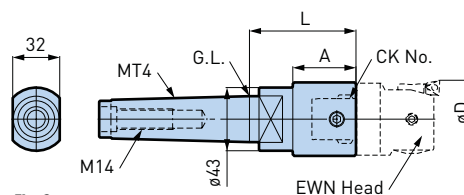
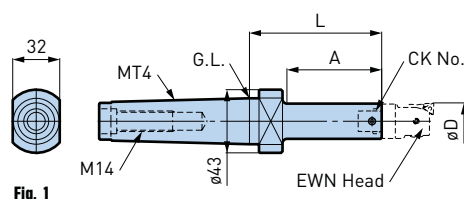
- Boring head not included
- If a coolant hole is required, please let us know the machine specifications

ACCESSORIES



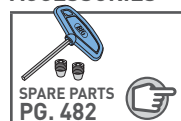
JIG BORE (CK SHANKS)

Can be used for SIP and Mitsui Seiki exclusive machines.



Catalog Number	Fig.	CK No.	øD	L	A
MT4M-CKB1-68-M14	1	CK1	.787-1.417	2.657	1.614
MT4M-CKB2-90-M14		CK2	.984-1.850	3.543	2.520
MT4M-CKB3-86-M14		CK3	1.260-2.362	3.366	2.362
MT4M-CKB4-76-M14		CK4	1.614-2.913	2.972	2.087
MT4M-CKB5-73-M14	2	CK5	2.087-3.740	2.854	1.693
MT4M-CKB6-84-M14		CK6	2.677-5.906	3.287	2.126

ACCESSORIES



SPECIALS

CYLINDRICAL (CK SHANKS)

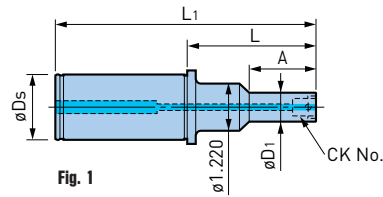


Fig. 1

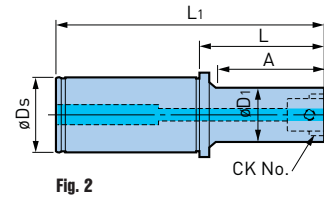


Fig. 2

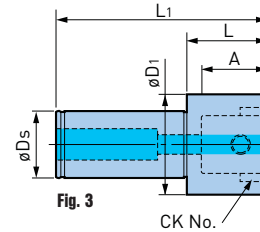


Fig. 3

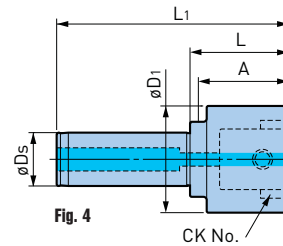
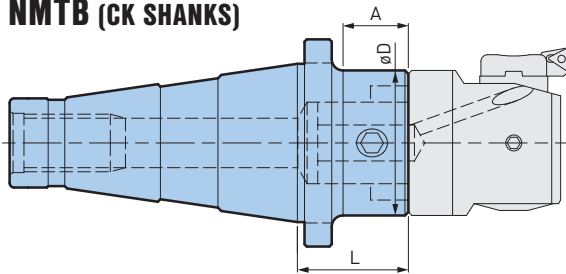


Fig. 4

Catalog Number	Fig.	CK No.	øD1	øDs	L	L1	A	Weight (lbs.)
ST32-CKB1-77	1	CK1	.748	32mm	3.031	6.181	1.614	1.5
ST32-CKB2-73	2	CK2	.945		2.854	6.004	2.520	1.5
ST32-CKB3-69		CK3	1.220		2.717	5.866	2.480	1.8
ST32-CKB4-58	3	CK4	1.535		2.283	5.433	2.087	2.0
ST32-CKB5-48	4	CK5	1.969		1.890	5.039	1.693	2.0
ST32-CKB6-59		CK6	2.520		2.323	5.472	2.126	3.3
ST42-CKB1-77	1	CK1	.748	42mm	3.031	6.181	1.575	2.2
ST42-CKB2-73	2	CK2	.945		2.854	6.004	2.441	2.2
ST42-CKB3-69		CK3	1.220		2.717	5.866	2.323	2.4
ST42-CKB4-63	3	CK4	1.535		2.480	5.630	2.244	2.6
ST42-CKB5-48		CK5	1.969		1.890	5.039	1.693	2.9
ST42-CKB6-59	4	CK6	2.520		2.323	5.472	2.126	4.0

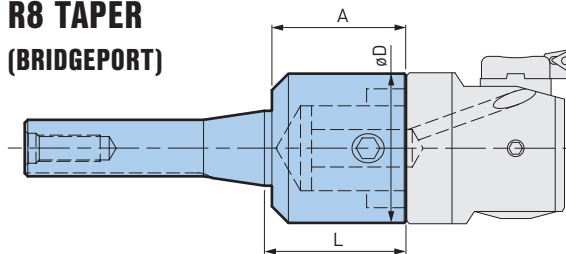
• Head and insert must be ordered separately

NMTB (CK SHANKS)



Catalog Number	Reference Number	CK No.	øD	L	A	Weight (lbs.)
NT40U-CKB6-45	11.321.562	CK6	2.500	1.772	1.224	3.0
NT50U-CKB6-49	11.321.962	CK6	2.500	1.929	1.133	7.0
NT50U-CKB7-63	11.321.974	CK7	3.543	2.480	1.259	8.5

R8 TAPER (BRIDGEPORT)



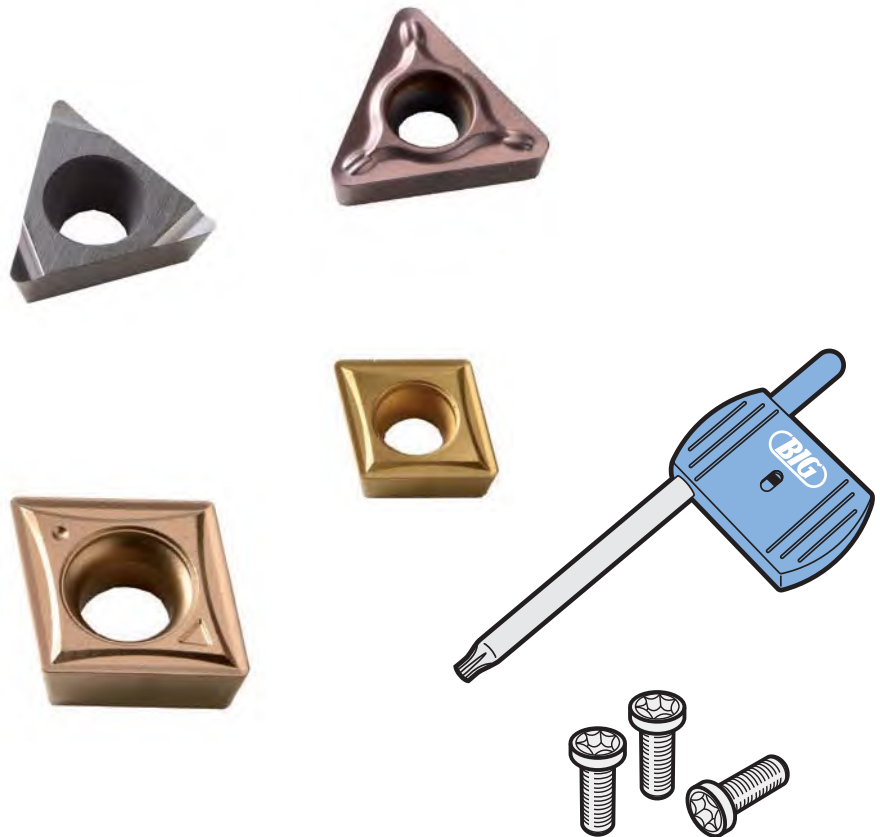
Catalog Number	Reference Number	CK No.	øD	L	A	Weight (lbs.)
R8-CKB6-60	11.362.261	CK6	2.500	2.362	2.237	2.4

ACCESSORIES



KAISER BORING INSERTS & SPARE PARTS

B.3



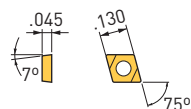
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KAISER BORING INSERTS

BIG DAISHOWA designs optimal inserts exclusive for boring. Select the suitable insert to the application.

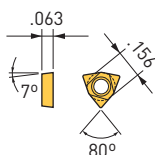
<EC03>



Carbide Boring Bar: EB04, EB05

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	ECGM03X102ELA(T1500A)	.008	2	Alloy Steel / Carbon Steel	Cermet
2	ECGM03X102ELA(H1)	.008	2	Aluminium/Cast Iron	Carbide (K10)
3	ECGM03X102FN(BN10HA)	.008	2	Hardened Steel	CBN

<WC02>



For EW Micro Head: EW15, 18

Carbide Boring Bar: EB06, EB7.5

Carbide Boring Bar for EWN04-15: ST7W-EB6-EB7

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	WCGT020102ELA(T1200A)	.008	3	Alloy Steel / Carbon Steel	Cermet
2	WCGT020102ELA(H1)	.008	3	Aluminium/Cast Iron	Carbide (K10)
3	WCGT020102FN(DA2200)	.008	1	Aluminium	PCD
4	WCGT020102FN(BNX20)	.008	1	Hardened Steel	CBN
5	WCGT020102FN(BN7000)	.008	1	Cast Iron GGG	CBN

<TP07>



Boring Bar for EWN04-15: ST7W-EB8-EB12

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	TPMT070202EFM(T2000Z)	.008	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
2	TPMT070204EFM(T2000Z)	.016	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
3	TPGP070202EL(T1500A)	.008	3	Alloy Steel / Carbon Steel	Cermet
4	TPGP070204EL(T2000Z)	.016	3	Alloy Steel / Carbon Steel	Coated Cermet
5	TPGD070202FN(BN2000)	.008	1	Hardened Steel Rc56+	CBN
6	TPGP070202L(AC520U)	.008	3	Inconel Titanium	Coated Carbide
7	TPGP070204L(AC520U)	.016	3	Inconel Titanium	Coated Carbide
8	TPGD070202FN(H1)	.008	3	Cast Iron GG	Carbide (K10)
9	TPGD070204FN(H1ZX)	.016	3	Cast Iron GG	Coated Carbide (K10)
10	TPGD070202FN(BN500)	.008	3	Cast Iron GGG	CBN
11	TPGD070204FN(BN500)	.016	3	Cast Iron GGG	CBN
12	TPGP070202FLA(H1)	.008	3	Aluminium	Carbide (K10)(High Rake Angle)
13	TPGP070204FLA(H1)	.016	3	Aluminium	Carbide (K10)(High Rake Angle)
14	TPGD070202FN(DA2200)	.008	1	Aluminium	PCD
15	TPGD070204FLM(DA1000)	.016	1	Aluminium	PCD (with Chip-Breakers)

- Inserts are available in a packet of 10 pcs except diamond and CBN inserts; diamond and CBN inserts are available from 1 pc.

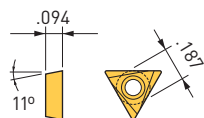
When ordering specify the catalog number and grade

Example: ECGM03X102ELA (T1500A)... 10 pcs

Catalog Number Grade

BIG DAISHOWA designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<TP08>



For EWB: EBH3-1

For EWN/EWE: ENH1-3, ENH3-1J - ENH5-3J

Insert Holder: EB09N - EB46N

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	TPMT080202EFM(T1500A)	.008	3	Alloy Steel / Carbon Steel	Cermet (with Chip-Breakers)
2	TPMT080204EFM(T1500A)	.016	3	Alloy Steel / Carbon Steel	Cermet (with Chip-Breakers)
3	TPMT080202EFM(T2000Z)	.008	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
4	TPMT080204EFM(T2000Z)	.016	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
5	TPGP080202ELM(T2500A)	.008	3	Alloy Steel / Carbon Steel	Cermet (with Chip-Breakers)
6	TPGP080204ELM(T2500A)	.016	3	Alloy Steel / Carbon Steel	Cermet (with Chip-Breakers)
7	TPGP080202ELM(T2500F)	.008	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
8	TPGP080204ELM(T2500F)	.016	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
9	TPGP080202EL(T1500A)	.008	3	Alloy Steel / Carbon Steel	Cermet
10	TPGP080204EL(T1500A)	.016	3	Alloy Steel / Carbon Steel	Cermet
11	TPGP080202EL(T2000Z)	.008	3	Alloy Steel / Carbon Steel	Coated Cermet
12	TPGP080204EL(T2000Z)	.016	3	Alloy Steel / Carbon Steel	Coated Cermet
13	TPGP080202EL(T130A)	.008	3	Interrupted Cutting	Cermet
14	TPGP080204EL(T130A)	.016	3	Interrupted Cutting	Cermet
15	TPGP080202EL(T130ZX)	.008	3	Interrupted Cutting	Coated Cermet
16	TPGP080204EL(T130ZX)	.016	3	Interrupted Cutting	Coated Cermet
17	TPGD080202FN(BN2000)	.008	1	Hardened Steel Rc56+	CBN
18	TPGD080204FN(BN2000)	.016	1	Hardened Steel Rc56+	CBN
19	TPGD080202FN(BNC200)	.008	1	Hardened Steel Rc56+	Coated CBN
20	TPGD080204FN(BNC200)	.016	1	Hardened Steel Rc56+	Coated CBN
21	TPGP080202L(AC520U)	.008	3	Inconel Titanium	Coated Carbide
22	TPGP080204L(AC520U)	.016	3	Inconel Titanium	Coated Carbide
23	TPGD080202FN(H1)	.008	3	Cast Iron GG	Carbide (K10)
24	TPGD080204FN(H1)	.016	3	Cast Iron GG	Carbide (K10)
25	TPGD080202FN(H1ZX)	.008	3	Cast Iron GG	Coated Carbide (K10)
26	TPGD080204FN(H1ZX)	.016	3	Cast Iron GG	Coated Carbide (K10)
27	TPGD080202FN(BN7000)	.008	1	Cast Iron GGG	CBN
28	TPGD080204FN(BN7000)	.016	1	Cast Iron GGG	CBN
29	TPGD080202FN(BN500)	.008	1	Cast Iron GGG	CBN
30	TPGD080204FN(BN500)	.016	1	Cast Iron GGG	CBN
31	TPGD080202FN(BNC500)	.008	1	Cast Iron GGG	Coated CBN
32	TPGD080204FN(BNC500)	.016	1	Cast Iron GGG	Coated CBN
33	TPGD080204FN3(BNC500)	.016	3	Cast Iron GGG	Coated CBN
34	TPGP080202FLA(H1)	.008	3	Aluminium	Carbide (K10)(High Rake Angle)
35	TPGP080204FLA(H1)	.016	3	Aluminium	Carbide (K10)(High Rake Angle)
36	TPGD080202FN(DA2200)	.008	1	Aluminium	PCD
37	TPGD080204FN(DA2200)	.016	1	Aluminium	PCD
38	TPGD080202FLM(DA1000)	.008	1	Aluminium	PCD (with Chip-Breakers)
39	TPGD080204FLM(DA1000)	.016	1	Aluminium	PCD (with Chip-Breakers)
40	TPGP080201FLA(A1)	.004	3	Chatter Resistant	Micro-Grained Carbide

• Inserts are available in a packet of 10 pcs except diamond and CBN inserts; diamond and CBN inserts are available from 1 pc.

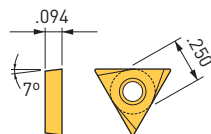
When ordering specify the catalog number and grade

Example: TPMT080202EFM (T1500A)... 10 pcs

Catalog Number Grade

KAISER BORING INSERTS

<TC11>



For EWB: EBH4-6

For EWN/EWE: ENH4 - 7, ENH6-1J - ENH6-3J, ENH7-1J

Insert Holder: EB17AJ-40AJ

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	TCMT110204EFM(T1500A)	.016	3	Alloy Steel / Carbon Steel	Cermet (with Chip-Breakers)
2	TCMT110208EFM(T1500A)	.031	3	Alloy Steel / Carbon Steel	Cermet (with Chip-Breakers)
3	TCMT110204EFM(T2000Z)	.016	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
4	TCMT110208EFM(T2000Z)	.031	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
5	TCGT110202ELM(T2500A)	.008	3	Alloy Steel / Carbon Steel	Cermet (with Chip-Breakers)
6	TCGT110204ELM(T2500A)	.016	3	Alloy Steel / Carbon Steel	Cermet (with Chip-Breakers)
7	TCGT110202ELM(T2500F)	.008	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
8	TCGT110204ELM(T2500F)	.016	3	Alloy Steel / Carbon Steel	Coated Cermet (with Chip-Breakers)
9	TCGT110202EL(T1500A)	.008	3	Alloy Steel / Carbon Steel	Cermet
10	TCGT110204EL(T1500A)	.016	3	Alloy Steel / Carbon Steel	Cermet
11	TCGT110208EL(T1500A)	.031	3	Alloy Steel / Carbon Steel	Cermet
12	TCGT110202EL(T2000Z)	.008	3	Alloy Steel / Carbon Steel	Coated Cermet
13	TCGT110204EL(T2000Z)	.016	3	Alloy Steel / Carbon Steel	Coated Cermet
14	TCGT110208EL(T2000Z)	.031	3	Alloy Steel / Carbon Steel	Coated Cermet
15	TCGT110202FN(BN2000)	.008	1	Hardened Steel Rc56+	CBN
16	TCGT110204FN(BN2000)	.016	1	Hardened Steel Rc56+	CBN
17	TCGT110202FN(BNC200)	.008	1	Hardened Steel Rc56+	Coated CBN
18	TCGT110204FN(BNC200)	.016	1	Hardened Steel Rc56+	Coated CBN
19	TCGT110202L(AC520U)	.008	3	Inconel Titanium	Coated Carbide
20	TCGT110204L(AC520U)	.016	3	Inconel Titanium	Coated Carbide
21	TCGT110202FN(H1)	.008	3	Cast Iron GG	Carbide (K10)
22	TCGT110204FN(H1)	.016	3	Cast Iron GG	Carbide (K10)
23	TCGT110208FN(H1)	.031	3	Cast Iron GG	Carbide (K10)
24	TCGT110202FN(H1ZX)	.008	3	Cast Iron GG	Coated Carbide (K10)
25	TCGT110204FN(H1ZX)	.016	3	Cast Iron GG	Coated Carbide (K10)
26	TCGT110208FN(H1ZX)	.031	3	Cast Iron GG	Coated Carbide (K10)
27	TCGT110202FN(BN7000)	.008	1	Cast Iron GGG	CBN
28	TCGT110204FN(BN7000)	.016	1	Cast Iron GGG	CBN
29	TCGT110208FN(BN7000)	.031	1	Cast Iron GGG	CBN
30	TCGT110202FN(BN500)	.008	1	Cast Iron GGG	CBN
31	TCGT110204FN(BN500)	.016	1	Cast Iron GGG	CBN
32	TCGT110202FN(BNC500)	.008	1	Cast Iron GGG	Coated CBN
33	TCGT110204FN(BNC500)	.016	1	Cast Iron GGG	Coated CBN
34	TCGT110208FN(BNC500)	.031	1	Cast Iron GGG	Coated CBN
35	TCGT110204FN3(BNC500)	.016	3	Cast Iron GGG	Coated CBN
36	TCGT110208FN3(BNC500)	.031	3	Cast Iron GGG	Coated CBN
37	TCGT110202FLA(H1)	.008	3	Aluminium	Carbide (K10)(High Rake Angle)
38	TCGT110204FLA(H1)	.016	3	Aluminium	Carbide (K10)(High Rake Angle)
39	TCGT110208FLA(H1)	.031	3	Aluminium	Carbide (K10)(High Rake Angle)
40	TCGT110202FN(DA2200)	.008	1	Aluminium	PCD
41	TCGT110204FN(DA2200)	.016	1	Aluminium	PCD
42	TCGT110208FN(DA2200)	.031	1	Aluminium	PCD
43	TCGT110202FLM(DA1000)	.008	1	Aluminium	PCD (with Chip-Breakers)
44	TCGT110204FLM(DA1000)	.016	1	Aluminium	PCD (with Chip-Breakers)
45	TCGT110208FLM(DA1000)	.031	1	Aluminium	PCD (with Chip-Breakers)

- Inserts are available in a packet of 10 pcs. except diamond and CBN inserts
- Diamond and CBN inserts are available from 1 pc.

When ordering specify the catalog number and grade

Example: TCMT110204EFM (T1500A)... 10 pcs

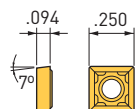
Catalog Number Grade

BIG DAISHOWA designs optimal inserts exclusive for boring. Select the suitable insert to the application.

KAISER BORING INSERTS

BIG DAISHOWA designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<SC06>

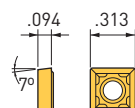


For EWN/EWE: ENH4-1S - ENH5-3S

For SW: SW2026A, SW2531A, SW2533A, SW3240A

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	SCMP060204EFM(T1500A)	.016	4	Alloy Steel / Carbon Steel	Cermet (P10)
2	SCMP060204EFM(AC820P)	.016	4	Alloy Steel / Carbon Steel	Coated Carbide (P20)
3	SCMP060204EFM(AC830P)	.016	4	Alloy Steel / Carbon Steel	Coated Carbide (P30)
4	SCMP060204ESM(AC630M)	.016	4	Stainless Steels	Coated Carbide (M30)
5	SCMP060204EFM(AC410K)	.016	4	Cast Iron GG	Coated Carbide (K10)
6	SCMP060204EFM(AC700G)	.016	4	Cast Iron GG	Coated Carbide (K20)
7	SCGA060204FN(H1)	.016	4	Cast Iron GG	Carbide (K10)
8	SCGP060204FLA(H1)	.016	4	Aluminium	Carbide (High Rake Angle)

<SC07>



For EWN/EWE: ENH6-1S - ENH6-3S, ENH7-1S

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	SCGP070204EFM(T1500A)	.016	4	Alloy Steel / Carbon Steel	Cermet (P10)
2	SCMP070204EFM(AC820P)	.016	4	Alloy Steel / Carbon Steel	Coated Carbide (P20)
3	SCMP070204EFM(AC830P)	.016	4	Alloy Steel / Carbon Steel	Coated Carbide (P30)
4	SCMP070204ESM(AC630M)	.016	4	Stainless Steels	Coated Carbide (M30)
5	SCMP070204EFM(AC410K)	.016	4	Cast Iron GG	Coated Carbide (K10)
6	SCMP070204EFM(AC700G)	.016	4	Cast Iron GG	Coated Carbide (K20)
7	SCGA070204FN(H1)	.016	4	Cast Iron GG	Carbide (K10)
8	SCGP070204FLA(H1)	.016	4	Aluminium	Carbide (High Rake Angle)

- Inserts are available in a packet of 10 pcs.

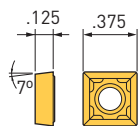
When ordering specify the catalog number and grade

Example: SCMP060204EFM (T1500A)... 10 pcs

Catalog Number Grade

KAISER BORING INSERTS

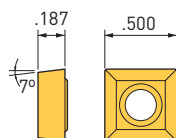
<SC09>



For SW: SW3242A, SW4151A, SW4154A, SW5366A

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	SCGM090304EFM(T1500A)	.016	4	Alloy Steel / Carbon Steel	Cermet (P10)
2	SCGM090308EFM(T1500A)	.031	4	Alloy Steel / Carbon Steel	Cermet (P10)
3	SCMM090304EFM(AC820P)	.016	4	Alloy Steel / Carbon Steel	Coated Carbide (P20)
4	SCMM090308EFM(AC820P)	.031	4	Alloy Steel / Carbon Steel	Coated Carbide (P20)
5	SCMM090308EFM(AC830P)	.031	4	Alloy Steel / Carbon Steel	Coated Carbide (P30)
6	SCMM090308ESM(AC630M)	.031	4	Stainless Steels	Coated Carbide (M30)
7	SCMM090308EFM(AC410K)	.031	4	Cast Iron GG	Coated Carbide (K10)
8	SCMM090308EFM(AC700G)	.031	4	Cast Iron GG	Coated Carbide (K20)
9	SCGA090304FN(H1)	.016	4	Cast Iron GG	Carbide (K10)
10	SCGM090308FLA(H1)	.031	4	Aluminium	Carbide (High Rake Angle)

<SC12>



For SW: SW5370A, SW6986A, SW6890A, SW88110A, SW98126A, SW125153A, SW148176A, SW175203A

For TW: TW200A

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	SCGM120404EFM(T1500A)	.016	4	Alloy Steel / Carbon Steel	Cermet (P10)
2	SCGM120408EFM(T1500A)	.031	4	Alloy Steel / Carbon Steel	Cermet (P10)
3	SCMM120404EFM(AC820P)	.016	4	Alloy Steel / Carbon Steel	Coated Carbide (P20)
4	SCMM120404EFM(CW20PA)	.016	4	Alloy Steel / Carbon Steel	Coated Carbide (P20)
5	SCMM120408EFM(AC820P)	.031	4	Alloy Steel / Carbon Steel	Coated Carbide (P20)
6	SCMM120408EFM(AC830P)	.031	4	Alloy Steel / Carbon Steel	Coated Carbide (P30)
7	SCMM120408ESM(AC630M)	.031	4	Stainless Steels	Coated Carbide (M30)
8	SCMM120408EFM(AC410K)	.031	4	Cast Iron GG	Coated Carbide (K10)
9	SCMM120408EFM(AC700G)	.031	4	Cast Iron GG	Coated Carbide (K20)
10	SCGA120404FN(H1)	.016	4	Cast Iron GG	Carbide (K10)
11	SCGM120408FLA(H1)	.031	4	Aluminium	Carbide (High Rake Angle)

- Inserts are available in a packet of 10 pcs.

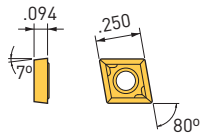
When ordering specify the catalog number and grade

Example: SCGM090304EFM (T1500A)... 10 pcs

Catalog Number Grade

BIG DAISHOWA designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<CC06>

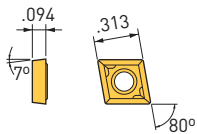


For EWN/EWE: ENH4-1F - ENH5-3F

For SW: SW2026E, SW2531E, SW2533E, SW3240E

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	CCMP060204EFM(T1500A)	.016	2	Alloy Steel / Carbon Steel	Cermet (P10)
2	CCMP060204EFM(AC820P)	.016	2	Alloy Steel / Carbon Steel	Coated Carbide (P20)
3	CCMP060204EFM(AC830P)	.016	2	Alloy Steel / Carbon Steel	Coated Carbide (P30)
4	CCMP060204ESM(AC630M)	.016	2	Stainless Steels	Coated Carbide (M30)
5	CCMP060204EFM(AC410K)	.016	2	Cast Iron GG	Coated Carbide (K10)
6	CCMP060204EFM(AC700G)	.016	2	Cast Iron GG	Coated Carbide (K20)
7	CCGA060204FN(H1)	.016	2	Cast Iron GG	Carbide (K10)
8	CCGP060204FLA(H1)	.016	2	Aluminium	Carbide (High Rake Angle)
9	CCGP060204FLB(H1)	.016	2	Aluminium	Carbide (High Rake Angle)

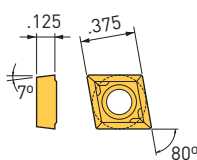
<CC07>



For EWN/EWE: ENH6-1F - ENH6-3F, ENH7-1F

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	CCGP070204EFM(T1500A)	.016	2	Alloy Steel / Carbon Steel	Cermet (P10)
2	CCMP070204EFM(AC820P)	.016	2	Alloy Steel / Carbon Steel	Coated Carbide (P20)
3	CCMP070204EFM(AC830P)	.016	2	Alloy Steel / Carbon Steel	Coated Carbide (P30)
4	CCMP070204ESM(AC630M)	.016	2	Stainless Steels	Coated Carbide (M30)
5	CCMM070204ESS(AC830P)	.016	2	Construction steel	Coated Carbide (P30)
6	CCMP070204EFM(AC410K)	.016	2	Cast Iron GG	Coated Carbide (K10)
7	CCMP070204EFM(AC700G)	.016	2	Cast Iron GG	Coated Carbide (K20)
8	CCGA070204FN(H1)	.016	2	Cast Iron GG	Carbide (K10)
9	CCGP070204FLA(H1)	.016	2	Aluminium	Carbide (High Rake Angle)
10	CCGP070204FLB(H1)	.016	2	Aluminium	Carbide (High Rake Angle)

<CC09>



For SW: SW3242E, SW4151E, SW4154E, SW5366E

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	CCGM090304EFM(T1500A)	.016	2	Alloy Steel / Carbon Steel	Cermet (P10)
2	CCGM090308EFM(T1500A)	.031	2	Alloy Steel / Carbon Steel	Cermet (P10)
3	CCMM090304EFM(AC820P)	.016	2	Alloy Steel / Carbon Steel	Coated Carbide (P20)
4	CCMM090308EFM(AC820P)	.031	2	Alloy Steel / Carbon Steel	Coated Carbide (P20)
5	CCMM090308EFM(AC830P)	.031	2	Alloy Steel / Carbon Steel	Coated Carbide (P30)
6	CCMM090308ESM(AC630M)	.031	2	Stainless Steels	Coated Carbide (M30)
7	CCMM090308ESS(AC830P)	.031	2	Construction steel	Coated Carbide (P31)
8	CCMM090308EFM(AC410K)	.031	2	Cast Iron GG	Coated Carbide (K10)
9	CCMM090304EFM(AC700G)	.016	2	Cast Iron GG	Coated Carbide (K20)
10	CCMM090308EFM(AC700G)	.031	2	Cast Iron GG	Coated Carbide (K20)
11	CCGA090304FN(H1)	.016	2	Cast Iron GG	Carbide (K10)
12	CCGM090308FLA(H1)	.031	2	Aluminium	Carbide (High Rake Angle)
13	CCGM090308FLB(H1)	.031	2	Aluminium	Carbide (High Rake Angle)

• Inserts are available in a packet of 10 pcs.

When ordering specify the catalog number and grade

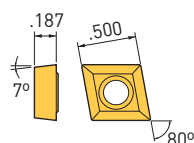
Example: CCMP060204EFM (T1500A)... 10 pcs

Catalog Number Grade

KAISER BORING INSERTS

BIG DAISHOWA designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<CC12>

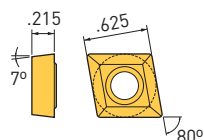


For SW: SW5370E, SW6986E, SW6890E, SW88110E, SW98126E, SW125153E, SW148176E, SW175203E

For TW: TW200E

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	CCGM120404EFM(T1500A)	.016	2	Alloy Steel / Carbon Steel	Cermet (P10)
2	CCGM120408EFM(T1500A)	.031	2	Alloy Steel / Carbon Steel	Cermet (P10)
3	CCMM120404EFM(AC820P)	.016	2	Alloy Steel / Carbon Steel	Coated Carbide (P20)
4	CCMM120408EFM(AC820P)	.031	2	Alloy Steel / Carbon Steel	Coated Carbide (P20)
5	CCMM120408EFM(AC830P)	.031	2	Alloy Steel / Carbon Steel	Coated Carbide (P30)
6	CCMM120408ESM(AC630M)	.031	2	Stainless Steels	Coated Carbide (M30)
7	CCMM120408ESS(AC830P)	.031	2	Construction steel	Coated Carbide (P32)
8	CCMM120408EFM(AC410K)	.031	2	Cast Iron GG	Coated Carbide (K10)
9	CCMM120404EFM(AC700G)	.016	2	Cast Iron GG	Coated Carbide (K20)
10	CCMM120408EFM(AC700G)	.031	2	Cast Iron GG	Coated Carbide (K20)
11	CCGA120404FN(H1)	.016	2	Cast Iron GG	Carbide (K10)
12	CCGM120408FLA(H1)	.031	2	Aluminium	Carbide (High Rake Angle)
13	CCGM120408FLB(H1)	.031	2	Aluminium	Carbide (High Rake Angle)

<CC16>



For SW: SW6890EL, SW88110EL, SW98126EL, SW125153EL, SW148176EL, SW175203EL

For TW: TW200EL

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	CCMM160508EFM(AC820P)	.031	2	Alloy Steel / Carbon Steel	Coated Carbide (P20)
2	CCMM160508EFM(AC830P)	.031	2	Alloy Steel / Carbon Steel	Coated Carbide (P30)
3	CCMM160508ESS(AC830P)	.031	2	Construction steel	Coated Carbide (P33)
4	CCMM160508EFM(AC700G)	.031	2	Cast Iron GG	Coated Carbide (K20)

- Inserts are available in a packet of 10 pcs.

When ordering specify the catalog number and grade

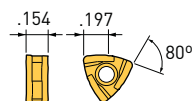
Example: CCGM120404EFM (T1500A)... 10 pcs

Catalog Number Grade

KAISER BORING INSERTS

BIG DAISHOWA designs optimal inserts exclusive for boring. Select the suitable insert to the application.

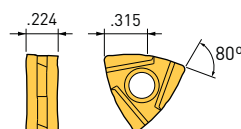
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For SW: SW3242N, SW4151N, SW4154N, SW5366N

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	ZNMU050308EM(CW20PA)	.8	6	General Steels	Coated Carbide
2	ZNMU050308EM(CW15KA)			Cast Iron	

<ZN08>



For SW: SW5370N, SW6986N, SW6890N, SW88110N, SW98126N, SW125153N, SW148176N, SW175203N

No.	Catalog Number	Radius	Corner	Workpiece	Cutting Materials
1	ZNMU080508EM(CW20PA)	.8	6	General Steels	Coated Carbide
2	ZNMU080508EM(CW15KA)			Cast Iron	

- Inserts are available in a packet of 10 pcs.

When ordering specify the catalog number and grade

Example: ZNMU050308EM (CW20PA)... 10 pcs

Catalog Number Grade

KAISER BORING INSERT GRADES

T1500A

General purpose cermet from finishing to roughing. Special technology improves the material's resistance to thermal shock, allowing safe use even for wet machining.

Grade	Cermet P10 Grade
T R S	2.1 (GPa)
Hardness	92.0 (HRA)

T2000Z

Cermet is coated with newly developed PVD film for smooth surface and good adhesion. The material easily doubles tool life compared to non-coated cermet, and enables a high-quality finished surface.

Grade	Cermet P10-20 Grade
Coating film	TiN/AlN
T R S	2.1 (GPa)
Hardness	92.0 (HRA)

T2500A

Cermet with fine and uniform grain structure, achieving improved toughness and high hardness. Excellent thermal shock resistance helps enable stable finishing.

Grade	Cermet P30 Grade
T R S	2.4 (GPa)
Hardness	91.8 (HRA)

T2500F

Cermet insert is coated with smooth PVD film. This material has superior welding and chipping resistance compared to non-coated inserts.

Grade	Cermet P30 Grade
Coating film	AlTiCrN base
T R S	2.4 (GPa)
Hardness	91.8 (HRA)

T130A

The unique production process of this tough cermet achieves a fine and uniform structure that has excellent chipping resistance. Achieves longer tool life than T1500A when used for interrupted cutting finishing.

Grade	Cermet P10 Grade
T R S	2.1 (GPa)
Hardness	91.8 (HRA)

T130ZX

The cermet is treated further with a layer of ceramic kept uniform with the new PVD method. This doubles the tool life while maintaining the toughness of the material.

Grade	Cermet Tough Grade
Coating film	TiN/AlN
T R S	2.0 (GPa)
Hardness	91.9 (HRA)

AC520U

The tough substrate is coated with multiple layers of nanometer-level thickness to create a material suitable for cutting difficult materials such as titanium with excellent wear resistance and notch wear resistance.

Grade	Carbide S20 Grade
Coating film	TiAlN/AlCrN
T R S	2.5 (GPa)
Hardness	91.7 (HRA)

H1

With slightly higher wear resistance than K10 material, this material is a best selling type of carbide that can be used across a wide range from roughing to finishing.

Grade	Fine Carbide K10 Grade
T R S	2.1 (GPa)
Hardness	92.9 (HRA)

H1ZX

For stable machining of ductile cast iron we recommend this material, made by coating carbide H1 with alumina for increased wear resistance.

Grade	Carbide K10 Grade
Coating film	TiN/Al ₂ O ₃ /TiCN
T R S	2.1 (GPa)
Hardness	92.9 (HRA)

A1

Even among ultra-fine particle alloy steels, this material is notably tough; it also boasts excellent welding resistance at low to medium speeds, has a sharp cutting edge, and handles chatter suitably for fine diameter machining.

Grade	Ultra-Fine Particles Z20 Grade
T R S	3.3 (GPa)
Hardness	91.5 (HRA)

CW20PA

Suppressing abnormal damage through a smoother surface, this grade provides highly stable tool life in diverse conditions.

Grade	Coated Carbide P20 Grade
Coating film	TiN/Al ₂ O ₃ /TiCN
T R S	2.3 (GPa)
Hardness	9.1 (HRA)

AC820P

The main grade for steel. The newly developed CVD method allows for a dense yet smooth coating that achieves outstanding versatility and consistency.

Grade	Carbide P20 Grade
Coating film	TiN/Al ₂ O ₃ /TiCN
T R S	2.2 (GPa)
Hardness	9.1 (HRA)

AC830P

The tough substrate and the peel-resistant, dense and smooth coating deliver high reliability for heavy interrupted cutting of steel.

Grade	Carbide P30 Grade
Coating film	TiN/Al ₂ O ₃ /TiCN
T R S	2.6 (GPa)
Hardness	89.4 (HRA)

AC630M

The extremely smooth thin film coating gives this material great sharpness. Ideal for stainless steel or other materials that are easily work hardened.

Grade	Carbide M30 Grade
Coating film	TiAlN/AlCrN
T R S	2.7 (GPa)
Hardness	89.5 (HRA)

CW15KA

This cast iron grade has excellent wear resistance in high-speed cutting due to its high-adhesion, high-strength coating.

Grade	Coated Carbide K10 Grade
Coating film	Al ₂ O ₃ /TiCN
T R S	2.5 (GPa)
Hardness	91.1 (HRA)

AC410K

The hardest material for cast iron. Use if not satisfied with the wear resistance of AC700G. Note that this type is not suitable for heavy duty interrupted cutting.

Grade	Carbide K10 Grade
Coating film	TiAlN/AlCrN
T R S	2.4 (GPa)
Hardness	92.0 (HRA)

AC700G

Heat resistant carbide alloy is coated with multiple layers of mainly tough alumina, with additional surface smoothing treatment, to produce a highly reliable material for machining cast iron.

Grade	Carbide K20 Grade
Coating film	TiN/Al ₂ O ₃ /TiCN
T R S	2.2 (GPa)
Hardness	91.0 (HRA)

KAISER BORING INSERT GRADES

BNX20

Crater resistant CBN grade. Cutting edge is arranged to suit small diameter boring of hardened materials.

BNC200

A combination of exclusive CBN substrate, selected for its strength, and special wear resistant TiAlN coating achieves a long and stable tool life across a wide range from low to high speed cutting, interrupted cutting, and high-efficiency cutting of hardened steel.

BNC500

By combining a ceramic coating with excellent heat resistance and a substrate with excellent wear resistance, stable long life can be achieved even when finishing difficult-to-cut cast iron materials.

BN2000

A CBN material with an excellent balance of wear resistant and chipping resistant properties. Reliable performance is achieved in a wide range of cutting conditions in continuous and medium-heavy interrupted cutting.

NB10HA

The use of a newly developed ceramic binder balances chipping resistance with wear resistance in this general-purpose grade, supporting machining of hardened steel across the board.

