

ENGLISH

2024 DINE CATALOGUE

TOTAL TOOLING SOLUTION

DINE GROUP

We will be the leading global company with the **best technical skills**





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DINE
DINE GROUP

DINE Inc. makes a better world with its **technologies and quality** in addition to **customer confidence.**

By supplying our customers with high-quality products, we contribute to the development of the automobile, aerospace, electronics, machinery, and plant industries. Furthermore, we will make every effort to demonstrate the excellence of Korean cutting tools to the world by exporting our superior-quality cutting tools overseas.

DINE
DINE GROUP





Achieved ISO quality management system certification

KS Q ISO 9001:2009 / ISO 9001:2008

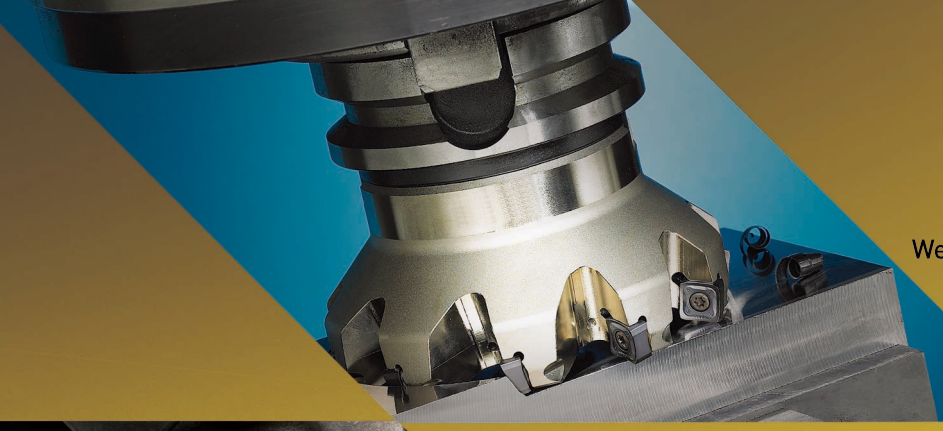
SBC certifies that the above company's environmental management system meets the requirements of the system standards and certification scope below.



Achieved ISO environmental management system certification

KS I ISO 14001:2009 / ISO 14001:2004

SBC certifies that the above company's management system meets the requirements of the standards and certification scope below.



We have manufactured high-quality
T/H products **using high-precision**
equipment and advanced CAM software.

T/H



We have manufactured cBN and
PCD tools essential for machining
automobiles, airplanes, and ships, etc.

cBN

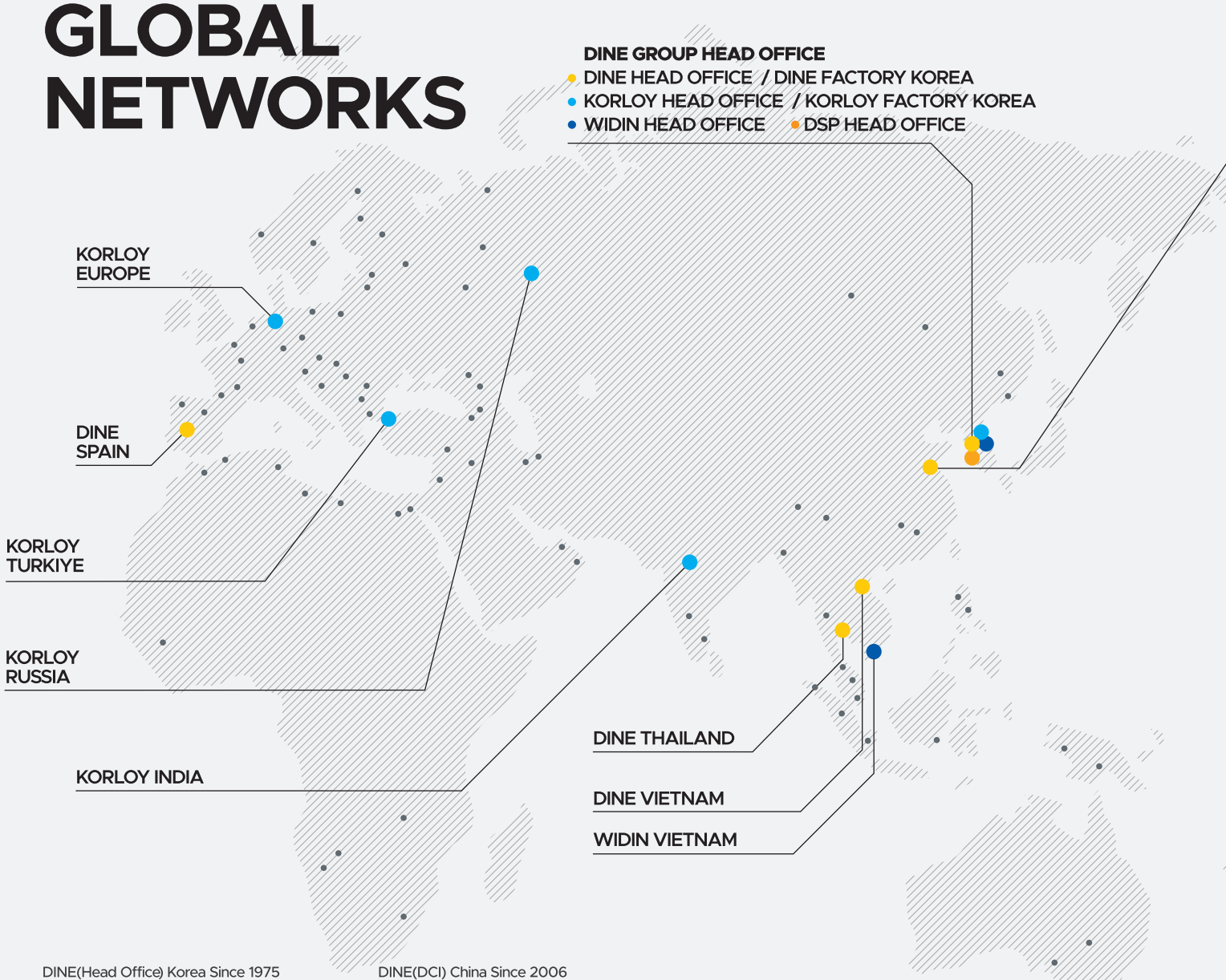
T/S

We have also manufactured
MCT (Machining Center) tools
and T/S (Tooling System).



Homepage Instagram YouTube

DINE GROUP
GLOBAL NETWORKS



DINE(Head Office) Korea Since 1975



DINE(DCI) China Since 2006



DINE
KORLOY
DSP
WIDIN
Overseas Agents

DINE(DVC) Vietnam Since 2017



DINE(DTC) Thailand Since 2020



DINE(DMS) Spain Since 2022





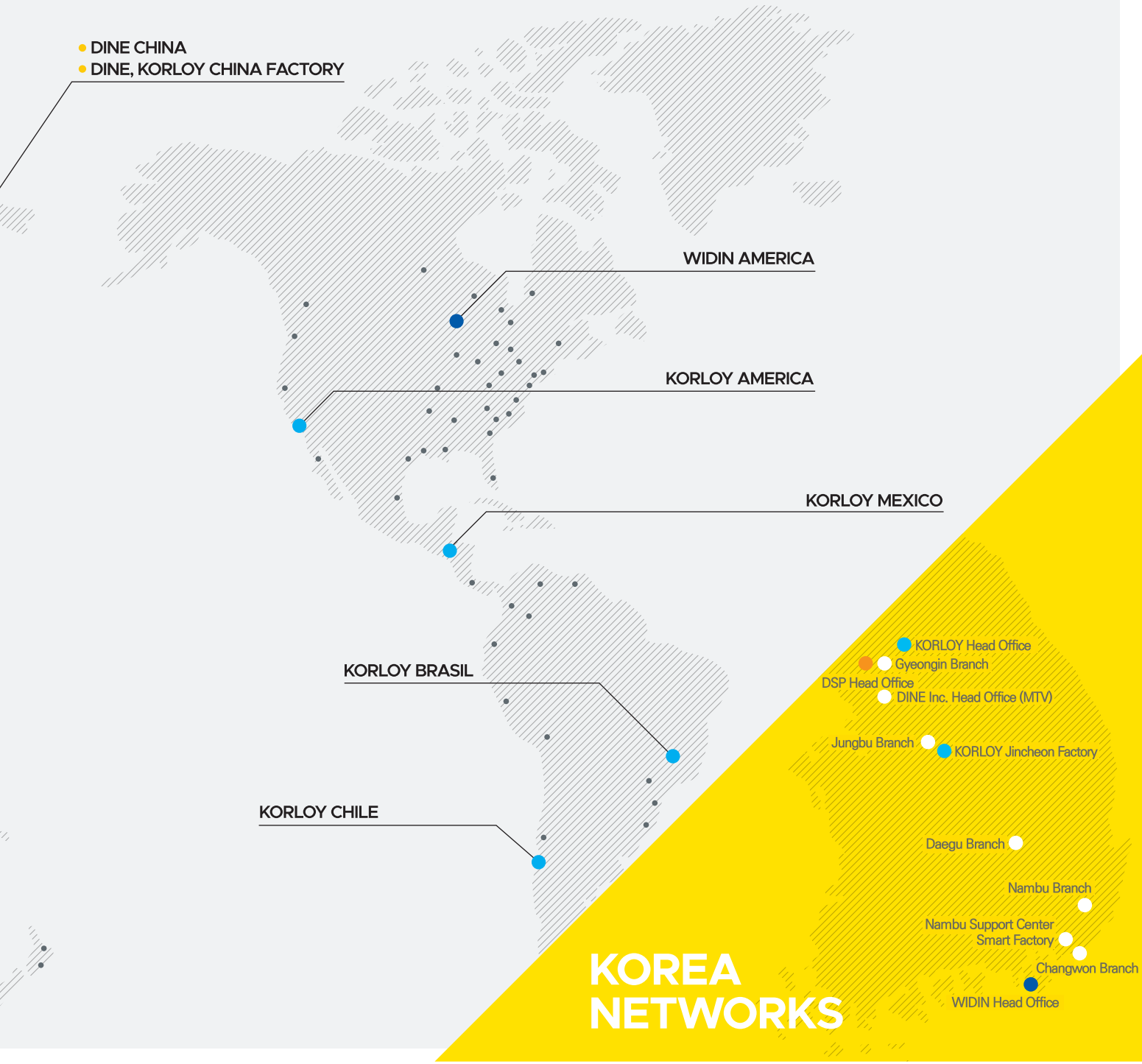
KORLOY Korea Since 1966



WIDIN Korea Since 1988



DSP Tooling inc. Korea Since 2000



KOREA NETWORKS

Gyeongin Branch

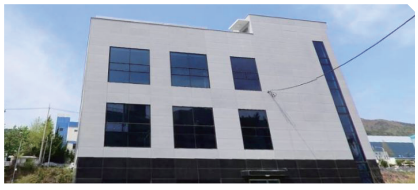


Jungbu Branch



Daegu Branch





Nambu Branch



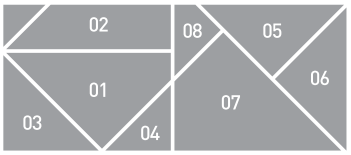
Changwon Branch



Nambu Support Center(SMART FACTORY)



DINE PRODUCTS



1 Chuck

High-speed, high-precision machining with strong gripping power and perfect balancing work

2 Boring Tool

DINOX boring tools are designed with precise and reliable tolerances for stable and fast machining, and produce that can be work from small to large diameters.

3 Standard

Shank Standard Specification and Parts Information



4 Arbor

A product with strong clamping force
by fastening tools with bolts

5 Angular Head

A tool holder that can perform two functions with one machine
with various machining angles and stable operation

6 Device & Accessory

Product and Measuring instrument for MCT Cutting

7 PCD

A tool for cutting non-ferrous work piece that uses synthetic diamond
to ensure an excellent machining surface and tool life.

8 cBN

It is a cutting tool made of cubic boron nitride for processing
hard materials and guarantees excellent cutting performance
and stable tool life



DINE HISTORY

1975

1975. 07 Founded Hanju Trading Company (sale of imported Cemented carbide alloy cutting tools)
1988. 07 Converted into a corporation and renamed DINE, Inc., Im Sang-jin inaugurated
1989. 02 Produced holders and locator, started OEM supply to Korloy
1990. 04 The manufacturing technology of NC Tooling System was introduced from Kyoritsu Seiki (Japan); Made a contract (for 5 years); Approved by the Commerce-Industry
1994. 08 Ministry Signed a contract for introducing the manufacturing technology of cBN cutting tools with Sumitomo in Japan
1995. 12 TOOLING SYSTEM factory was transferred (Sihwa Industrial Complex own factory move-in)
1997. 03 cBN/PCD factory was transferred (Sihwa Industrial Complex)
1997. 09 Started the localization of the integral angular head of Kyoritsu Seiki (Japan)
1998. 11 The head office was transferred (1257-4, Jeongwang-dong, Siheung-si, Gyeonggi-do (Sihwa Industrial Complex 2-da 705))
1999. 08 Changed company name to DINE after the merger of (Dine, Inc., Dine Co., Ltd., Ilshin Industry, Presto Co., Ltd.)

2000

2000. 02 Designated as IBK Family Enterprise (IBK : outstanding enterprise)
2001. 07 Achieved ISO 9001 : 2000 certification (SMB Certification Center)
2001. 11 Awarded the 3 Million Dollar Export Tower Prize on the 38th Trade Day
2003. 03 Applied for a patent on milling chuck with tightening precision improved (application no. 10-2003-0015317) Awarded the 5 Million
2004. 11 Dollar Export Tower Prize on the 41st Trade Day
2006. 01 Opened the second Sihwa factory
2006. 04 Selected as a company qualified for SMB learning organization business (HRD Korea)
2006. 06 Established DINE China, Inc. (DCI)
2006. 10 Established DINE Tool R&D Center; Approved by KOITA
2006. 11 Awarded the 10 Million Dollar Export Tower Prize on the 43rd Trade Day
2006. 12 Designated as a technology-innovation SMB (INNO-BIZ) by the SMBA
2007. 01 Opened the knowledge management system "Dian(다이안)"
2007. 04 KIPO No.10-0713805 "Milling chuck with a strong structure preventing foreign substance penetration"
2007. 06 Opened a call center
2007. 08 Selected as a Gyeonggi-do promising SMB (for 5 years)
2007. 10 Established a manufacturing corporation in China
2007. 12 Received a presidential citation on the 7th Machinist Day (Chairman Yoon Hye-seop)
2008. 07 Broke ground for the manufacturing corporation in China
Achieved zero hazard goal twofold
2008. 10 Achieved zero hazard goal threefold
2008. 12 Awarded the 20 Million Dollar Export Tower Prize on the 45th Trade Day /
Awarded the 3rd Gyeonggi SMB Prize - export field
2009. 12 Signed an MOU with the Qingdao Bonded Area / Held the completion ceremony for the manufacturing corporation in China