BN500/BN7000

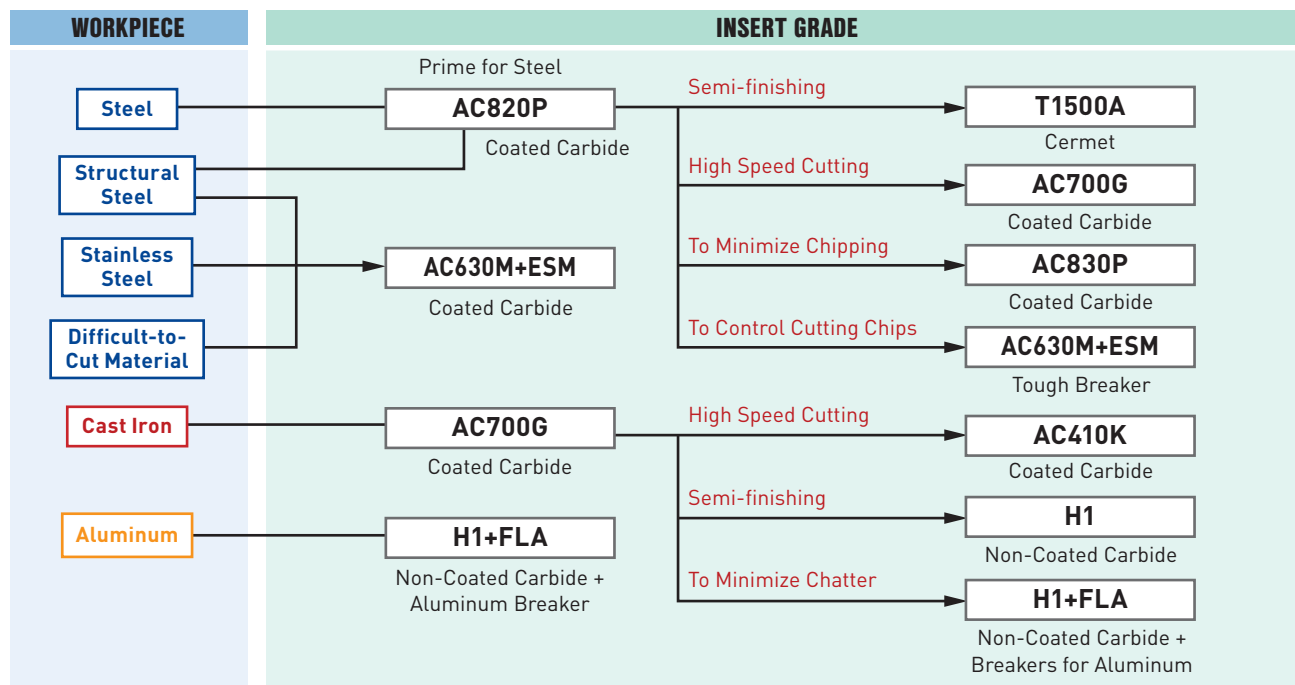
A CBN material with Co binder developed for cast iron. BN7000 is a material with excellent wear resistant and chipping resistant properties. BN7000 is recommended for high speed cutting of cast iron. If not satisfied with the wear resistance, use BN500.

DA2200/DA1000

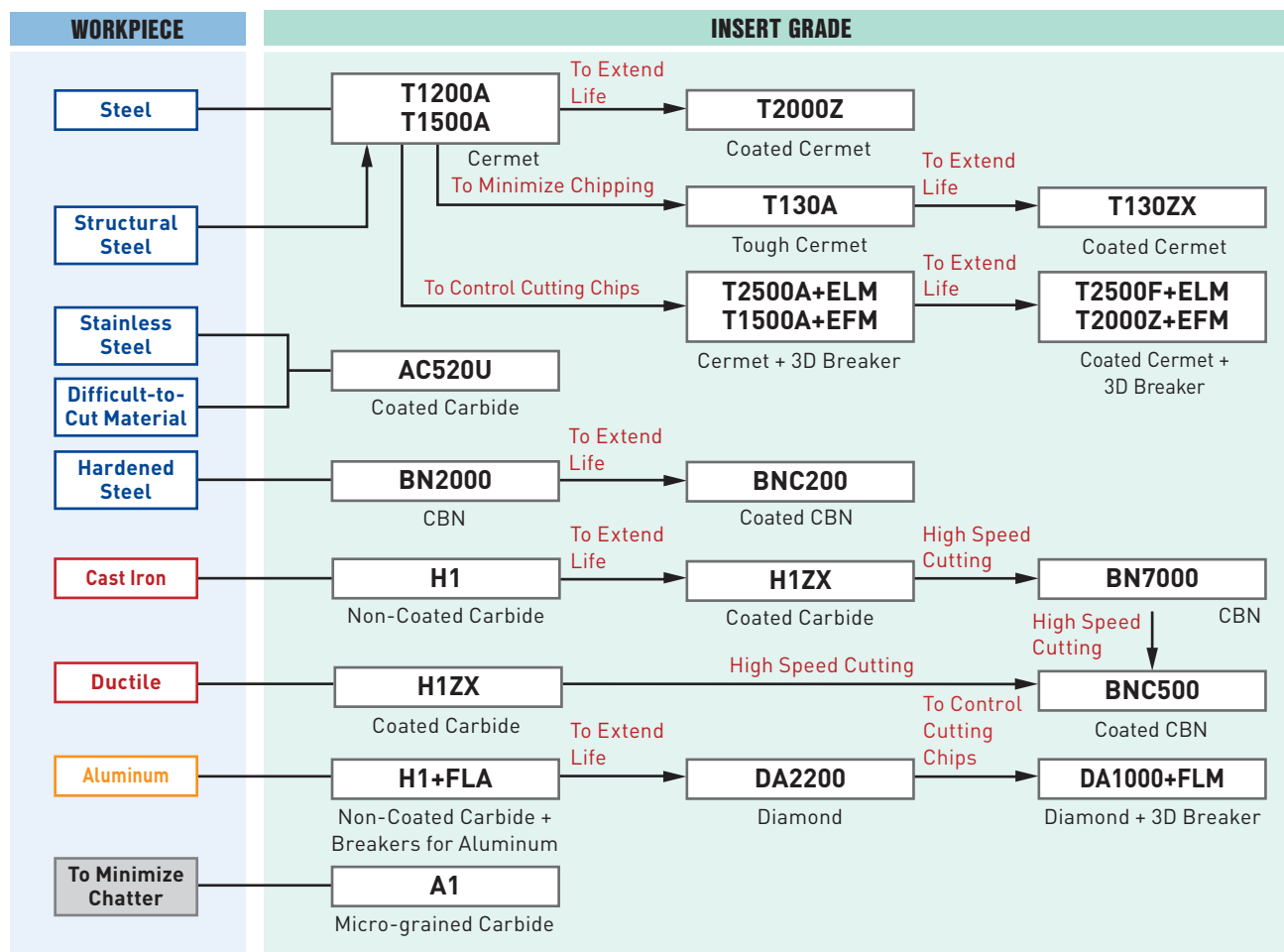
Ultra-precise sintering of ultra-fine diamond particles drastically improves the material's chipping resistance. With strength comparable to that of carbide (K10 type), it achieves a stable long tool life in interrupted cutting of aluminum alloys. Furthermore, the material boasts great cutting edge efficiency and achieves a good finish surface.

KAISER BORING INSERT SELECTION

FOR ROUGHING

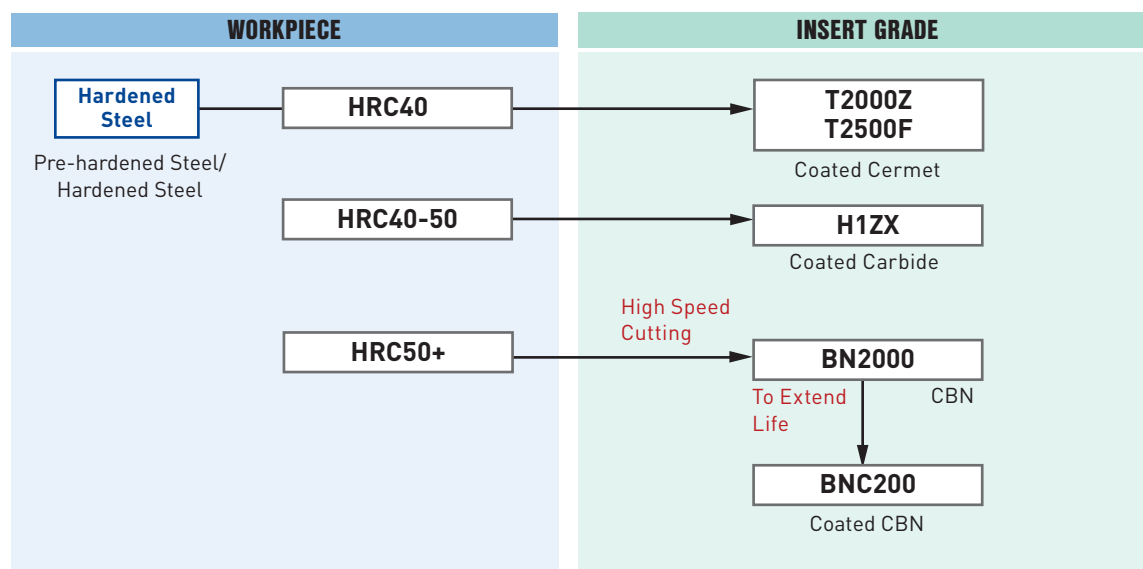


FOR FINISHING



KAISER BORING INSERT SELECTION

FOR FINISHING



Application Table (Corresponding to Hardness)

Insert Grade		Hardness (HRC)				
		40	45	50	55	60
Coated Cermet	T2000Z T2500F					
Coated Carbide	H1ZX					
CBN	BNC200 (BN2000)					

Recommended Conditions

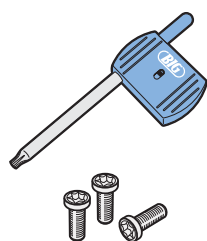
Hardness (HRC)	Insert Grade	Cutting Speed SFM	Depth of Cut	Coolant
40-50	H1ZX	330-429	.004-.008	Wet Recommended
55+	BNC200 (BN2000)	231-330	.004-.008	

- The standard is $f=.002"$, corner R.008" and $f=.004"$ for corner R.016"
- For the round tool type, the stability limit conditions differ depending on the protrusion length of the tool, so please refer to the recommended cutting conditions table for the round tool type on pg. 497; please adjust the conditions as a reference
- If tool life is reduced due to interrupted cutting, we recommend low speed conditions or dry cutting

KAISER BORING SPARE PARTS

SCREW/WRENCH SET

INSERT CLAMPING SCREW SET (Contains 10 screws and 1 wrench)



Catalog Number	Insert Size	Shank/Insert Holder/Cartridge	Insert Clamp Screw	
			Thread	Wrench Model
S1.6S-T3-S	EC03	EB04	M1.6F×2	DA-T3
S1.6S-T3		EB05	M1.6F×2.5	
S2S-A-6IP	WC02	ST05W-EB6-60 / ST06W-EB7.5-65	M2×3	FS-6IP
S2S-B-6IP		EN15	M2S×4	
10.694.101-2P	WC02	ST7W-EB6 / EB7	M2×3.6	FW-6IP
10.694.102-2P	TP07	ST7W-EB8 / EB9	M2×4.1	
10.694.103-2P		ST7W-EB10 / EB12 ENH1-1TP07, ENH2-1TP07	M2×4.8	
S2S-S-6IP	TP08	EB09N / EB1.5N / EB12N	M2×4	FS-6IP
S2S-6IP		EB14N - EB46N / ENH1 - ENH3 ENH3J - ENH5J EBH3	M2×5.5	
S2.5S-7IP	TC11 SC06 CC06	SW2026 / SW2531 / SW2533 / SW3240 ENH4 - ENH7 / ENH4E - ENH6E / ENH6J - ENH7J ENH4F - ENH5F / ENH4S - ENH5S EBH4 - EBH6 EB17AJ - EB40AJ	M2.5×6.5	FS-7IP
S2.508S-7IP	ZN05	SW3242N / SW4151N / SW4154N / SW5366N	M2.5×8	FS-7IP
S3S-10IP	SC07 CC07	ENH6F - ENH7F / ENH6S - ENH7S RW2533 RW3037	M3×7	FS-10IP
S4S-15IP	SC09 CC09	SW3242 / SW4151 / SW4154 / SW5366 RW3242 RW4048 RW4154 RW5162	M4×8	FS-15IP
S412S-15IP	ZN08	SW5370N / SW6986N / SW6890N / SW88110N / SW98126N / SW125153N / SW148176N / SW175203N	M4×12	FS-15IP
S5S-20IP	SC12 CC12 CC16	SW5370 / SW6986 / SW6890 / SW88110 SW98126 / SW125153 / SW148176 / SW175203 / TW200 RW5370 / RW6681 / RW6888 RW86106 RW100125 RW125150	M5×12	FS-20IP
S1.6S-T6	MW04	MW1619 - MW1821	M1.6×4.2	FA-T6

- Wrenches are also sold individually; please order the wrench model

KAISER BORING SPARE PARTS

CK SET SCREW (CONTAINS 2 SCREWS AND 1 EXCLUSIVE T-WRENCH)

Key element of the CK Connection.

Periodical replacement is recommended in order to maintain accurate clamping.



Catalog Number	CK No.	Thread Size	T Wrench Model
CK1S	CK1	M4xP.5	CK-T2
CK2S	CK2	M5xP.5	CK-T2.5
CK3S	CK3	M6xP.75	CK-T3
CK4S	CK4	M8xP.75	CK-T4
CK5S	CK5	M10xP1.0	CK-T5
CK6S	CK6	M12xP1.0	CK-T6
CK7S	CK7	M20xP1.5	—

- Wrenches are also sold individually; please order the wrench model ("T" in the wrench model indicates T-shape of the wrench. This has nothing to do with Torx.)
- An L wrench is included with CK7S

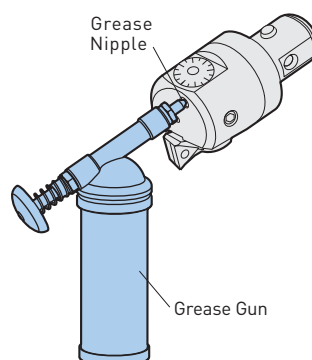
GREASE GUN

Essential for maintenance. Can be used with all types of finishing heads.

(Grease not included)

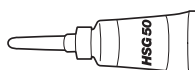
Catalog Number
GRG-02

- The grease is effective for removing coolant and particles; we recommend injecting grease into the grease nipple as required.



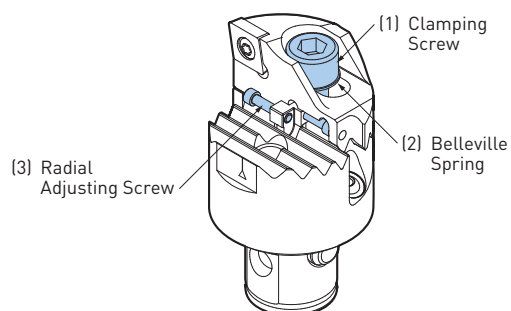
GREASE (50g)

Catalog Number
HSG50



KAISER BORING SPARE PARTS

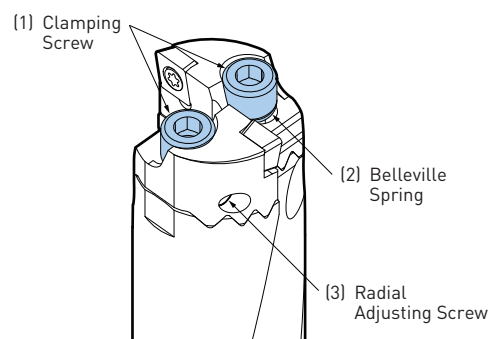
SW BORING HEAD (COMMON FOR A/E TYPES)



Head	[1]	SW	N • m	[2]	[3]	SW
SW20-31CKB1	SW20SS	3	4	SW20BS	SW20RS	1.5
SW25-40CKB2	SW25SS	4	7	SW25BS	SW25RS	1.5
SW32-51CKB3	SW32SS	5	12	SW32BS	SW32RS	2
SW41-66CKB4	SW41SS	6	20	SW41BS	SW41RS	2.5
CKB4-SW41DP-190						
SW53-86CKB5	SW53SS	8	35	SW53BS	SW53RS	2.5
CKB5-SW53DP-220						
SW68-110CKB6	SW68SS	8	35	SW68BS	SW68RS	3
CKB6-SW68DP-245						
SW98-153CKB□	SW98SS	10	40	SW98BS	SW98RS	4
CKB□-SW98DP						
SW148-203CKB□						
CKB□-SW148DP						

(1) Clamping Screw x 2p, Belleville Spring x 2p
 (2) Belleville Spring x 4 pcs
 (3) Radial Adjusting Screw 1p

MW BORING HEAD



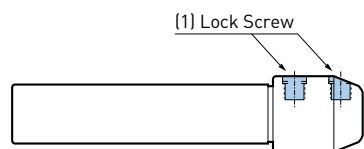
Head	[1]	SW	N • m	[2]	[3]	SW
MW16	MW16SS	2.5	1.0	MW16BS	H02503-5P	1.3
MW18					H02504-5P	

(1) Clamping Screw x 2p, Belleville Spring x 2p
 (2) Belleville Spring x 4p
 (3) Radial Adjusting Screw x 5p

KAISER BORING SPARE PARTS

EWN/EWE/EWB BORING HEAD (CENTRIC BORING BAR TYPE)

REDUCTION SLEEVE

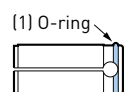


Reduction Sleeve	Lock Screw	SW
ST-SL 4.5 / 5	H0403-5P	2
ST-SL 3.5 / 4 / 6	H0404-5P	
ST-SL 7 / 8 / 9 / 10	H0606-5P	2.5

(1) Lock Screw x 5p

EWN/EWE/EWB BORING HEAD (CENTRIC BORING BAR TYPE)

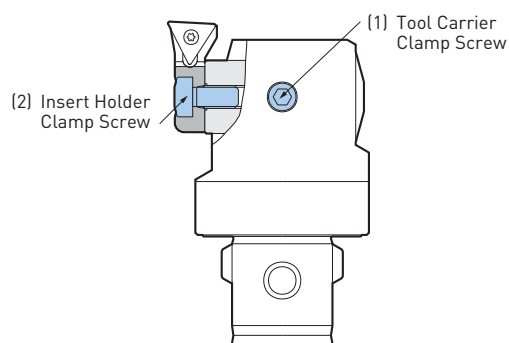
STRAIGHT COLLET



Collet	O-Ring (2 pcs)
EC1004-EC1008	OR-S8-2P
EC1206-EC1210	OR-S10-2P
EC1606-EC1614	OR-S14-2P

(1) O-ring x 2p

EWN BORING HEAD EW MICRO HEAD



Head	(1)	SW	N • m	(2)	SW	N • m
EWN20-36E-CKB1	K0405	2	.5	B0304-1	2	1.0
CK1-EWN20EDP-100						
EWN25-47E-CKB2	K0406	2	.5	B0306-1	2	1.0
CK2-EWN25EDP-125						
EWN32-60E-CKB3	K0509	2.5	1.5	B0408-2	2.5	2.5
CKB3-EWNEDP-160						
EWN41-74E-CKB4	K0610	3	2.5	B0510-3	3	3.0
CKB4-EWN41EDP-185						
EWN53-95E-CKB5	K0814	4	6	B0510-4	4	6
CKB5-EWN53EDP-210						
EWN68-150E-CKB6	K1016	5	10	B0816-5	5	12
CKB6-EWN68EDP-240						
EWN100-203E-CKB6						
CKB6-EWN100EDP-240						
EWN100-203E-CKB7						
CKB7-EWN100EDP-240						
EW15E	H0303-2P	1.5	.3	M25526IP-2P*	T6IP	.6
EW18E	H0304-2P					

• The screws marked with * are Torx Plus screws

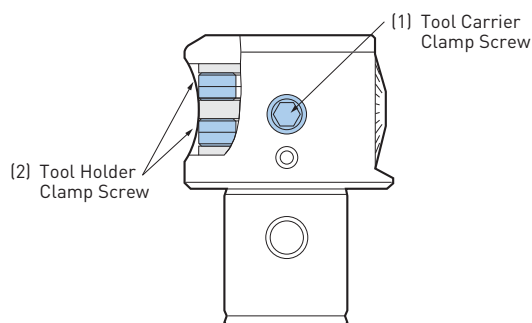
(1) Tool Carrier Clamp Screw x 1p (EW15/18 x 2p)

(2) Insert Holder Clamp Screw x 1p (EW15/18 x 2p)

KAISER BORING SPARE PARTS

EWN BORING HEAD

(CENTRIC BORING BAR TYPE)



EWN04 Series

Head	(1)	SW	N • m	(2)	SW	N • m
EWN04-7CK1	H0303KS	1.5	.6	H0306/R-5P	1.5	.8
EWN04-7ST10						
EWN04-15E-CK3	H0505-5P	2.5	1.2	H0504-5P	2.5	1.5
EWN04-15ST16						

(1) Tool Carrier Clamp Screw : H0303KS x 1p / H0505-5P x 5p

(2) Tool holder Clamp Screw x 5p

EWN2-22 / EWN2-32 / EWN2-54 Series

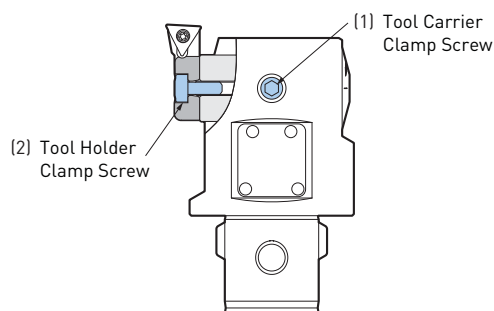
Head	(1)	SW	N • m	(2)	SW	N • m	(3)
EWN2-22E-CK4	K0606	3	2.5	H0605-5P	3	2.5	—
EWN2-22ER25							H0404-5P
EWN2-32E-CK5	K0809	4	4	H0806-5P	4	5	—
EWN2-32ER32							K0406KS
EWN2-54E-CK6	K1011	5	8	H1008-5P	5	10	—
EWN2-54EM-CK6							—

(1) Tool Carrier Clamp Screw x 1p

(2) Tool holder Clamp Screw x 5p

KAISER BORING SPARE PARTS

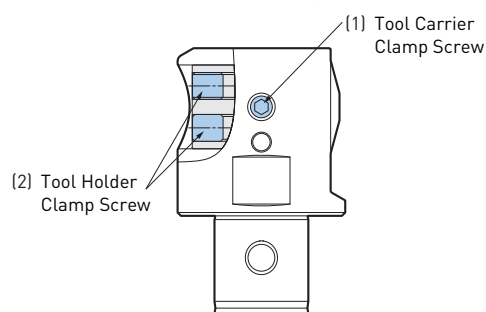
EWE DIGITAL BORING HEAD



Head	(1)	SW	N • m	(2)	SW	N • m
EWE41-74CKB4	K0608	3	3	B0510-3	3	3
EWE53-93CKB5	K0809	4	6	B0510-4	4	6
EWE68-105CKB6	K1013	5	10	B0816-5	5	12
EWE100-203CKB□	K1016					

(1) Tool Carrier Clamp Screw x 1p
(2) Insert Holder Clamp Screw x 1p

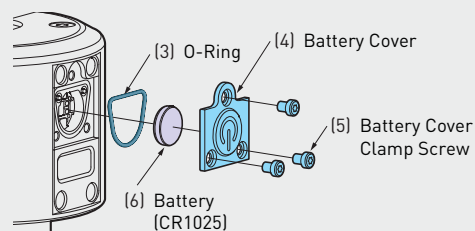
(CENTRIC BORING BAR TYPE)



Head	(1)	SW	N • m	(2)	SW	N • m
EWE2-32CK5	K0809	4	4	H0806-5P	4	4
EWE2-54CK6	K1011	5	8	H1008-5P	5	8
EWE2-54E-CK6						

(1) Tool Carrier Clamp Screw x 1p
(2) Tool holder Clamp Screw x 5p

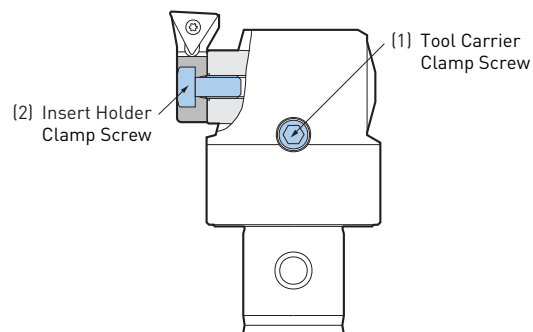
EWE COMMON PARTS (INSERT HOLDER TYPE / CENTRIC BORING BAR TYPE)



Common Parts	Catalog Number
(3) O-Ring	EWE-OR
(4) Battery Cover	EWE-BC
(5) Clamp Screw	EWE-S2.5FS-8IP
(6) Battery	CR1025

(5) Clamp Screw-3p / Wrench-1p included

EWB BORING HEAD

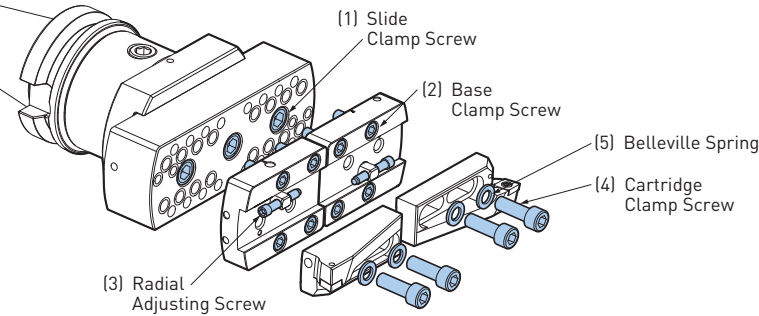


Head	(1)	SW	N • m	(2)	SW	N • m
EWB32-42E-CK3	S0705	2.5	2.5	B0408-2	2.5	2.5
EWB41-54E-CK4	S0706	3	3	B0510-3	3	3
EWB53-70E-CK5	S0808	4	6	B0510-4	4	6
EWB68-88E-CK6	S1012	6	10	B0612-5	6	12
EWB85-105E-CK6						

(1) Tool Carrier Clamp Screw x 1p
(2) Insert Holder Clamp Screw x 1p

KAISER BORING SPARE PARTS

TW BORING HEAD (FOR LARGE DIAMETER)

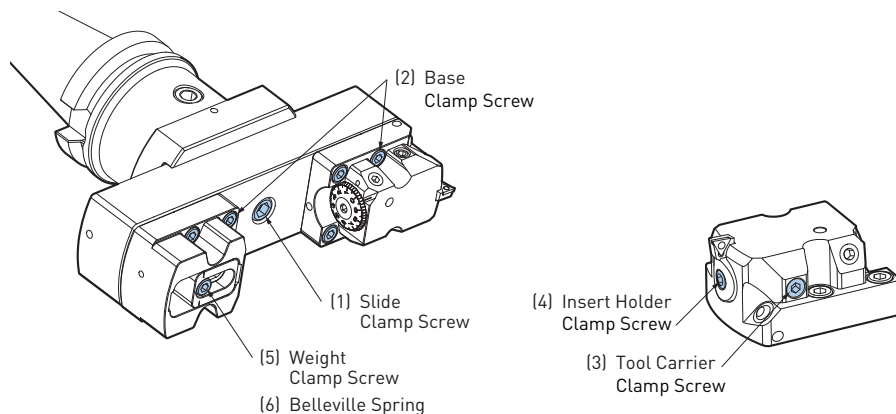


Clamp Base	(1)	SW	N • m	(2)	SW	N • m	(3)	SW	(4)	SW	N • m	(5)
CB-TW200	C1250	10	45	C0825	6	20	TW200RS	5	C1030	8	30	TW53BS
CB-TW200AL												

- (1) Slide Clamp Screw x 1p
- (2) Base Clamp Screw x 1p
- (3) Radial Adjusting Screw x1p
- (4) Cartridge Clamp Screw x1p
- (5) Belleville Spring x 4 pcs

KAISER BORING SPARE PARTS

EWN200 BORING HEAD (FOR LARGE DIAMETER)



Head	(1)	SW	N • m	(2)	SW	N • m	(3)	SW	N • m	(4)	SW	N • m	(5)	SW	N • m	(6)
EWN200(AL)	C1250	10	45	C0825	6	20	K1016	5	12	B0612-5	5	10	—	—	—	—
BWN200FB(AL)										—	—	—	C0830	6	20	TW41BS
BWN200PB(AL)										—	—	—	—	—	—	—

- (1) Slide Clamp Screw x 1p
- (2) Base Clamp Screw x 1p
- (3) Tool Carrier Clamp Screw x 1p
- (4) Insert Holder Clamp Screw x 1p
- (5) Weight Clamp Screw x 1p
- (6) Belleville Spring x 4 pcs

KAISER BORING CUTTING TABLES

B.4

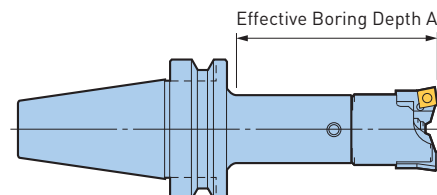


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KAISER BORING CUTTING CONDITIONS

SW BORING HEAD



SW E TYPE/A TYPE (40 TAPER)

Head	Workpiece Material	A	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)		Feed f (IPR)	
			Nose Radius	Grade		Recommended	Max	Recommended	Max
SW20	Carbon Steel	2.870	.016	AC820P	495	.08	.10	.008	.010
	Alloy Steel			AC820P	430	.06	.08	.008	.010
	Stainless Steel			AC630M	265	.06	.08	.008	.010
	Cast Iron			AC700G	430	.10	.12	.010	.012
	Ductile			AC410K	265	.08	.10	.008	.010
	Aluminum			H1	660	.10	.12	.010	.012
SW25	Carbon Steel	3.460	.016	AC820P	530	.10	.12	.010	.012
	Alloy Steel			AC820P	460	.08	.12	.008	.010
	Stainless Steel			AC630M	295	.08	.12	.008	.010
	Cast Iron			AC700G	460	.12	.16	.010	.012
	Ductile			AC410K	295	.10	.12	.008	.010
	Aluminum			H1	660	.12	.16	.012	.014
SW32	Carbon Steel	4.060	.031	AC820P	660	.14	.18	.012	.016
	Alloy Steel			AC820P	595	.12	.16	.010	.014
	Stainless Steel			AC630M	330	.12	.16	.010	.014
	Cast Iron			AC700G	595	.16	.22	.012	.016
	Ductile			AC410K	330	.14	.18	.010	.014
	Aluminum			H1	725	.16	.20	.012	.016
SW41	Carbon Steel	4.060	.031	AC820P	660	.18	.22	.014	.018
	Alloy Steel			AC820P	595	.16	.20	.012	.016
	Stainless Steel			AC630M	330	.16	.20	.012	.016
	Cast Iron			AC700G	595	.20	.28	.014	.018
	Ductile			AC410K	330	.16	.24	.012	.016
	Aluminum			H1	725	.20	.28	.014	.018
SW53	Carbon Steel	4.060	.031	AC820P	725	.24	.32	.016	.020
	Alloy Steel			AC820P	660	.20	.24	.014	.018
	Stainless Steel			AC630M	395	.20	.24	.014	.018
	Cast Iron			AC700G	660	.32	.39	.016	.020
	Ductile			AC410K	330	.24	.32	.014	.018
	Aluminum			H1	825	.32	.39	.018	.022
SW68 SW98 SW148	Carbon Steel	4.060	.031	AC820P	725	.32	.39	.016	.020
	Alloy Steel			AC820P	660	.28	.35	.014	.018
	Stainless Steel			AC630M	395	.28	.35	.014	.018
	Cast Iron			AC700G	660	.35	.47	.016	.020
	Ductile			AC410K	330	.32	.39	.014	.018
	Aluminum			H1	825	.35	.47	.018	.022

- This table is a guideline for selecting cutting parameters; adjust them as needed according to the machine and workpiece conditions
- For blind holes; adjust the parameters by observing the chip evacuation
- Cermet T1500A is recommended for good surface finish for light roughing of steel
- AC830P is recommended for interrupted cutting of steel
- AC820P is recommended for interrupted cutting of ductile cast iron
- For step cutting; it is recommended to increase the depth of cut by 1.6 times and reduce the feed rate by 60%

Spindle Speed Calculation

$$N = \text{SFM} \times 3.82 / D$$

N: Spindle Speed
SFM: Cutting Speed
D: Diameter

KAISER BORING CUTTING CONDITIONS

SW E TYPE/A TYPE (50 TAPER)

Head	Workpiece Material	A	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)		Feed f (IPR)	
			Nose Radius	Grade		Recommended	Max	Recommended	Max
SW20	Carbon Steel	2.870	.016	AC820P	495	.08	.10	.008	.010
	Alloy Steel			AC820P	430	.06	.08	.008	.010
	Stainless Steel			AC630M	265	.06	.08	.008	.010
	Cast iron			AC700G	430	.10	.12	.010	.012
	Ductile Iron			AC410K	265	.08	.10	.008	.010
	Aluminum			H1	660	.10	.12	.010	.012
SW25	Carbon Steel	4.210	.016	AC820P	495	.10	.14	.010	.012
	Alloy Steel			AC820P	430	.08	.12	.008	.010
	Stainless Steel			AC630M	265	.08	.12	.008	.010
	Cast iron			AC700G	430	.12	.16	.010	.012
	Ductile			AC410K	265	.10	.12	.008	.010
	Aluminum			H1	660	.12	.16	.012	.014
SW32	Carbon Steel	4.800	.031	AC820P	595	.14	.18	.012	.016
	Alloy Steel			AC820P	530	.12	.16	.010	.014
	Stainless Steel			AC630M	330	.12	.16	.010	.014
	Cast iron			AC700G	530	.16	.22	.012	.016
	Ductile			AC410K	330	.14	.18	.010	.014
	Aluminum			H1	660	.16	.20	.012	.016
SW41	Carbon Steel	4.800	.031	AC820P	660	.18	.22	.014	.018
	Alloy Steel			AC820P	595	.16	.20	.012	.016
	Stainless Steel			AC630M	330	.16	.20	.012	.016
	Cast iron			AC700G	595	.20	.28	.014	.018
	Ductile			AC410K	330	.16	.24	.012	.016
	Aluminum			H1	725	.20	.28	.014	.018
SW53	Carbon Steel	4.800	.031	AC820P	725	.28	.35	.016	.022
	Alloy Steel			AC820P	660	.24	.31	.014	.020
	Stainless Steel			AC630M	395	.24	.31	.014	.020
	Cast iron			AC700G	660	.35	.47	.018	.022
	Ductile			AC410K	395	.28	.39	.014	.020
	Aluminum			H1	825	.35	.47	.018	.022
SW68	Carbon Steel	4.800	.031	AC820P	725	.39	.47	.016	.024
	Alloy Steel			AC820P	660	.31	.47	.014	.022
	Stainless Steel			AC630M	395	.31	.39	.014	.022
	Cast iron			AC700G	660	.39	.55	.018	.024
	Ductile			AC410K	395	.35	.47	.014	.022
	Aluminum			H1	825	.39	.47	.018	.024
SW98 SW148	Carbon Steel	4.800	.031	AC820P	725	.39	.47	.016	.024
	Alloy Steel			AC820P	660	.31	.47	.014	.022
	Stainless Steel			AC630M	395	.31	.39	.014	.022
	Cast iron			AC700G	660	.39	.55	.018	.024
	Ductile			AC410K	395	.35	.47	.014	.022
	Aluminum			H1	825	.39	.47	.018	.024
TW200 ≤ ø13.38	Carbon Steel	6.770	.031	AC820P	725	.39	.47	.016	.024
	Alloy Steel			AC820P	660	.31	.47	.014	.022
	Stainless Steel			AC630M	395	.31	.39	.014	.022
	Cast iron			AC700G	660	.39	.55	.018	.024
	Ductile			AC700G	395	.35	.47	.014	.022
	Aluminum			H1	825	.39	.47	.018	.024
TW200 > ø13.38	Carbon Steel	6.770	.031	AC820P	725	.28	.35	.016	.024
	Alloy Steel			AC820P	660	.24	.31	.014	.022
	Stainless Steel			AC630M	395	.24	.31	.014	.022
	Cast iron			AC700G	660	.28	.39	.018	.024
	Ductile			AC700G	395	.24	.31	.014	.022
	Aluminum			H1	825	.28	.35	.018	.024

KAISER BORING CUTTING CONDITIONS

SW N TYPE

Head	Workpiece Material	A	Grade	Cutting Speed (RPM)	Cutting Depth (in./ø)		Feed f (IPR)	
					Recommended	Max	Recommended	Max
SW32	Carbon Steel	4.06	CW20PA	600	.120	.160	.012	.016
	Stainless Steel		CW20PA	530	.100	.140	.010	.014
	Alloy Steel		CW15KA	530	.140	.200	.012	.016
	Cast Iron		CW15KA	330	.120	.160	.010	.014
SW41	Carbon Steel	4.06	CW20PA	660	.140	.200	.012	.016
	Stainless Steel		CW20PA	600	.120	.180	.010	.014
	Alloy Steel		CW15KA	600	.160	.255	.014	.018
	Cast Iron		CW15KA	330	.120	.220	.012	.016
SW53	Carbon Steel	4.06	CW20PA	725	.240	.315	.016	.020
	Stainless Steel		CW20PA	660	.200	.235	.014	.018
	Alloy Steel		CW15KA	660	.315	.400	.016	.020
	Cast Iron		CW15KA	330	.235	.315	.014	.018
SW68 SW98 SW148	Carbon Steel	4.06	CW20PA	725	.315	.400	.016	.020
	Stainless Steel		CW20PA	660	.200	.315	.014	.018
	Alloy Steel		CW15KA	660	.355	.470	.016	.020
	Cast Iron		CW15KA	330	.315	.400	.014	.018

Application Examples

Rough Boring of Carbon Steel (S55C) Using SMART DAMPER SW Head

Machine		Horizontal MC (BBT50)
Insert	E Type	CCMM120404EFM
	A Type	SCMM120404EFM
Workpiece Material		S55C
Cutting Speed (SFM)		1,650
Feed f ("/rev)		.016
Cutting Depth ("/dia)		.275
Coolant		Water-Soluble (Center Through)



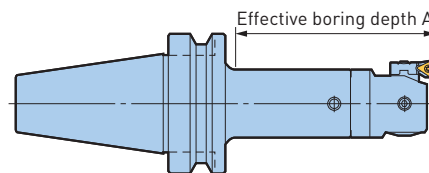
Head	Holder	Extension	Effective Boring Depth (in.)	Cartridge	
				E Type	A Type
CKB5-SW53DP-220	BBT50-CKB5-228	None	15.9	O	O
	BBT50-CKB5-263	None	17.3	O	Chatter
		CKB55-60	19.7	O	Chatter

The use of the SMART DAMPER SW head enabled stable rough boring without chatter even at lengths of L/D=6 and above

As well, stable machining was possible at even longer lengths through selection of an E type cartridge (approach angle 0°)

KAISER BORING CUTTING CONDITIONS

EWN/EWE/EWB BORING HEAD



(40 Taper)

Head	Workpiece Material	A	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)	Feed f (IPR)	
			Nose Radius	Grade			Recommended	Max
EWN20	Carbon Steel/Alloy Steel	2.874	.008	T1500A	530	.006	.002	.005
	Stainless Steel		.008	AC520U	400	.006	.002	.004
	Hardened Steel		.008	BN2000	230	.004	.002	.004
	Cast Iron		.008	H1	400	.008	.002	.005
	Ductile Iron		.008	H1ZX	330	.006	.002	.004
	Ductile Iron (CBN)		.008	BNC500	400	.006	.002	.004
	Aluminum		.008	H1	660	.008	.002	.005
	Aluminum (PCD)		.008	DA2200	990	.008	.002	.005
EWN25	Carbon Steel/Alloy Steel	3.465	.008	T1500A	600	.006	.002	.005
	Stainless Steel		.008	AC520U	460	.006	.002	.005
	Hardened Steel		.008	BN2000	265	.004	.002	.004
	Cast Iron		.008	H1	460	.008	.002	.005
	Ductile Iron		.008	H1ZX	400	.006	.002	.005
	Ductile Iron (CBN)		.008	BNC500	600	.006	.002	.004
	Aluminum		.008	H1	660	.008	.002	.005
	Aluminum (PCD)		.008	DA2200	1320	.008	.002	.005
EWN32 EWB32	Carbon Steel/Alloy Steel	4.055	.008	T1500A	660	.008	.002	.005
	Stainless Steel		.008	AC520U	530	.008	.002	.005
	Hardened Steel		.008	BN2000	330	.004	.002	.004
	Cast Iron		.008	H1	530	.008	.002	.005
	Ductile Iron		.008	H1ZX	400	.006	.002	.005
	Ductile Iron (CBN)		.008	BNC500	660	.006	.002	.004
	Aluminum		.016	H1	990	.008	.004	.008
	Aluminum (PCD)		.016	DA2200	2640	.008	.004	.008
EWN41 EWE41 EWB41	Carbon Steel/Alloy Steel	4.055	.008	T1500A	660	.008	.002	.005
	Stainless Steel		.008	AC520U	530	.008	.002	.005
	Hardened Steel (CBN)		.016	BN2000	330	.004	.003	.005
	Cast Iron		.016	H1	530	.008	.004	.008
	Ductile Iron		.016	H1ZX	400	.006	.004	.006
	Ductile Iron (CBN)		.016	BNC500	660	.006	.004	.006
	Aluminum		.016	H1	990	.008	.005	.008
	Aluminum (PCD)		.016	DA2200	2640	.008	.005	.008
EWN53 EWE53 EWB53 EWN68 EWE68 EWB68 EWB85 EWN100 EWE100	Carbon Steel/Alloy Steel	4.055	.016	T1500A	825	.010	.004	.008
	Stainless Steel		.016	AC520U	600	.010	.004	.008
	Hardened Steel (CBN)		.016	BN2000	330	.004	.003	.005
	Cast Iron		.016	H1	600	.010	.004	.008
	Ductile Iron		.016	H1ZX	400	.008	.004	.008
	Ductile Iron (CBN)		.016	BNC500	660	.008	.004	.008
	Aluminum		.031	H1	990	.010	.006	.012
	Aluminum (PCD)		.016	DA2200	2640	.010	.005	.008