2010

2010. 02 Applied for a patent on the tool holder mounting system (application no. 10-2010-0012422)
2010. 03 Built WEB ERP (enterprise resource planning)
2010. 06 System Signed a function promotion agreement (HRD Korea)
2010. 07 Awarded the 8th Siheung-si Woman Prize (Chairman Yoon Hye-seop) - economy field
2010. 09 Selected as an outstanding enterprise for human resource development (Best HRD)
2010. 11 Productivity management system (PMS) was confirmed / Awarded IBK Export Tower - Stone Tower / Designated as a management-innovation SMB (MAIN-BIZ) by the SMBA



2011. 03 Awarded "Trader prize of this month who has brought glory to Korea" - Chairman Yoon Hye-seop
2011. 05 "National team member agreement for the 41st UK International Vocational Training Competition"
2011. 08 KIPO No.10-1060687 Cutting tool module of a machine tool using the dual pitch screw method
2011. 09 ISO 14001 certification
2011. 11 Zero hazard goal achievement threefold certification (Head office), Zero hazard goal achievement threefold certification (Factory)
2011. 12 Awarded the 30 Million Dollar Export Tower Prize on the 48th Trade Day
2012. 04 Achieved Excellent Green Biz certification (SMBA) - grade A
2012. 05 Selected as an enterprise qualified for Korean-style hidden champion promotion (Export-Import Bank of Korea)
2012. 08 Signed a rehabilitation social contribution project agreement (Siheung City Hall)
2013. 03 Received a citation from the Minister of Knowledge Economy on the 40th Day of Commerce and Industry : Yoon Hye-seop
2013. 04 Received a citation from the Chairman of Fair Trade Commission on the 12th Day of Fair Trade : Yoon Hye-seop
2013. 07 Established FTA SYSTEM
2013. 08 Obtained country of origin certification & exporter certification
2013. 12 Awarded Siheung City 1% welfare foundation sponsor company citation by Siheung Mayor
2014. 06 Acquired DSP Tooling (DSP)
2014. 12 Established the standard cost operation system
2015. 07 Opened the Incheon Logistics Center (DIW)
2015. 12 Head office and factory were integrated and transferred - Siheung Smart Hub MTV Industrial Complex
2016. 01 Introduced and established an automatic warehouse system / Established small tool production system for the IT industry / Newly established Busan branch
2016. 04 Held the completion ceremony for the Sihwa Smart Hub MTV new factory
2016. 07 Awarded a presidential medal on the 2nd Day of Enterprise of Middle Standing (Chairman Yoon Hye-seop)
2016. 11 Awarded the Creation Technology Prize in the autumn symposium by KSMTE (Chairman Yoon Hye-seop)
2016. 12 Awarded the 50 Million Dollar Export Tower Prize on the 55th Trade Day (Achieved 100 billion won of annual sales)
2017. 01 Launched TAUMAX second brand; started to sell products
2017. 02 Opened Vietnam branch (DVC)
2017. 03 Started the solar energy generation project
2017. 04 Selected as a 2017 small hidden champion (MOEL)
2018. 01 Newly established Robot Division
2018. 06 Celebrated Company's 30th anniversary
2018. 08 Opened Nambu Branch (Ulsan/Changwon/Busan integrated)
2018. 10 Acquired WIDIN Co., Ltd.
2019. 11 Opened DINE SMART FACTORY Nambu Support Center
2020. 01 Changed to independent CEO system, inaugurated as CEO Yim Soo-min
2020. 03 Opened Thailand Branch (DTC)
2021. 12 Received the Innovative Growth Management Award (corporate category)
2022. 01 Establishment of Changwon Sales Office (Changwon, Jinjoo, Sacheon, West Gyeongnam area)
2022. 06 Established Southern Europe Branch (DMS)