KAISER BORING CUTTING CONDITIONS

(50 Taper)

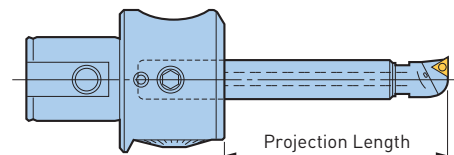
Head	Workpiece Material	A	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)	Feed f (in./rev)	
			Nose Radius	Grade			Recommended	Max
EWN20	Carbon Steel/Alloy Steel	2.874	.008	T1500A	530	.006	.002	.005
	Stainless Steel		.008	AC520U	400	.006	.002	.004
	Hardened Steel		.008	BN2000	230	.004	.002	.004
	Cast Iron		.008	H1	400	.008	.002	.005
	Ductile Iron		.008	H1ZX	330	.006	.002	.004
	Ductile Iron (CBN)		.008	BNC500	400	.006	.002	.004
	Aluminum		.008	H1	660	.008	.002	.005
	Aluminum (PCD)		.008	DA2200	990	.008	.002	.005
EWN25	Carbon Steel/Alloy Steel	4.213	.008	T1500A	600	.006	.002	.005
	Stainless Steel		.008	AC520U	460	.006	.002	.005
	Hardened Steel		.008	BN2000	265	.004	.002	.004
	Cast Iron		.008	H1	460	.008	.002	.005
	Ductile Iron		.008	H1ZX	400	.006	.002	.005
	Ductile Iron (CBN)		.008	BNC500	600	.006	.002	.004
	Aluminum		.008	H1	660	.008	.002	.005
	Aluminum (PCD)		.008	DA2200	1320	.008	.002	.005
EWN32 EWB32	Carbon Steel/Alloy Steel	4.803	.008	T1500A	660	.008	.002	.005
	Stainless Steel		.008	AC520U	530	.008	.002	.005
	Hardened Steel		.008	BN2000	330	.004	.002	.004
	Cast Iron		.008	H1	530	.008	.002	.005
	Ductile Iron		.008	H1ZX	400	.006	.002	.005
	Ductile Iron (CBN)		.008	BNC500	660	.006	.002	.004
	Aluminum		.016	H1	990	.008	.004	.008
	Aluminum (PCD)		.016	DA2200	2640	.008	.004	.008
EWN41 EWE41 EWB41	Carbon Steel/Alloy Steel	4.803	.008	T1500A	660	.008	.002	.005
	Stainless Steel		.008	AC520U	530	.008	.002	.005
	Hardened Steel		.016	BN2000	330	.004	.003	.005
	Cast Iron		.016	H1	530	.008	.004	.008
	Ductile Iron		.016	H1ZX	400	.006	.004	.006
	Ductile Iron (CBN)		.016	BNC500	660	.006	.004	.006
	Aluminum		.016	H1	990	.008	.005	.008
	Aluminum (PCD)		.016	DA2200	2640	.008	.005	.008
EWN53 EWE53 EWB53	Carbon Steel/Alloy Steel	4.803	.016	T1500A	825	.010	.004	.008
	Stainless Steel		.016	AC520U	600	.010	.004	.008
	Hardened Steel		.016	BN2000	330	.004	.003	.005
	Cast Iron		.016	H1	600	.010	.004	.008
	Ductile Iron		.016	HNZX	400	.008	.004	.008
	Ductile Iron (CBN)		.016	BNC500	660	.008	.004	.008
	Aluminum		.031	H1	990	.010	.006	.012
	Aluminum (PCD)		.016	DA2200	2640	.010	.005	.008
EWN68 EWE68 EWB68 EWB85 EWN100 EWE100	Carbon Steel/Alloy Steel	4.803	.016	T1500A	825	.010	.004	.008
	Stainless Steel		.016	AC520U	600	.010	.004	.008
	Hardened Steel		.016	BN2000	330	.004	.003	.005
	Cast Iron		.016	H1	600	.010	.004	.008
	Ductile Iron		.016	H1ZX	400	.008	.004	.008
	Ductile Iron (CBN)		.016	BNC500	660	.008	.004	.008
	Aluminum		.031	H1	990	.010	.006	.012
	Aluminum (PCD)		.031	DA2200	2640	.010	.006	.012
EWN200 (CK7)	Carbon Steel/Alloy Steel	6.772	.016	T1500A	825	.010	.004	.008
	Stainless Steel		.016	AC520U	600	.010	.004	.008
	Hardened Steel		.016	BN2000	330	.004	.003	.005
	Cast Iron		.016	H1	600	.010	.004	.008
	Ductile Iron		.016	H1ZX	400	.008	.004	.008
	Ductile Iron (CBN)		.016	BNC500	660	.008	.004	.008
	Aluminum		.031	H1	990	.010	.006	.012
	Aluminum (PCD)		.031	DA2200	2640	.010	.006	.012

KAISER BORING CUTTING CONDITIONS

CENTRIC BORING BAR TYPE

Recommended Cutting Conditions

- This table is a guideline for selecting cutting parameters; adjust them as needed according to the machine and workpiece conditions
- If chatter occurs, either lower the cutting speed or use an insert with a smaller nose radius
- Internal high pressure coolant may cause deflection of the boring bar holder; lower the pressure when close tolerance is required
- Coated cermet T2000Z or T2500F is recommended to reduce wear when machining steel
- Dry cutting is recommended for CBN BN2000, BNC200, BNC500 and BN7000 inserts



Max Spindle Speed for Centric Boring Bar Type

Head	Max Spindle Speed (RPM)
EWN04-15E-CK3	20,000
EWN2-22E-CK4	18,000
EWE2-32-CK5	16,000
EWN2-32E-CK5	14,000
EWE2-54CK6	14,000
EWN2-54E(M)-CK6	10,000

The max spindle speeds listed in this table are the speeds allowable for safe use of the boring head only. Note that these values differ depending on the boring bar used, machine rigidity, etc.

JIG BORING CUTTER

Workpiece	Model	Cutting Speed (SFM)	Cutting Depth (in./ø)	Feed f (in./rev)
Carbon Steel Alloy Steel	RBE1	80	.001	.001
	RBE1.5			
	RBE2	165	.002	
	RBE3			
	RBE4	200	.002	
	RBE5			
	RBE7	265	.004	
	RBE9			
Aluminum	RBE1	100	.001	.001
	RBE1.5			
	RBE2	200	.002	
	RBE3			
	RBE4	265	.002	
	RBE5			
	RBE7	330	.004	
	RBE9			

CENTRIC BORING BAR TYPE ST05 / ST06 (ø.236"-ø.354")

Workpiece	Projection Length	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	.787	.008	T1500A T1200A	330	.008
	1.575			230	.008
	1.969			165	.008
	2.362			100	.004
Stainless Steel	.787	.008	T1500A T1200A	300	.008
	1.575			200	.008
	1.969			130	.008
	2.362			100	.004
Hardened Steel	.787	.008	NB10HA NBX20	200	.004
	1.181			130	.004
Cast Iron	.787	.008	H1	330	.008
	1.575			230	.008
	1.969			165	.008
	2.362			100	.004
Aluminum	.787	.008	H1	400	.008
	1.575			330	.008
	1.969			265	.008
	2.362			200	.008

- Red figures are achievable with boring bars made of carbide
- Feed Rate Selection information; pg. 500

KAISER BORING CUTTING CONDITIONS

CENTRIC BORING BAR TYPE ST08 (ø.354"-.472")

Workpiece	Projection Length	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	.787	.008	T1500A T1200A	330	.008
	1.575			230	.008
	1.969			165	.008
	2.362			100	.004
Stainless Steel	.787	.008	T1500A T1200A	300	.008
	1.575			200	.008
	1.969			130	.008
	2.362			100	.004
Hardened Steel	.787	.008	NB10HA NBX20	200	.004
	1.181			130	.004
Cast Iron	.787	.008	H1	330	.008
	1.575			230	.008
	1.969			165	.008
	2.362			100	.004
Aluminum	.787	.008	H1	400	.008
	1.575			330	.008
	1.969			265	.008
	2.362			200	.008

- Red figures are achievable with boring bars made of carbide
- Feed Rate Selection information; pg. 500

CENTRIC BORING BAR TYPE ST10 (ø.472"-.551")

Workpiece	Projection Length	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	1.181	.008	T1500A	400	.008
	1.772			460	.008
	2.362			330	.008
	2.756			250	.006
	3.150	.004	A1	165	.004
Stainless Steel	1.181	.008	AC520U	400	.008
	1.772			430	.008
	2.362			300	.008
	2.756			180	.006
	3.150	.004	A1	130	.004
Hardened Steel	1.181	.008	BN2000	260	.004
	1.772			200	.004
	2.362			100	.004
Cast Iron	1.181	.008	H1 (FN)	400	.008
	1.772			430	.008
	2.362			300	.006
	2.953			200	.006
	3.543	.004	A1	100	.004
Aluminum	1.181	.008	H1 (FLA)	500	.010
	1.772			600	.010
	2.362			500	.008
	2.953			300	.008
	3.543	.004	A1	200	.006

- Red figures are achievable with boring bars made of carbide
- Feed Rate Selection information; pg. 500

KAISER BORING CUTTING CONDITIONS

CENTRIC BORING BAR TYPE ST12 (ø.551"-.630")

Workpiece	Projection Length	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	1.575	.008	T1500A	400	.008
	2.362			600	.008
	3.150			500	.008
	3.740			300	.006
	4.331	.004	A1	165	.004
Stainless Steel	1.575	.008	AC520U	400	.008
	2.362			430	.008
	3.150			330	.008
	3.740			230	.006
	4.331	.004	A1	130	.004
Hardened Steel	1.575	.008	BN2000	265	.004
	1.969			200	.004
	2.559			100	.004
Cast Iron	1.575	.008	H1 (FN)	400	.008
	2.362			430	.008
	3.150			330	.006
	3.740			230	.006
	4.331	.004	A1	130	.004
Aluminum	1.575	.008	H1 (FLA)	500	.010
	2.362			660	.010
	3.150			600	.008
	3.937			430	.008
	4.724	.004	A1	200	.006

- Red figures are achievable with boring bars made of carbide
- Feed Rate Selection information; pg. 500

CENTRIC BORING BAR TYPE ST14 (ø.630"-.709")

Workpiece	Projection Length	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	1.772	.008	T1500A	430	.008
	2.559			600	.008
	3.150			500	.008
	3.937			300	.006
	4.724	.004	A1	165	.004
Stainless Steel	1.772	.008	AC520U	400	.008
	2.559			430	.008
	3.150			400	.008
	3.937			265	.006
	4.724	.004	A1	130	.004
Hardened Steel	1.772	.008	BN2000	265	.004
	2.362			200	.004
	2.953			100	.004
Cast Iron	1.772	.008	H1 (FN)	400	.008
	2.559			430	.008
	3.150			400	.006
	3.937			265	.006
	4.724	.004	A1	130	.004
Aluminum	1.772	.016	H1 (FLA)	500	.010
	2.559			660	.010
	3.150	.008		600	.008
	3.937			400	.008
	4.724	.004	A1	200	.006

- Red figures are achievable with boring bars made of carbide
- Feed Rate Selection information; pg. 500

KAISER BORING CUTTING CONDITIONS

BORING BAR ST16 (ø.709"-1.969")

Workpiece	Projection Length	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)
		Nose Radius	Grade		
Carbon Steel Alloy Steel	1.772	.016	T1500A	430	.008
	2.362			600	.008
	3.150	.008		500	.008
	4.331			300	.006
	5.512	.004	A1	165	.004
Stainless Steel	1.772	.016	AC520U	400	.008
	2.362			430	.008
	3.150	.008		400	.008
	4.331			265	.006
	5.512	.004	A1	130	.004
Hardened Steel	1.772	.008	BN2000	265	.004
	2.362			200	.004
	3.150			100	.004
Cast Iron	1.772	.016	H1 (FN)	400	.008
	2.362			430	.008
	3.150	.008		400	.006
	4.331			265	.006
	5.512	.004	A1	130	.004
Aluminum	1.772	.016	H1 (FLA)	500	.010
	2.362			660	.010
	3.150	.008		600	.008
	4.331			400	.008
	5.512	.004	A1	200	.006

• Red figures are achievable with boring bars made of carbide

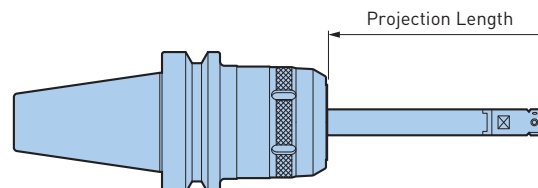
Feed Rate Selection

Suitable feed rate varies depending on the desired accuracy. Refer to the following formula and determine the best parameters.

- In general, nose radius .008" should be used with $f = .002''$ and radius .016" with $f = .004''$
- These values are reference only

KAISER BORING CUTTING CONDITIONS

EW MICRO HEAD

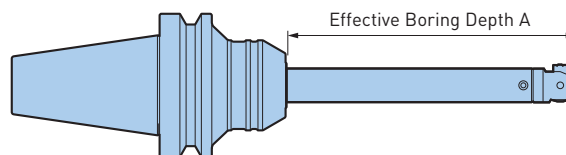


Workpiece	Projection Length	Diameter: ø.590 - .709				Diameter ø.709 - .866			
		ST14W-EW15E-110 (140)				ST16W-EW18E-100 (160)			
		Insert		Cutting Speed	Cutting Depth	Insert		Cutting Speed	Cutting Depth
		Nose Radius	Grade	SFM	in./ø	Nose Radius	Grade	SFM	in./ø
Carbon Steel Alloy Steel	.787	.008	T1200A	660	.008	.008	T1200A	660	.008
	1.575			660	.008			660	.008
	2.362			600	.008			660	.008
	3.150			530	.006			600	.007
	3.937			400	.006			500	.006
	4.724			230	.004			330	.004
	5.512			100	.004			200	.004
	6.299			—	—			100	.004
Stainless Steel	.787	.008	T1200A	500	.008	.008	T1200A	500	.008
	1.575			500	.008			500	.008
	2.362			500	.008			500	.008
	3.150			430	.006			460	.007
	3.937			330	.006			400	.006
	4.724			230	.004			330	.004
	5.512			100	.004			200	.004
	6.299			—	—			100	.004
Cast Iron	.787	.008	H1	500	.008	.008	H1	500	.008
	1.575			500	.008			500	.008
	2.362			460	.008			500	.008
	3.150			400	.006			460	.007
	3.937			330	.006			400	.006
	4.724			200	.004			330	.004
	5.512			100	.004			200	.004
	6.299			—	—			100	.004
Aluminum	.787	.008	H1	925	.008	.008	H1	1060	.008
	1.575			925	.008			1060	.008
	2.362			925	.008			1060	.008
	3.150			825	.008			925	.008
	3.937			600	.006			725	.006
	4.724			330	.005			530	.005
	5.512			200	.005			330	.005
	6.299			—	—			200	.004

- This table is a guideline for selecting cutting parameters; adjust them as needed according to the machine and workpiece conditions
- Internal high pressure coolant may cause deflection of the holder; lower the pressure when close tolerance is required
- These conditions are determined when the boring bar is mounted on the BIG NEW Hi-POWER MILLING CHUCK or NEW BABY CHUCK

KAISER BORING CUTTING CONDITIONS

CK CARBIDE BAR



Head	Workpiece Material	Projection Length	Insert		Cutting Speed (SFM)	Cutting Depth (in./ø)	Feed f (IPR)	
			Nose Radius	Grade			Recommended	Max
EWN20	Carbon Steel	3.543	.008	T1500A	660	.008	.002	.005
		5.906	.008	T1500A	400	.008	.002	.005
		6.890	.008	T1500A	200	.006	.002	.004
		7.874	.008	T1500A	80	.006	.002	.004
	Cast Iron	3.543	.008	H1 (FN)	600	.008	.002	.005
		5.906	.008	H1 (FN)	400	.008	.002	.005
		6.890	.008	H1 (FN)	200	.006	.002	.004
		7.874	.008	H1 (FN)	80	.006	.002	.004
	Aluminum	3.543	.008	DA2200	1320	.008	.002	.005
		5.906	.008	H1 (FLA)	660	.008	.002	.005
		6.890	.008	H1 (FLA)	330	.008	.002	.004
		7.874	.008	H1 (FLA)	130	.006	.002	.004
EWN25	Carbon Steel	4.921	.016	T1500A	660	.010	.003	.006
		6.890	.008	T1500A	400	.008	.002	.005
		7.874	.008	T1500A	200	.008	.002	.004
		9.843	.008	T1500A	80	.006	.002	.004
	Cast Iron	4.921	.016	H1 (FN)	600	.010	.003	.006
		6.890	.008	H1 (FN)	400	.008	.002	.005
		7.874	.008	H1 (FN)	200	.008	.002	.004
		9.843	.008	H1 (FN)	80	.006	.002	.004
	Aluminum	4.921	.016	DA2200	1650	.010	.003	.006
		6.890	.016	H1 (FLA)	660	.010	.003	.006
		7.874	.008	H1 (FLA)	330	.008	.002	.004
		9.843	.008	H1 (FLA)	130	.008	.002	.004
EWN32 EWB32	Carbon Steel	5.315	.016	T1500A	660	.010	.003	.006
		6.299	.008	T1500A	430	.008	.002	.005
		7.874	.008	T1500A	260	.008	.002	.004
		9.843	.008	T1500A	80	.006	.002	.004
	Cast Iron	5.315	.016	H1 (FN)	600	.010	.003	.006
		6.299	.008	H1 (FN)	430	.008	.002	.005
		7.874	.008	H1 (FN)	260	.008	.002	.004
		9.843	.008	H1 (FN)	80	.006	.002	.004
	Aluminum	5.315	.016	DA2200	1650	.010	.003	.006
		6.299	.016	H1 (FLA)	730	.010	.003	.006
		7.874	.008	H1 (FLA)	400	.008	.002	.004
		9.843	.008	H1 (FLA)	130	.008	.002	.004
		12.205	.004	A1 (FLA)	80	.006	.002	.003

- This table is a guideline for selecting cutting parameters; adjust them as needed according to the machine and workpiece conditions
- Internal high pressure coolant may cause deflection of the holder; lower the pressure when close tolerance is require.
- Coated cermet T2000Z or T2500F is recommended to reduce wear when machining steel.
- T130A is recommended to prevent edge chipping for interrupted cutting of steel
- These conditions are determined when the boring bar is mounted on the BIG HYDRAULIC CHUCK

KAISER BORING CUTTING CONDITIONS

CUTTING SPEED SELECTION GRAPH FOR CUTTING STEEL

Chatter is always an issue in boring. The figure at right shows how the cutting speed (rotational speed) inevitably decreases as the bar becomes longer.

Refer to the cutting conditions listed in this graph and on the previous pages when selecting the optimum cutting conditions.

For cast iron, 10-20% longer projection length is generally permissible.

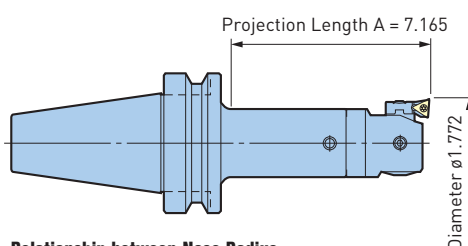
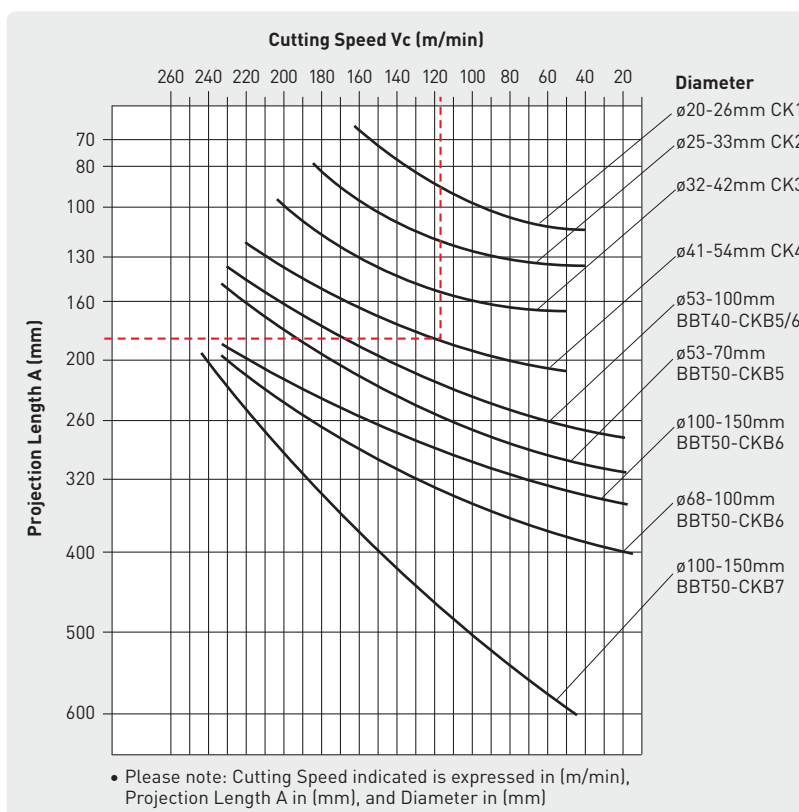
Reference Example

Indicated by - - - - in the graph at right

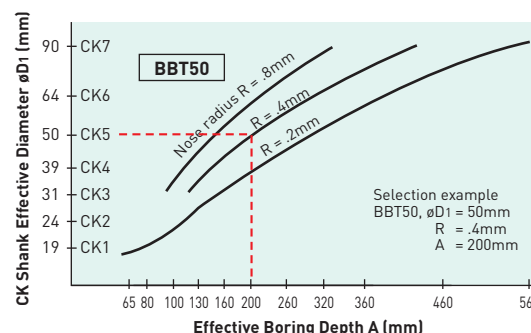
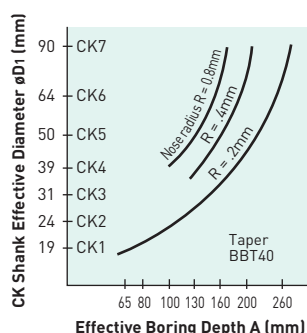
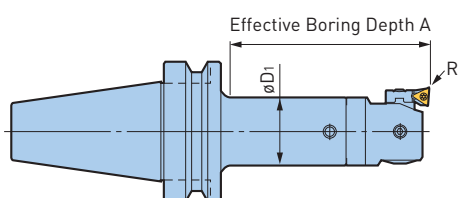
Reference example shows the projection length A of 182mm; and the diameter of $\phi 45\text{mm}$ ($\phi 41\text{-}54\text{mm CK4}$).

The recommended cutting speed is 118m/min.

Select an appropriate cutting speed based on this reference example.



Relationship between Nose Radius and Effective Boring Depth



CUTTING TOOLS

C.1

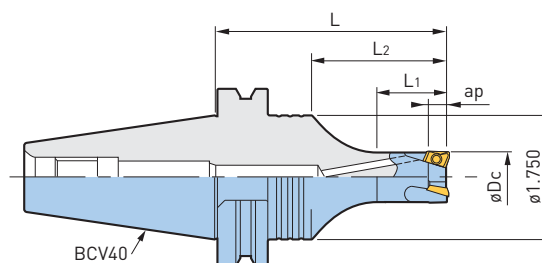


CUTTING TOOLS INDEX

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INDEXABLE END MILLS

FULLCUT MILL (FCR TYPE, INCH STYLE) ASME B5.50-1994



Catalog Number	øDc	ap	L	L ₁	L ₂	No. of Inserts	Insert Model	Weight (lbs.)
BCV40-FCR.750-5.5	.750	.315	5.500	1.250	4.120	3	BRG200808	3.8
BCV40-FCR1.000-5.5	1.000	.315	5.500	1.500	4.120	3	BRG250808	4.0
BCV40-FCR1.250-5.5	1.250	.394	5.500	1.500	4.120	3	BRG3210□□	4.2

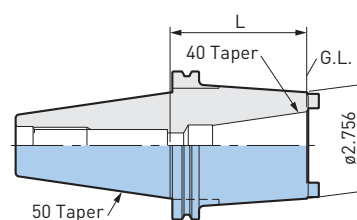
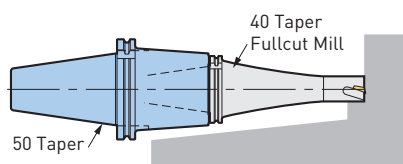
- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

ACCESSORIES



50 TAPER SHANK ADAPTER

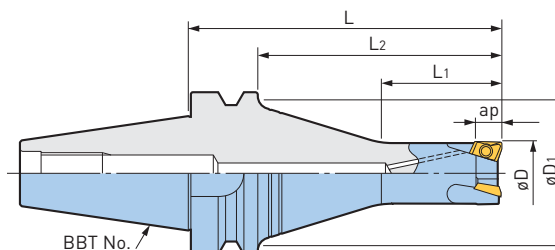
Catalog Number	L
BCV50-BCV40-2	2.000



INDEXABLE END MILLS

FULLCUT MILL (FCR TYPE, METRIC STYLE)

JIS B6339



Catalog Number	øDc	øD1	ap	L	L1	L2	No. of Inserts	Insert Model	Weight (lbs.)
BBT30-FCR16082-65	16mm [.630]	1.575	.315	2.559	1.102	1.693	2	BRG160808	1.0
BBT30-FCR20083-65	20mm [.787]			2.559	1.102	1.693	3	BRG200808	1.1
BBT30-FCR25083-65	25mm [.984]			2.559	1.299	1.693		BRG250808	1.1
BBT30-FCR25083-105		1.654	1.654	1.378	3.268	1.6			
BBT30-FCR32103-65	32mm [1.260]	1.575	.394	2.559	1.575	1.693		BRG3210□□	1.2
BBT30-FCR32103-105		1.654		1.654	1.772	3.268			1.8
BBT40-FCR16082-85	16mm [.630]	2.362	.315	3.346	.984	2.283	2	BRG160808	2.6
BBT40-FCR16082-120				4.724	1.181	3.661			3.3
BBT40-FCR16082-135				5.315	.984	4.252			3.5
BBT40-FCR20083-85	20mm [.787]	2.362	.315	3.346	1.378	2.283	3	BRG200808	2.7
BBT40-FCR20083-120				4.724	1.181	3.661			3.3
BBT40-FCR20083-135				5.315	1.181	4.252			3.5
BBT40-FCR25083-85	25mm [.984]	2.362	.315	3.346	1.575	2.283	3	BRG250808	2.6
BBT40-FCR25083-120				4.724	1.772	3.661			3.3
BBT40-FCR25083-135				5.315	1.378	4.252			3.7
BBT40-FCR32103-85	32mm [1.260]	2.362	.394	3.346	1.772	2.283	3	BRG3210□□	2.9
BBT40-FCR32103-120				4.724	1.969	3.661			3.5
BBT40-FCR32103-135				5.315	1.575	4.252			4.0

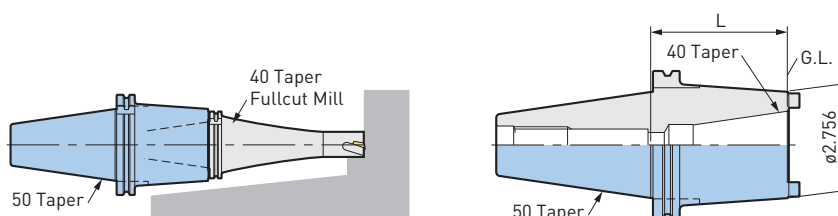
- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

ACCESSORIES



50 TAPER SHANK ADAPTER

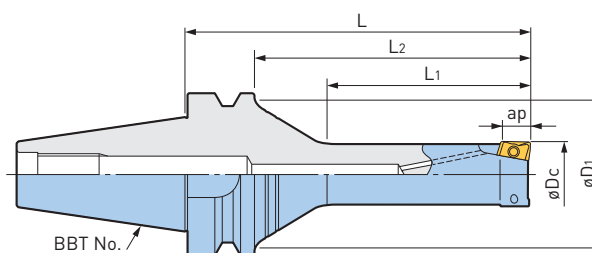
Catalog Number	L
BBT50-BBT40-50	1.969
BBT50-BBT40-90	3.543



INDEXABLE END MILLS

FULLCUT MILL (FCR TYPE LONG NOSE, METRIC STYLE)

JIS B6339



Catalog Number	øDc	øD1	ap	L	L1	L2	No. of Inserts	Insert Model	Weight (lbs.)
BBT30-FCR16082L-85	16mm [.630]	1.575	.315	3.346	1.772	2.480	2	BRG160808	1.1
BBT30-FCR20082L-85	20mm [.787]			3.346	1.969	2.480		BRG200808	1.2
BBT30-FCR25082L-85	25mm [.984]			3.346	1.969	2.480		BRG250808	1.3
BBT30-FCR32102L-85	32mm [1.260]			3.346	2.362	2.480		BRG3210□□	1.5
BBT40-FCR16082L-105	16mm [.630]	2.362	.315	4.134	1.772	3.071	2	BRG160808	2.9
BBT40-FCR16082L-120				4.724	1.772	3.661			3.1
BBT40-FCR20082L-120	20mm [.787]	2.362	.315	4.724	2.362	3.661	2	BRG200808	3.1
BBT40-FCR20082L-135				5.315	2.362	4.252			3.3
BBT40-FCR25082L-135	25mm [.984]	2.362	.315	5.315	2.953	4.252	2	BRG250808	3.3
BBT40-FCR25082L-150				5.906	2.953	4.843			3.7
BBT40-FCR32102L-135	32mm [1.260]	2.362	.394	5.315	3.150	4.252	2	BRG3210□□	3.7
BBT40-FCR32102L-150				5.906	3.543	4.843			4.2

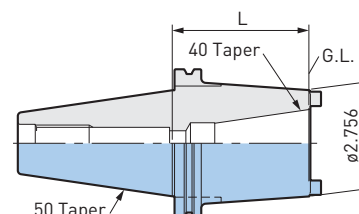
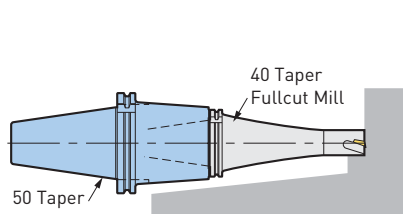
- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

ACCESSORIES



50 TAPER SHANK ADAPTER

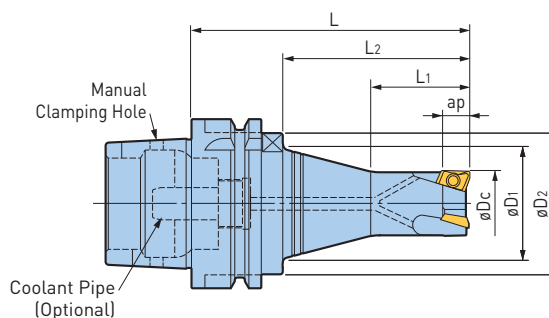
Catalog Number	L
BBT50-BBT40-50	1.969
BBT50-BBT40-90	3.543



INDEXABLE END MILLS

FULLCUT MILL (FCR TYPE, METRIC STYLE)

HSK



Catalog Number	øDc	øD1	øD2	ap	L	L1	L2	No. of Inserts	Insert Model	Weight (lbs.)
HSK-A63-FCR16082-85	16mm [.630]	1.772	2.087	.315	3.346	.984	2.008	2	BRG160808	2.0
HSK-A63-FCR16082-120					4.724	1.181	3.386			2.4
HSK-A63-FCR16082-135					5.315	.984	3.976			2.6
HSK-A63-FCR20083-85	20mm [.787]	1.772	2.087	.315	3.346	1.260	2.008	3	BRG200808	2.2
HSK-A63-FCR20083-120					4.724	1.181	3.386			2.6
HSK-A63-FCR20083-135					5.315	1.181	3.976			2.9
HSK-A63-FCR25083-85	25mm [.984]	1.772	2.087	.315	3.346	1.378	2.008	3	BRG250808	2.2
HSK-A63-FCR25083-120					4.724	1.772	3.386			2.6
HSK-A63-FCR25083-135					5.315	1.378	3.976			3.1
HSK-A63-FCR32103-85	32mm [1.260]	1.772	2.087	.394	3.346	1.575	2.008	3	BRG3210□□	2.4
HSK-A63-FCR32103-120					4.724	1.969	3.386			3.1
HSK-A63-FCR32103-135					5.315	1.575	3.976			3.3

- ap = length of effective cutting edge
- Coolant pipe and inserts are not included; must be ordered separately

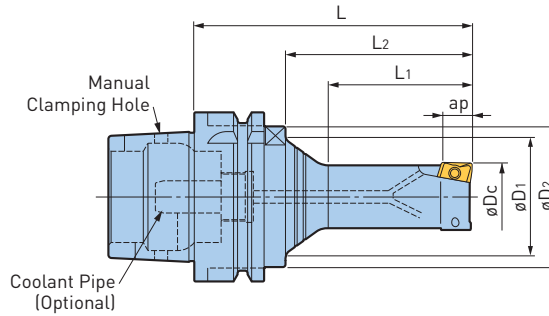
ACCESSORIES



INDEXABLE END MILLS

FULLCUT MILL (FCR TYPE LONG NOSE, METRIC STYLE)

HSK



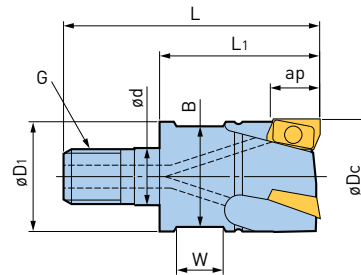
Catalog Number	øDc	øD1	øD2	ap	L	L1	L2	No. of Inserts	Insert Model	Weight (lbs.)
HSK-A63-FCR16082L-85	16mm [.630]	1.772	2.087	.315	3.346	1.575	2.008	2	BRG160808	2.0
HSK-A63-FCR16082L-120					4.724	1.771	3.386			2.2
HSK-A63-FCR20082L-105	20mm [.787]	1.772	2.087	.315	4.134	1.969	2.795	2	BRG200808	2.4
HSK-A63-FCR20082L-120					4.724	2.362	3.386			2.6
HSK-A63-FCR25082L-105	25mm [.984]	1.772	2.087	.315	4.134	2.165	2.795	2	BRG250808	2.4
HSK-A63-FCR25082L-120					4.724	2.559	3.386			2.4
HSK-A63-FCR32102L-120	32mm [1.260]	1.772	2.087	.394	4.724	2.756	3.386	2	BRG3210□□	3.1
HSK-A63-FCR32102L-135					5.315	3.150	3.976			3.1

- ap = length of effective cutting edge
- Coolant pipe and inserts are not included; must be ordered separately

ACCESSORIES



FULLCUT MILL (FCR SCREW-ON)



Catalog Number	øDc	G	ød	øD1	ap	L	L1	Number of Blades	Spanner Part		Insert	Weight (lbs.)
									B	W		
M8-FCR16082-25	16mm [.630]	M8	.335	.591	.315	1.673	.984	2	12mm	6.2mm	BRG1608□□	.1
M10-FCR20083-30	20mm [.787]	M10	.413	.748		1.929	1.181	3	17mm	8.2mm	BRG2008□□	.1
M12-FCR25083-35	25mm [.984]	M12	.492	.945		2.205	1.378		22mm	10.2mm	BRG2508□□	.2
M16-FCR32102-40	32mm [1.260]	M16	.669	1.142	.394	2.480	1.575	2	26mm	12.2mm	BRG3210□□	.4
M16-FCR32103-40								3				.4

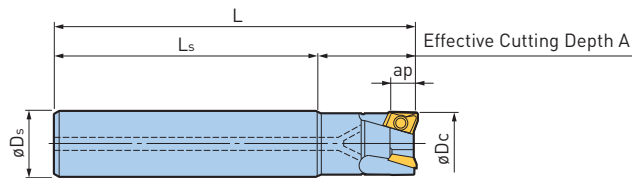
- ap = length of effective cutting edge
- A screwdriver wrench for insert clamps is included; inserts must be ordered separately
- A single-ended spanner for tightening the head is not included; use commercially available products

ACCESSORIES



INDEXABLE END MILLS

FULLCUT MILL (FCR TYPE STRAIGHT SHANK, INCH STYLE)



ACCESSORIES

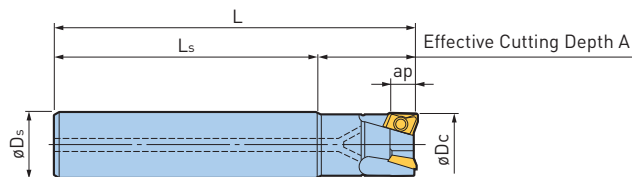


Catalog Number	øDc	øDs	ap	L	A	Ls	No. of Inserts	Insert Model	Weight (lbs.)
ST.750-FCR.750-4	.750	.750	.315	4.000	1.250	2.750	3	BRG200808	.5
ST1.000-FCR1.000-5	1.000	1.000	.315	5.000	1.500	3.500	3	BRG250808	1.1
ST1.250-FCR1.250-5	1.250	1.250	.394	5.000	1.500	3.500	3	BRG3210□□	1.7

- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

FULLCUT MILL (FCR TYPE OVERSIZE, METRIC STYLE)

Cutter diameter is ø1mm larger than the shank diameter to avoid any interference with the workpiece.



Cutter Diameter

$$\text{øDc} = \text{øDs} + 1\text{mm}$$

Catalog Number	øDc	øDs	ap	L	A	Ls	No. of Inserts	Insert Model	Weight (lbs.)
ST15-FCR16082-120	16mm [.630]	15mm [.591]	.315	4.724	.984	3.740	2	BRG160808	.4
ST16-FCR17082-120	17mm [.670]	16mm [.630]	.315	4.724	.984	3.740	2	BRG160808	.4
ST19-FCR20082-165	20mm [.787]	19mm [.748]	.315	6.496	1.181	5.315	2	BRG200808	.9
ST19-FCR20083-135				5.315		4.134	3		.7
ST20-FCR21082-165	21mm [.827]	20mm [.787]	.315	6.496	1.181	5.315	2	BRG200808	.9
ST20-FCR21083-135				5.315		4.134	3		.7
ST24-FCR25082-180	25mm [.984]	24mm [.945]	.315	7.087	1.378	5.709	2	BRG250808	1.5
ST24-FCR25083-150				5.906		4.528	3		1.3
ST25-FCR26082-165	26mm [1.024]	25mm [.984]	.315	6.496	1.496	5.000	2	BRG250808	1.3
ST25-FCR26083-150				5.906		4.409	3		1.3
ST28-FCR32102-180	32mm [1.260]	28mm [1.102]	.394	7.087	1.890	5.197	2	BRG3210□□	2.4
ST28-FCR32103-180				7.087		5.197	3		2.2
ST32-FCR33102-180	33mm [1.299]	32mm [1.260]	.394	7.087	1.890	5.197	2	BRG3210□□	2.4
ST32-FCR33103-180				7.087		5.197	3		2.2

- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

ACCESSORIES



INDEXABLE END MILLS

FULLCUT MILL (FCR TYPE)

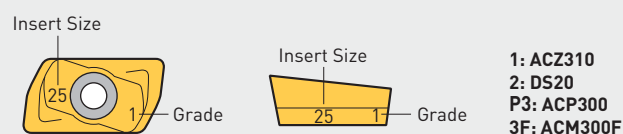
INDEXABLE INSERTS



Insert Classifications

ISO Material	Grade	Material	Coating
P30	ACP300	General Steel	TiAlN / TiCN
M30	ACM300F	Stainless Steel	
K10	ACZ310	Cast Iron	
N20	DS20	Aluminum	DLC

Marking Description



Cutter Dia.		Insert Model	Effective Cutting Length (ap)	Nose Radius	P	M	K	N
					ACP300	ACM300F	ACZ310	DS20
in	mm				General Steel	Stainless Steel	Cast Iron	Aluminum
.625	16-17	BRG160808	.315	.031	○	○	○	○
.750	20-21	BRG200808			○	○	○	○
1.000	25-26	BRG250808			○	○	○	○
1.250	32-33	BRG321008	.394	.031	○	○	○	○
		BRG321032		.125	—	—	—	○

- Inserts are available in packages of 10 pcs.
- Please clarify the insert model and grade when ordering (ex: BRG160808(ACZ350S))

CAUTION

FULLCUT MILL uses a different insert for each cutter diameter and if an incorrect insert is used, a problem will result. There is no compatibility with those of FCM Type.

SPARE PARTS

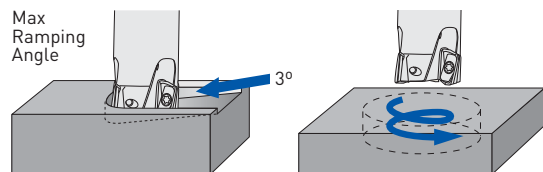
		Insert Clamping Screw Set (10 Screws & 1 Wrench)		Wrench
Cutter Dia.		Insert Model	Catalog Number	Catalog Number
in	mm			
.625	16-17	BRG160808	S2506DS	DA-T8
.750	20-21	BRG200808		
1.000	25-26	BRG250808		
1.250	32-33	BRG3210□□	S3508DS	DA-T15

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

INDEXABLE END MILLS

FULLCUT MILL (FCR TYPE) CUTTING DATA

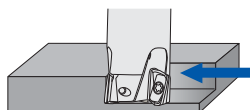
Ramping and Helical Interpolation



øD	Flat Bottom		Through Hole
	Max Hole ø	Min Hole ø	Min Hole ø
.625 (16mm)	1.181	1.063	.866
.750 (20mm)	1.496	1.417	1.142
1.000 (25mm)	1.890	1.772	1.535
1.250 (32mm)	2.441	2.323	1.890

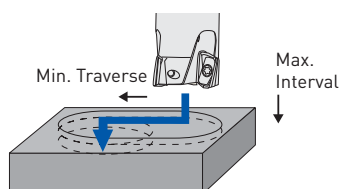
øD	Work Material	Carbon Steel Alloy Steel	Unalloyed Steel	Prehardened Steel <HRC40	Stainless Steel	Die Steel	Cast Iron	Aluminum
	Insert Grade	ACP300		ACM300F			ACZ310	DS20
	Cutting Fluid	Dry		Dry	Dry	Dry		Dry/Wet
.630 (16mm) .669 (17mm)	Speed (SFM)	330-655	490-720	195-260	330-490	195-260	330-590	655-3280
	Feed (IPT)	.002-.005	.002-.005	.002-.003	.003-.006	.002-.004	.003-.007	.002-.009
.750 (20mm) 1.024 (26mm)	Speed (SFM)	330-655	490-655	195-330	395-490	195-330	330-590	655-3280
	Feed (IPT)	.003-.008	.003-.008	.002-.004	.005-.008	.002-.004	.001-.007	.004-.014
1.250 (32mm) 1.299 (33mm)	Speed (SFM)	330-655	490-655	195-330	395-490	195-395	330-590	655-3280
	Feed (IPT)	.003-.008	.003-.008	.002-.004	.005-.008	.003-.005	.002-.008	.004-.014

Shouldering and Slotting



øD	Work Material	Carbon Steel Alloy Steel	Unalloyed Steel	Prehardened Steel <HRC40	Stainless Steel	Die Steel	Cast Iron	Aluminum
	Insert Grade	ACP300		ACM300F			ACZ310	DS20
	Cutting Fluid	Dry		Dry	Dry	Dry		Dry/Wet
.625 (16mm) .827 (21mm)	Speed (SFM)	330-655	330-655	195-260	395-590	260-395	330-590	655-3280
	Feed (IPT)	.003-.007	.003-.007	.002-.004	.005-.007	.003-.005	.003-.007	.004-.012
1.000 (25mm) 1.299 (33mm)	Speed (SFM)	330-655	330-655	195-330	395-590	260-395	330-590	655-4920
	Feed (IPT)	.003-.008	.003-.008	.002-.004	.005-.008	.003-.005	.003-.008	.004-.014

Plunge Milling



øD	Max Interval	Min Traverse
.625 (16mm)	.020	.551
.750 (20mm)	.040	.709
1.000 (25mm)	.040	.906
1.250 (32mm)	.079	1.181

øD	Work Material	Carbon Steel Alloy Steel	Unalloyed Steel	Prehardened Steel <HRC40	Stainless Steel	Die Steel	Cast Iron	Aluminum
	Insert Grade	ACP300		ACM300F			ACZ310	DS20
	Cutting Fluid	Dry/Air Blow		Dry/Air Blow	Dry/Air Blow	Dry/Air Blow		Air/Wet
.630 (16mm) .669 (17mm)	Speed (SFM)	260-395	260-395	197	260-395	197-262	260-525	655-1150
	Feed (IPR)	.002-.004	.002-.004	.001-.002	.002-.003	.002-.003	.002-.004	.002-.004
.750 (20mm) 1.024 (26mm)	Speed (SFM)	330-525	330-525	197-328	330-525	197-328	260-590	655-1640
	Feed (IPR)	.004-.001	.004-.001	.004-.001	.005-.001	.004-.008	.003-.012	.004-.012
1.250 (32mm) 1.299 (33mm)	Speed (SFM)	330-525	330-525	197-328	330-525	197-328	260-590	655-1970
	Feed (IPR)	.004-.012	.004-.012	.001-.012	.0047-.0118	.004-.008	.003-.016	.004-.012

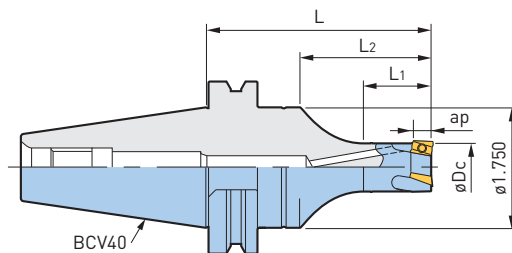
CAUTION

This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions. Be sure to use safety enclosures, as chips may scatter. Do not use oil-based cutting fluid, as there is a risk of fire. Dry cutting is recommended for stainless steel as well; however, wet cutting may extend insert life in case severe built-up edge occurs.

INDEXABLE END MILLS

FULLCUT MILL (FCM TYPE, INCH STYLE)

ASME B5.50-1994



Catalog Number	øDc	ap	L	L1	L2	No. of Inserts	Insert Model	Weight (lbs.)
BCV40-FCM.750-3	.750	.354	3.000	1.000	1.620	3	ARG2009□□	2.6
BCV40-FCM.750-5			5.000	1.000	3.620			3.1
BCV40-FCM1.000-3	1.000	.354	3.000	1.000	1.620	3	ARG2509□□	2.6
BCV40-FCM1.000-5			5.000	1.750	3.620			3.5
BCV40-FCM1.250-3	1.250	.433	3.000	1.250	1.620	3	ARG3211□□	2.9
BCV40-FCM1.250-5			5.000	2.250	3.620			3.7
BCV40-FCM1.500-3	1.500	.433	3.000	1.500	1.620	4	ARG4011□□	3.1
BCV40-FCM1.500-5			5.000	2.500	3.620			4.4
BCV40-FCM2.000-3	2.000	.433	3.000	2.250	—	5		3.5

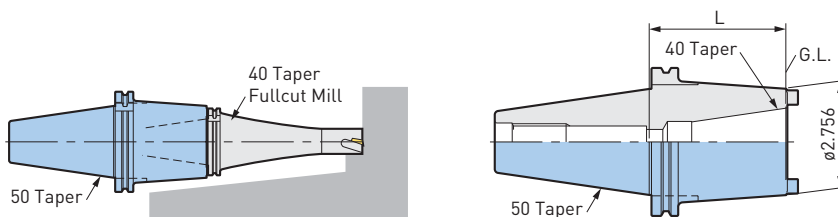
- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

ACCESSORIES



50 TAPER SHANK ADAPTER

Catalog Number	L
BCV50-BCV40-2	2.000

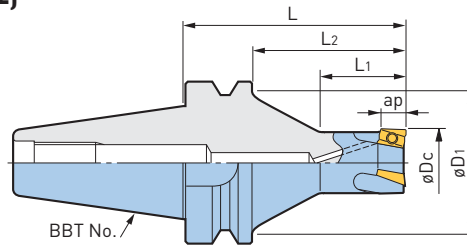


INDEXABLE END MILLS



FULLCUT MILL (FCM TYPE, INCH & METRIC STYLE)

JIS B6339



ACCESSORIES



Catalog Number	øDc	øD1	ap	L	L1	L2	No. of Inserts	Insert Model	Weight (lbs.)
BBT30-FCM.625-2.5	.625	1.575	.354	2.500	1.000	1.634	2	ARG1609□□	1.1
BBT30-FCM.750-2.5	.750			2.500	1.250	1.634	3	ARG2009□□	1.1
BBT30-FCM1.000-2.5	1.000			2.500	1.250	1.634		ARG2509□□	1.2
BBT30-FCM1.250-2.5	1.250			2.500	1.500	1.634		ARG3211□□	1.3
BBT30-FCM1.500-2	1.500	1.445	.433	2.000	1.000	1.110	4	ARG4011□□	1.3
BBT30-FCM2.000-2	2.000	1.800		2.000	1.000	1.110	5		1.6
BBT30-FCM16092-65	16mm [.630]	1.525	.354	2.559	.906	1.693	2	ARG1609□□	1.1
BBT30-FCM20093-65	20mm [.787]			2.559	1.102	1.693	3	ARG2009□□	1.1
BBT30-FCM25093-65	25mm [.984]			2.559	1.299	1.693		ARG2509□□	1.1
BBT30-FCM25093-105		1.653		4.134	1.339	3.268		1.6	
BBT30-FCM32113-65	32mm [1.260]	1.614	.433	2.559	1.496	1.693	3	ARG3211□□	1.2
BBT30-FCM32113-105		1.653		4.134	1.732	3.268			1.8
BBT30-FCM40114-50	50mm [1.969]	—		1.969	.984	1.102	4	ARG4011□□	1.2
BBT30-FCM50115-50				1.969	1.102	1.102	5		1.4
BBT40-FCM16092-85	16mm [.630]	2.165	.354	3.346	.906	2.283	2	ARG1609□□	2.6
BBT40-FCM16092-105		2.283		4.134	1.181	3.071			2.9
BBT40-FCM16092-120		2.362		4.724	.984	3.661			3.1
BBT40-FCM16092-150				5.906	.984	4.843			3.7
BBT40-FCM20093-85	20mm [.787]	2.165	.354	3.346	1.102	2.283	3	ARG2009□□	2.6
BBT40-FCM20093-105		2.283		4.134	1.378	3.071			2.9
BBT40-FCM20093-120		2.362		4.724	1.181	3.661			3.1
BBT40-FCM20093-150				5.906	1.181	4.843			4.0
BBT40-FCM25093-85	25mm [.984]	2.165	.354	3.346	1.299	2.283	3	ARG2509□□	2.6
BBT40-FCM25093-120		2.283		4.724	1.772	3.661			3.3
BBT40-FCM25093-135		2.362		5.315	1.575	4.252			3.5
BBT40-FCM25093-165				6.496	1.575	5.433			4.2
BBT40-FCM32113-85	32mm [1.260]	2.165	.433	3.346	1.496	2.283	3	ARG3211□□	2.9
BBT40-FCM32113-120		2.283		4.724	2.362	3.661			3.5
BBT40-FCM32113-135		2.362		5.315	1.969	4.252			3.7
BBT40-FCM32113-165				6.496	1.575	5.433			4.9
BBT40-FCM40114-85	40mm [1.575]	2.126	.433	3.346	1.693	2.283	4	ARG4011□□	3.1
BBT40-FCM40114-120				4.724	2.559	3.661			4.0
BBT40-FCM40114-135				5.315	2.362	4.252			4.4
BBT40-FCM40114-165				6.496	1.969	5.433			5.5
BBT40-FCM50115-70	50mm [1.969]	2.362	.433	2.756	1.496	1.693	5	ARG4011□□	3.1
BBT40-FCM50115-120				4.724	2.559	3.661			4.8
BBT40-FCM50115-135				5.315	2.362	4.252			5.3
BBT40-FCM50115-165				6.496	1.969	5.433			6.6

- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

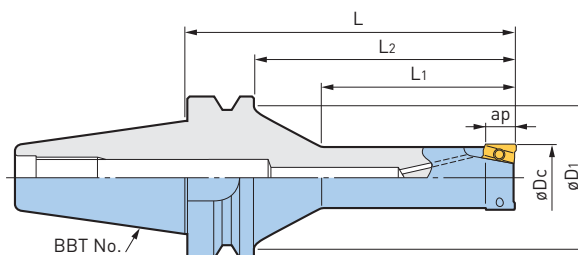
CAUTION

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 savings as no tool holder is necessary.

INDEXABLE END MILLS

FULLCUT MILL (FCM TYPE LONG NOSE, METRIC STYLE)

JIS B6339



Catalog Number	øDc	øD1	ap	L	L1	L2	No. of Inserts	Insert Model	Weight (lbs.)
BBT30-FCM16092L-85	16mm [.630]	1.575	.354	3.346	1.772	2.480	2	ARG1609□□	1.1
BBT30-FCM20092L-85	20mm [.787]			3.346	1.969	2.480		ARG2009□□	1.2
BBT30-FCM25092L-85	25mm [.984]			3.346	1.969	2.480		ARG2509□□	1.4
BBT30-FCM32112L-85	32mm [1.260]			3.346	2.362	2.480		ARG3211□□	1.6
BBT40-FCM16092L-105	16mm [.630]	2.362	.354	4.134	1.772	3.071	2	ARG1609□□	2.9
BBT40-FCM16092L-120	16mm [.630]			4.724	1.772	3.661		ARG1609□□	3.1
BBT40-FCM20092L-120	20mm [.787]			4.724	2.362	3.661		ARG2009□□	3.1
BBT40-FCM20092L-135	20mm [.787]			5.315	2.362	4.252		ARG2009□□	3.3
BBT40-FCM25092L-135	25mm [.984]	2.362	.354	5.315	2.953	4.252	2	ARG2509□□	3.3
BBT40-FCM25092L-150	25mm [.984]			5.906	2.953	4.843		ARG2509□□	3.7
BBT40-FCM32112L-135	32mm [1.260]			5.315	3.150	3.661		ARG3211□□	3.7
BBT40-FCM32112L-150	32mm [1.260]			5.906	3.543	4.843		ARG3211□□	4.2

- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

ACCESSORIES

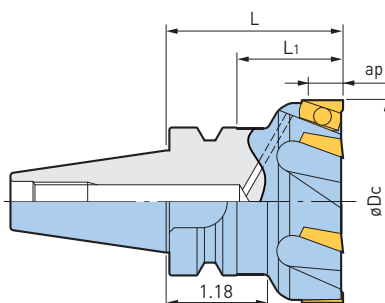


CAUTION

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 savings as no tool holder is necessary.

INDEXABLE END MILLS

FULLCUT MILL (FCM TYPE)



Catalog Number	øDc	ap	L	L1	No. of Inserts	Insert Model	Weight (lbs.)
BBT30-FCM63116-55	2.480	.433	2.165	1.181	6	ARG6311□□	1.9

- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

ACCESSORIES



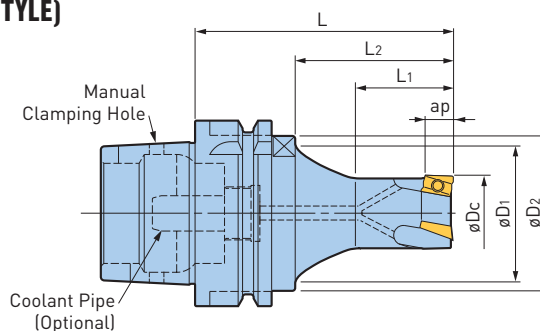
CAUTION

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 savings as no tool holder is necessary.

INDEXABLE END MILLS

FULLCUT MILL (FCM TYPE, METRIC STYLE)

HSK



ACCESSORIES



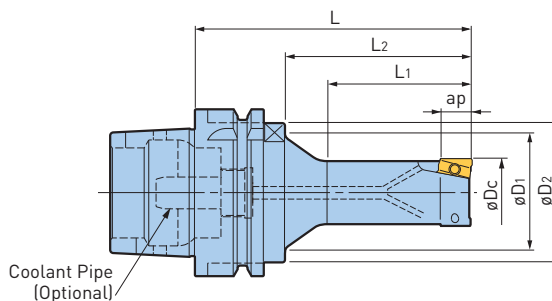
Catalog Number	øDc	øD1	øD2	ap	L	L1	L2	No. of Inserts	Insert Model	Weight (lbs.)
HSK-A63-FCM16092-85	16mm [.630]	1.811	2.087	.354	3.346	.906	2.008	2	ARG1609□□	2.0
HSK-A63-FCM16092-105					4.134	1.181	2.795			2.2
HSK-A63-FCM16092-120					4.720	.984	3.386			2.4
HSK-A63-FCM16092-150					5.906	.984	4.567			2.9
HSK-A63-FCM20093-85	20mm [.787]	1.811	2.087	.354	3.346	1.102	2.008	3	ARG2009□□	2.2
HSK-A63-FCM20093-105					4.134	1.378	2.795			2.4
HSK-A63-FCM20093-120					4.724	1.181	3.386			2.6
HSK-A63-FCM20093-150					5.906	1.181	4.567			3.1
HSK-A63-FCM25093-85	25mm [.984]	1.811	2.087	.354	3.346	1.299	2.008	3	ARG2509□□	2.2
HSK-A63-FCM25093-120					4.724	1.772	3.386			2.6
HSK-A63-FCM25093-135					5.315	1.575	3.976			2.9
HSK-A63-FCM25093-165					6.496	1.575	5.157			3.3
HSK-A63-FCM32113-85	32mm [1.260]	1.811	2.087	.433	3.346	1.496	2.008	3	ARG3211□□	2.4
HSK-A63-FCM32113-120					4.724	2.362	3.386			2.9
HSK-A63-FCM32113-135					5.315	1.969	3.976			3.1
HSK-A63-FCM32113-165					6.496	1.575	5.157			3.7
HSK-A63-FCM40114-85	40mm [1.575]	1.811	2.087	.433	3.346	1.693	2.008	4	ARG4011□□	2.9
HSK-A63-FCM40114-120					4.724	2.559	3.386			3.3
HSK-A63-FCM40114-135					5.315	2.362	3.976			3.7
HSK-A63-FCM40114-165					6.496	1.969	5.157			4.6
HSK-A63-FCM50115-70	50mm [1.969]	—	2.087	.433	2.756	1.575	1.102	5	ARG4011□□	2.9
HSK-A63-FCM50115-120					4.724	3.071	3.071			4.2
HSK-A63-FCM50115-135					5.315	3.661	3.661			4.8
HSK-A63-FCM50115-165					6.496	4.843	4.843			6.2

- ap = length of effective cutting edge
- Coolant pipe and inserts are not included; must be ordered separately

INDEXABLE END MILLS

FULLCUT MILL (FCM TYPE LONG NOSE, METRIC STYLE)

HSK

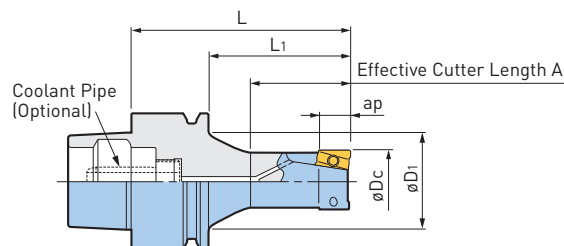


Catalog Number	øDc	øD1	øD2	ap	L	L1	L2	No. of Inserts	Insert Model	Weight (lbs.)
HSK-A63-FCM16092L-85	16mm [.630]	1.772	1.969	.354	3.346	1.575	2.008	2	ARG1609□□	2.0
HSK-A63-FCM16092L-120					4.724	1.772	3.386			2.2
HSK-A63-FCM20092L-105	20mm [.787]	1.772	1.969	.354	4.134	1.969	2.795	2	ARG2009□□	2.4
HSK-A63-FCM20092L-120					4.724	2.362	3.386			2.6
HSK-A63-FCM25092L-105	25mm [.984]	1.772	1.969	.354	4.134	2.165	2.795	2	ARG2509□□	2.4
HSK-A63-FCM25092L-120					4.724	2.559	3.386			2.6
HSK-A63-FCM32112L-120	32mm [1.260]	1.772	1.969	.433	4.724	2.756	3.386	2	ARG3211□□	2.9
HSK-A63-FCM32112L-135					5.315	3.150	3.976			3.1

- ap = length of effective cutting edge
- Coolant pipe and inserts are not included; must be ordered separately

FULLCUT MILL (FCM TYPE)

HSK



Catalog Number	øDc	ap	øD1	L	L1	A	No. of Inserts	Insert Model	Weight (lbs.)
HSK-E25-FCM16092-45	16mm [.630]	.354	.748	1.77	1.38	.906	2	ARG1609□□	.4
HSK-E32-FCM16092-55	16mm [.630]	.354	1.02	2.17	1.38	.906	2	ARG1609□□	.4
HSK-E40-FCM16092-65	16mm [.630]	.354	1.34	2.56	1.77	1.102	2	ARG1609□□	1.0

- ap = length of effective cutting edge
- Wrench included; coolant pipe and inserts must be ordered separately

CAUTION

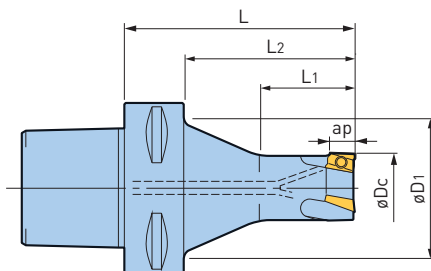
As the HSK-E type interface does not have drive key grooves, there is a risk that it may slip in the machine spindle and damage it if cutting load exceeds clamping force of the machine tool. Starting from the lowest possible conditions, increase them gradually while observing the cutting status, and find the optimum with sufficient safety margin.

ACCESSORIES



INDEXABLE END MILLS

FULLCUT MILL (FCM TYPE, METRIC STYLE) CAPTO-FCM



Catalog Number	øDc	øD1	ap	L	L1	L2	No. of Inserts	Insert Model
C5-FCM16092-65	16mm [.630]	1.575	.354	2.560	.906	1.772	2	ARG1609□□
C5-FCM16092-90		1.732		3.543	1.181	2.756		
C5-FCM20093-65	20mm [.787]	1.575	.354	2.560	1.102	1.772	3	ARG2009□□
C5-FCM20093-90		1.732		3.543	1.378	2.756		
C5-FCM25093-65	25mm [.984]	1.575	.354	2.560	1.299	1.772	3	ARG2509□□
C5-FCM25093-90		1.732		3.543	1.575	2.756		
C5-FCM32113-65	32mm [1.260]	1.575	.433	2.560	1.496	1.772	3	ARG3211□□
C5-FCM32113-90		1.732		3.543	1.772	2.756		
C5-FCM40114-50	40mm [1.575]	—	.433	1.969	.984	1.181	4	ARG4011□□
C5-FCM40114-90		1.811		3.543	2.362	2.756		
C5-FCM50115-50	50mm [1.969]	—	.433	1.969	.984	1.181	5	ARG4011□□
C5-FCM50115-90				3.543	2.559	2.756		
C6-FCM16092-85	16mm [.630]	2.283	.354	3.346	.945	2.480	2	ARG1609□□
C6-FCM16092-110				4.331	1.181	3.465		
C6-FCM16092-135				5.315	1.063	4.449		
C6-FCM20093-85	20mm [.787]	2.283	.354	3.346	1.102	2.480	3	ARG2009□□
C6-FCM20093-110				4.331	1.339	3.465		
C6-FCM20093-135				5.315	1.260	4.449		
C6-FCM25093-85	25mm [.984]	2.283	.354	3.346	1.299	2.480	3	ARG2509□□
C6-FCM25093-110				4.331	1.850	3.465		
C6-FCM25093-135				5.315	1.732	4.449		
C6-FCM32113-85	32mm [1.260]	2.283	.433	3.346	1.496	2.480	3	ARG3211□□
C6-FCM32113-110				4.331	2.402	3.465		
C6-FCM32113-135				5.315	2.126	4.449		
C6-FCM40114-85	40mm [1.575]	2.283	.433	3.346	1.732	2.480	4	ARG4011□□
C6-FCM40114-110				4.331	2.559	3.465		
C6-FCM40114-135				5.315	2.402	4.449		
C6-FCM50115-70	50mm [1.969]	2.323	.433	2.756	1.693	1.890	5	ARG4011□□
C6-FCM50115-110		2.362		4.331	2.756	3.465		
C6-FCM50115-135				5.315	2.835	4.449		

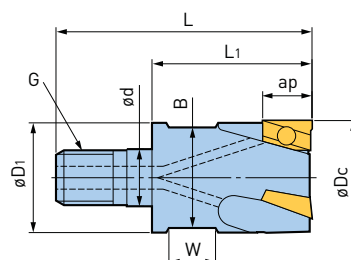
- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

ACCESSORIES



INDEXABLE END MILLS

FULLCUT MILL (FCM SCREW-ON)



Catalog Number	øDc	G	ød	øD1	Effective Cutting Edge Length ap	L	L1	Number of Blades	Spanner Part		Insert	Weight (lbs.)
									B	W		
M8-FCM16092-25	16mm [.630]	M8	.335	.591	.354	1.673	.984	2	.472	.244	ARG1609□□	.1
M10-FCM20093-30	20mm [.787]	M10	.413	.748	.354	1.929	1.181	3	.669	.323	ARG2009□□	.1
M12-FCM25093-35	25mm [.984]	M12	.492	.945	.354	2.205	1.378	3	.866	.402	ARG2509□□	.2
M16-FCM32112-40	32mm [1.260]	M16	.669	1.142	.433	2.480	1.575	2	1.024	.480	ARG3211□□	.4
M16-FCM32113-40								3				.4
M16-FCM40112-40	40mm [1.575]							2	1.260	.661	ARG4011□□	.7
M16-FCM40114-40								4				.6

- a_p = length of effective cutting edge
- A screwdriver wrench for insert clamps is included; inserts must be ordered separately
- A single-ended spanner for tightening the head is not included; use commercially available products

ACCESSORIES



INDEXABLE END MILLS

FULLCUT MILL (FCM TYPE, INCH & METRIC STYLE) STRAIGHT SHANK

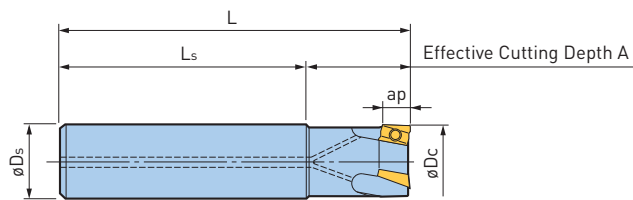


Fig. 1

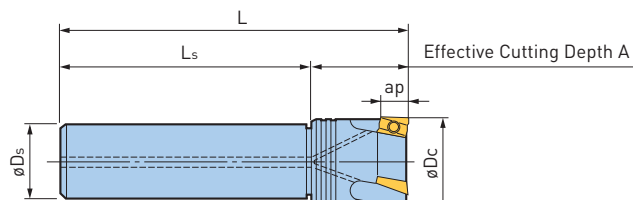


Fig. 2

Catalog Number	Fig.	øDc	øDs	ap	L	A	Ls	No. of Inserts	Insert Model	Weight (lbs.)
ST.750-FCM.750-4	1	.750	.750	.354	4.000	1.250	2.750	3	ARG2009□□	.4
ST1.000-FCM1.000-5	1	1.000	1.000	.354	5.000	1.500	3.500	3	ARG2509□□	.9
ST1.250-FCM1.250-5	1	1.250	1.250	.433	5.000	1.500	3.500	3	ARG3211□□	1.5
ST1.250-FCM1.500-5	2	1.500				1.500	3.500	4	ARG4011□□	1.8
ST1.250-FCM2.000-5		2.000				1.500	3.500	5		2.1
ST16-FCM12091-90	1	12mm [.472]	16mm [.630]	.354	3.543	.591	2.756	1	ARG1609□□	.2
ST16-FCM14091-90		14mm [.551]			3.543	.669	2.756			.2
ST16-FCM16092-90		16mm [.630]			3.543	.984	2.559	2		.2
ST20-FCM20093-110	1	20mm [.787]	20mm [.787]	.354	4.331	1.181	3.150	3	ARG2009□□	.4
ST25-FCM25093-120	1	25mm [.984]	25mm [.984]	.354	4.724	1.378	3.346	3	ARG2509□□	.9
ST32-FCM32113-130	1	32mm [1.260]	32mm [1.260]	.433	5.118	1.378	3.740	3	ARG3211□□	1.5
ST32-FCM40114-130	2	40mm [1.575]				1.575	3.543	4	ARG4011□□	1.8
ST32-FCM40114-180		40mm [1.575]				7.087	5.512			2.6
ST32-FCM50115-130		50mm [1.969]				1.575	3.543	5		2.2

- ap = length of effective cutting edge
- Inserts are not included; must be ordered separately

ACCESSORIES

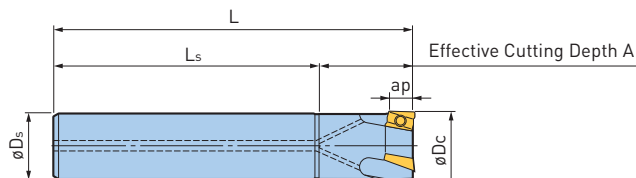


INDEXABLE END MILLS

FULLCUT MILL (FCM TYPE, METRIC STYLE)

STRAIGHT SHANK OVERSIZE

Cutter diameter is $\varnothing 1\text{mm}$ larger than the shank diameter to avoid any interference with the workpiece.



Cutter Diameter

$$\varnothing Dc = \varnothing Ds + 1\text{mm}$$

Catalog Number	$\varnothing Dc$	$\varnothing Ds$	a_p	L	A	L_s	No. of Inserts	Insert Model	Weight (lbs.)
ST15-FCM16092-120	16mm [.630]	15mm [.591]	.354	4.724	.984	3.740	2	ARG1609□□	.4
ST16-FCM17092-120	17mm [.669]	16mm [.630]	.354	4.724	.984	3.740	2	ARG1609□□	.4
ST19-FCM20092-165	20mm [.787]	19mm [.748]	.354	6.496	1.181	5.315	2	ARG2009□□	.9
ST19-FCM20093-135				5.315		4.134	3		.7
ST20-FCM21092-165	21mm [.827]	20mm [.787]	.354	6.496	1.181	5.315	2	ARG2009□□	.9
ST20-FCM21093-135				5.315		4.134	3		.7
ST24-FCM25092-180	25mm [.984]	24mm [.945]	.354	7.087	1.496	5.709	2	ARG2509□□	1.5
ST24-FCM25093-150				5.905		4.528	3		1.3
ST25-FCM26092-165	26mm [1.024]	25mm [.984]	.354	6.496	1.496	5.000	2	ARG2509□□	1.3
ST25-FCM26093-150				5.906		4.409	3		1.3
ST28-FCM32112-180	32mm [1.260]	28mm [1.102]	.354	7.087	1.890	5.197	2	ARG3211□□	2.4
ST28-FCM32113-180				7.087			3		2.2
ST32-FCM33112-180	33mm [1.299]	32mm [1.260]	.433	7.087	1.890	5.197	2	ARG3211□□	2.4
ST32-FCM33113-180				7.087			3		2.2

- a_p = length of effective cutting edge
- Inserts are not included; must be ordered separately
- For long projection lengths and cutters with 3 inserts, please reduce the cutting parameters

ACCESSORIES



Application Example (Material: 1055 Carbon Steel)



FULLCUT MILL Model ST32-FCM33112-180

Cutting Speed	394 SFM
Feed Rate	.004 IPT
Axial DOC	.394 x 10 steps
Radial DOC	Max. 1.299

Results

Deep shoulder end milling is achieved with 4.331" projection length and .394" axial depth.

INDEXABLE END MILLS

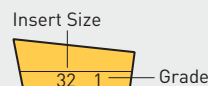
FULLCUT MILL (FCM TYPE) INSERTS



Insert Classifications

ISO Material	Grade	Material	Coating
P20	ACP200	Prehardened Steel	TiAlN/AlCrN
P30	ACP300	General Steel	
M30	ACM300F	Stainless Steel	TiAlN/TiCN
K10	ACZ310	Cast Iron	
N20	DS20	Aluminum	DLC

Marking Description



1: ACZ310
2: DS20
P2: ACP200
P3: ACP300
3F: ACM300F

Selection Between ACP200 & ACP300 for Steel

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

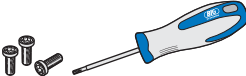
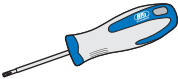
Cutter Dia.		Insert Model	ap	Nose Radius	P		M	K	N	
in	mm				ACP200		ACP300	ACM300F	ACZ310	DS20
					Prehardened Steel		General Steel	Stainless Steel	Cast Iron	Aluminum
.500-.625	12-17	ARG160902	.354	.008	—	○	○	○	○	
		ARG160904		.016	○	○	○	○		
.750	20-21	ARG200902	.354	.008	—	○	○	○	○	
		ARG200904		.016	○	○	○	○		
1.000	25-26	ARG250902	.354	.008	—	○	○	○	○	
		ARG250904		.016	○	○	○	○		
1.250	32-33	ARG321102	.433	.008	—	○	○	○	○	
		ARG321104		.016	○	○	○	○		
1.500-2.000	40-50	ARG401102	.433	.008	—	○	○	○	○	
		ARG401104		.016	○	○	○	○		

- Inserts are available in packages of 10 pcs.
- Please clarify the insert type and model when ordering (ex: ARG160902[ACP300])

CAUTION

FULLCUT MILL uses a different insert for each cutter diameter (except for ø.500"- .625" & ø1.500"-2.000") and if an incorrect insert is used, a problem will result. There is no compatibility with those of FCR Type. Inserts with .008" nose radius are suitable for light cutting.

SPARE PARTS

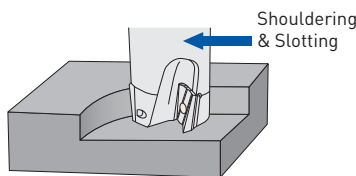
			Insert Clamping Screw Set (10 Screws & 1 Wrench)	Wrench
				
Cutter Dia.		Insert Model	Catalog Number	Catalog Number
in	mm			
.500	12	ARG1609□□	S2505DS	DA-T8
.563-.625	14-17		S2506DS	
.750	20-21	ARG2009□□		
1.000	25-26	ARG2509□□		
1.250	32-33	ARG3211□□	S3508DS	DA-T15
1.500	40	ARG4011□□		
2.000	50			

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

INDEXABLE END MILLS

FULLCUT MILL (FCM TYPE)

CUTTING DATA



Finish-Light Cutting

øD	Work Material	Carbon Steel Alloy Steel	Unalloyed Steel	Prehardened Steel <HRC40	Stainless Steel	Cast Iron	Aluminum
	Insert Grade	ACP300		ACP200	ACM300F	ACZ310	DS20
	Cutting Fluid	Dry			Dry	Dry	Dry/Wet
.500-.563 (12-14mm)	Speed (SFM)	490-820	590-820	260-455	455-590	325-655	655-2460
	Feed (IPT)	.004-.008	.004-.008	.003-.005	.005-.007	.004-.008	.004-.012
.625-.750 (16-21mm)	Speed (SFM)	490-820	590-820	260-455	455-590	325-655	655-3280
	Feed (IPT)	.004-.008	.004-.008	.003-.005	.005-.007	.004-.008	.004-.012
1.000-1.250 (25-33mm)	Speed (SFM)	590-915	655-915	260-455	455-655	325-655	655-4920
	Feed (IPT)	.004-.009	.004-.009	.003-.006	.005-.008	.004-.008	.004-.014
1.500-2.000 (40-50mm)	Speed (SFM)	590-915	655-915	260-455	455-655	260-655	655-4920
	Feed (IPT)	.004-.009	.004-.009	.003-.006	.005-.008	.004-.008	.004-.014

CAUTION

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

Medium-Heavy Cutting

øD	Work Material	Carbon Steel Alloy Steel	Unalloyed Steel	Stainless Steel	Cast Iron	Aluminum
	Insert Grade	ACP300		ACM300F	ACZ310	DS20
	Cutting Fluid	Dry		Dry	Dry	Dry/Wet
.500-.563 (12-14mm)	Speed (SFM)	325-655	490-655	390-590	325-590	655-2460
	Feed (IPT)	.003-.006	.003-.006	.005-.006	.003-.007	.003-.008
.625-.750 (16-21mm)	Speed (SFM)	325-655	490-655	390-590	325-590	655-3280
	Feed (IPT)	.003-.006	.003-.006	.005-.006	.003-.007	.003-.008
1.000-1.250 (25-33mm)	Speed (SFM)	325-655	525-720	390-590	325-655	655-4920
	Feed (IPT)	.003-.006	.003-.006	.005-.006	.003-.008	.003-.012
1.500-2.000 (40-50mm)	Speed (SFM)	325-655	525-720	390-590	325-720	655-4920
	Feed (IPT)	.003-.006	.003-.006	.005-.006	.003-.008	.003-.012

- Inserts with .008 nose radius are suitable for light cutting, however, 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 so please adjust according to machine and workpiece conditions, as well as width of cutting

CAUTION

When a long projection model is used, it is necessary to lower the feed rate. Dry cutting (including air blow) is recommended when cutting steel, except for finishing. Dry cutting is recommended for stainless steel, however, use soluble oil in cases where severe edge build-up occurs.

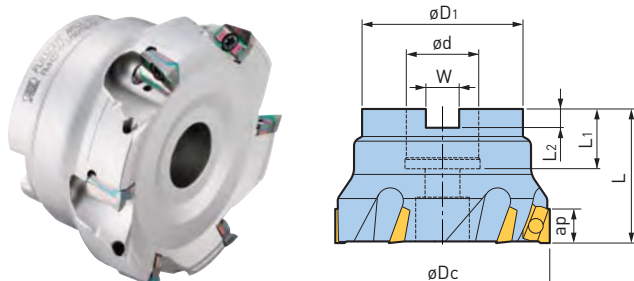
FACE MILLS

FULLCUT MILL (ARBOR TYPE FORM FMH)

For Square Shoulder & Face Milling

CUTTER DIAMETER: $\phi 50\text{mm}$, $\phi 63\text{mm}$, $\phi 80\text{mm}$ & $\phi 100\text{mm}$

Conforms to Form FMH of the new standard face milling adapters.