2024



DINOX

TOOL APPLICATION

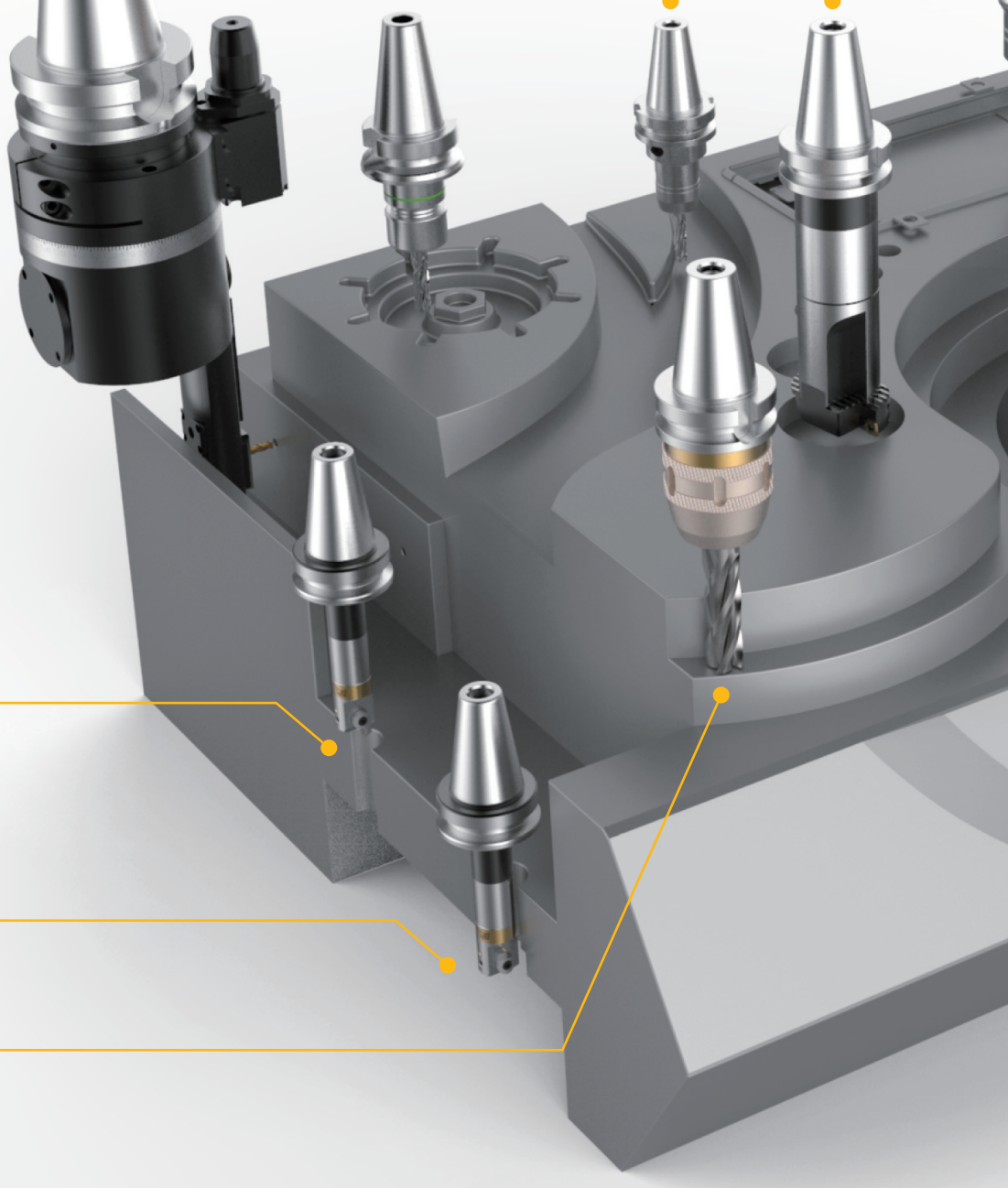
GSK
Milling, Drilling

OFH
Deburring

DBC
Rough Boring

SAH
Milling, Drilling,
Flank Machining
Inner Side Machining

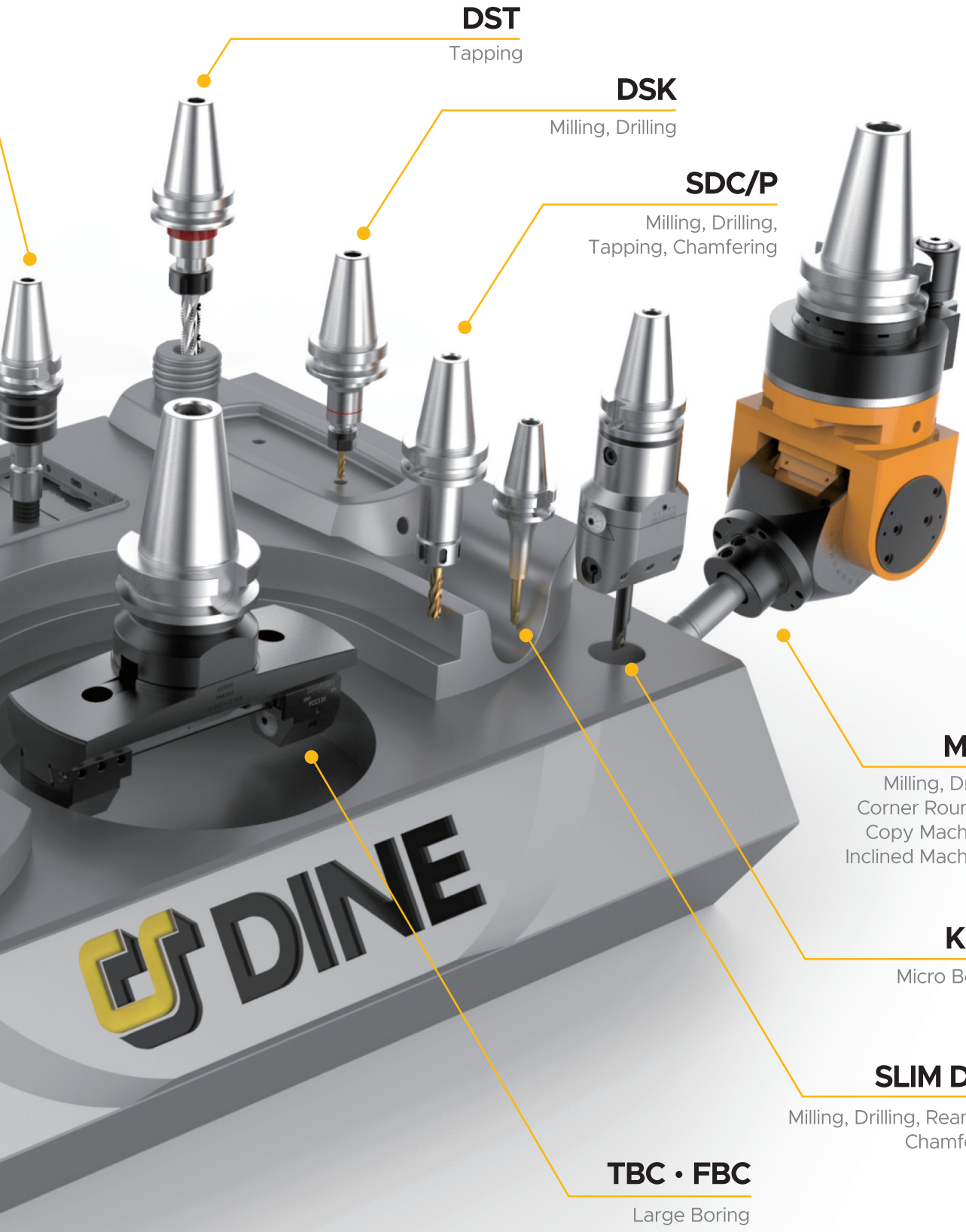
DHE
Milling, Drilling,
Reaming



FBH/B
Boring

FBH/B
Back Boring

NPM
Milling, Drilling



DST
Tapping

DSK
Milling, Drilling

SDC/P
Milling, Drilling,
Tapping, Chamfering

MAH
Milling, Drilling
Corner Rounding
Copy Machining
Inclined Machining

KMB
Micro Boring

SLIM DSC
Milling, Drilling, Reaming,
Chamfering

TBC • FBC
Large Boring

DINOX

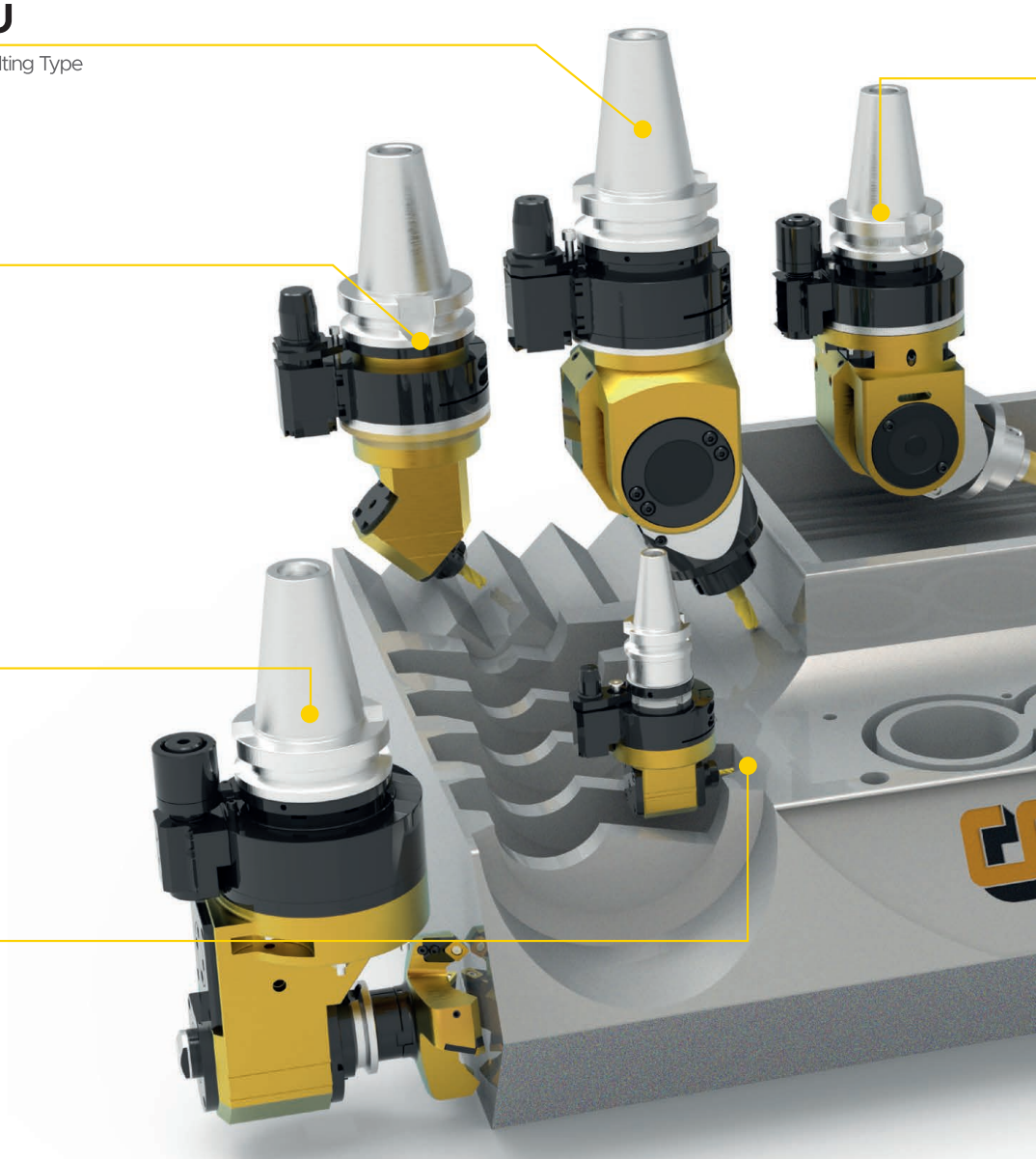
ANGULAR HEAD APPLICATION

KHU
0~90° Tilting Type

KAC
45° Angle Type

HRAG
Attachment Type
(Rigid Reinforced Type)

KAH
90° Angle Type



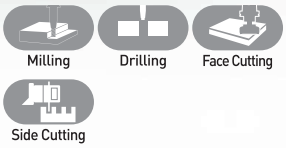


KHU
0~90° Tilting Type





KAG
Attachment Type



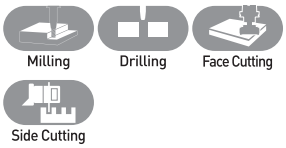


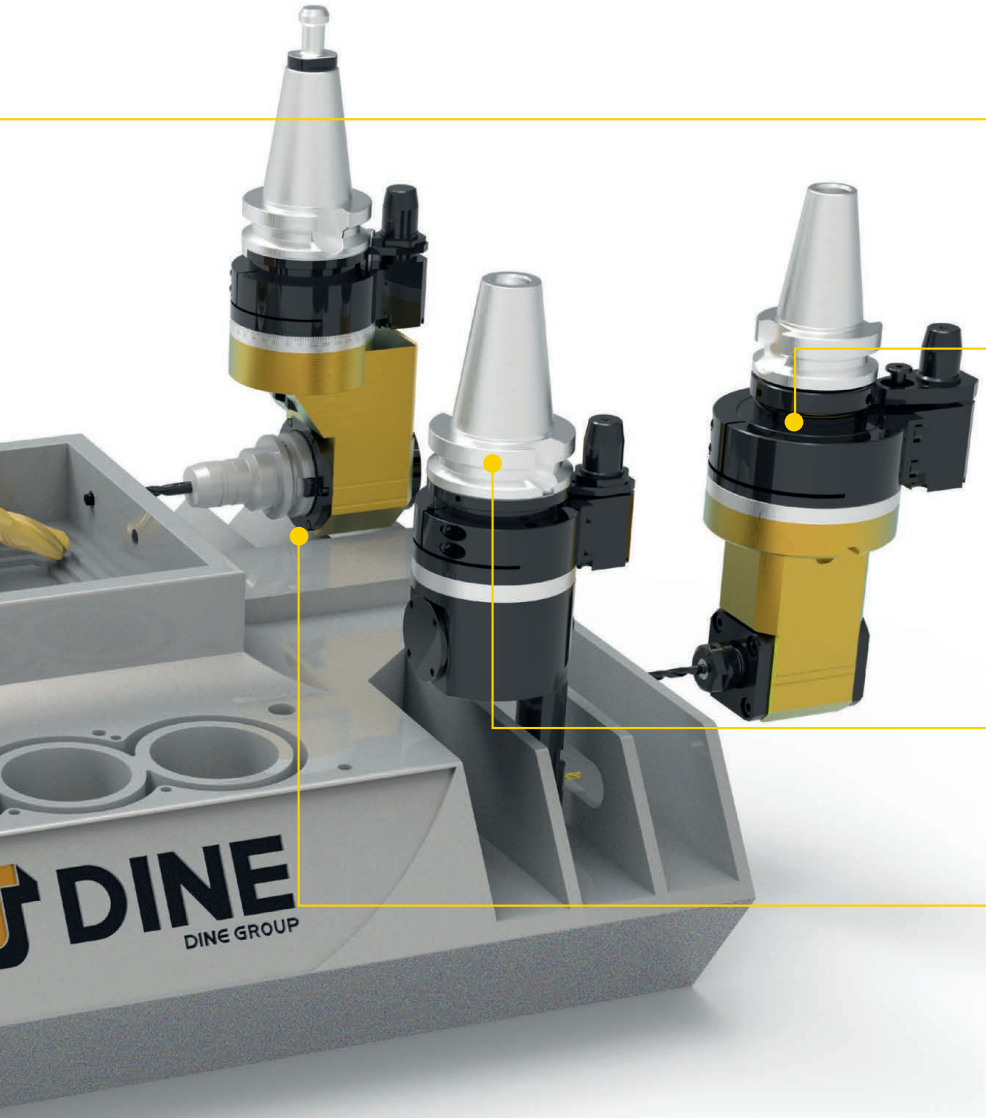
MAH
0~90° Tilting Type
(Rigid Reinforced Type)





HRAG
Attachment Type
(Rigid Reinforced Type)





MAH
0~90° Tilting Type
(Rigid Reinforced Type)