Catalog Number	ϕD_c	a_p	ϕd	ϕD_1	L	L_1	L_2	W	No. of Inserts	Insert Size	Weight (lbs.)
FMH22-FCM50115-40	50mm	.433	22mm	1.850	1.575	.787	.236	.409	5	ARG40	1.1
FMH22-FCM63116-40	63mm								6	ARG63	1.5
FMH27-FCM80116-50	80mm	.433	27mm	2.362	1.969	.866	.276	.488	6	ARG80	2.7
FMH27-FCM100116-50	100mm			2.992					6	ARG80	4.4

- a_p = length of effective cutting edge
- Wrench and screws are included; inserts must be ordered separately

FULLCUT MILL (FCM ARBOR TYPE)

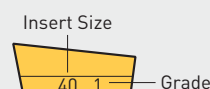
INSERTS



Insert Classifications

ISO Material	Grade	Material	Coating
P20	ACP200	Prehardened Steel	TiAlN/AlCrN
P30	ACP300	General Steel	
M30	ACM300F	Stainless Steel	TiAlN/TiCN
K10	ACZ310	Cast Iron	
N20	DS20	Aluminum	DLC

Marking Description



1: ACZ310
2: DS20
P2: ACP200
P3: ACP300
3F: ACM300F

Selection Between ACP200 & ACP300 for Steel

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

Cutter Dia.	Insert Model	a_p	Nose Radius	P		M	K	N
				ACP200	ACP300	ACM300F	ACZ310	DS20
50mm	ARG401102	.433	.008	—	○	○	○	○
	ARG401104		.016	○	○	○	○	○
63mm	ARG631104		.016	—	○	○	—	○
	ARG631108		.031	○	○	○	○	○
80mm, 100mm	ARG801104		.016	—	○	○	—	○
	ARG801108		.031	○	○	○	○	○

- Inserts are available in packages of 10 pcs.
- Please clarify the insert model and grade when ordering (ex: ARG401104(ACP300))

CAUTION

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

FACE MILLS

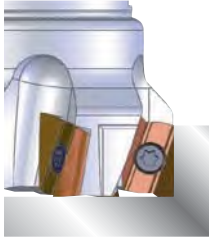
FULLCUT MILL (FCM ARBOR TYPE)

APPLICATION EXAMPLE

Perpendicularity and Surface Finish Unmatched in Indexable Insert Cutters

Machined by FULLCUT MILL Model: FMH22-FCM63116-40

Arbor Model: BBT40-FMH22-27-45



Squareness	
Cutting Speed [SFM]	500
Feed Rate [IPT]	.004"
Axial DOC [Ad]	.200"
Radial DOC [Rd]	.004"

BIG BIG DAISHOWA	.0004"
Other Manufacturer	.0016"

Surface Roughness	
Cutting Speed [SFM]	825
Feed Rate [IPT]	.008"
Axial DOC [Ad]	.004"
Radial DOC [Rd]	2"

	Ra
BIG BIG DAISHOWA	.51μm
Other Manufacturer	1.56μm

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

Cutting Conditions

Medium-Heavy Cutting						
Cutter Dia.	Work Material	Carbon Steel Alloy Steel	Unalloyed Steel	Stainless Steel	Cast Iron	Aluminum
	Insert Grade	ACP300		ACM300F	ACZ310	DS20
	Cutting Fluid	Dry		Dry	Dry	Dry/Wet
ø50/ø63/ø80/ø100mm	Speed [SFM]	330-725	500-800	400-600	330-650	650-5000
	Feed [IPT]	.003-.007	.003-.006	.005-.006	.004-.008	.004-.012

CAUTION

FULLCUT MILL FCM Arbor Type cannot be used for feeding 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	Aluminum
	Insert Grade	ACP300		ACP200	ACM300F	ACZ310	DS20
	Cutting Fluid	Dry			Dry	Dry	Dry/Wet
ø50/ø63/ø80/ø100mm	Speed [SFM]	330-725	500-800	250-400	400-600	330-650	650-5000
	Feed [IPT]	.004-.010	.004-.009	.003-.006	.005-.008	.004-.010	.004-.014

CAUTION

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

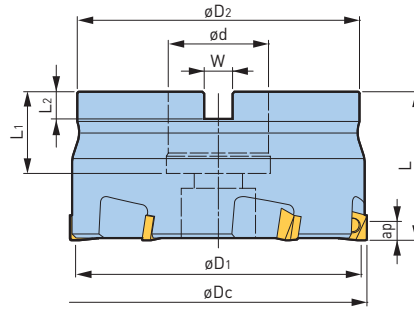
SPARE PARTS

		Insert Clamping Screw Set (10 Screws & 1 Wrench)	Wrench
Cutter Dia.	Insert Model	Catalog Number	Catalog Number
50mm	ARG4011□□	S3508DS	DA-T15
63mm	ARG6311□□		
80mm, 100mm	ARG8011□□		

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

FACE MILLS

SPEED FINISHER



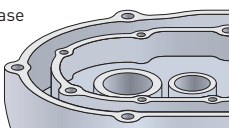
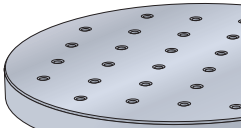
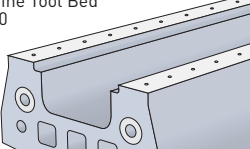
Catalog Number	ϕD_c	ϕD_1		ϕD_2	ϕd	L	L_1	L_2	W	No. of Inserts	Max RPM	Weight (lbs.)
		DA2200	CBN									
FM22-PLS505-35	50mm	1.846	1.768	1.850	22mm	1.378	.748	.236	.409	5	20,000	.9
FM22-PLS636-35	63mm	2.358	2.280	2.362						6		1.5
FM27-PLS806-40	80mm	3.028	2.949	2.992	27mm	1.575	.866	.276	.488	6	16,000	2.6
FM27-PLS1006-35●	100mm	2.752	3.736	2.362							12,800	2.9
FM27-PLS1256-35●	125mm	121.9	119.9	2.362							10,200	4.2
FM32-PLS1006-42	100mm	3.815	3.736	3.780	32mm	1.654	.945	.315	.567	6	12,800	4.4
FM40-PLS1258-50	125mm	4.799	4.720	3.780	40mm	1.969	1.102	.394	.646	8	10,000	7.3
FM40-PLS16010-50	160mm	6.177	6.098	3.780						10	8,000	9.0

- Wrench and screws are included; inserts must be ordered separately
- When using at 12,000 RPM or higher, contact BIG DAISHOWA agent for balancing of the cutter and arbor assembly
- Effective cutting edge length ap varies depending on insert models—refer to the table for insert shown below
- Adjusting amount of cutting edge is .004"—note this when using reground insert
- Models marked ● are designed for BT30 holders

ACCESSORIES



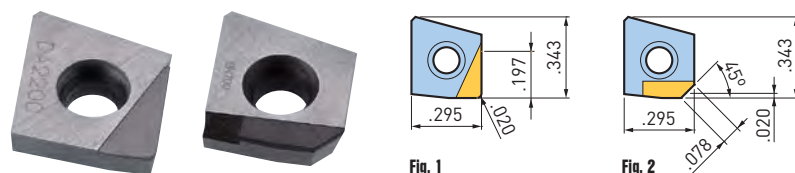
Application Examples (Cutter Diameter: $\phi 80\text{mm}$)

Workpiece	Conditions	Surface Roughness	Height Difference	No. of Workpieces	Result
 Crank Case ADC12	Cutting Speed: 13,123 SFM Spindle Speed: 15,900 RPM Feed Rate: 376 IPM D.O.C.: .098"	$Ra=.08\mu\text{m}$ $Rz=.55\mu\text{m}$	Within $1\mu\text{m}$	24,000	Rough & Fine Processes are Combined in a Single Operation
 Parts of Semiconductor Manufacturing Equipment A5052	Cutting Speed: 13,123 SFM Spindle Speed: 15,900 RPM Feed Rate: 376 IPM D.O.C.: .079"	$Ra=.07\mu\text{m}$ $Rz=.32\mu\text{m}$	Within $1\mu\text{m}$	320	Mirror Finish is Achieved
 Machine Tool Bed FC250	Cutting Speed: 4,921 SFM Spindle Speed: 6,000 RPM Feed Rate: 142 IPM D.O.C.: .020"	$Ra=.12\mu\text{m}$ $Rz=.67\mu\text{m}$	Within $2\mu\text{m}$	20	1-2 μm Flatness is Obtained

FACE MILLS

SPEED FINISHER

INSERTS



Catalog Number	Workpiece	Fig.	Material	Cutting Edge Length (ap)
PL0705-DA2200	Aluminum & Nonferrous	1	Diamond	.197
PL0705-CBN	Cast Iron	2	CBN	.020

- Each insert is packed in a case (order example: PL0705(DA2200) 5 pcs.)
- Regrinding of the insert is possible only once (grinding amount .008")
- Early regrounding is recommended, since regrounding becomes unavailable after excessive wear or once chipping occurs

Insert Classifications

DA2200	CBN
High density sintered material made of ultra-micro diamond particles. Superior wear resistance and hardness comparable to carbide alloy.	Newly designed CBN sintered body with high content rate of CBN improves toughness and thermal conductivity.

Cutting Conditions

Workpiece Material		Insert Material	Cutting Speed (SFM)	Feed Rate (IPT)	Coolant
Aluminum Alloy	Si Content 13%≥	DA2200	6,600-13,000	.002-.008	Wet
	Si Content 13%<		1,300-2,600		
Copper Alloy		DA2200	1,600-8,200	.002-.008	Wet
Gray Cast Iron		CBN	2,600-6,600	.004-.012	Dry

- The table is a reference to determine cutting conditions and it should be adjusted according to cutting width and conditions of the machine tool and workpiece

SPARE PARTS

Lifting Screw Set (1 Lifting Screw & 1 Lifting Nut)	Insert Clamping Screw Set (10 Screws & 1 Wrench)	Wrench
Catalog Number	Catalog Number	Catalog Number
LSN35	S2506DS	DA-T8

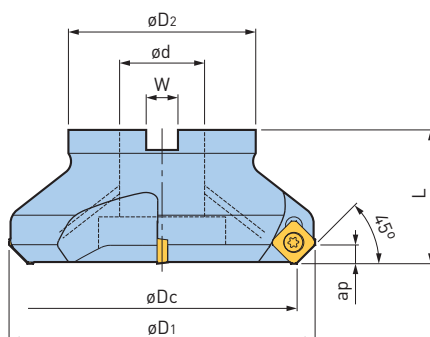
- Insert clamping screws and wrenches are consumables, therefore regular replacement and extra stock are recommended

FACE MILLS

SURFACE MILL

CUTTER DIAMETER: $\phi 80\text{mm}$

45° Approach Face Milling Cutter



Catalog Number	øDc	ap	øD1	ød	øD2	L	W	No. of Inserts	Recommended Arbor	Clamp Bolt	Weight (lbs.)
FM22-SFM503-35	50mm	.197	2.425	22mm	1.850	1.378	.394	3	FMH22	—	.9
FM22-SFM634-35	63mm		2.937					4			1.1
FM25.4-SFM804-40	80mm		3.606	1.000	2.205	1.575	.374	4	FMA25.4 FMH25.4❖	—	2.0
FM27-SFM804-40				27mm			2.362		.488	FMH27	
FM27-SFM1005-35 ●	100mm		4.394	27mm	2.362	1.378	.488	5	FMH27	MBA-M12H	2.2
FM31.75-SFM1006-45				1.250	2.992	1.772	.512	6	FMA31.75 FMH31.75❖	—	3.7
FM32-SFM1006-45				32mm			.551		FMH32	MBA-M16H	

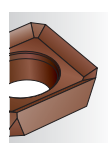
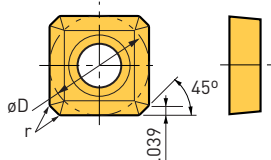
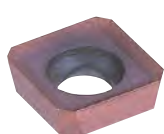
- Wrench and screws are included; inserts must be ordered separately
- When using an arbor marked with ✦, please order the clamp bolt separately
- Items marked ● indicates a lightweight design; by using it in conjunction with BBT30-FMH27-60-45, it can be kept within 4.4 lbs.

ACCESSORIES



FACE MILLS

SURFACE MILL INSERTS



SE (Sharp Edge) Type

Sharp edge prevents burrs. Recommended for stainless steel & mild steel.

Insert Classifications

ACP200	ACM250F	DS20	NF15KA
For all steel & stainless steel materials	For stainless steel	For aluminum & / non-ferrous materials	For cast iron
Multi-layer PVD coating on carbide base with nanoscale TiAlN & AlCrN. Excellent performance and wear resistance.	PVD-coated carbide with excellent smoothness and resistance to welding and chipping, due to the ultra-multilayered thin film structure made of AlTiN and TiAlCrN	DLC coating on carbide base with very smooth surface for a low coefficient of friction. Excellent performance against built-up edge.	Adopts K15-equivalent carbide material with hardness & toughness for cast iron.

Insert Model	Fig.	ϕD	Nose Radius	Insert Grade			
				ACP200	ACM250F	DS20	NF15KA
CM10C1	3	.394	.008	○	○	○	○

- Inserts are available in packages of 10 pcs.
- Please clarify the insert model and grade when ordering (ex: CM10C1[ACP200])
- 10 screws and 1 wrench are included with insert clamping screw set
- It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained

Cutting Conditions

Workpiece Material	Insert Grade	Cutting Speed Vc (SFM)	Feed Rate fz (IPT)	Axial DOC ap Max (in)
General Steel	ACP200	492 - 656 - 820	.004 - .008 - .012	.118
Mild Steel		591 - 787 - 984	.004 - .010 - .016	.157
Cast Iron		328 - 574 - 820	.006 - .009 - .012	.157
Stainless Steel	ACM250F	525 - 673 - 820	.006 - .009 - .012	.118
Light Alloy	DS20	1640 - 2461 - 3281	.006 - .009 - .012	.197

- The table is a reference to determine cutting conditions and it should be adjusted according to cutting width and conditions of the machine tool and workpiece

SPARE PARTS

Insert Clamping Screw Set (10 Screws & 1 Wrench)	Wrench
Catalog Number	Catalog Number
S4S-T15DS	DA-T15

- Insert clamping screws and wrenches are consumables, therefore regular replacement and extra stock are recommended

CHAMFER MILLS

C-CUTTER MINI (MULTI-INSERT TYPE)



Front Chamfer 30°
Back Chamfer 60°



Front Chamfer 45°
Back Chamfer 45°



Front Chamfer 60°
Back Chamfer 30°

Cutting Edge Details

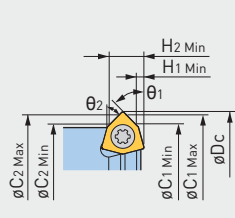
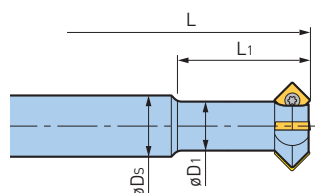


Fig. 1

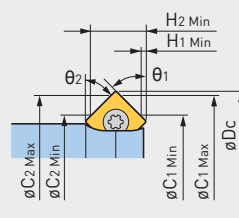


Fig. 2

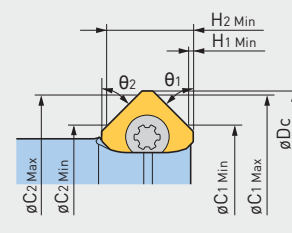


Fig. 3

Front Chamfer Angle θ_1	Back Chamfer Angle θ_2	Catalog Number	Face Milling	Fig.	ϕD_c	ϕD_s	ϕD_1	L	L ₁	ϕC_1 Min	ϕC_1 Max	ϕC_2 Min	ϕC_2 Max	H ₁ Min	H ₂ Min	Insert Model	No. of Inserts
30°	60°	ST12-C0916-3060B-25	—	2	.657	.472	.441	3.858	.984	.354	.630	.512	.630	.008	.224	CM05...	4
		ST20-C1931-3060B-50	—	3	1.287	.787	.764	5.118	1.969	.748	1.220	1.024	1.260	.008	.441	CM10...	
45°	45°	ST10-C0810-45B-15	—	1	.413	.394	.291	3.071	.591	.315	.394	.315	.394	.028	.126	CM03...	3
		ST10-C0810-45B-27						3.543	1.063								
		ST12-C1012-45B-20	—	1	.500	.472	.354	3.661	.787	.394	.472	.394	.472	.039	.146	CM0402	3
		ST12-C1012-45B-35●						4.252	1.378								
		ST12-C1116-45B-25	—	2	.673	.472	.378	3.858	.984	.433	.630	.433	.630	.016	.256	CM0502	4
		ST12-C1116-45B-40●						4.449	1.575								
		ST16-C1520-45B-50	—	2	.815	.630	.520	4.843	1.969	.591	.787	.591	.787	.024	.248	CM0502	4
		ST20-C1924-45B-60	—	2	.972	.787	.677	5.630	2.362	.748	.945	.748	.945	.024	.248	CM0502	4
		ST20-C2232-45B-50	○	3	1.287	.787	.756	5.118	1.969	.866	1.260	.866	1.260	.016	.488	CM10C1	
		ST20-C2232-45B-80●						6.299	3.150								
		ST32-C3242-45B-65	○	3	1.681	1.260	1.205	6.890	2.559	1.260	1.654	1.260	1.654	.016	.488	CM10C1	
		ST32-C3242-45B-100●						8.307	3.937								
60°	30°	ST12-C1317-6030B-25	—	2	.685	.472	.331	3.858	.984	.512	.669	.394	.630	.012	.252	CM03...	4
		ST20-C2632-6030B-50	—	3	1.287	.787	.669	5.118	1.969	1.024	1.260	.748	1.220	.059	.488	CM10...	

- Wrench and screws are included; inserts must be ordered separately
- In case of chamfering, chatter may occur due to increasing cutting force when plunge cutting, so please try a different model with less inserts
- Items marked ● indicates Long Type

ACCESSORIES



Modular CKB Type
Also Available
PG. 459

CHAMFER MILLS

C-CUTTER MINI (SINGLE INSERT TYPE)

WORLD'S
SMALLEST
INSERTS



Cutting Edge Details

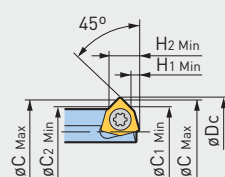
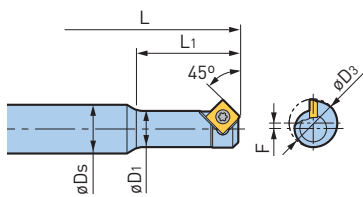


Fig. 1

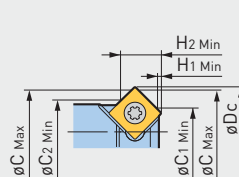


Fig. 2

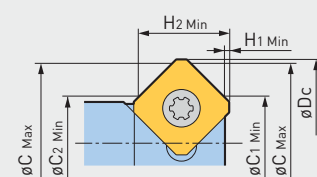


Fig. 3

Catalog Number	Fig.	øDc	øDs	øD1	øD3	L	L1	øC1 Min	øC2 Min	øC Max	H1 Min	H2 Min	Offset F	Insert Model
ST10-C0608-45B-16	1	.346	.394	.224	.224	3.071	.630	.236	.236	.315	.039	.150	.061	CM0402
ST10-C0409-45B-20	2	.386	.394	.213	.303	3.386	.787	.157	.236	.354	.020	.213	.043	CM0502
ST10-C0611-45B-20	2	.472	.394	.291	.386	3.189	.787	.236	.315	.433	.016	.217	.043	
ST10-C0611-45B-35●						3.780	1.378							
ST16-C1222-45B-40	3	.890	.630	.433	.665	4.606	1.575	.472	.472	.866	.012	.488	.114	CM10C1

- Wrench and screws are included; inserts must be ordered separately
- Items marked ● indicates Long Type

ACCESSORIES



CHAMFER MILLS

C-CUTTER MINI (FRONT CHAMFER TYPE)

**WORLD'S
SMALLEST
INSERTS**



Front Chamfer 30°



Front Chamfer 45°



Front Chamfer 60°

Cutting Edge Details

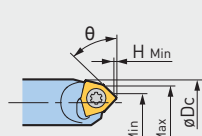
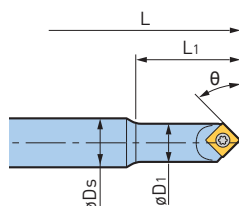


Fig. 1

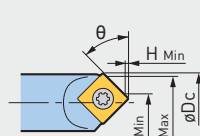


Fig. 2

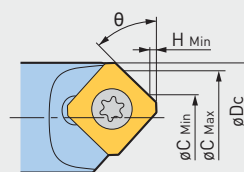


Fig. 3

Surface Chamfer Angle θ	Catalog Number	Fig.	ϕD_c	ϕD_s	ϕD_1	L	L ₁	ϕC_{Min}	ϕC_{Max}	H _{Min}	Insert Model
30°	ST10-C0209-30-20	2	.382	.394	.370	3.189	.787	.789	.354	.008	CM05...
	ST16-C0214-30-40	3	.626	.630	.606	4.134	1.575	.079	.551	.008	CM10C1
45°	ST8-C0103-45-16	1	.193	.315	.185	2.677	.630	.039	.118	.004	CM03...
	ST10-C0204-45-15	1	.248	.394	.236	3.071	.591	.079	.157	.016	CM0402
	ST10-C0204-45-25					3.465	.984				
	ST10-C0207-45-20	2	.319	.394	.307	3.189	.787	.079	.276	.016	CM0502
	ST10-C0207-45-35					3.780	1.378				
	ST16-C0515-45-50	3	.622	.630	.598	4.803	1.969	.197	.591	.016	CM10C1
60°	ST10-C0408-60-20	2	.331	.394	.315	3.189	.787	.157	.315	.012	CM05...
	ST16-C0916-60-40	3	.650	.630	.614	4.134	1.575	.354	.630	.031	CM10C1

- Wrench and screws are included; inserts must be ordered separately
- Centering is not possible

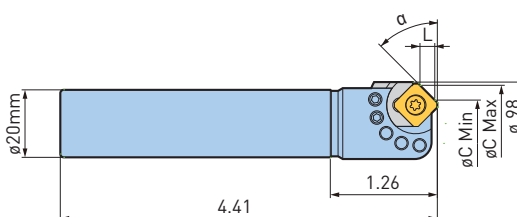
ACCESSORIES



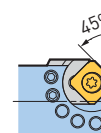
CHAMFER MILLS

C-CUTTER MINI (UNIVERSAL TYPE)

Chamfering angle adjustment from 5° to 85° with a hex key.



45° (A)



45° (B)

Catalog Number	Inserts
ST20-CM5/85A-30	CM10C1-ACP200
	CM10C1-DS20

ACCESSORIES



Chamfering Range

Angle α	Smallest Hole øC Min	Largest Hole øC Max	L
5°	.224	.740	.024
10°	.264	.776	.047
15°	.299	.807	.067
20°	.335	.835	.091
25°	.378	.858	.114
30°	.417	.878	.134
35°	.457	.894	.154
40°	.500	.906	.173
45° [A]	.539	.917	.189
45° [B]	.528	.906	.189

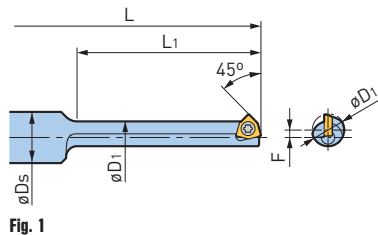
Angle α	Smallest Hole øC Min	Largest Hole øC Max	L
50°	.567	.913	.205
55°	.610	.917	.220
60°	.646	.917	.232
65°	.685	.913	.244
70°	.720	.906	.252
75°	.752	.894	.260
80°	.783	.878	.264
85°	.815	.862	.268

CHAMFER MILLS

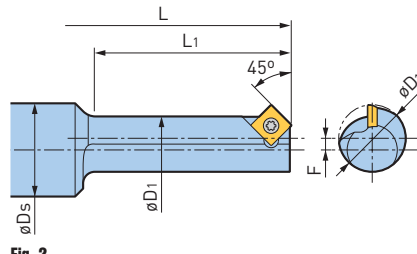
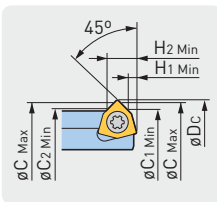
C-CUTTER MINI (BOLT AND TAPPED HOLE TYPE)

**WORLD'S
SMALLEST
INSERTS**

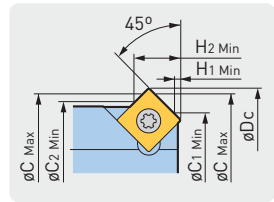
ACCESSORIES



Cutting Edge Details



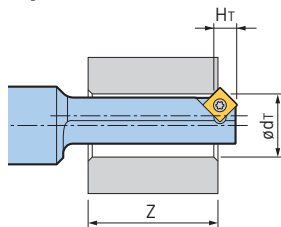
Cutting Edge Details



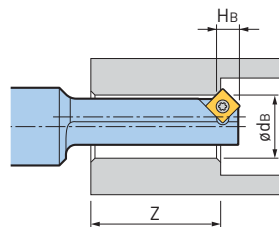
Catalog Number	Fig.	øDc	øDs	øD1	L	L1	øC1 Min	øC2 Min	øC Max	H1 Min	H2 Min	Offset F	Insert Model
ST8-CM06-45B-14	1	.276	.315	.181	2.598	.551	.193	.193	.248	.035	.122	.047	CM03...
ST8-CM06-45B-26●					3.071	1.024							
ST10-CM08-45B-19	1	.362	.394	.248	3.189	.748	.252	.260	.331	.039	.146	.057	CM0402
ST10-CM08-45B-35●					3.819	1.378							
ST12-CM10-45B-25	2	.445	.472	.315	3.898	.984	.217	.327	.413	.020	.197	.065	CM0502
ST12-CM10-45B-45●					4.685	1.772							
ST12-CM12-45B-29	2	.528	.472	.382	4.016	1.142	.299	.394	.496	.020	.205	.073	CM0502
ST12-CM12-45B-53●					4.961	2.087							
ST16-CM14-45B-33	2	.610	.630	.453	4.213	1.299	.382	.465	.579	.020	.209	.078	CM0502
ST16-CM14-45B-61●					5.315	2.402							
ST16-CM16-45B-37	2	.693	.630	.531	4.331	1.457	.465	.543	.661	.020	.213	.081	CM0502
ST16-CM16-45B-69●					5.591	2.717							
ST20-CM18-45B-42	2	.776	.787	.587	4.961	1.654	.547	.598	.744	.020	.224	.094	CM0502
ST20-CM18-45B-78●					6.378	3.071							
ST20-CM20-45B-46	2	.858	.787	.665	5.079	1.811	.630	.677	.827	.020	.228	.096	CM0502
ST20-CM20-45B-86●					6.654	3.386							

- Wrench and screws are included; inserts must be ordered separately
- For Long Type, standard inserts are recommended rather than "SE" (Sharp Edge) inserts to avoid chatter
- Items marked ● indicates Long Type

Tap Hole



Bolt Hole



Body	Tap Hole		Bolt Hole		Z	
	øDr	Hr	øDb	Hb	Standard	Long
CM06	.197 [M6]	.118	.217 [M5]	.110	.394	.866
CM08	.268 [M8]	.142	.260 [M6]	.146	.512	1.142
CM10	.335 [M10]	.193	.354 [M8]	.181	.669	1.457
CM12	.406 [M12]	.197	.433 [M10]	.185	.827	1.772
CM14	.472 [M14]	.205	—	—	.984	2.087
CM16	.551 [M16]	.209	.551 [M12]	.209	1.142	2.402
CM18	.610 [M18]	.220	.630 [M14]	.209	1.299	2.717
CM20	.689 [M20]	.220	.709 [M16]	.213	1.457	3.031

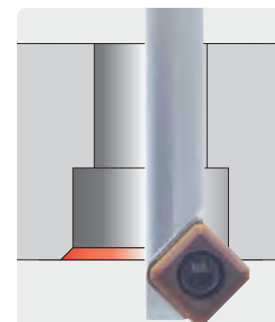
CHAMFER MILLS

C-CUTTER MINI (SINGLE INSERT)

LOWER HOLE DIAMETER: $\varnothing 10-20\text{mm}$

For Counterbore Hole

Available with front & back chamfering.



Chamfering at the counterbore is achieved by utilizing the larger insert offset.

Cutting Edge Details

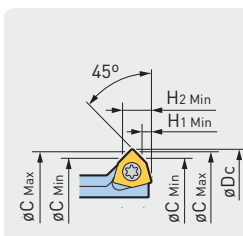
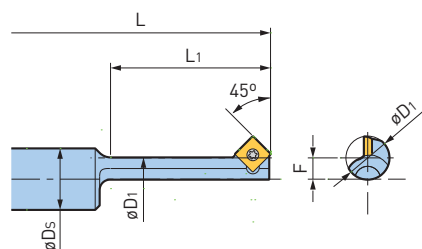


Fig. 1

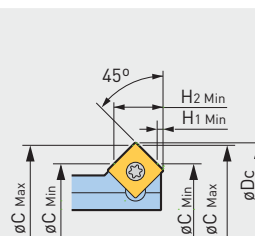


Fig. 2

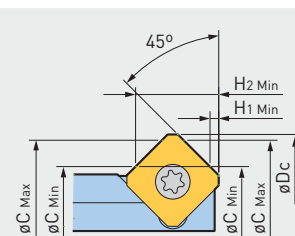
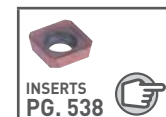


Fig. 3

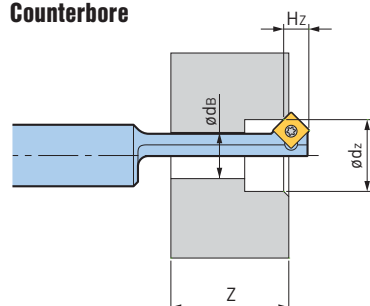
Catalog Number	Fig.	øDc	øDs	øD1	L	L1	øC Min	øC Max	H1 Min	H2 Min	Offset Amount F	Insert
ST10-CZ06-45B-23	1	.504	.394	.240	3.346	.906	.394	.472	.039	.150	.132	CM04...
ST12-CZ08-45B-31	2	.661	.472	.335	4.094	1.220	.433	.630	.020	.248	.163	CM05...
ST16-CZ10-45B-37	2	.799	.630	.413	4.370	1.457	.571	.768	.020	.248	.193	CM05...
ST16-CZ12-45B-50	3	.976		.531	4.882	1.969	.551	.945	.012	.472	.222	CM10...
ST20-CZ14-45B-56	3	1.094	.787	.610	5.472	2.205	.669	1.063	.012	.472	.242	CM10...

- Wrench and screws are included; inserts must be ordered separately

ACCESSORIES



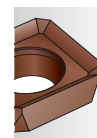
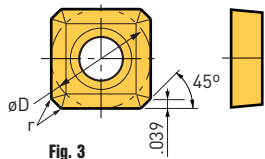
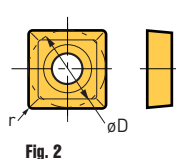
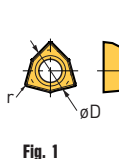
Counterbore



Cutter Size	ødB	Counterbore		Z
		ødz	H _z	
CZ06	6.6mm [M6]	11mm [M6]	.130	.669
CZ08	9mm [M8]	14mm [M8]	.193	.906
CZ10	11mm [M10]	17.5mm [M10]	.193	1.142
CZ12	14mm [M12]	20mm [M12]	.370	1.457
CZ14	16mm [M14]	23mm [M14]	.370	1.693

CHAMFER MILLS

C-CUTTER MINI INSERTS



SE (Sharp Edge) Type

Sharp edge prevents burrs. Recommended for stainless steel & mild steel.

Insert Classifications

ACP200/ACP300	CWS20A	ACM250F	DS20	NF15KA
For all steel & stainless steel materials	For hardened steel	For stainless steel	For aluminum & / non-ferrous materials	For cast iron
Multi-layer PVD coating on carbide base with nanoscale TiAlN & AlCrN. Excellent performance and wear resistance.	Significantly improved toughness while maintaining hardness. Uses a tough carbide base material. AlTiSiN abrasion resistance due to the super multi-layered thin film structure of the system. Excellent PVD coated carbide.	PVD-coated carbide with excellent smoothness and resistance to welding and chipping, due to the ultra-multilayered thin film structure made of AlTiN and TiAlCrN	DLC coating on carbide base with very smooth surface for a low coefficient of friction. Excellent performance against built-up edge.	Adopts K15-equivalent carbide material with hardness & toughness for cast iron.

Insert Model	Fig.	øD	Nose Radius	Insert Grade						Insert Clamping Screw Set
				ACP200	ACP300	CWS20A	ACM250F	DS20	NF15KA	
CM0302	1	.130	.008	—	○	—	○	○	—	S1.6S-T3
CM0402	1	.156	.008	—	○	—	○	○	—	S2SS-T6
CM0502	2	.197	.008	○	—	○	○	○	○	S2TS-T6
CM0502SE				○	○	—	—	—	—	
CM10C1	3	.394	.008	○	—	○	○	○	○	S4S-T15
CM10C1SE				○	—	—	—	—	—	

- Inserts are available in packages of 10 pcs.
- Please clarify the insert model and grade when ordering (ex: CM0402[ACP300])
- 10 screws and 1 wrench are included with insert clamping screw set
- It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained
- **SE** in the Insert Model means Sharp Edge Type

C-CUTTER MINI

Cutting Conditions

Material	Insert Grade	Cutting Speed (SFM)	Feed (IPT)		Coolant
			Chamfering	Face Milling	
Stainless Steel, Carbon Steel, Alloy Steel	ACP200, ACP300	330-1150	.002-.016	.002-.008	Dry
Alloy Tool Steel	CWS20A	330-655	.002-.016	.002-.008	Dry
Pre-hardened Steel, Hardened steel <HRC50		265-525	.002-.016	.002-.008	Dry
Hardened Steel HRC50-62		165-260	.002-.016	.002-.008	Dry
Stainless Steel	ACM250F	330-825	.003-.012	.003-.008	Dry/Wet
Titanium		130-195	.001-.003	.001-.003	Wet
Inconel		65-100	.001-.003	.001-.003	Wet
Cast Iron	NF15KA	330-1155	.004-.020	.002-.010	Dry
Aluminum/Non-Ferrous	DS20, ACP300	330-2640	.004-.020	.002-.012	Dry/Wet

- This table is a guideline for selecting cutting parameters; adjust them as needed according to the machine and workpiece conditions.
- Generally, wet cutting effectively improves finishing surfaces
- Wet cutting effectively suppresses built-up edges occurring on stainless steel or aluminum chamfering
- For aluminum/non-ferrous materials marked with ❖ DS20 is the No.1 recommendation; if chatter occurs with DS20, use ACP300

For Spot Facing Hole Type And Long Type Of Bolt Hole & Tap Starting Hole Type

Material	Insert Grade	Cutting Speed (SFM)	Feed (IPT)	Coolant
Unalloyed Steel, Carbon Steel, Alloy Steel	ACP200 ACP300	66-330	.001-.005	Wet
Cast Iron	NF15KA	165-525	.002-.008	Dry
Aluminum/Non-ferrous	ACP200, ACP300	99-330	.001-.005	Wet

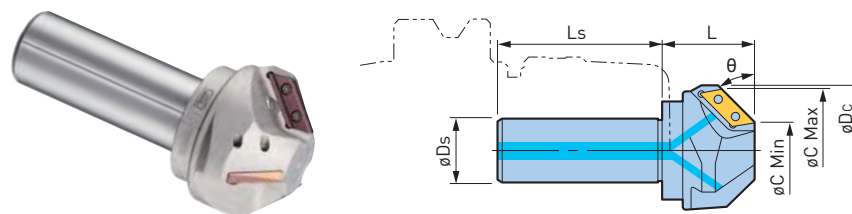
- This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions
- Short projection length types other than the LONG TYPE are recommended for stainless steel and pre-hardened steel

CHAMFER MILLS

C-CUTTER

Covers a Wide Range of Chamfering Diameters and Reduces the Number of Tools and ATC Required

Designed exclusively for chamfering, the insert has a large rake angle and produces a clean chamfering surface. A wide machining range reduces the number of tools in the magazine and is especially effective for reducing ATC time loss.



Chamfering Angle θ	Catalog Number	øDs	Min Hole øC Min	Max Chamfer Diameter øC Max	Outer Diameter øDC	L	Ls	Number of Inserts	Applicable Insert
30°	ST32-C1652C-30	32mm	.63	2.05	2.677	1.890	3.15	2	CW1909A
	ST42-C5085C-30	42mm	1.97	3.35	3.780	2.047		3	
45°	ST20-C0525C	20mm	.20	.98	1.299	.985	2.36	1	CW1206A
	ST25-C1040C	25mm	.39	1.57	1.772	1.378	2.76	2	CW1909A
	ST32-C3060C	32mm	1.18	2.36	2.559	1.772	3.15	3	
	ST42-C50100C	42mm	1.97	3.94	4.173	2.756		3	CW3115A
60°	ST25-C1434C-60	25mm	.55	1.34	1.535	1.457	2.76	2	CW1909A
	ST32-C3050C-60	32mm	1.18	1.97	2.126	1.772	3.15	3	
	ST32-C4565C-60		1.77	2.56	2.717	1.969		3	

- Insert clamping screws and wrench are included; inserts must be ordered separately

ACCESSORIES

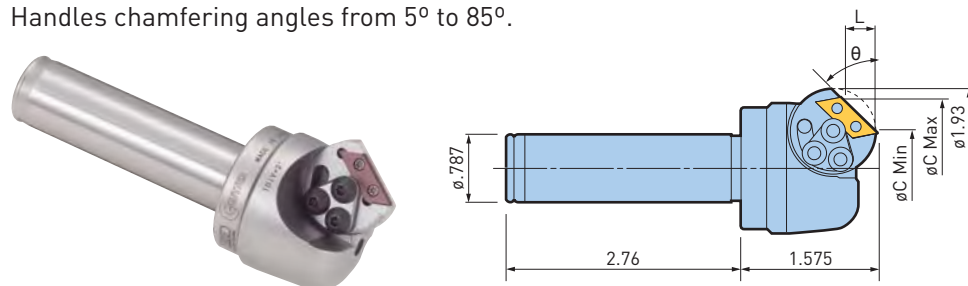


**Modular CKB Type
Also Available
PG. 458**

CHAMFER MILLS

C-CUTTER (UNIVERSAL TYPE)

Handles chamfering angles from 5° to 85°.



Catalog Number	Insert
ST20-C5/85A-40	CW1206A

ACCESSORIES



Chamfering Range

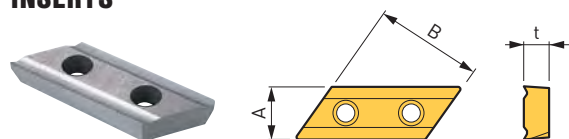
Angle θ	Smallest Hole øC Min	Largest Hole øC Max	L
5°	.217	1.319	.047
10°	.287	1.366	.094
15°	.354	1.425	.142
20°	.441	1.472	.185
25°	.512	1.520	.232
30°	.598	1.559	.276
35°	.685	1.594	.315
40°	.772	1.622	.354
45°	.858	1.646	.394

Angle θ	Smallest Hole øC Min	Largest Hole øC Max	L
50°	.945	1.661	.433
55°	1.04	1.669	.433
60°	1.12	1.673	.472
65°	1.21	1.669	.512
70°	1.30	1.657	.512
75°	1.37	1.642	.512
80°	1.45	1.618	.472
85°	1.53	1.586	.339

- Chamfering range and L are reference only, measure accurate values with a presetter

CHAMFER MILLS

C-CUTTER INSERTS



Non-Coating	Adopts P30-equivalent carbide material with emphasis on toughness for versatile use with materials from steel to aluminum.
ZX Coating	TiN and AlN multilayer coating increases speeds and extends insert life in chamfering of steel or cast iron.
DLC Coating	The exclusive substrate is treated with a thin DLC coating to prevent welding during aluminum machining. It retains sharpness and achieves a clean surface finish.

- DLC coating types do not come in 10 pcs. sets

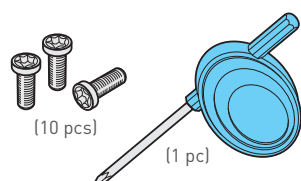
1 pc.

Catalog Number			A	B	t
Non-Coating	ZX Coating	DLC Coating			
CW1206A	CW1206A(ZX)	CW1206A(DLC)	.250	.500	.106
CW1909A	CW1909A(ZX)	CW1909A(DLC)	.375	.750	.177
CW3115A	CW3115A(ZX)	CW3115A(DLC)	.625	1.250	.276

10 pcs.