KAH
90° Angle Type

SAH
Slim Type

KAG
Attachment Type



KAC
45° Angle Type

Slope Machining | Milling | Drilling | Corner Rounding



KAH
90° Angle Type

Milling | Drilling | Inner Side Machining



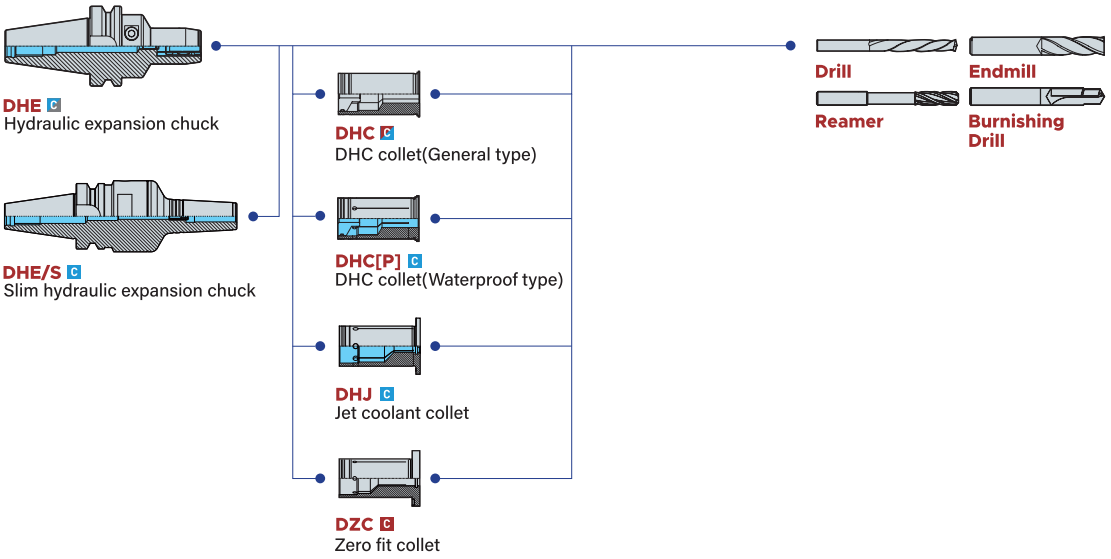
SAH
Slim Type

Milling | Drilling | Flank Machining | Inner Side Machining

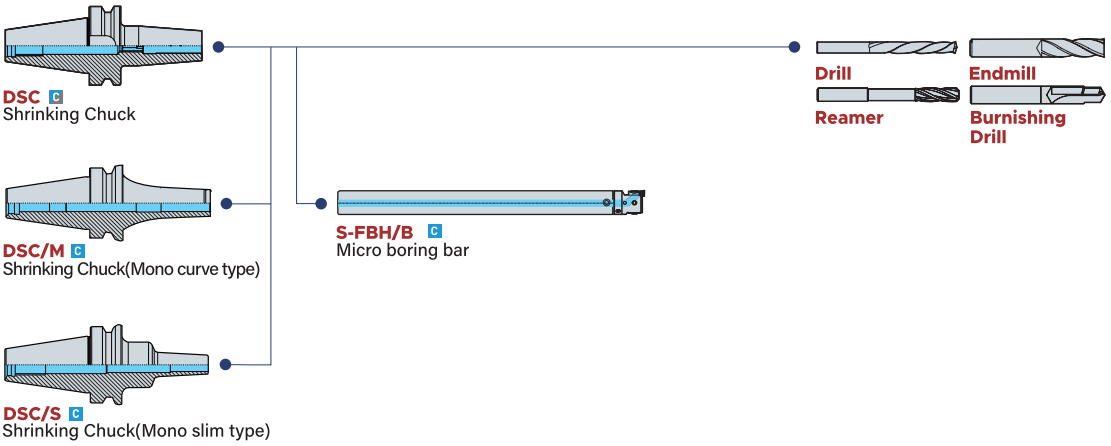
DINOX

DINOX MAP

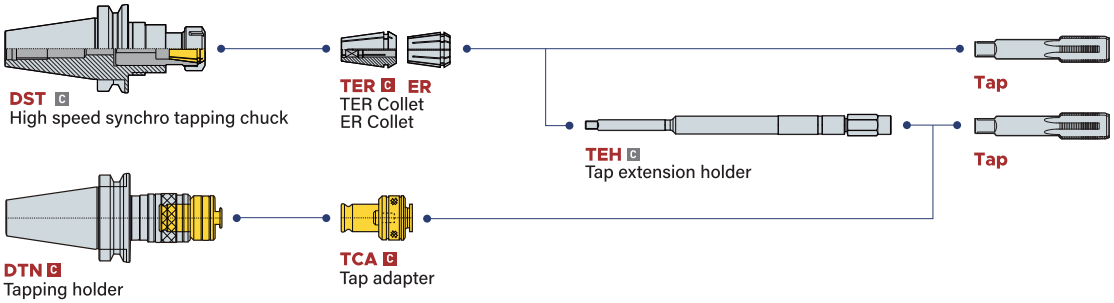
1. Hydraulic Expansion Chuck



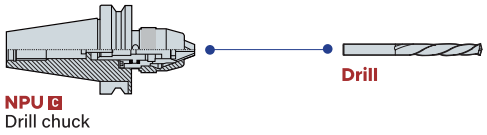
2. Shrinking Chuck



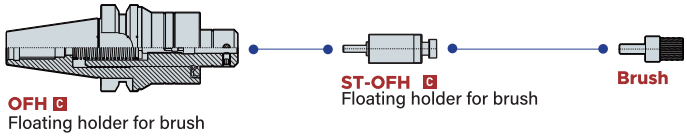
3. Tapping Holder



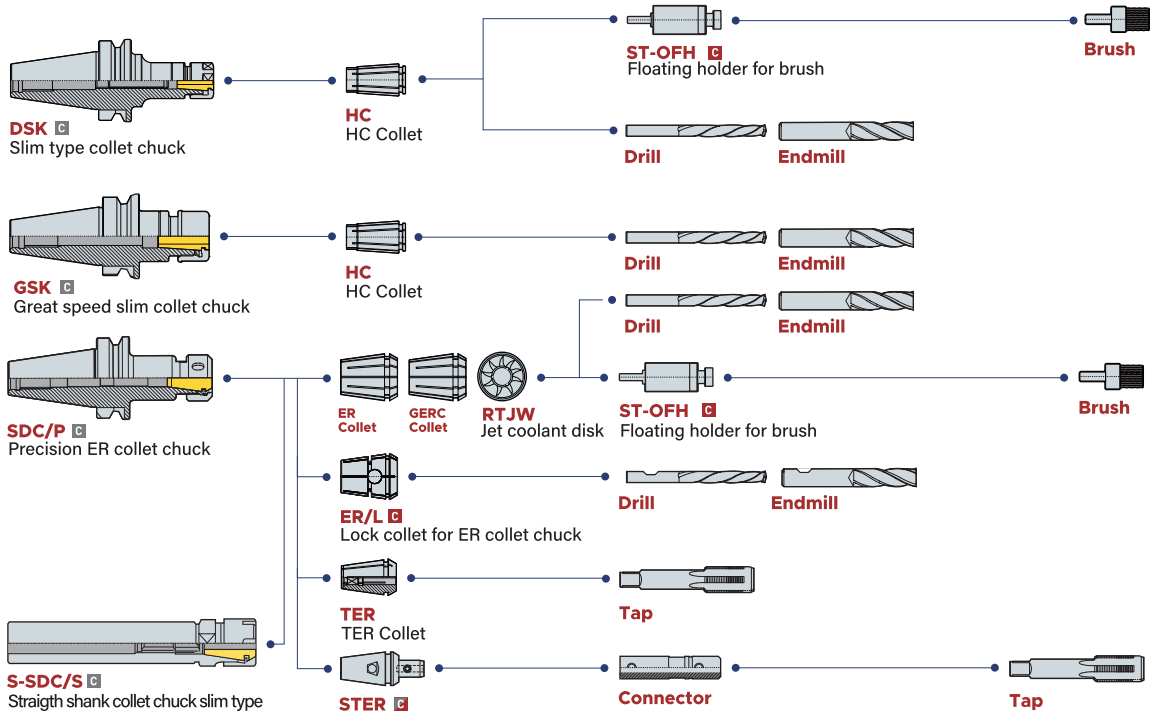
4. Drill Chuck



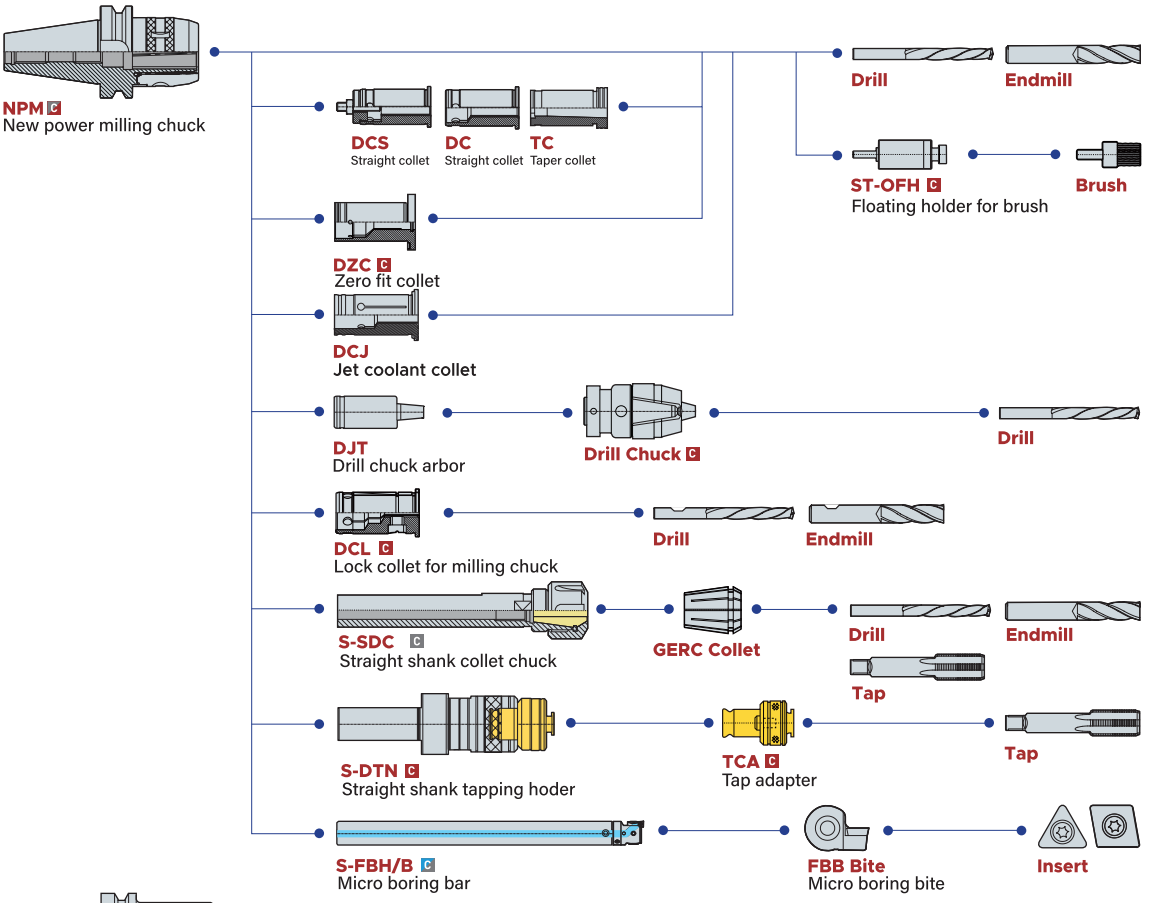
5. Floating Holder for Brush



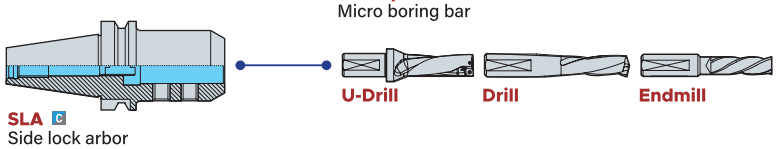
6. Collet Chuck



7. Milling Chuck



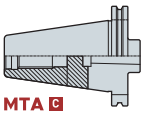
8. Side Lock Arbor



DINOX

DINOX MAP

9. Morse Taper Arbor

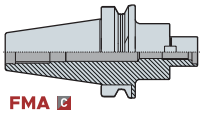


MTA C
Morse taper arbor

Drill

Reamer

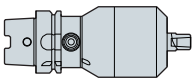
10. Face mill Arbor



FMA C
Face mill arbor

Cutter

11. Air Spindle

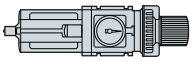


ATM C
Air turbine machine

HC
HC Collet

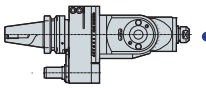
Drill

Endmill



Air regulator

12. Angular Head

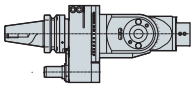


KHU C
0~90° Tilting type

GERC
GERC Collet

Drill

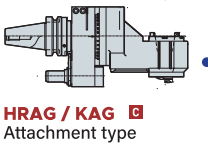
Endmill



MAH C
0~90° Tilting type

Drill

Endmill



HRAG / KAG C
Attachment type

NT Shank

BT Shank

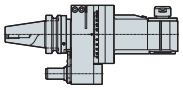
Drill

Endmill

Reamer

Tap

Cutter

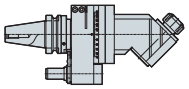


KAH C
90° Angle type

GERC
GERC Collet

Drill

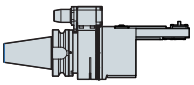
Endmill



KAC C
45° Angle type

GERC
GERC Collet

Endmill



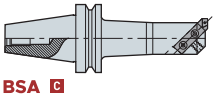
SAH C
Slim type

SAH
SAH Collet

Drill

Endmill

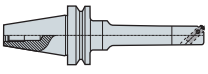
13. Boring Series



BSA C
Square boring bar

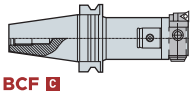
BH
Square boring bite for BSA

Insert



BKA C
FZ Micro boring bar

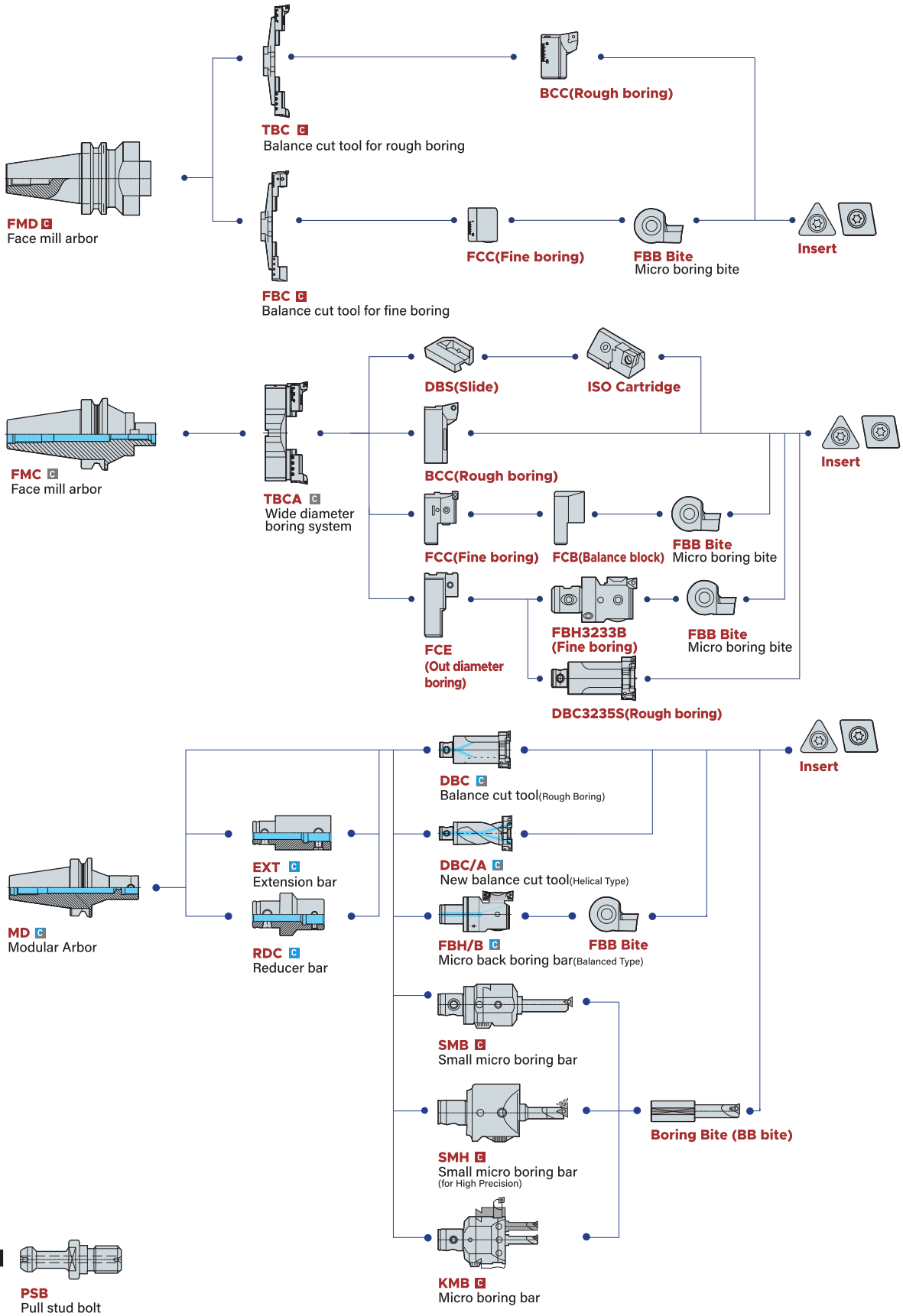
FZ Unit C
Inclined mounting type



BCF C
Micro boring bar

FF Unit C
Micro boring Bar

13. Boring Series



14. Pull Stud Bolt

PSB
Pull stud bolt

DINOX

MASTER INDEX

C Internal coolant system is basic C Internal coolant system is optional

C This product does not support the internal coolant system

Chuck



DHE
Hydraulic Expansion Chuck
34p



DHE/S
Slim Hydraulic Expansion Chuck
42p

NEW



DHE/G
Hydraulic Expansion Chuck for Tool Grinding
46p



DSC
Shrinking Chuck
52p



NPM
New Power Milling Chuck
64p

NEW



DMC
Dine Milling Chuck
73p



SDC/P
Precision Collet Chuck for Multi Purpose Machining
80p



SDC/PL
Precision Collet Chuck (Length Adjustment Type)
89p



TXER
TAUMAX ER Collet Chuck
93p



DSK
Slim Type Collet Chuck
108p



GSK
Great Speed Slim Collet Chuck
112p



TSK
TAUMAX High Speed Slim Collet Chuck
117p



NPU
Drill Chuck
120p



TNPU
TAUMAX Drill Chuck
123p

NEW



THPU
TAUMAX Hex Key Drill Chuck
123p



DTN
Tapping Holder
124p



TCA
Tap Adapter
127p



DST
High Speed Synchro Tapping Chuck
128p

NEW



TEH
Tap Extension Holder
132p



OFH
Floating Holder for Brush
136p

Modular/Arbor



SLA
Side Lock Arbor
138p



TSLA
TAUMAX Side Lock Arbor
142p



MTA
Morse Taper Arbor
143p



TMTA
TAUMAX Morse Taper Arbor
143p



FMA
Face Mill Arbor
144p



TFMA
TAUMAX Face Mill Arbor
147p



FMC
Face Mill Arbor
148p



TFMC
TAUMAX Face Mill Arbor
152p



TFMC-L
TAUMAX Long Face Mill Arbor
153p



MD
Modular Arbor
154p

NEW



TMD
TAUMAX Modular Arbor
161p

Boring Tool



EXT
Extension Bar
162p



RDC
Reducer Bar
162p



FBH/B
FBH Back Boring & Balanced Type
164p

NEW



FBH/D
Micro Boring Bar(Damping Type)
173p

DINOX

MASTER INDEX

C Internal coolant system is basic C Internal coolant system is optional

C This product does not support the internal coolant system

Boring Tool



DBCA
New Balance Cut Tool

178p



DBC
Balance Cut Tool (Rough Boring)

188p



TBCA
Wide Range Diameter Boring System

194p



TBC
Balance Cut Tool for Rough Boring

200p



FBC
Balance Cut Tool for Fine Boring

203p



SMB
Small Micro Boring Bar

207p



KMB
Micro Boring

209p



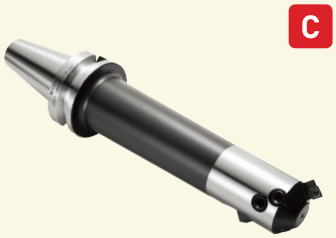