Catalog Number		A	B	t
Non-Coating	ZX Coating			
CW1206A-10P	CW1206A(ZX)-10P	.250	.500	.106
CW1909A-10P	CW1909A(ZX)-10P	.375	.750	.177
CW3115A-10P	CW3115A(ZX)-10P	.625	1.250	.276

INSERT CLAMPING SCREW SET



Insert	Set Model	Wrench
CW1206A	S2S-B	FLR-13S
CW1909A	S3S	FLR-20S
CW3115A	S5S	FLR-28S

- The set contains 10 screws and 1 wrench
- Wrenches are also available separately



CHAMFER MILLS

C-CUTTER

Cutting Data

Vc: Cutting speed (SFM), f = Feed per revolution (in/rev)

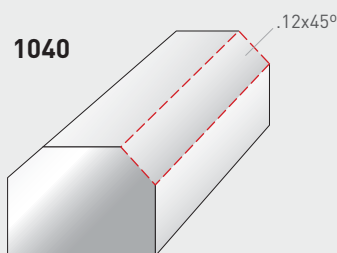
Catalog Number	Max Chamfering Amount	Chamfering Mode	General Steels		Stainless Steel		Cast Iron		Aluminum	
			Vc	f	Vc	f	Vc	f	Vc	f
ST20-C5/85A-40	.08❖	Plunge	165	.004	100	.003	130	.004	265	.004
		Side	265	.006	200	.004	165	.006	330	.008
ST20-C0525C	.08	Plunge	165	.004	100	.003	130	.004	265	.004
		Side	265	.006	200	.004	165	.006	330	.006
ST25-C1040C	.12	Plunge	300	.006	130	.005	200	.006	330	.008
		Side	400	.012	200	.008	300	.012	500	.012
ST25-C1434C-60 ST32-C1652C-30	.12❖	Plunge	300	.006	130	.005	200	.006	330	.008
		Side	400	.012	200	.008	300	.012	500	.012
ST32-C3060C	.16	Plunge	400	.012	200	.007	300	.010	500	.012
		Side	500	.018	200	.012	400	.024	650	.022
ST32-C3050C-60 ST32-C4565C-60 ST42-C5085C-30	.16❖	Plunge	400	.012	200	.007	300	.010	500	.012
		Side	500	.018	200	.012	400	.024	650	.022
ST42-C50100C	.16	Plunge	500	.016	265	.010	400	.014	600	.016
		Side	500	.018	200	.014	400	.024	800	.022

- Cutting conditions are the same for coated and non-coated inserts.
- The use of coated inserts enables better surface finish and extended insert life
- Lower the cutting speed if the maximum chamfering amount is exceeded
- If plunge cutting produces long chips, use step feed
- We recommend the use of a high-rigidity holder for chucking (HMC, MEGA-D etc.)
- Max chamfering amount for the 30°, 60° and Universal Types marked with ❖ is the chamfering length of the longer side

Application Example

C3 Traverse Chamfering

A clean surface with no chatter was achieved even in traverse chamfering, under high cutting conditions.



C-Cutter Model	ST25-C1040C
Insert Model	CW1909A
Spindle Speed n	3,000 RPM
Feed Vf	70"/min

CHAMFER MILLS

C-CUTTER MICRO

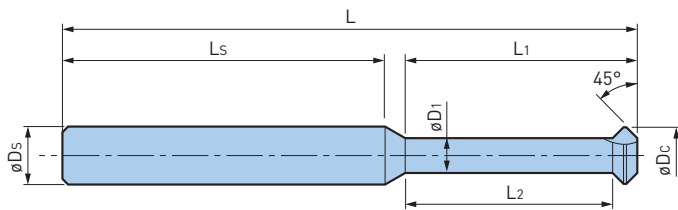
Ultra-Fine Diameter Allows Both Front and Back Chamfering Even on Workpieces with Complex Shapes

CUTTER DIAMETER: ϕ .075"-.311"

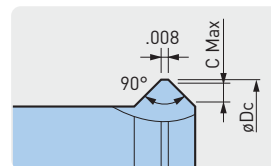
The long-neck size is convenient for deep workpiece edges, or back chamfering of drilled holes. Uses a chromium nitride coating for high resistance to build up edge.



3 FLUTES



Cutting Edge Details



Effective
Twisted Edges



CrN Coating

Catalog Number	ϕD_c	ϕD_1	ϕD_s	L	Ls	L1	L2	C Max
ST3W-CS2-45B-04	.075	.043	3mm	1.575	1.34	.157	.118	.012
ST3W-CS2-45B-08		.047			1.18	.315	.276	.010
ST3W-CS3-45B-06		.067			1.30	.236	.177	.020
ST3W-CS3-45B-12	.114	.075	3mm	1.575	1.06	.472	.413	.016
ST4W-CS4-45B-08	.154	.083	4mm	1.772	1.40	.315	.236	.031
ST4W-CS4-45B-16		.094			1.08	.630	.551	.026
ST5W-CS5-45B-10	.193	.098	5mm	1.969	1.48	.394	.276	.043
ST5W-CS5-45B-20		.110			1.10	.787	.689	.037
ST6W-CS6-45B-12	.232	.118	6mm	1.969	1.40	.472	.335	.053
ST6W-CS6-45B-24		.134		2.362	1.32	.945	.827	.045
ST8W-CS8-45B-16	.311	.157	8mm	2.362	1.59	.630	.453	.073
ST8W-CS8-45B-32		.177		2.756	1.38	1.260	1.102	.063

- Cutting edge material is CrN coated carbide
- Number of inserts is 3 for all models

Cutting Conditions

Workpiece Material	Cutting Speed Vc (SFM)	Feed per Tooth fz (IN/flute)
Unalloyed Steel, Carbon Steel, Alloy Steel	230-330	.002-.004
Stainless Steel	200-265	.001-.003
Cast Iron/Ductile Cast Iron	130-265	.002-.004
Aluminum/Non-ferrous	265-500	.002-.005

This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions. Generally, wet cutting provides a better surface finish. Back chamfering may require lower cutting conditions than front. Lower the feed if secondary burrs appear.

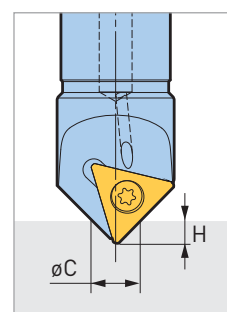
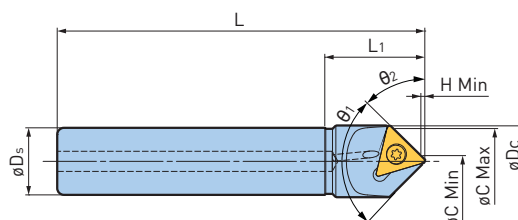
CAUTION

Keep the tool projection length as short as possible. Stop using the tool if it receives strong impact such as collision. The tool becomes hot during cutting. There is a risk of burn if touched immediately after use. Use protective equipment such as safety enclosures and glasses against scattering chips or tool breakage caused by accidents.

CHAMFER MILLS

C-CENTERING CUTTER

A multifunction cutter capable of both spot drilling and chamfering.



Chamfering Angle θ_1	Chamfering Angle θ_2	Catalog Number	ϕD_s	ϕD_c	L	L1	ϕC Min	ϕC Max	H Min	Insert
90°	45°	ST8-CN0209-45-65	8mm	.393	2.56	.590	.079	.354	.024	CN0406
		ST12-CN0213-45-90	12mm	.551	3.54	.787	.079	.512	.024	CN0606
		ST20-CN0220-45-110	20mm	.866	4.33	1.181	.079	.787	.012	CN0906
120°	30°	ST10-CN0211-30-70	10mm	.512	2.76	.590	.079	.433	.016	CN0406
		ST16-CN0216-30-90	16mm	.669	3.54	.787	.079	.630	.016	CN0606
		ST20-CN0225-30-110	20mm	1.063	4.33	1.181	.079	.984	.016	CN0906

- Wrench and screw is included; inserts must be ordered separately
- As the insert has a nose radius, spot drilled tip is not acute
- Use with hand feed is not recommended

90 Degree

$$H = (C - C_{min})/2 + H_{min}$$

120 Degree

$$H = (C - C_{min})/3.46 + H_{min}$$

INSERTS



Catalog Number	ϕD	Insert Grade			Screw Set Catalog Number
		ACM250F (For Steel/Cast Iron/Stainless Steel)	DS20 (For Aluminum)	ACZ150 (For Steel/Cast Iron/Stainless Steel)	
CN0406	.187	○	○	○	S2TS-6IP
CN0606	.250	○	○	○	S2.5S-8IP
CN0906	.375	○	○	○	S4S-15IP

- Inserts are available in a packet of 10 pcs.; please specify the insert model number and grade when ordering Example: CN0906 ACM250F.....10 pcs.
- The insert clamping screw set contains 10 screws and 1 wrench
- Insert clamping screws and tightening wrench are consumables; order periodically for replacement or spares.

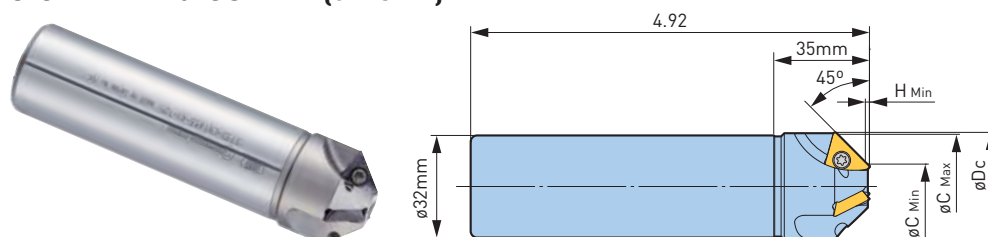
Cutting Conditions

Workpiece Material	Cutting Speed Vc (SFM)	Feed (IPT)	
		Spot Drilling	Traverse Chamfering
Carbon Steel, Alloy Steel	165-500	.001-.003	.002-.008
Stainless Steel	165-400	.001-.002	
Cast Iron	230-650	.001-.003	
Aluminium, Non-ferrous Metals	330-1000		

- The table is just a reference to determine cutting conditions, it should be adjusted according to the condition of the machine tool and workpiece
- Be sure to use water-soluble cutting fluid during spot drilling
- For traverse chamfering, dry cutting (including air blowing) is recommended; however, if severe built-up edge occurs in aluminum machining, use water-soluble cutting fluid

CHAMFER MILLS

C-CENTERING CUTTER (3 INSERT)



Catalog Number	øDc	øC Min	øC Max	H Min	Insert
ST32-CN1433-45-125	1.339	.551	1.299	.024	CN0906

- Wrench and screw is included; inserts must be ordered separately
- Centering is not possible

INSERTS



Catalog Number	øD	Insert Grade			Screw Set Catalog Number
		ACM250F (For Steel/Cast Iron/Stainless Steel)	DS20 (For Aluminum)	ACZ150 (For Steel/Cast Iron/Stainless Steel)	
CN0906	.375	○	○	○	S4S-15IP

- Inserts are available in a packet of 10 pcs.; please specify the insert model number and grade when ordering Example: CN0906 ACM250F.....10 pcs.
- The insert clamping screw set contains 10 screws and 1 wrench
- Insert clamping screws and tightening wrench are consumables; order periodically for replacement or spares.

Cutting Conditions

Workpiece Material	Cutting Speed Vc (SFM)	Feed (IPT)	
		Spot Drilling	Traverse Chamfering
Carbon Steel, Alloy Steel	165-500	.001-.003	.002-.008
Stainless Steel	165-400	.001-.002	
Cast Iron	230-650	.001-.003	
Aluminium, Non-ferrous Metals	330-1000		

- The table is just a reference to determine cutting conditions, it should be adjusted according to the condition of the machine tool and workpiece
- Be sure to use water-soluble cutting fluid during spot drilling
- For traverse chamfering, dry cutting (including air blowing) is recommended; however, if severe built-up edge occurs in aluminum machining, use water-soluble cutting fluid

CHAMFER MILLS

CENTER BOY

Accurate Positioning of Drill Holes and Chamfering Can be Performed Simultaneously

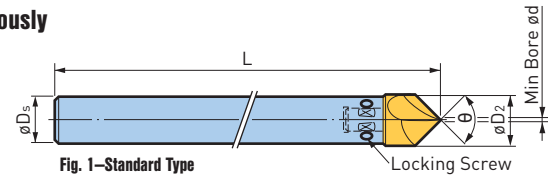


Fig. 1-Standard Type

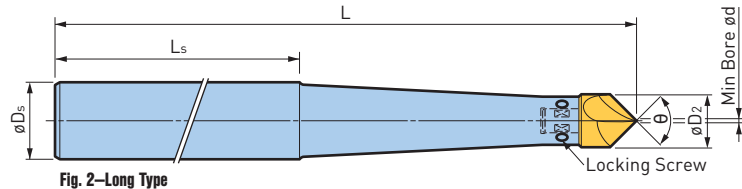


Fig. 2-Long Type

Point Angle	Fig.	Catalog Number	øDs	D2	ød	L	Ls	Insert Model	Spare Locking Screw
90°	1	ST10-CBY09010	10mm [.394]	.394	.035	5.906	—	CBY09010-5P	H0403-5P
	1	ST12-CBY09013	12mm [.472]	.512	.035	5.906		CBY09013-5P	H0504-5P
	1	ST16-CBY09016	16mm [.630]	.630	.039	7.087		CBY09016-5P	H0504-5P
	1	ST20-CBY09022	20mm [.787]	.866	.059	7.087		CBY09022-5P	H0505-5P
	2	ST20-CBY09013-220	20mm [.787]	.512	.035	8.661	4.724	CBY09013-5P	H0403-5P
		ST20-CBY09013-260				10.236			
	2	ST32-CBY09022-260	32mm [1.260]	.866	.059	10.236	4.724	CBY09022-5P	H0505-5P
		ST32-CBY09022-300				11.811			
120°	1	ST12-CBY12013	12mm [.472]	.512	.035	5.906	—	CBY12013-5P	H0403-5P

- Wrench, screws, and two inserts are included; additional inserts must be ordered separately

CAUTION ⚠

Hand feeding is not recommended.

THROWAWAY BIT

Precision-Finished Cutting Edge with Superb Sharpness

Since the bit can be replaced, there is no need for regrinding and the performance remains stable at all times.



Point Angle	Catalog Number	Body Model
90°	CBY09010-5P	ST10-CBY09010
	CBY09013-5P	ST12-CBY09013/ST20-CBY09013
	CBY09016-5P	ST16-CBY09016
	CBY09022-5P	ST20-CBY09022/ST32-CBY09022
120°	CBY12013-5P	ST12-CBY12013

- Bits are available in 5 pcs.
- High-speed steel/TiN coating (Bit material)

Cutting Conditions

Vc: Cutting speed (SFM), f = Feed per revolution (in/rev)

Catalog Number	Chamfering						Centering					
	Steel		Cast Iron		Aluminum		Steel		Cast Iron		Aluminum	
	Vc	f	Vc	f	Vc	f	Vc	f	Vc	f	Vc	f
CBY09010...	65	.004	65	.005	150	.006	80	.003	100	.004	165	.006
CBY09013...	80		80		165		100		115		180	
CBY12013...	100		115		180		150		130		200	
CBY09016...	115		130		200		165		150		215	

- The values in this table are only for reference and should be adjusted based on workpiece hardness, rigidity, and chamfering amount
- Lower the cutting speed Vc if chatter occurs
- Keep the projection length as short as possible

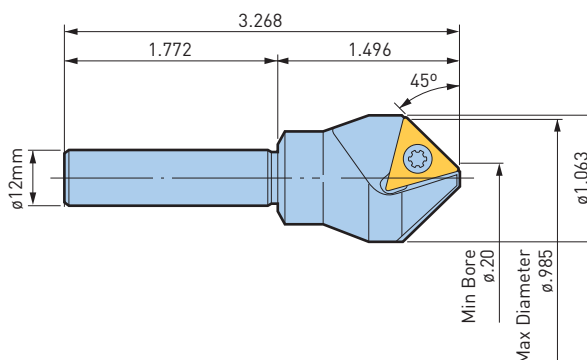
CHAMFER MILLS

C-CUTTER BOY

Ideal for Chamfering with a Bench Drill

- Carbide insert achieves excellent chamfering
- Carbide guide prevents chatter, enabling easy operation
- $\phi 12$ shank diameter—no chatter with a bench drill

CARBIDE GUIDE
PREVENTS
CHATTER

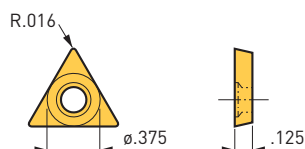


Catalog Number
ST12B-C0525

- One insert is included

INSERT

Catalog Number
C1603B



(Insert Material: Coated Carbide)

- Inserts sold in packs of 10 pcs.

INSERT CLAMPING SCREW SET

Catalog Number	Thread size	Wrench
S4S	M4 x 8	FLR-20S



- The set contains 10 screws and 1 wrench
- Wrench is also available separately

CARBIDE GUIDE SET

Catalog Number	Carbide Guide	Thread Size
CG0525S	CG0525	M4 x 7



- The set contains 1 carbide guide and 1 screw
- The screw compatible wrench is FLR-20S

Cutting Conditions

Hole Diameter	Spindle Speed (RPM)		
	Steel	Cast Iron	Aluminum
$\phi .20$	600	800	1,000
$\phi .40$	500	600	800
$\phi .60$	400	500	600
$\phi .75$	300	400	500

- The values in this table are only for reference and should be adjusted based on workpiece hardness, rigidity and chamfering amount
- Keep runout as low as possible while machining
- We recommend the use of cutting fluid

RADIUS MILLS



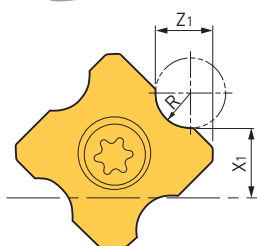
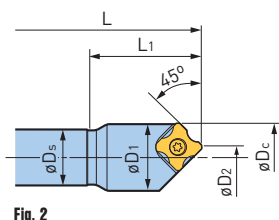
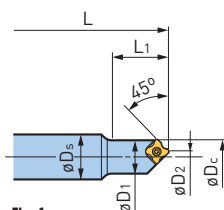
R-CUTTER

Ultra High Feed Radius Chamfer Mill

Automated R-Chamfering available with front & back chamfering. Four insert design multiplies the feed rate.



(FRONT CHAMFER TYPE)



Catalog Number	Fig.	øDc	øDs	øD1	øD2	L	L1	No. of Inserts	R	X1	Z1	Insert Model
ST16-RC061-20	1	.484	16mm [.630]	.469	.177	3.701	.787	1	.02	.142	.076	RC06....
									.04	.132	.086	
									.06	.122	.096	
									.08	.111	.106	
ST20-RC121-40	2	.961	20mm [.787]	.937	.350	4.764	1.575	1	.04	.282	.149	RC12....
									.08	.262	.169	
									.12	.241	.189	
									.16	.220	.208	

• Wrench and screws are included; inserts must be ordered separately

ACCESSORIES



RADIUS MILLS

R-CUTTER (FRONT & BACK CHAMFER TYPE)

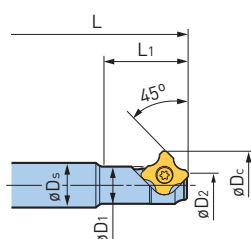


Fig. 1

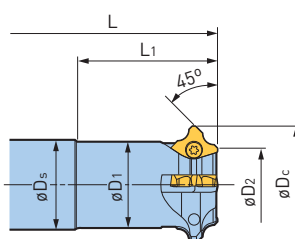
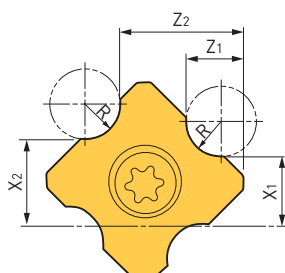


Fig. 2



Catalog Number	Fig.	øDc	øDs	øD1	øD2	L	L1	R	X1	Z1	X2	Z2	No. of Inserts	Insert Model
ST10-RC061B-15	1	.484	10mm [.394]	.260	.173	3.071	.591	.02	.142	.076	.169	.228	1	RC06....
								.04	.132	.086	.159	.218		
								.06	.122	.096	.149	.208		
								.08	.111	.106	.139	.198		
ST16-RC121B-30	1	.961	16mm [.630]	.524	.339	4.055	1.181	.04	.282	.149	.337	.442	1	RC12....
								.08	.262	.169	.316	.422		
								.12	.241	.189	.296	.402		
								.16	.220	.208	.275	.383		
ST16-RC064B-30	2	.827	16mm [.630]	.598	.520	3.976	1.181	.02	.311	.076	.338	.228	4	RC06....
								.04	.301	.086	.328	.218		
								.06	.291	.096	.319	.208		
								.08	.281	.106	.309	.198		
ST32-RC124B-50	2	1.654	32mm [1.260]	1.213	1.035	5.551	1.969	.04	.624	.149	.680	.458	4	RC12....
								.08	.604	.169	.659	.438		
								.12	.584	.189	.639	.419		
								.16	.563	.208	.619	.399		

• Wrench and screws are included; inserts must be ordered separately

ACCESSORIES



Modular CKB Type
Also Available
PG. 460

RADIUS MILLS

R-CUTTER INSERTS



Type	Catalog Number	Radius R	Insert Clamping Screw Set
RC06	RC06050(ACP300)	.02	S2TS-T6
	RC06100(ACP300)	.04	
	RC06150(ACP300)	.06	
	RC06200(ACP300)	.08	
RC12	RC12100(ACP300)	.04	S4S-T15
	RC12200(ACP300)	.08	
	RC12300(ACP300)	.12	
	RC12400(ACP300)	.16	

- Wrench and screws are included
- Inserts are available in packages of 10 pcs.
- Material is coated carbide
- It is recommended to regularly replace clamping screws and wrench to ensure the correct clamping force is maintained



Unique Insert Geometry

High rake angle reduces cutting resistance and minimizes the generation of burrs.

Cutting Conditions

Workpiece Material	Cutting Speed (SFM)	Feed Rate (IPT)	Coolant
Structural, Carbon or Alloy Steel	330-1150	.002-.008	Dry
Prehardened Steel <HRC40	195-260	.002-.004	Wet
Stainless Steel	330-820	.003-.008	Dry/Wet
Cast Iron	330-1150	.002-.010	Dry
Aluminum	330-2625	.002-.010	Dry/Wet

- The table is just a reference to determine cutting conditions and it should be adjusted according to the condition of the machine tool and workpiece
- Wet cutting is recommended to obtain a good surface finish
- In case built-up edge occurs cutting aluminum and stainless steel, use soluble oil

BACK COUNTERBORING TOOLS

BF-CUTTER

Exclusively Designed for Back Spot Facing of Cap Bolt Holes

HOLE DIAMETER: Ø.256"-1.299" (Ø6.5-33mm)

Cap bolt size M6-M30, for Ø1/4"-1"

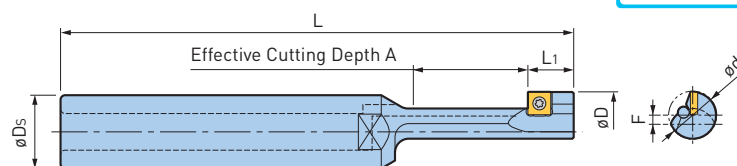


Fig. 1

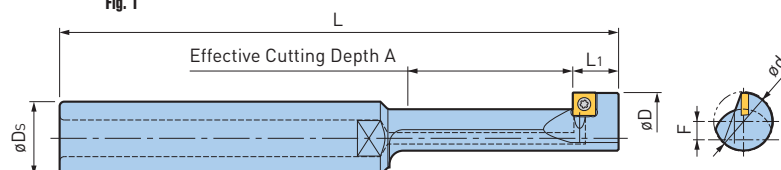


Fig. 2

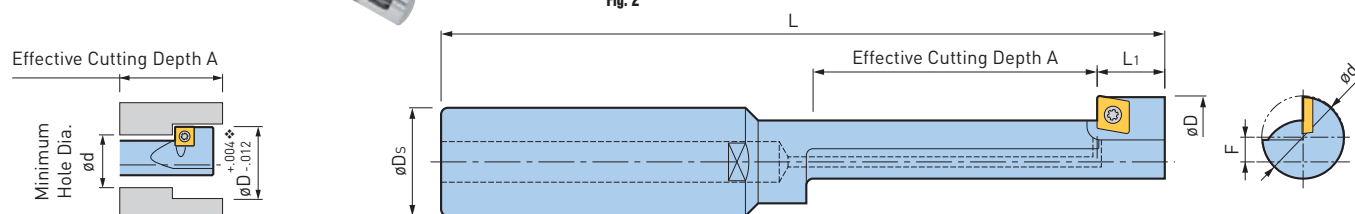


Fig. 3

Catalog Number	Fig.	Facing øD	øDs	Min Hole Dia. ød	L	A	L1	Offset F	Insert Model
ST16-BFM6/11-12	1	.433	16mm	.256	4.016	.472	.354	.094	CM0502
ST16-BFM8/14-20		.551		.335	4.252	.787		.114	
ST16-BFM10/17.5-25		.689		.413	4.409	.984		.144	
ST16-BFM12/20-36		.787		.512	4.803	1.417		.144	
ST20-BFM14/23-49	2	.906	20mm	.591	5.354	1.929	.394	.163	CM0502
ST20-BFM16/26-56		1.024		.669	5.591	2.205		.183	
ST32-BFM18/29-63	3	1.142	32mm	.748	7.402	2.480	.590	.205	CC□□07..
ST32-BFM20/32-70		1.260		.827	7.677	2.756		.224	
ST32-BFM22/35-77		1.378		.906	7.953	3.031		.244	
ST32-BFM24/39-84		1.535		.984	8.425	3.307	.787	.287	CC□□09..
ST32-BFM27/43-95		1.693		1.181	8.858	3.740		.268	
ST32-BFM30/48-105		1.890		1.299	9.252	4.134		.307	

- Wrench and screws are included; inserts must be ordered separately
- The tolerance marked with $\diamond$ is only for reference; the actual diameter varies depending on the rigidity of the machine or workpiece, as well as the cutting conditions

ACCESSORIES



INSERT CLAMPING SCREW SET

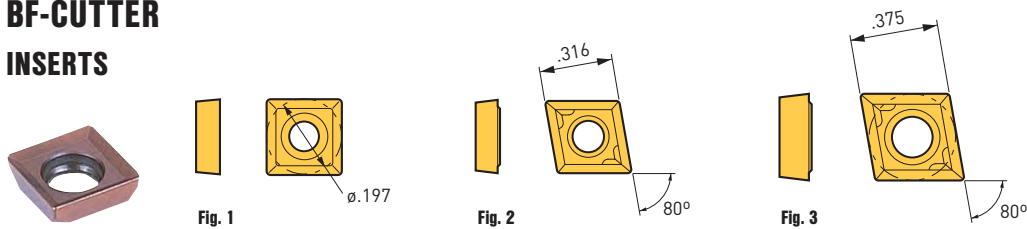
Cutter Type	Catalog Number	Cutter Type	Catalog Number
BFM6/11	S2SS-T6	BFM18/29	S3S
BFM8/14		BFM20/32	
BFM10/17.5		BFM22/35	
BFM12/20	S2TS-T6	BFM24/39	S4S-T15
BFM14/23		BFM27/43	
BFM16/26		BFM30/48	

Cutting Conditions

Material	Cutting Speed (SFM)	Feed (IPT)
Carbon/Alloy Steel	100	.001
Cast Iron		
Aluminum/Non-Ferrous Material	100-165	

BACK COUNTERBORING TOOLS

BF-CUTTER INSERTS



Catalog Number	Fig.	Radius	Corner	Workpiece	Cutting Materials
CM0502(ACP200)	1	.008	4	General Steel	Coated Carbide (P20)
CM0502(ACM250F)				Stainless Steels	Coated Carbide (M30)
CM0502(NF15KA)				Cast Iron	Carbide (K15)
CM0502(DS20)				Aluminium	DLC Coated Carbide (K20)
CCGP070204EFM(T1500A)	2	.016	2	General Steel	Cermet (P10)
CCMP070204EFM(AC820P)					Coated Carbide (P20)
CCMP070204EFM(AC830P)					Coated Carbide (P30)
CCMP070204ESM(AC630M)				Stainless Steels	Coated Carbide (M30)
CCMP070204EFM(AC700G)				Cast Iron	Coated Carbide (K20)
CCMP070204EFM(AC410K)				Cast Iron / Aluminium	Coated Carbide (K10)
CCGA070204FN(H1)					Carbide (K10)
CCGM090308EFM(T1500A)	3	.031	2	General Steel	Cermet (P10)
CCMM090308EFM(AC820P)					Coated Carbide (P20)
CCMM090308EFM(AC830P)					Coated Carbide (P30)
CCMM090308ESM(AC630M)				Stainless Steels	Coated Carbide (M30)
CCMM090308EFM(AC700G)				Cast Iron	Coated Carbide (K20)
CCMM090308EFM(AC410K)				Aluminium	Coated Carbide (K10)

• Inserts are available in packages of 10 pcs.

Insert Classifications

ACP200	ACM250F	DS20	T1500A	AC820P	AC830P
For general steel	For stainless steel	For aluminum/non-ferrous	For general steel	For general steel	For general steel
PVD-coated carbide with superior wear resistance due to its nanometer-level thickness ultra-multilayered TiAlN and AlCrN film.	PVD-coated carbide with excellent smoothness and resistance to welding and chipping, due to the ultra-multilayered thin film structure made of AlTiN and TiAlCrN.	DLC-coated carbide exclusive for aluminum and non-ferrous metals, ultra-smooth with a low wear coefficient and superior welding resistance.	General purpose cermet for applications in regions from finishing to roughing. Special technology improves the material's resistance to thermal shock, allowing safe use even for wet machining.	The newly developed CVD method allows for a dense yet smooth coating that achieves outstanding versatility and consistency as the main material for steel.	The tough substrate and the peel-resistant, dense and smooth coating deliver high reliability for interrupted cutting of steel.

AC630M	AC700G	AC410K	H1	NF15KA
For stainless steel	For cast iron	For cast iron/aluminum/non-ferrous	For cast iron/aluminum/non-ferrous	For cast iron
The extremely smooth thin film coating gives this material great sharpness. Ideal for stainless steel or other materials that are easily work hardened.	Heat resistant carbide alloy is coated with multiple layers of mainly tough alumina, with additional surface smoothing treatment, to produce a highly reliable material for machining cast iron.	The hardest material for cast iron. Use if not satisfied with the wear resistance of AC700G. Note that this type is not suitable for heavy duty interrupted cutting.	With slightly higher wear resistance than K10 material, this material is a best selling type of carbide that can be used across a wide range from roughing to finishing.	Adopts K15-equivalent carbide material with hardness & toughness for cast iron.

MEASURING INSTRUMENTS & ACCESSORIES



MEASURING INSTRUMENTS	556-579
SPERONI MAGIS / ESSENTIA	556-559
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TOOL MASTER	569
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ACCU CENTER	570
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SPINDLE CLEANERS	586
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CHIPFAN	588
T-SLOT CLEAN	589

SPERONI MAGIS

Intuitive Vision System

The new SIMPLE VISION PC-based control and image processing system is supplied with a high-resolution 22" monitor for a crisp and clear visualization of tool data.

The graphical interface and powerful online help function guarantee a trouble-free and secure experience.



Rapid Axis Movement



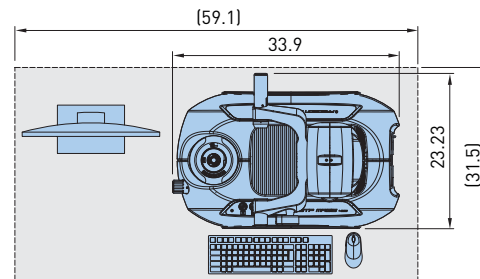
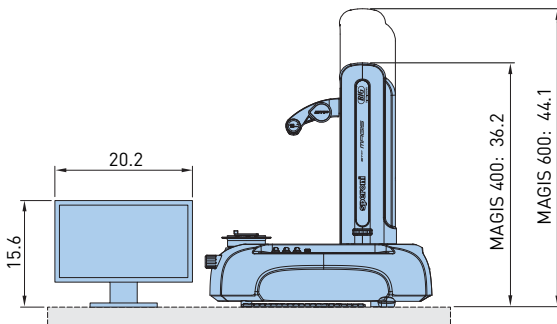
High Precision Spindle with Integrated Calibration Edge



X & Z-Axis Knobs for the Micrometric Movement



Front Light For Cutting Edge Inspection



() Recommended workbench dimensions

Catalog Number	Control	X-Axis Max $\varnothing$	Z-Axis Max Length	Spindle Taper	Mechanical Clamping	Weight
32.M45S	SimpleVision	14.0 (355mm)	16.0 (400mm)	ISO50		440 lbs (200kg)
32.M45SC			24.0 (600mm)		○	570 lbs (260kg)
32.M65SC					○	
32.M45E	EDGE 2.0	14.0 (355mm)	16.0 (400mm)	ISO50		440 lbs (200kg)
32.M45EC			24.0 (600mm)		○	570 lbs (260kg)
32.M65EC					○	

- Use of battery backup is recommended
- For entire system please see Tool Presetting, Measuring & Management Solutions



SPERONI MAGIS AUTOFOCUS/CNC SPINDLE (UPGRADE)

Motorized spindle allows for automatic focusing, location of max diameter and runout.



Catalog Number	Description
32.MSU-AUTOFOCUS	MAGIS SimpleVision Upgrade, Autofocus

- Autofocus spindle does not require CNC control
- All axes can also be moved manually

Catalog Number	Description
32.MEU-CNC-A	MAGIS EDGE Upgrade, CNC A Axis

- CNC spindle does not require CNC control
- All axes can also be moved manually

SPERONI MAGIS WORKBENCH

Prevent dirt and debris from corrupting your measuring instrument control with this enclosed and ventilated workbench. Complete with storage area and lockable door. The black-and-white steel workbench provides working area for all presetting requirements.

Catalog Number	Description	Length	Width	Height
32.105.173	SPERONI Workbench - MAGIS	37	20	31

- Plastic holders can be purchased separately depending on tapers needed; see below



PLASTIC HOLDER FOR SLEEVE/TOOL HOLDER

Catalog Number	Type	
	Taper	Size
32.105.180	ISO	30
32.105.181		40
32.105.182		50
32.105.184	HSK	63A

SPERONI ESSENTIA

Designed for Maximum Ergonomics

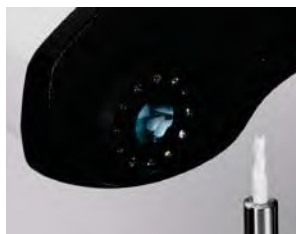
With an ESSENTIA, efficiently measure tools, easily and independently of the operator to achieve full machining productivity. Deliver results right next to your CNC machine.



Rapid X & Z Axes Movement



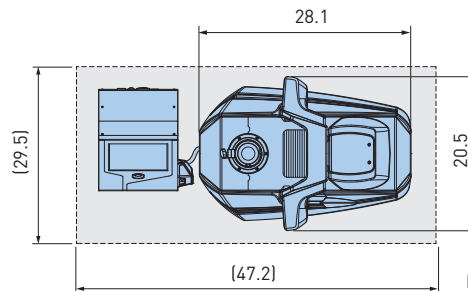
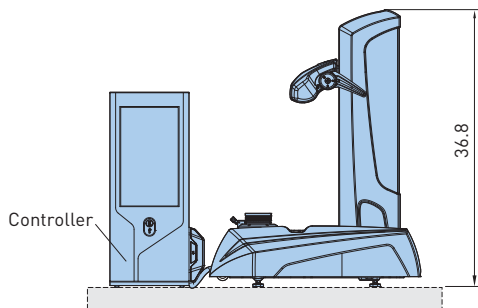
High Precision ISO 50 Spindle



Hi-Res Camera with
45x Magnification Optics



Aged Pearlitic Cast Iron
Guarantees Maximum Isostaticity



() Recommended workbench dimensions

Catalog Number	X-Axis Max ø	Z-Axis Max Length	Spindle Taper	Weight
32.E44R	11.8 (300mm)	16.0 (400mm)	ISO40	200 lbs (90kg)
32.E45R			ISO50	
32.E45RF				



- Use of battery backup is recommended
- For entire system please see SPERONI Tool Presetting, Measuring & Management Solutions



SPERONI ESSENTIA WORKBENCH

Enclosed and ventilated workbench with storage area and lockable door. The steel workbench provides working area for all presetting requirements.

Catalog Number	Description	L	W	H
32.105.173.2	SPERONI Workbench - ESSENTIA	47.25 (1200mm)	20.5 (520mm)	31.5 (800mm)

- Plastic holders can be purchased separately depending on tapers needed; see w 557

ADAPTERS

	Catalog Number	Machine Range	Base Taper	Base Clamping	Measuring Taper	Measuring Taper Clamping		Z Offset
						Auto	Manual	
	32.310.094	ESSENTIA / MAGIS	ISO50	Optional	ISO25	—	—	1.38 (35mm)
	32.310.095				ISO30	—	—	
	32.310.096				ISO35	—	—	
	32.310.097				ISO40	—	—	
	32.310.098				ISO45	—	—	
	32.110.001	ESSENTIA / MAGIS	ISO50	Optional	HSK-A32	—	X	2.95 (75mm)
	32.110.001.1				HSK-E32	—	X	
	32.110.003				HSK-A40	—	X	
	32.110.005				HSK-E40	—	X	
	32.110.007				HSK-A50	—	X	
	32.110.009				HSK-E50	—	X	
	32.110.011				HSK-A63	—	X	
	32.110.014				HSK-F63	—	X	
	32.110.019				HSK-A100	—	X	4.92 (125mm)
	BT50-TPA/C4-100STP	ESSENTIA / MAGIS	BT50	Optional	C4	—	X	3.94 (100mm)
	BT50-TPA/C5-100STP				C5	—	X	
	BT50-TPA/C6-100STP				C6	—	X	
	BT50-TPA/C8-100STP				C8	—	X	
	32.310.101	MAGIS Clamping	ISO50	Required	ISO30	X	—	1.38 (35mm)
	32.310.100				ISO40	X	—	
	32.310.102				ISO45	X	—	
	32.310.110				HSK-A40	X	—	3.15 (80mm)
	32.310.111				HSK-A50	X	—	
	32.310.112				HSK-A63	X	—	
	32.310.119				C3	X	—	3.15 (80mm)
	32.310.120				C4	X	—	
	32.310.121				C5	X	—	
	32.310.122				C6	X	—	

• Additional reduction adapters available on request



CLEANING PUTTY

Keep your measurements accurate by wiping away dust particles, oil or coolant from your tools.

Catalog Number	Description
32.400.049	Tool Cleaning Putty – 2oz.



LABEL PRINTER

Print text and bar code labels.

Catalog Number	Description
32.300.021	Thermal Alphanumeric

MEASURING INSTRUMENTS

POINT MASTER—PMPC SERIES

Touch Probe & Edge Finder

Instantaneously detects reference points even on non-conductive workpieces and machines. Notification of touchpoint with LED and beep.

Cylindrical Shank Type



Catalog Number	øDh7	L	L1	Weight (lbs.)
PMPC-20	20mm	3.937	1.969	1.1
PMPC-32	32mm	3.543	2.362	1.5

- **ST28-4R** stylus is included
- Batteries not included; use batteries commercially available on the market



For All Workpieces and Machine Tools



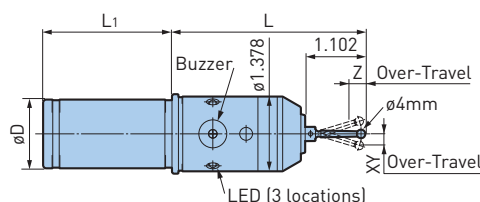
LED flashes to indicate that battery life is low



Notifies via buzzer



Notifies via LED



BBT Shank Type



Catalog Number	Fig.	L	L1	Weight (lbs.)
BBT30-PMPC-115	1	4.528	2.480	1.76
BBT40-PMPC-120	2	4.724	3.661	2.86

- **ST28-4R** stylus is included
- Batteries not included; use batteries commercially available on the market

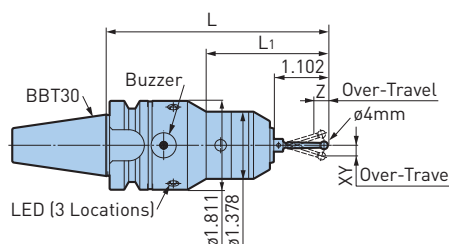


Fig. 1

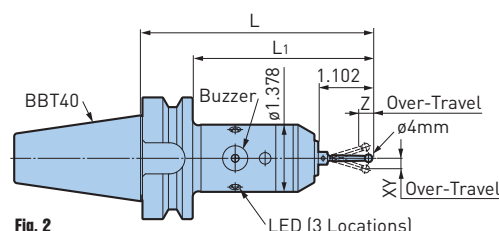


Fig. 2

ACCESSORIES



Specifications

Repeatability	$\pm 1\mu\text{m}$ (.00004")		
Over-Travel	XY $\pm 12\text{mm}$ Z 5mm (XY $\pm .472"$ Z .197")		
Measuring pressure	XY 0.4N Z 1.5N		
Battery	PMPC-20, 32	LR1 x 2P	
	BBT40-PMPC-120		
	BBT30-PMPC-115	CR2 x 1	
Battery Life	PMPC-20, 32	280 Continuous Hours	
	BBT40-PMPC-120		
	BBT30-PMPC-115	260 Continuous Hours	

- The specifications above are values when **ST28-4R** stylus is used
- Repeatability is affected by stylus length
- There is a delay of approx. 5 μm in XY direction and 2 μm in Z direction when the stylus contacts the workpiece measuring surface to illuminate the LED

MEASURING INSTRUMENTS

POINT MASTER (PMP SERIES)

Ideal for high-speed machining centers with ceramic bearings.

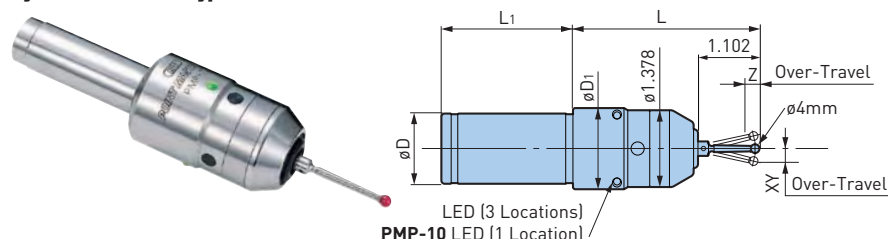


For All
Workpieces
and Machine
Tools



Notifies
via LED

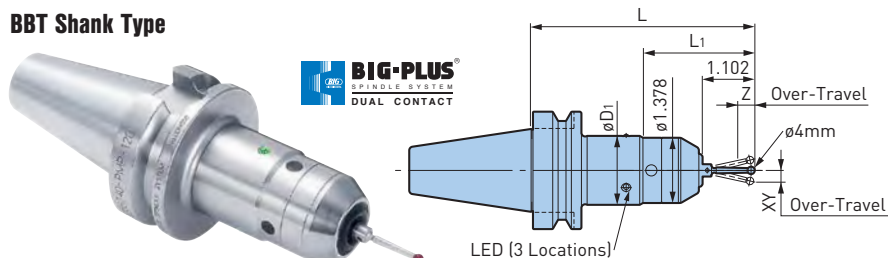
Cylindrical Shank Type



Catalog Number	øDh7	øD1	L	L1	Weight (lbs.)
PMP-10	10mm	1.378	2.953	1.929	.9
PMP-20	20mm	1.457	3.543	1.969	1.1
PMP-32	32mm		3.150	2.362	1.3

- **ST28-4R** stylus is included
- Batteries not included; use batteries commercially available on the market

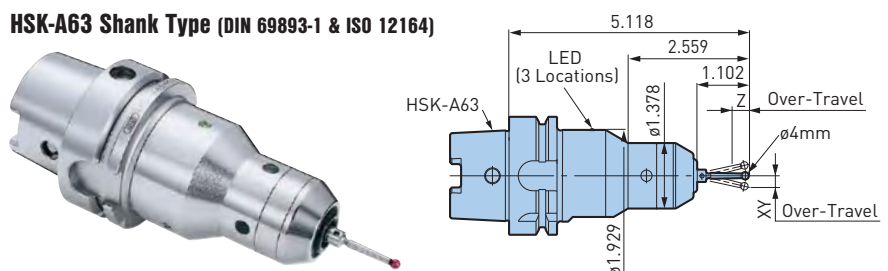
BBT Shank Type



Catalog Number	øD1	L	L1	Weight (lbs.)
BBT30-PMP-115	1.811	4.528	2.480	1.8
BBT40-PMP-120	1.457	4.724	2.362	2.9
BBT50-PMP-150	1.457	5.906	2.362	8.4

- **ST28-4R** stylus is included
- Batteries not included; use batteries commercially available on the market

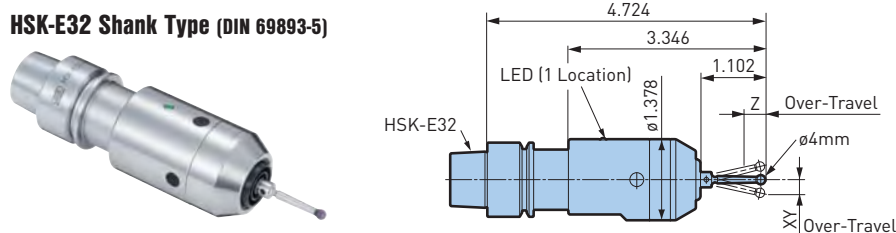
HSK-A63 Shank Type (DIN 69893-1 & ISO 12164)



Catalog Number	Weight (lbs.)
HSK-A63-PMP-130	2.9

- **ST28-4R** stylus is included
- Batteries not included; use batteries commercially available on the market

HSK-E32 Shank Type (DIN 69893-5)



Catalog Number	Weight (lbs.)
HSK-E32-PMP-120	1.1

- **ST28-4R** stylus is included
- Batteries not included; use batteries commercially available on the market

ACCESSORIES



Specifications

Repeatability	±1μm (.00004")	
Over-Travel	XY ±12mm Z 5mm (XY ±.472" Z .197")	
Measuring Pressure	XY .4N Z 1.5N	
Battery	PMP-10	Panasonic Lithium Battery BR435 x 1P
	PMP-20, 32 BBT40-PMP-120	LR1 x 2P
	HSK-A63-PMP-130 BBT30-PMP-115	CR2 x 1
	HSK-E32-PMP-120	SR44 x 2P
	BBT50-PMP-150	LR03 x 2P

Battery life	PMP-10	180 continuous hours
	PMP-20, 32 BBT40-PMP-120	500 continuous hours
	HSK-A63-PMP-130 BBT30-PMP-115	900 continuous hours
	HSK-E32-PMP-120	90 continuous hours
	BBT50-PMP-150	600 continuous hours

- The specifications above are values when **ST28-4R** stylus is used.
- Repeatability is affected by stylus length.
- There is a delay of approx. 5μm in XY direction and 2μm in Z direction when the stylus contacts the workpiece measuring surface to illuminate the LED.

MEASURING INSTRUMENTS

POINT MASTER (PMC SERIES)

Instantaneous detection with LED and beep. LED flashes to notify low battery life while measuring workpieces.



For use with conductive workpieces and machine tools



LED flashes to indicate that battery life is low

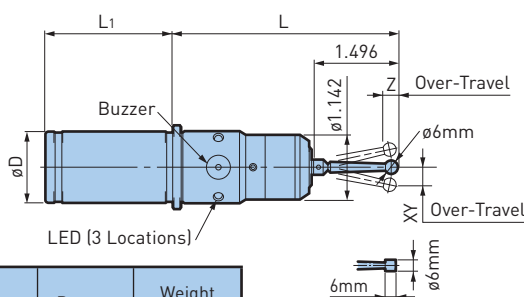


Notifies via buzzer



Notifies via LED

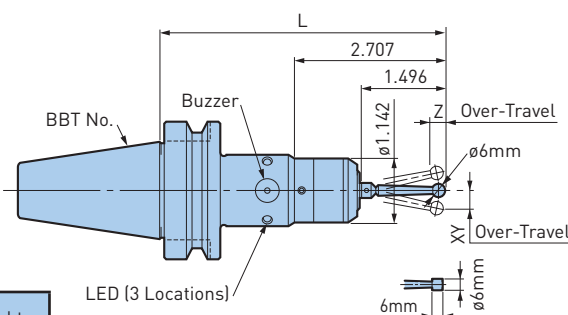
Cylindrical Shank Type



Catalog Number	ØDh7	L	L1	Battery	Weight (lbs.)
PMC-20	20mm	4.331	1.969	LR1x2	.88
PMC-20S					
PMC-32	32mm	4.016	2.283	LR1x2	1.32
PMC-32S					

- ST38-6P stylus is included; models with an S at the end of the model number include Ø6 cylindrical ST38-6X6 stylus
- Batteries not included; use batteries commercially available on the market
- Cannot be used with non-conductive workpieces and machines with ceramic bearings, use POINT MASTER

BBT Shank Type



Catalog Number	L	Battery	Weight (lbs.)
BBT40-PMC-130	5.118	LR1x2	2.64
BBT40-PMC-130S			
BBT50-PMC-160	6.300	LR03x2	8.8
BBT50-PMC-160S			

- ST38-6P stylus is included; models with an S at the end of the model number include Ø6 cylindrical ST38-6X6 stylus
- Batteries not included; use batteries commercially available on the market
- Cannot be used with non-conductive workpieces and machines with ceramic bearings. Use POINT MASTER

ACCESSORIES



Specifications

Probe Repeatability	±1µm (.00004")	
Over-Travel	XY ±12mm Z 5mm (XY ±.472" Z .197")	
Measuring Pressure	XY 0.6N	Z 2.7N
Battery Life	PMC-20, 20S, 32, 32S	300 continuous hours
	BBT40-PMC-130, 130S	380 continuous hours
	BBT50-PMC-160, 160S	

- The specifications above are values when the standard accessory stylus is used

CAUTION

Pullstud bolts with a center through hole cannot be used. In the case of machines that require a hole on the pullstud bolts due to the coolant nozzle, please contact BIG DAISHOWA.

MEASURING INSTRUMENTS

POINT MASTER (PMG SERIES)

Instantaneous detection with LED.

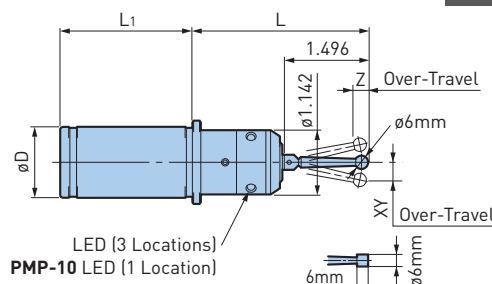


For use with
conductive
workpieces
and machine
tools



Notifies
via LED

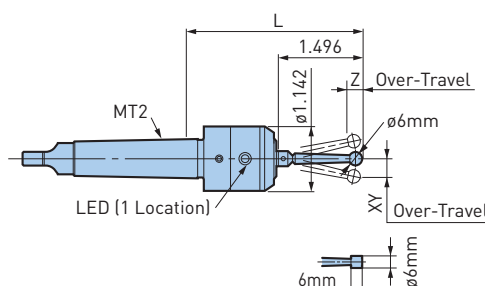
Cylindrical Shank Type



Catalog Number	ØDh7	L	L1	Battery	Weight (lbs.)
PMG-10	10mm	2.953	1.969	Panasonic Lithium BR435 x 1	.44
PMG-10S					
PMG-20	20mm	3.543	1.969	LR1x2	.66
PMG-20S					
PMG-.750	.750	3.543	1.969	LR1x2	.66
PMG-32	32mm	3.150	2.362	LR1x2	1.1
PMG-32S					

- **ST38-6P** stylus is included, except for PMG-.750, **ST38-.25P** [1/4"]
- Batteries not included; use batteries commercially available on the market
- Models with an S at the end of the model number include Ø6 cylindrical ST38-6X6 stylus

Morse Taper Type



Catalog Number	MT	L	Battery	Weight (lbs.)
PMG-MT2	MT2	3.150	Panasonic Lithium BR435 x 1	.44
PMG-MT2S				

- **ST38-6P** stylus is included; models with an S at the end of the model number include Ø6 cylindrical **ST38-6X6** stylus
- Batteries not included; use batteries commercially available on the market
- LED in 1 location only

ACCESSORIES



Specifications

Probe Repeatability	±1µm (.00004")	
Over-Travel	XY ±12mm Z 5mm (XY ±.472" Z .197")	
Measuring Pressure	XY 0.6N	Z 2.7N
Battery Life	PMG-20, 20S, .750, 32, 32S	80 continuous hours
	PMG-10, 10S, MT2, MT2S	150 continuous hours

- The specifications above are values when the standard accessory stylus is used

MEASURING INSTRUMENTS

REPLACEABLE STYLUS (OPTIONAL PRODUCT)

For PMPC, PMP, PMC, PMG Series

M3 thread is used to make the stylus replaceable, allowing replacement if it is damaged or according to the workpiece shape.

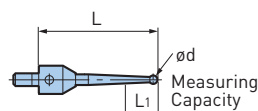


Fig. 1

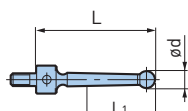


Fig. 2

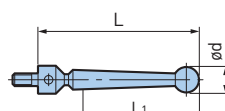


Fig. 3

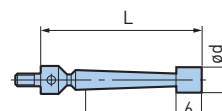


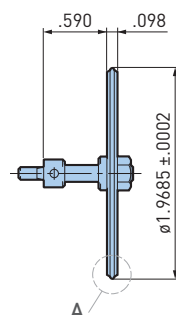
Fig. 4

Catalog Number	Fig.	L	L1	ød	Weight (g)	Stylus Tip	POINT MASTER Model
ST28-1P	1	1.102	.078	1mm	2.0	Carbide	PMG/PMC PMP/PMPC
ST28-2P			.315	2mm	2.0		
ST28-3P	2		.669	3mm	2.5		
ST28-4P			.866	4mm	2.9		
ST28-4R		4mm		2.6	Ruby	PMP/PMPC	
ST38-6P	3	1.496	1.260	6mm	4.8	Stainless Steel	PMG/PMC
ST38-.25P			—	.250			
ST38-6x6	4			1.260	6mm		4.8

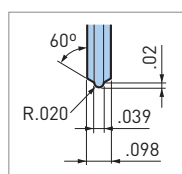
- ST38-6 x 6 stylus is exclusive for PMG□□S/PMC□□S models, mounting on other models will negatively affect the runout accuracy
- POINT MASTER (chime) - PMBS (5x screws and 5x covers)
- POINT MASTER PRO - PMPBS (5x screws and hex wrench)

For PMC, PMG Series

Ideal for measuring the taper of irregularly shaped workpieces or plastic molds.



DETAIL A



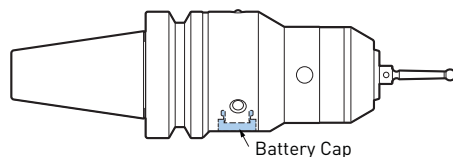
Catalog Number
ST15-50K

MEASURING INSTRUMENTS

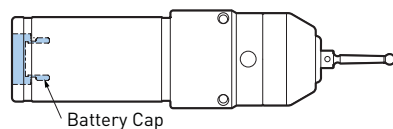
POINT MASTER PRO SPARE PARTS

BATTERY CAP

BBT Shank Type

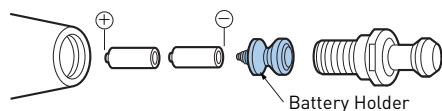


HSK Shank Type



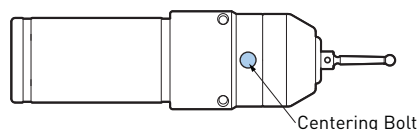
Catalog Number	POINT MASTER Body
BC-PMP-10	PMP-10
BC-PMP-20/32	PMP-20 / PMP-32 / PMPC-20 / PMPC-32
BC-30-PMP/C	BBT30-PMP-115 / BBT30-PMPC-115
BC-E32-PMP	HSK-E32-PMP-120
BC-A63-PMP	HSK-A63-PMP-130

BATTERY HOLDER



Catalog Number	POINT MASTER Body
BP-40-PMP/C	BBT40-PMP-120 / BBT40-PMPC-120
BP-50-PMP	BBT50-PMP-150

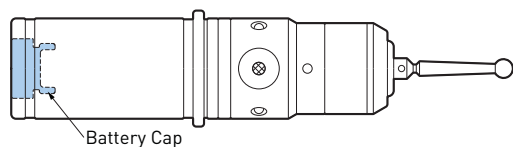
CENTERING BOLT SET



Catalog Number	POINT MASTER Body
PMPBS	Common to All Models

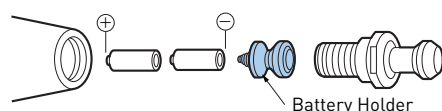
POINT MASTER SPARE PARTS

BATTERY CAP



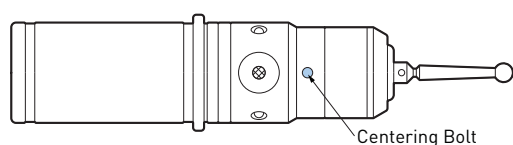
Catalog Number	POINT MASTER Body
BC-PM-10	PMG-10
BC-PM-20/32	PMG-20 / PMG-32 / PMC-20 / PMC-32
BC-PM-MT2	PMG-MT2

BATTERY HOLDER



Catalog Number	POINT MASTER Body
BP-40-PMC	BBT/BT40-PMC-130
BP-50-PMC	BBT/BT50-PMC-160

CENTERING BOLT SET

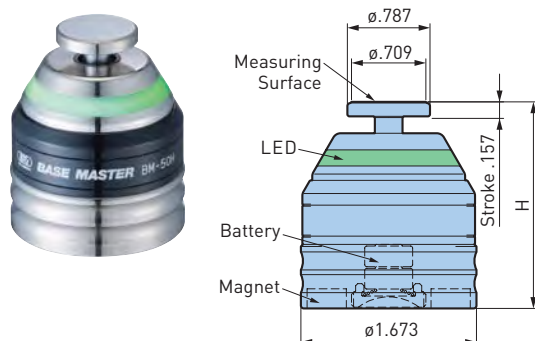


Catalog Number	POINT MASTER Body
PMBS	Common to All Models

MEASURING INSTRUMENTS

BASE MASTER

Electronic detection of the cutting edge position. Repeatability $\pm 1\mu\text{m}$ (.00004").



Catalog Number	H
BM-50H	50mm
BM-2H	2.000

- Model without magnets is available; if required, add /N at the end of the model number when ordering (Example: BM-50H/N)
- Batteries not included; use batteries commercially available on the market



For use with conductive cutting tools, workpieces and machine tools

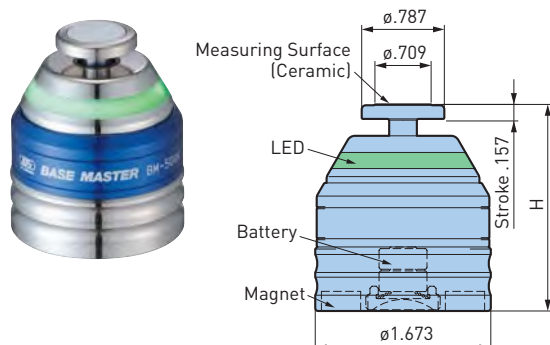


Notifies via LED

Height Accuracy	+0.005mm, 0 (.0002")
Repeatability	$\pm 1\mu\text{m}$ (.00004")
Min. Tool Diameter	ø1mm (.04")
Measuring Pressure	2N
Stroke	4mm (.157")
Touch Signal	LED Illuminates (Green)
Battery	SR44 x 2
Battery Life	8 Continuous Hours
Weight	.5 lbs.

BASE MASTER

Electronic detection of the cutting edge position. Repeatability $\pm 1\mu\text{m}$ (.00004").



Catalog Number	H
BM-50GH	50mm
BM-2GH	2.000

- Model without magnets is available; if required, add /N at the end of the model number when ordering (Example: BM-50GH/N)
- Batteries not included; use batteries commercially available on the market



For all cutting tools, workpieces and machine tools

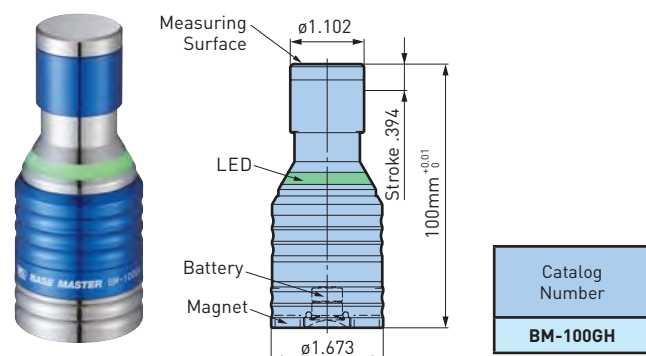


Notifies via LED

Height Accuracy	+0.005mm, 0 (+.00004", -0)
Repeatability	$\pm 1\mu\text{m}$ (.00004")
Min. Tool Diameter	ø1mm (.040")
Measuring Pressure	2N
Stroke	4mm (.157")
Touch Signal	LED Illuminates (Green)
Battery	SR44 x 2
Battery Life	8 Continuous Hours
Weight	.5 lbs.

Easily Visible Measuring Surface, Even With Large Machines

Cutting edge detection position of 100mm from machining object top surface.



Catalog Number
BM-100GH

- Model without magnets is available; if required, add /N at the end of the model number when ordering (Example: BM-100GH/N)
- Batteries not included; use batteries commercially available on the market



For all cutting tools, workpieces and machine tools



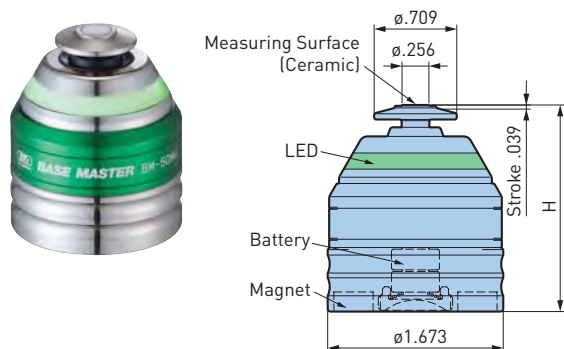
Notifies via LED

Height Accuracy	100 +0.01mm 0
Repeatability	$\pm 1\mu\text{m}$ (.00004")
Min. Tool Diameter	ø1mm (.04")
Measuring Pressure	2N
Stroke	10mm (.394")
Touch Signal	LED Illuminates (Green)
Battery	SR44 x 2
Battery Life	10 Continuous Hours
Weight	.80 lbs.

MEASURING INSTRUMENTS

BASE MASTER

Cutting edge position detection of $\phi.05\text{mm}$ ($\phi.002''$) tool. Low-contact pressure cushion mechanism realizes measurement of ultra-small tools.



Catalog Number	H
BM-50MH	50mm
BM-2MH	2.000

- Model without magnets is available; if required, add /N at the end of the model number when ordering (Example: BM-50MH/N)
- Batteries not included; use batteries commercially available on the market



For all cutting tools, workpieces and machine tools



Notifies via LED

Height Accuracy	+0.005mm, 0 (+.0002", -0)
Repeatability	$\pm 1\mu\text{m}$ (.00004")
Min. Tool Diameter	$\phi.05\text{mm}$ (.002")
Measuring Pressure	.3N
Stroke	1mm (.040")
Touch Signal	LED Illuminates (Green)
Battery	SR44 x 2
Battery Life	10 Continuous Hours
Weight	.53 lbs.

MEASURING INSTRUMENTS

BASE MASTER MINI (ULTRA-THIN TYPE)

- Cutting edge position measuring device with a reference height of 10mm
- Ultra-compact design considering tool interference prevention
- High brightness LED (green) lights to instantly detect the reference point



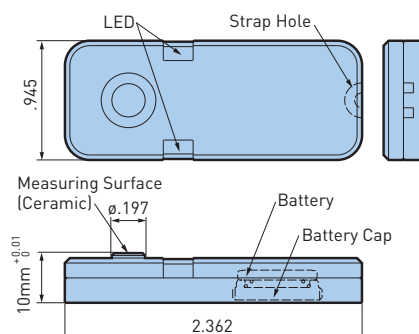
For all cutting tools, workpieces and machine tools



Notifies via LED



Catalog Number
BMM-10H



Height Accuracy	$\pm 0.01\text{mm } 0 \text{ } (+.0003" \text{ } 0)$
Repeatability	$\pm 1\mu\text{m } (.00004")$
Min. Tool Diameter	$\phi 0.1\text{mm } (.004")$
Measuring Pressure	1.0N
Stroke	1mm (.039")
Touch Signal	LED Illuminates (Green)
Battery	CR1620x1
Battery Life	10 Continuous Hours
Weight	.12 lbs.

- Batteries not included; use batteries commercially available on the market

BASE MASTER MINI

Electronic detection of the cutting edge position.
Repeatability $\pm 1\mu\text{m } (.00004")$.



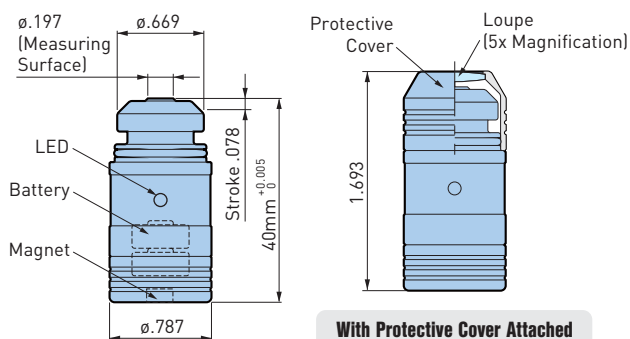
For all cutting tools, workpieces and machine tools



Notifies via LED



Catalog Number
BMM-20D



Height Accuracy	$\pm 0.005\text{mm } 0 \text{ } (+.0002" \text{ } 0)$
Repeatability	$\pm 1\mu\text{m } (.00004")$
Min. Tool Diameter	$\phi 0.1\text{mm } (.004")$
Measuring Pressure	1.8N
Stroke	2mm (.078")
Touch Signal	LED Illuminates (Green)
Battery	LR43x2
Battery Life	40 Continuous Hours
Weight	.12 lbs.

- Wrench for battery cap is included
- Batteries not included; use batteries commercially available on the market
- Model without magnets is available; if required, add /N at the end of the model number when ordering (Example: BMM-20D/N)

MEASURING INSTRUMENTS

BASE MASTER MINI

For Lathe or Mill

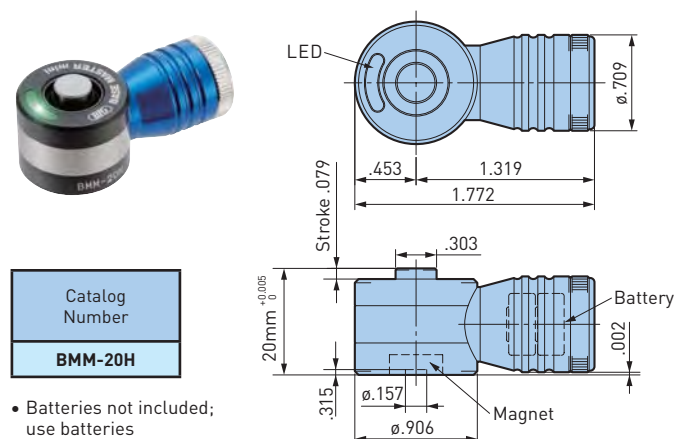
- Standard height of .787" (20mm)
- LED light for easy confirmation
- Low measurement pressure corresponding to the blade diameter of $\phi 0.1\text{mm}$
- Achieves measurement of the cutting edge position of small lathes



For all cutting tools, workpieces and machine tools



Notifies via LED



- Batteries not included; use batteries commercially available on the market

Height Accuracy	+0.005mm 0 (+.0002" 0)
Repeatability	$\pm 1\mu\text{m}$ (.00004")
Min. Tool Diameter	$\phi 0.1\text{mm}$ (.004")
Measuring Pressure	1N
Stroke	2mm (.078")
Touch Signal	LED Illuminates (Green)
Battery	SR44 x 2
Battery Life	10 Continuous Hours
Weight	.15 lbs.



TOOL MASTER

Non-Conductive Workpieces and Tools can Also be Measured

Uses a large, easily read dial (with buzzer and LED), one-touch height adjustment mechanism and a firmly fixed powerful magnet.



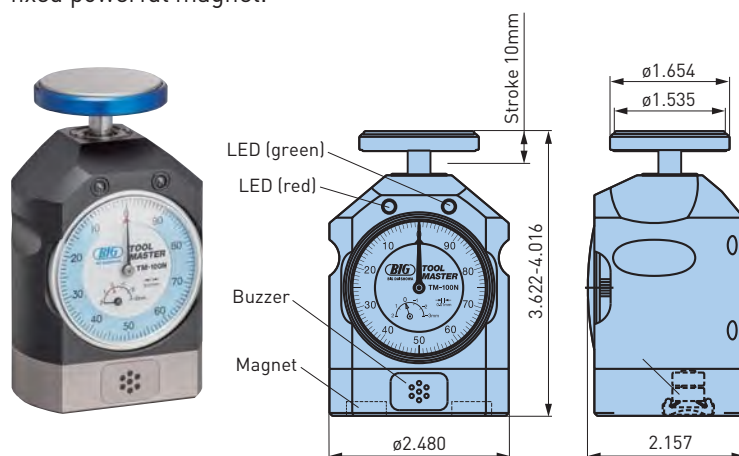
For all cutting tools, workpieces and machine tools



Notifies via LED



Notifies via Buzzer



- Dial gage accuracy conforms to JIS B7503:2015
- Batteries not included; use batteries commercially available on the market
- Model without magnets is available; if required, add /N at the end of the model number when ordering (Example: TM-100N/N)

Height Accuracy		100 +.02/0mm	
Min. Tool Diameter		ø1mm	
Measuring Pressure		3N (at 100mm)	
Stroke		10mm	
Stroke Range		92-102mm	
Notification Signal	Around 100.5mm	LED	Lit (Green)
		Buzzer	"Beep"
	Around 99.5mm	LED	Flashing (Green/Red)
		Buzzer	"Beep Beep Beep"
Battery		SR44 x 2	
Weight		2.2 lbs.	
Standard Accessory		Setting Gage x 1P	
Dial Gage Accuracy	Min. Scale	.01mm	
	Indicator Error	±15µm	
	Repeatability	5µm	
	Return Error	5µm	

MEASURING INSTRUMENTS

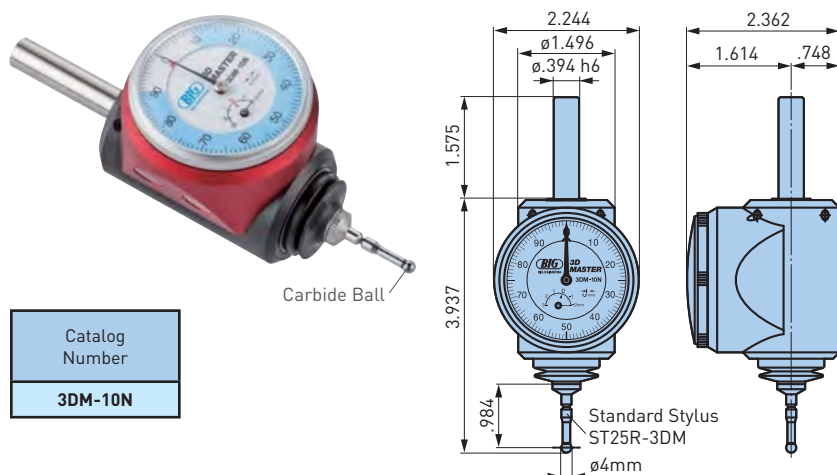
3D MASTER RED

Dial-Type Reference Position Measuring Instrument

- Available for non-conductive workpieces
- Measure X, Y & Z directions
- Calculation of the stylus ball radius not required



For all cutting tools, workpieces and machine tools



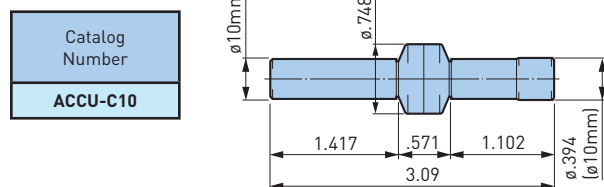
Catalog Number
3DM-10N

Min. Scale	.01mm
Repeatability	Within .01mm
XY Stroke	±4mm
Z Stroke	4mm
Protection Rating	IP67
Weight	1.3 lbs.
Accessory	Stylus ST25R-3DM

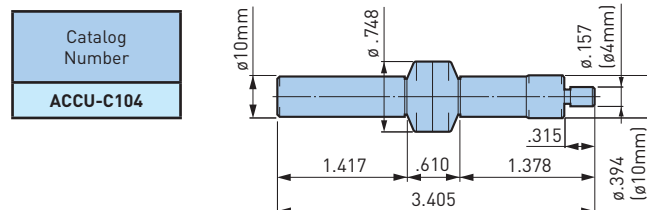
ACCU CENTER

Simple Mechanical Design for High-Precision Positioning

- Just touch the stylus to the workpiece surface to complete measurement
- Repeatability within 3µm (when used on vertical machines)
- Hard chrome plated stylus for superior durability



Catalog Number
ACCU-C10

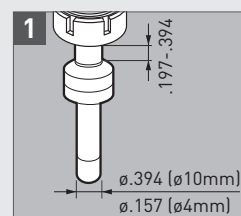


Catalog Number
ACCU-C104

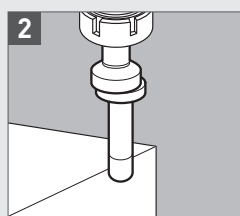
CAUTION

Not suitable for horizontal type machines.

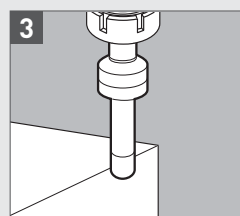
Operation Instructions



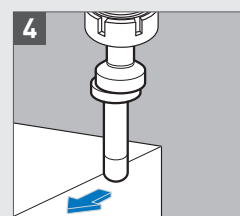
Mount the 10 straight part to a Milling Chuck or NEW BABY CHUCK.



Press the stylus lightly with fingers to move off center and rotate at 400-600 RPM.

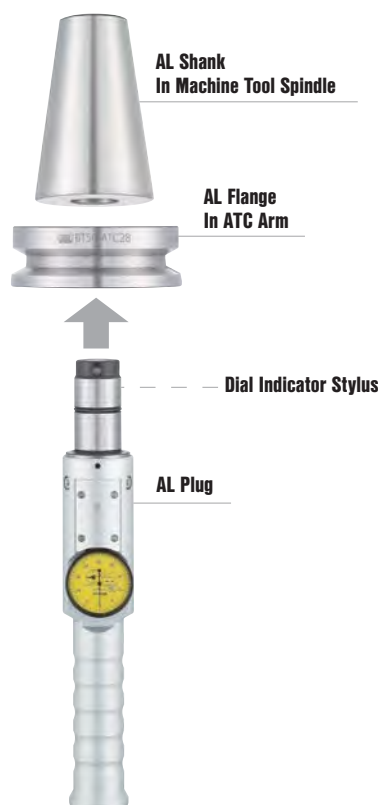


Touch the stylus to the workpiece; its runout will gradually decrease and it will seem to come to a stop.



Apply finer feed and keep the stylus in contact; it will begin to slide in one direction. Where it begins to slide, compensate the position by radius of the stylus 5mm (2mm) to detect the reference position.

MEASURING INSTRUMENTS



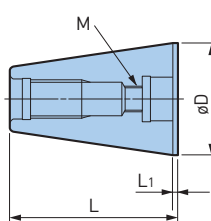
ATC ALIGNMENT TOOL

Misalignment of the center between the machine tool spindle and ATC gripper may cause damage to the spindle taper when a tool holder is loaded into the spindle. A clamped tool holder under misalignment leads to increased runout, resulting in shorter life of machine tools and tool holders, as well as cutting tools. The ATC Alignment Tool can also be used for re-aligning the ATC gripper and tool magazine pots. Overall cost reduction is achieved by using equipment in good condition.

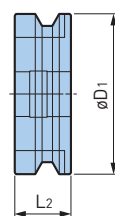
How To Use

1. Load the AL Shank in the machine spindle and mount the AL Flange on the ATC arm.
2. Insert the AL Plug into the AL Flange.
3. Rotate the AL Plug and read the highest and lowest values of the dial indicator. This direction is the eccentric direction. Half of the gap of the values is the eccentric amount.
4. Adjust the position of the ATC arm so that the front end of the AL Plug will be inserted into the AL Flange fully.

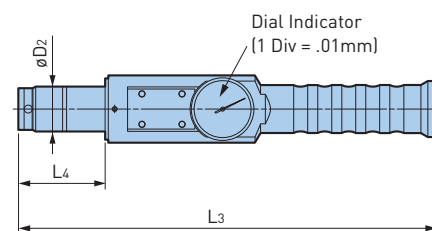
Provided with ATC Alignment Tool & Plastic Storage Case



AL Shank



AL Flange



AL Plug

CV Taper

Catalog Number	øD	D1	D2	L	L1	L2	L3	L4	M
CV40-ATC20	1.75	2.500	.787	2.812	.123	.958	9.882	1.732	1/2"-13
CV50-ATC28	2.75	3.875	1.102	4.125	.123	1.301	10.276	2.126	5/8"-11

• DIN 7/24 taper spindle models available

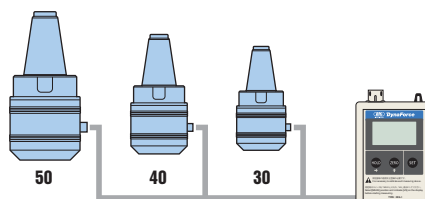
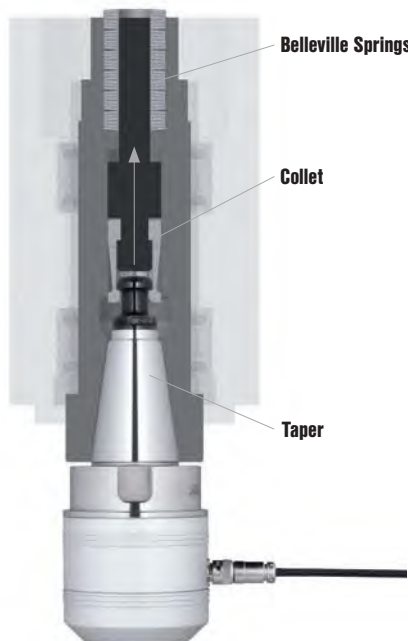
BT Taper

Catalog Number	øD	D1	D2	L	L1	L2	L3	L4	M
BT30-ATC18	1.25	1.811	.709	1.984	.079	.787	9.882	1.732	M12
BT40-ATC20	1.75	2.480	.787	2.654	.079	.984	9.882	1.732	M12
BT50-ATC28	2.75	3.937	1.102	4.126	.118	1.378	10.276	2.126	M16

MEASURING INSTRUMENTS

DYNA FORCE

Machine tool maintenance is a necessity. Periodical measurement of the spindle retention force avoids unknown reduced rigidity, which leads to vibrations, loss of machining quality and shortened tool life. A full length taper stabilizes the value of measurements.



Only One Display for All Taper Sizes
One common display can be used for all taper sizes.

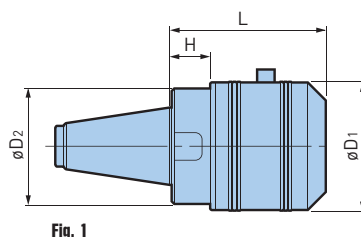


Fig. 1

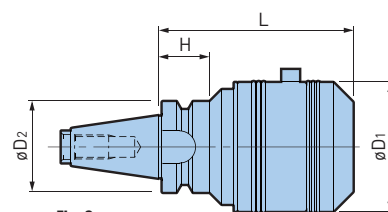


Fig. 2

Catalog Number	Contents of Set				Taper No.	Rated Capacity	øD1	øD2	L	H	Weight (lbs.)
	Measuring Device	Fig.	Display	Cable							
SNT30-DF10	NT30-DF10	1	DFA-1 (AA battery x2)	DFC-1 (2m)	30	10 kN (980 kgf)	2.559	2.283	3.150	.787	3.3
SBT30-DF10	BT30-DF10	2						1.811	2.858	1.024	3.5
SNT40-DF30	NT40-DF30	1			40	30 kN (2,940 kgf)	2.874	2.958	3.543	.945	5.5
SNT50-DF50	NT50-DF50	1			50	50 kN (4,900 kgf)	3.780	3.543	4.331	1.299	13.2
SNT50-DF30●	NT50-DF30	1				30 kN (2,940 kgf)	2.874	2.756	3.386	.787	8.6

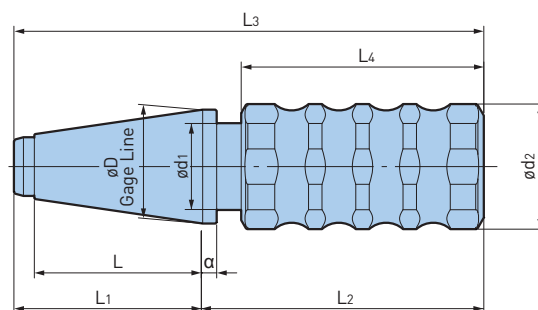
- Batteries not included; use batteries commercially available on the market
- Each component is also available separately
- **SBT30-DF10** is designed exclusively for machines not capable of automatic tool change
- **SBT30-DF10** is suitable for BT/BBT30 machines only
- **SNT50-DF30** marked ● indicates light-weight model
- Certificate of calibration and diagram of traceability system are available for a charge in order to maintain the reliability of the device

MEASURING INSTRUMENTS

DYNA CONTACT

A ceramic taper gage allowing inspection of machine spindle tapers at a glance.

- Made of ceramic
- Clearly shows Prussian blue



Taper Angle: $8^{\circ} 17' 50'' \pm 1''$

Provided with an Aluminum Case

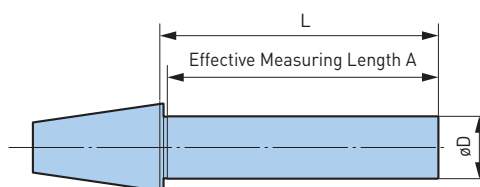


Catalog Number	Taper Number	ϕD	ϕd_1	ϕd_2	L	L1	L2	L3	L4	α	Weight (lbs.)
DC-30P	30	1.250	.91	1.42	1.906	2.22	4.2	6.4	3.69	.236	1.14
DC-40P	40	1.750	1.34	1.93	2.575	2.89	4.4	7.2	3.74	.236	2.64
DC-50P	50	2.750	1.93	1.93	4.008	4.40	4.5	8.9	3.74	.315	5.76

- It can be used for BBT (BT=JISB6339), BDV (DV=DIN69871) and BCV (CV = ANSI)

DYNA TEST (BASIC TYPE)

Regular inspections using a DYNA TEST bar can help identify potential issues with spindles and bearings, reducing downtime and costly repairs. The precise test bar is designed to test the spindle's runout, check the parallelism of z-axis movement and can also be used as a setting gage for tool presetters.



Catalog Number	L	A	ϕD
NT30-32-L150	5.906	5.591	1.260
NT30-32-L225	8.858	8.543	
NT40-50-L200	7.874	7.244	1.970
NT40-50-L335	13.189	12.559	
NT50-50-L200	7.874	7.520	1.970
NT50-50-L335	13.189	12.835	

- JIS taper length with metric pullstud bolt thread

LEVEL MASTER

Two-axis simultaneous detection leveler. LED displays level conditions for both axis simultaneously. LED and buzzer indicate when leveling is completed.



Standard Type



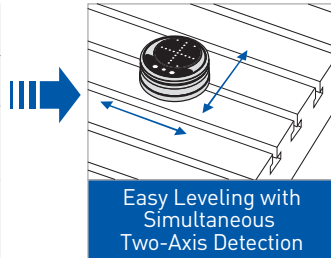
Catalog Number
LVM-01

Wireless Type



Catalog Number
LVM-WL

Simultaneous 2-Axis Detection Saves The Extra Time & Cost Of Using Two Levelers



LED and Buzzer Indicate Leveling Completion

HIGH MODE

When the required level condition is within .01mm/m

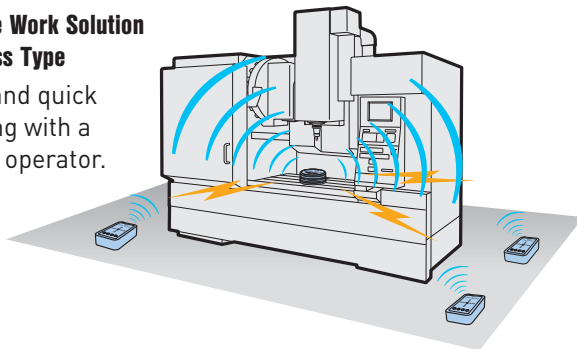
LOW MODE

When the required level condition is within .1mm/m

LED (Blue) & Buzzer are Simultaneously Activated

Remote Work Solution Wireless Type

Easy and quick leveling with a single operator.



Provided with LEVEL MASTER, Aluminum Storage Case, Manual & Inspection Sheet



	LVM-01	LVM-WL	
		Body	Receiver
Minimum Read Value	.01mm Inclination/m	.01mm Inclination/m	
Power Source	AAA batteries [4 pcs.]	AAA batteries [4 pcs.]	AAA batteries [4 pcs.]
Auto Power Off	30 minutes after power is turned on	30 minutes after power is turned on	
Operational Temperature	32-104° F (Recommended 66° F ±9°)	32-104° F (Recommended 66° F ±9°)	
Battery Life	50 hours	30 hours	
Dimensions	ø4.3" x 2.2" H	ø4.3" x 1.7" H	ø5.5" H x 3.2" W x 1.7" D
Weight	2.2 lbs.	2.2 lbs.	.62 lbs.

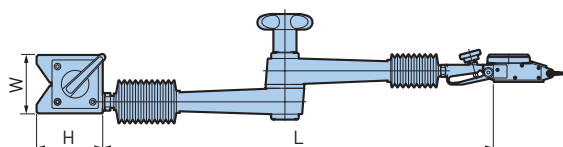
- Batteries not included; use batteries commercially available on the market
- In the case of high precision leveling, we recommend that you check the LEVEL MASTER in advance on a reference level, such as a level block



DIAL INDICATOR STANDS

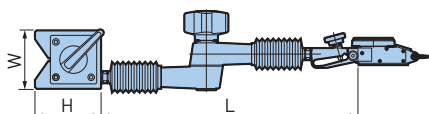
Articulated stands for the demanding user, offering the highest positioning precision and exact measurements in the μm range.

- High clamping force thanks to a strong internal cam structure of steel components.
- Extremely flexible with 360 degrees freedom of positioning controlled by one progressive clamping star grip
- Ideal design for use in measurement, inspection (quality control) and machining
- Ultra strong magnet holds stand firmly in place
- Each stand is equipped standard with (1) magnet, (2) extension arms, (1) DGH dove-tail adapter and (1) cylindrical gage adapter ($\varnothing.375"$)



Type MU/F

Catalog Number	Adapter	Arm Extension Capacity L (From Magnet Top)	Magnet Dimensions W x H x D	Load Capacity Approx.
20.510.102	DGH2	13.937 (354mm)	2.087 x 2.362 x 2.677 (53mm x 60mm x 68mm)	200 lbs (90 kg)
20.510.103	DGH3			
20.510.104	DGH4			



Type SU/F

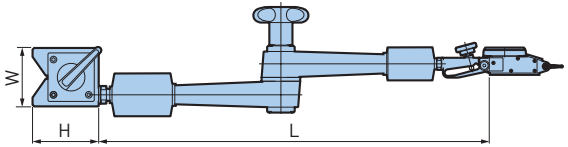
Catalog Number	Adapter	Arm Extension Capacity L (From Magnet Top)	Magnet Dimensions W x H x D	Load Capacity Approx.
20.520.102	DGH2	9.173 (233mm)	2.087 x 2.362 x 1.417 (53mm x 60mm x 36mm)	110 lbs (50 kg)
20.520.103	DGH3			
20.520.104	DGH4			

ACCESSORIES



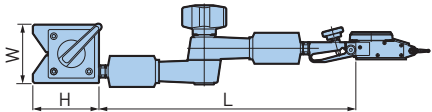
DIAL INDICATOR STANDS (HEAVY DUTY)

Small and Strong for Highest Quality Standards



Type MUVZ/F

Catalog Number	Adapter	Arm Extension Capacity L [From Magnet Top]	Magnet Dimensions W x H x D	Load Capacity Approx.
20.510.203	DGH3	13.937 (354mm)	2.087 x 2.362 x 2.677 (53mm x 60mm x 68mm)	220 lbs (100 kgs)
20.510.204	DGH4			



Type SUVZ/F

Catalog Number	Adapter	Arm Extension Capacity L [From Magnet Top]	Magnet Dimensions W x H x D	Load Capacity Approx.
20.520.213	DGH3	9.173 (223 mm)	2.087 x 2.362 x 2.677 (53mm x 60mm x 68mm)	220 lbs (100 kgs)
20.520.214	DGH4			

ACCESSORIES

ADAPTERS
PG. 578

ARTICULATED ARMS

Maximum Clamping Force at Highest Agility and Indestructible Construction for Daily Use

The three-dimensional articulated arm can easily be attached to machines or other devices via a thread (M6/M8/M10). Cameras, sensors, readers and much more can be held and quickly positioned. Our articulated arms are available with progressive or synchronous tightening, consult BIG DAISHOWA engineering for information and technical specification.

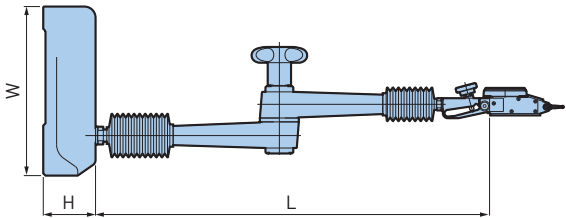


For applications with heavy loads or vibrations, all articulated arms can be equipped with central toothed disks. This form-fitting connection makes any radial displacement of the central joint impossible.

DIAL INDICATOR STANDS

Type MU/FS

Base with 3-point sliding contact and one flat side for parallel measurement.



- 100mm extension arm available to increase work radius [Catalog Number **20.580.513**]

Catalog Number	Adapter	Arm Extension Capacity L (From Magnet Top)	Base Size W x H x D	Weight (Not Including Arm)
20.530.102	DGH2	13.937 (354mm)	5.984 x 1.850 x 5.984 (152mm x 47mm x 152mm)	6.6 lbs. (3 kg)
20.530.103	DGH3			
20.530.104	DGH4			

Type SG

Articulated clamping arm for gluing, welding or soldering, quickly solves all tricky angling problems.

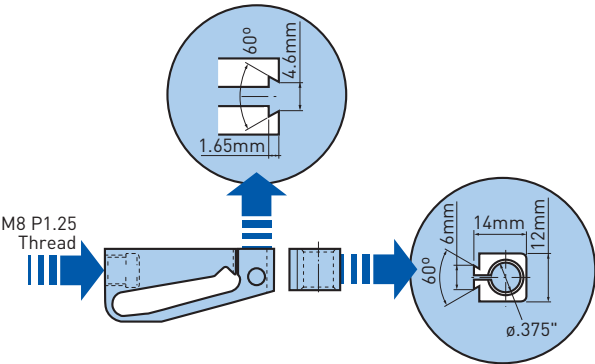


Catalog Number	Description	Extension Number	Extension Length
20.540.001	Type SG 3/4 Arm with One Tension Clamps	No. 3	2.953 (75mm)
		No. 4	3.937 (100mm)
20.540.002	Type SG 4/4 Arm with Two Tension Clamps	No. 4	3.937 (100mm)



DIAL GAGE ADAPTERS

This part forms two opposing legs whose relative position can be fine-adjusted by means of a tensioning screw (DGH3). A special micro model (DGH4) with a fine-adjustment rocker is also available for measurement precision in the μm range. All adapters include a $\varnothing.375''$ cylindrical gage adapter.



DGH2

Catalog Number
20.580.402

- Basic model (without fine-tuning screw)



DGH3

Catalog Number
20.580.403

- Standard adapter for MU and SU stands



DGH4

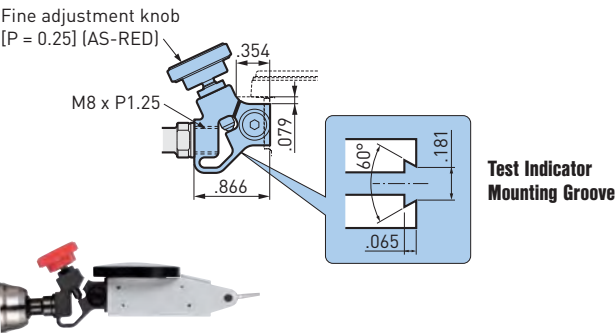
Catalog Number
20.580.404

- Precision micro model



Cylindrical Gage Adapter

Catalog Number	Clamping $\varnothing$
20.580.501	.250
20.580.502	.375
20.580.511	4mm
20.580.512	8mm



Mini-Mini Type

Catalog Number
DGH-MM

- Set Contents: Gage Support/ Fine Adjustment Knob

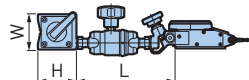
MEASURING INSTRUMENTS



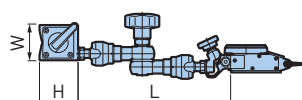
ACCU MINI MINI (DIAL INDICATOR STANDS)

- Very rigid, short and sturdy stand with internal steel cam action components
- Clamping of articulating arms by one progressive clamping star grip
- Ultra strong magnet holds stand firmly in place
- Optional models can be supplied with straight shank (ø12 or 20mm) or HSK shank (E25, E32) instead of the magnet to go directly into a machine tool spindle
- Each stand is equipped standard with a dove-tail adapter; cylindrical gauge adapters are optional items

Magnet Type

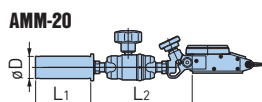
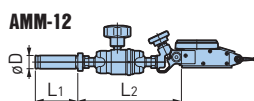


Catalog Number	Magnet Dimensions W x H x D	L
AMM-M	1.260 x 1.378 x 1.378 (32mm x 35mm x 35mm)	3.543

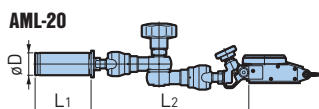
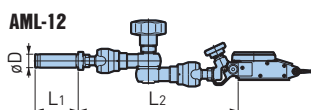


Catalog Number	Magnet Dimensions W x H x D	L
AML-M	1.260 x 1.378 x 1.378 (32mm x 35mm x 35mm)	5.433

Straight Shank Type

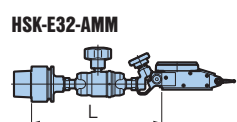
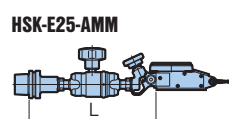


Catalog Number	øD	L1	L2
AMM-12	12mm	1.535	3.701
AMM-20	20mm	1.969	3.622



Catalog Number	øD	L1	L2
AML-12	12mm	1.535	5.630
AML-20	20mm	1.969	5.551

HSK Shank Type



Catalog Number	L
HSK-E25-AMM	4.567
HSK-E32-AMM	4.685

ACCESSORIES



TOOL ASSEMBLY DEVICES

TOOL PRO

Tool holding device for the assembly and disassembly of tooling systems.



Steep Taper

Catalog Number	Type	
	Taper	Size
31.300.001	ISO	30
31.300.002		40
31.300.004		50
31.300.020		60

HSK Taper

Catalog Number	Type	
	Taper	Size
31.300.015	HSK	A40
31.300.008		A50
31.300.006		A63
31.300.005		A100
31.300.029		A125

Polygon Taper

Catalog Number	Type	
	Taper	Size
31.300.065	C	5
31.300.066		6

- HSK Type E/F and VDI also available
- For full 360° rotation, remove safety pin from rear of base; consult BIG DAISHOWA engineering for additional details



VARIO

Quick-change system uses one permanently mounted base unit and multiple adapters for different types and sizes of tool shanks.

Catalog Number	Description
31.300.100	Base Unit

Steep Taper Adapters

Catalog Number	Description	Type	
		Taper	Size
31.300.110	Fixed	ISO	30
31.300.112			40
31.300.114			50
31.300.271	Spin	ISO	30
31.300.272			40
31.300.273			50
31.300.117	Fixed	AGH	35

HSK Taper Adapters

Catalog Number	Description	Type	
		Taper	Size
31.300.130	Fixed	HSK	A32
31.300.131			A40
31.300.132			A50
31.300.133			A63
31.300.134			A80
31.300.135			A100
31.300.283	Spin	HSK	A63
31.300.284			A80

Polygon Taper Adapters

Catalog Number	Description	Type	
		Taper	Size
31.300.153	Fixed	C	3
31.300.154			4
31.300.155			5
31.300.156			6
31.300.158			8
31.300.292	Spin	C	6
31.300.293			8

- HSK Type E/F and VDI also available
- For tapers not shown please contact BIG DAISHOWA

SPIN

Tools can be locked at increments of 30° by engaging an index pin. The adapter can also be rotated 180° and locked into any position in increments of 45°.

Steep Taper

Catalog Number	Type	
	Taper	Size
31.300.202	ISO	40
31.300.204		50

HSK Taper

Catalog Number	Type	
	Taper	Size
31.300.214	HSK	A63
31.300.215		A80
31.300.216		A100
31.300.217		A125

- For full 360° rotation, remove safety pin from rear of base; consult BIG DAISHOWA engineering for additional details
- For tapers not shown please contact BIG DAISHOWA

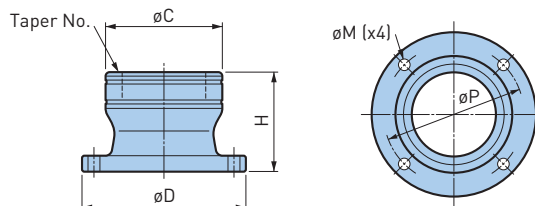


TOOL ASSEMBLY DEVICES



KOMBI GRIP

Innovative two-way clutch and needle roller clamping system ensures secure clamping at the tool flange periphery. Safe design eliminates any possibility of damage to the shank taper during the tightening process.



Catalog Number	HSK (Form A/E/F)	BIG CAPTO	øC	øD	H	øP	øM
KG25R	25	—	1.890	3.110	2.559	2.441	.276 (For M6) or UNC 1/4
KG32R	32	C3	2.165	3.346	2.756	2.717	
KG40R	40	C4	2.480	3.661		3.031	
KG50R	50	C5	2.953	4.134		3.504	
KG63R	63	C6	3.465	4.862	2.953	4.154	.354 (For M8) or UNC 5/16
KG80R	80	C8	4.213	5.591	3.543	4.882	
KG100R	100	—	5.000	6.378	3.937	5.669	

- Mounting bolts (4 pcs.) not included
- KOMBI GRIP can be used for BIG CAPTO; polygon taper made by other manufacturers cannot be used

CAUTION

KOMBI GRIP must be securely fixed to a bench with 4 mounting bolts.

ST LOCK

Ideal fixture for the setup of cylindrical shank tool holders. Clamps ø20, 25 & 32mm shanks by replacing the sleeve.



Catalog Number
STL40

- 1 pc. each of ø20mm, 25mm and 32mm sleeves are included
- Mounting bolts (4 pcs.) not included

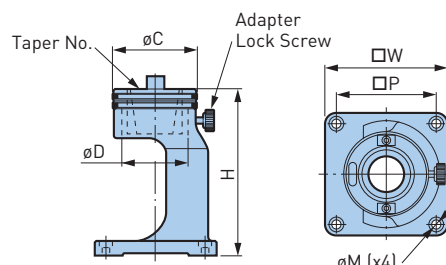
CAUTION

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

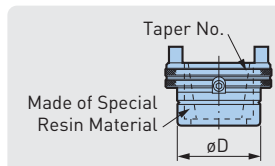
TOOL ASSEMBLY DEVICES

TOOLING MATE

For mounting and removal of pullstud bolts and tools.



Replaceable Adapter



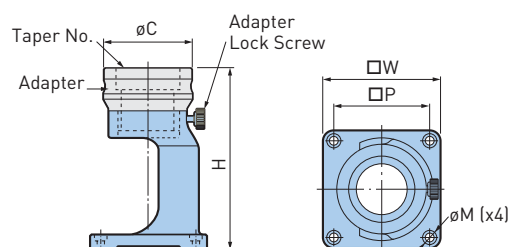
Catalog Number	CV/BT	øC	øD	H	øW	øP	øM	Adapter Model
TMS40-30	30	2.992	2.362	5.906	4.331	3.543	.276 (for M6)	TMA40-30
TMS40-40	40							TMA40-40
TMS50-40	40	4.134	3.465	7.480	6.299	5.118	.354 (for M8)	TMA50-40
TMS50-50	50							TMA50-50

- 1 adapter is included
- Adapters can be ordered individually

- Adapter lock screw is available as a spare part (Model: RTM0615)
- Mounting bolts (4 pcs.) not included

CAUTION

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



Catalog Number	HSK	BIG CAPTO	øC	H	øW	øP	øM	Adapter Model
TMS40-32R	32	—	2.992	6.496	4.331	3.543	.276 (for M6) or UNC 1/4	TMA40-32R
TMS40-40R	40	C4						TMA40-40R
TMS40-50R	50	C5						TMA40-50R
TMS40-63R	63	C6	3.425	6.772	6.299	5.118	.354 (for M8) or UNC 5/16	TMA40-63R
TMS50-63R	63	C6	4.094	8.071				TMA50-63R
TMS50-80R	80	C8	4.488	8.465				TMA50-80R
TMS50-100R	100	—	4.882	8.622				TMA50-100R

- 1 adapter is included
- Adapters can be ordered individually
- Adapter lock screw is available as a spare part (Model: RTM0615)

- Mounting bolts (4 pcs.) not included
- Tooling Mate can be used with BIG CAPTO; polygon taper made by other manufacturers cannot be used

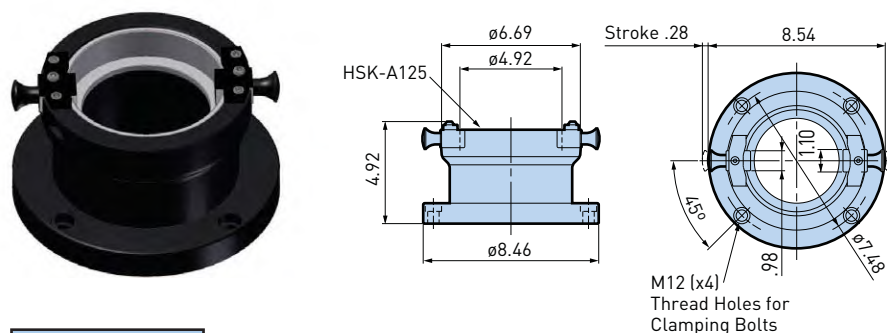
CAUTION

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

TOOL ASSEMBLY DEVICES

TOOLING MATE

For assembling and disassembling cutting tools.



Catalog
Number

TMS-HSK-A125

- Dedicated for HSK-A125 interface
- Mounting bolts (4 pcs.) not included

CAUTION

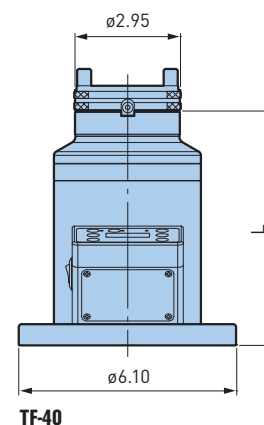
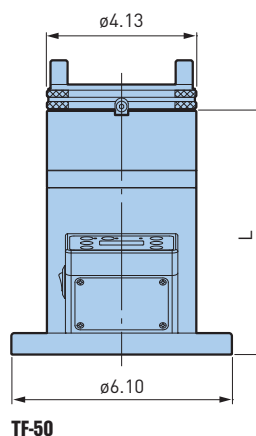
TOOLING MATE must be securely fixed to a bench with 4 mounting bolts.

TOOL ASSEMBLY DEVICES

TORQUE FIT

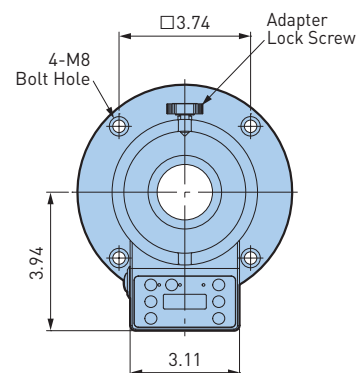
Tooling Fixture with Tightening Torque Indication Function

- Torque values of all BIG DAISHOWA collet chucks are preset
- Notification by buzzer near the correct torque
- USER-Mode allows setting of desired torque value



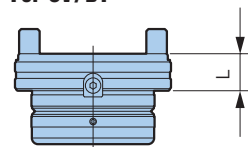
Catalog Number	Torque Setting Range	L	Adapter	Input Voltage	Weight (lbs.)
TF-40	4-80 Nm	6.57	TMA40-□	100-240V	17.6
TF-50		6.77	TMA50-□		

- Adapter must be ordered separately



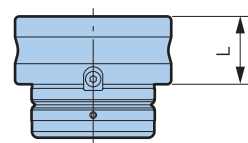
ADAPTERS (OPTIONAL)

For CV/BT



Catalog Number	Body Model	Taper	L	Weight (lbs.)
TMA40-30	TF-40	BT30	.709	1.8
TMA40-40		CV/BT40		1.3
TMA50-40	TF-50	CV/BT40		5.1
TMA50-50		CV/BT50		2.9

For HSK/BIG CAPTO



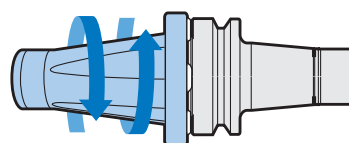
Catalog Number	Body Model	HSK	BIG CAPTO	L	Weight (lbs.)
TMA40-32R	TF-40	32	—	1.30	3.1
TMA40-40R		40	C4		2.7
TMA40-50R		50	C5		2.0
TMA40-63R		63	C6	1.57	2.0
TMA50-80R	TF-50	80	C8	1.69	5.5
TMA50-100R		100	—	1.85	4.0

CLEANERS



α TOOLING CLEANER

For the cleaning of both mating surfaces of BIG-PLUS tool holders, which require absolute cleanliness for optimum performance. Oil and particles on both the taper and flange of 7/24 taper shanks are easily removed.



Catalog Number	Shank Size
SCE-30	No. 30
SCE-40	No. 40

TAPER CLEANER (HSK EXTERNAL)

Reliable taper cleaners for the efficient cleaning of HSK tool holder shanks. Cleaning strips positioned at well spaced intervals will remove even large residual particles. Sturdy construction with high oil and grease resistance.



Catalog Number	Description	Taper Size
SCE-HSK40	Taper Cleaner w/ Handy Cap	HSK40
SCE-HSK40H	Taper Cleaner w/ Cylindrical Handle	HSK40
SCE-HSK50	Taper Cleaner w/ Handy Cap	HSK50
SCE-HSK50H	Taper Cleaner w/ Cylindrical Handle	HSK50
SCE-HSK63	Taper Cleaner w/ Handy Cap	HSK63
SCE-HSK63H	Taper Cleaner w/ Cylindrical Handle	HSK63
SCE-HSK80	Taper Cleaner w/ Handy Cap	HSK80
SCE-HSK80H	Taper Cleaner w/ Cylindrical Handle	HSK80
SCE-HSK100	Taper Cleaner w/ Handy Cap	HSK100
SCE-HSK100H	Taper Cleaner w/ Cylindrical Handle	HSK100

CLEANERS



SPINDLE CLEANERS

Clean tapered spindles maintain precision and prolong the life of machine tools, cutting tools and tool holders.

- High oil- and grease-resistance
- Plastic injection molded core with fluted locations for cleaning strips ensures accurate sizing and cleaning efficiency
- Cleaning strips maintain adhesion to the taper core due to inset location even under scrubbing action
- Cleaning strips positioned at well spaced intervals to remove large residual particles
- A quality control product



STEEP TAPER (WITH PULL STUD RECESS)

Catalog Number	Type	
	Taper	Size
SC20	ISO	20
SC30		30
SC40		40
SC45		45
SC50		50



HSK TAPER

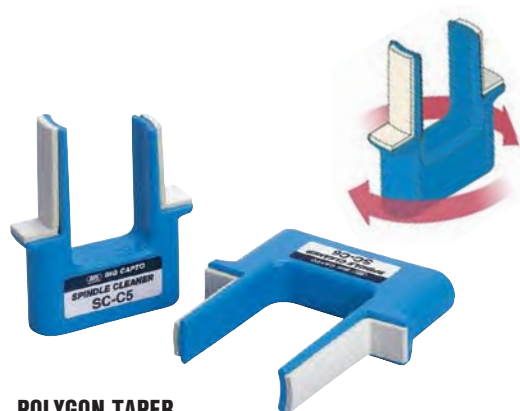
Catalog Number	Type	
	Taper	Size
SC-HSK20E	HSK-E	20
SC-HSK25	HSK-A	25
SC-HSK25E	HSK-E	
SC-HSK32	HSK-A	32
SC-HSK32E	HSK-E	
SC-HSK40	HSK-A	40
SC-HSK40E	HSK-E	
SC-HSK40F	HSK-F	
SC-HSK50	HSK-A	50
SC-HSK50E	HSK-E	

Catalog Number	Type	
	Taper	Size
SC-HSK63	HSK-A	63
SC-HSK63E	HSK-E	
SC-HSK63F	HSK-F	
SC-HSK80	HSK-A	80
SC-HSK80F	HSK-F	
SC-HSK100	HSK-A	100
SC-HSK100E	HSK-E	
SC-HSK125	HSK-A	125



MORSE TAPER

Catalog Number	Type	
	Taper	Size
SC1	MT	1
SC2		2
SC3		3
SC4		4
SC5		5
SC6		6



POLYGON TAPER

Catalog Number	Type	
	Taper	Size
SC-C3	C	3
SC-C4		4
SC-C5		5
SC-C6		6
SC-C8		8

CLEANERS

CHIP BLOWER

Air Pressure Removes Cutting Chips and Coolant

- Reduce environmental impact
- Improved machine utilization rate
- Increased productivity
- Can be used with vertical and horizontal machining centers

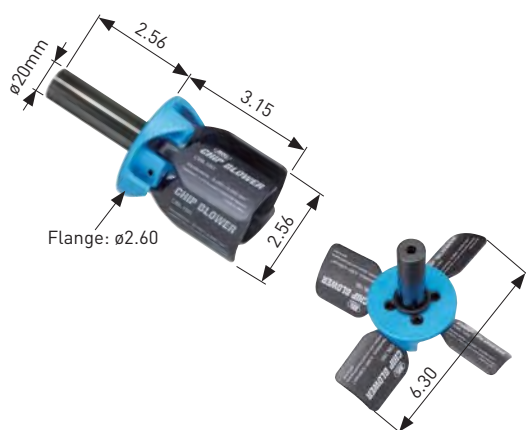


High-pressure washing with center-through coolant



Blows away cutting chips with powerful air pressure

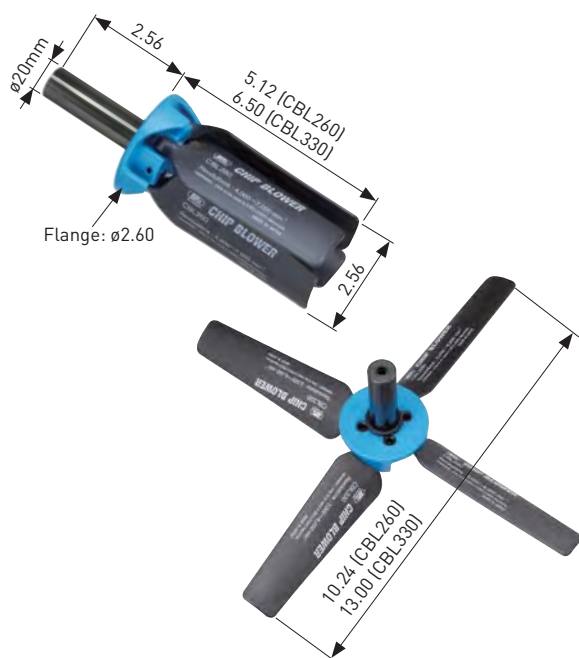
ø160 Steel Shank Type



Catalog Number	ST20S-CBL160
Startup Spindle Speed*	500 rpm (.5 sec) → 1,000 rpm (.5 sec) → 2,000 rpm (.5 sec)
Recommended Spindle Speed	Min. 6,000 Max. 9,000 rpm
Rotation Direction	Forward
Distance to the Workpiece Surface to be Cleaned (with wing opened to maximum)	3.94"-5.91"
Recommended Movement Feed	118-394 ipm

The Wing May Open During ATC When it is Used with an Ultra-High Speed ATC Machining Center

ø260 & ø330 Steel Shank Type



Catalog Number	ST20S-CBL260	ST20S-CBL330
Startup Spindle Speed*	500 rpm (.5 sec) → 1,000 rpm (.5 sec) → 2,000 rpm (.5 sec)	
Recommended Spindle Speed	Min. 4,000 Max. 7,000 rpm	Min. 3,000 Max. 6,000 rpm
Rotation Direction	Forward	
Distance to the Workpiece Surface to be Cleaned (with wing opened to maximum)	3.94"-5.91"	
Recommended Movement Feed	118-394 ipm	

The Wing May Open During ATC When it is Used with an Ultra-High Speed ATC Machining Center

CLEANERS

CHIPFAN

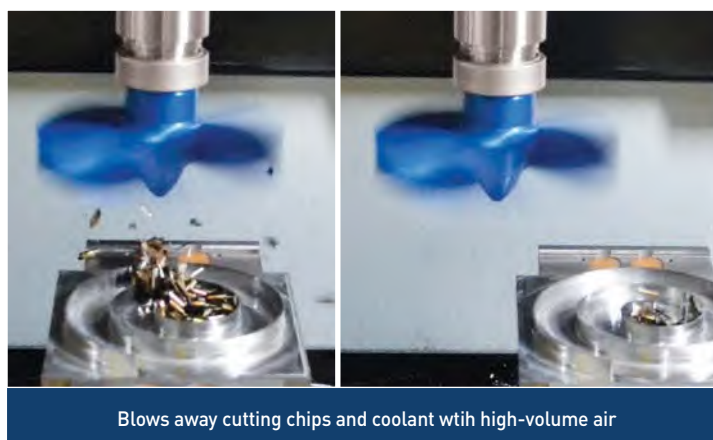
Chip & Coolant Fan

Fast, safe chip and coolant cleaning without stopping production. Your machine spindle spins the ChipFan to provide high-volume air cleaning power.

- Coolant through
- 12,000 RPM Max
- Safe, fast method of removing chips and coolant
- Balanced integral design for high speed
- Made from high-strength aluminum with anodized coating for long life and durability
- Quieter work environment



Catalog Number	Shank	Blade	Length
ST.750-CF125	.750	4.92	2.36
ST20-CF125	20mm		



Operating Instructions

- Use in enclosed machine centers
- Install into a collet chuck
- Rotation is clockwise
- Optimum feed rate is 120-390 in/min

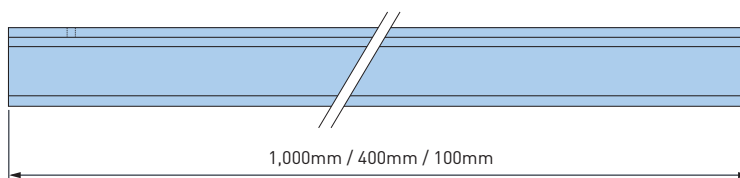
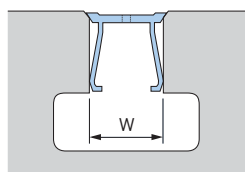
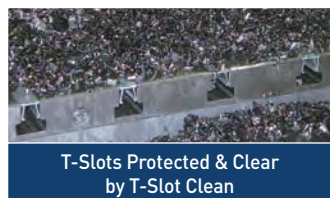
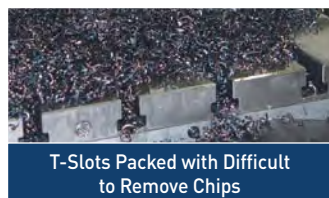


CLEANERS

T-SLOT CLEAN

Improve your work safety environment and efficiency of table cleaning. Save the time required to clean T-Slots packed with chips. Coolant quickly removes heated swarf and helps to prevent thermal displacement of the machine.

- Quick removal of chips from a machine
- Faster table cleaning—a reduction of clean-up time
- Volume control of heated chips—better machining precision
- Three sizes of T-Slot widths are available to fit your machine table



Standard Set

Type	Catalog Number	Width W	Width Tol. (H12)	Contents
Metric	TS14-S	14mm	+0.18 0	100mm x 4 pcs. 400mm x 4 pcs.
	TS18-S	18mm		
	TS22-S	22mm	+0.21 0	

- If necessary, cut to the length that you need
- Removal pin is included

Cost Saving Set

Type	Catalog Number	Width W	Width Tol. (H12)	Contents
Metric	TS14-10S	14mm	+0.18 0	TS14-S x 10 sets
	TS18-10S	18mm		TS18-S x 10 sets
	TS22-10S	22mm	+0.21 0	TS22-S x 10 sets

- Contains 10 Standard Sets for cost savings

Long Set

Type	Catalog Number	Width W	Width Tol. (H12)	Contents
Metric	TS14-400L-100P	14mm	+0.18 0	400mm x 100 pcs.
	TS18-400L-100P	18mm		
	TS22-400L-100P	22mm	+0.21 0	

Extra Long Set

Type	Catalog Number	Width W	Width Tol. (H12)	Contents
Metric	TS18-1000L-10P	18mm	+0.18 0	1,000mm x 10 pcs.
	TS22-1000L-10P	22mm	+0.21 0	

HIGHER PERFORMANCE. GUARANTEED.

BIG DAISHOWA designs, manufactures and markets premium high-precision tooling systems and solutions for the automotive, military, aerospace, energy, and micro-technology industries. Our product portfolio comprises of more than 20,000 precision tools, which adhere to the highest quality standards. Our products are of the utmost quality—manufactured with materials and craftsmanship that enable superior performance. BIG DAISHOWA has grown into a well-recognized global manufacturer, with facilities in Japan, Switzerland, Germany and the USA.

We have exceptionally high standards for the products we represent. Not every shop requires extreme accuracy or total efficiency. But for those that do, there is no better partner than BIG DAISHOWA. If your challenge is to manufacture with greater responsibility and accuracy, and to find products and processes to improve the efficiency of your applications, we want to partner with you.

BIG DAISHOWA delivers the most accurate and efficient tooling solutions – guaranteed.



BIG DAISHOWA — USA



BIG DAISHOWA — JAPAN



BIG DAISHOWA — SWITZERLAND



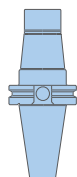
BIG DAISHOWA — GERMANY

TOTAL TOOLING SOLUTIONS

BIG DAISHOWA offers a wide range of premium products for the highest performance guaranteed.

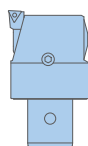


TOOL HOLDERS



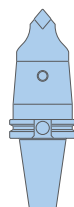
- BIG-PLUS, HSK, BIG CAPTO
- Collet Chucks
- Hydraulic Chucks
- Milling Chucks
- Spindle Attachments

BORING TOOLS



- Rough Boring
- Large Dia. Boring
- Automatic Boring
- Fine Boring
- Digital Boring

TURNING TOOLS



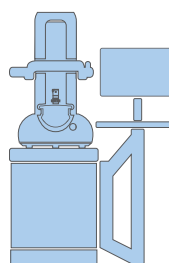
- CNC Lathe Tooling
- Multi-Axis Turning Tools
- Swiss Automatic Lathe Tooling

CUTTING TOOLS



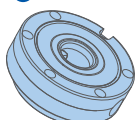
- Indexable Cutting Tools
- Solid Carbide Cutting Tools
- High Speed Steel (HSS)

TOOL MEASURING & MANAGEMENT



- Tool Presetters
- Tool Management
- Measuring Devices

ZERO-POINT WORKHOLDING



- Round Chucks
- Multi-Axis Systems
- Stabilizer System
- Preassembled Chucks
- Chain Clamping



HIGHER PERFORMANCE. GUARANTEED.

Tool Holders | Boring Tools | Cutting Tools | Workholding | Tool Measuring

BIG DAISHOWA Inc.

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