SMH
Small Micro Boring Bar

211p



BB BITE
BB Bite (for SMB, SMH, KMB)

215p



BSA
Square Boring Bar

216p



BH
Square Boring Bite for BSA

217p



BKA
FZ Micro Boring Bar

218p

C



FZ UNIT
FZ Unit Inclined Mounting Type

221p

C



BCF
Micro Boring Bar

223p

C



FF UNIT
FF Unit

225p

Angular Head

C



KAH
90˚ Angle Type

230p

C



KHU
0~90˚ Tilting Type

232p

C



KAG
Attachment Type

234p

C



HRAG
Attachment Type
(Rigid Reinforced Type)

236p

C



MAH
0-90˚ Tilting Type
(Rigid Reinforced Type)

238p

C



KAC
45˚ Angle Type

240p

C



SAH
Slim Type

242p

NEW C



ATM
Air Turbine Machine

246p

NEW C



ATU
Air Turbine Universal Type

250p

DINOX

MASTER INDEX

C Internal coolant system is basic C Internal coolant system is optional

C This product does not support the internal coolant system

cBN/ PCD



DNC100
Coated cBN

276p



DNC250
Coated cBN

277p



DNC300
Coated cBN

278p



DNC350
Coated cBN

279p



DB1000
Uncoated cBN

280p



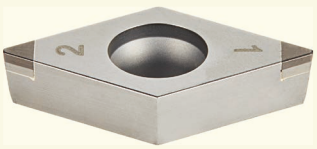
DB2000
Uncoated cBN

281p



DB7000
Uncoated cBN

282p



DB7500
Uncoated cBN

283p



cBN Chip Breaker (GA,RA)
cBN Chip Breaker

284p



PCD Chip Breaker(UC)
New PCD Insert Chip Breaker

294p



PCD Technical data
PCD

295p

Collet



DHC
DHC Collet
48p



DHJ
DHJ Collet
49p



DZC
Zero Fit Collet
50p



DCL
Lock Collet for Milling Chuck
74p



DCJ
Jet Coolant Collet
76p



DC
Straight Collet
77p



TC
Taper Collet
79p



DJT
Drill Chuck Arbor
79p



GERC
GERC Collet
94p



ER COLLET
ER Collet
99p



ER-T
TAUMAX ER-T Collet
103p



ER/L
Lock Collet for ER Collet Chuck
104p



RTJW
Jet Coolant Disk
106p



HC COLLET
HC Slim Collet
118p



TER
TER Collet
131p



STER
Synchro Tapping ER Collet
135p

Device & Accessory



PVT
MC Power Vise
300p



PVTM
MC Power Vise
301p



DVT
Double Lock & Anglock Vise
303p



MVT
MC Machine Vise
303p



FVT
Centering Vise
304p



QPT
Quick Point System
306p

DINOX

MASTER INDEX

C Internal coolant system is basic C Internal coolant system is optional

C This product does not support the internal coolant system

Device & Accessory



TAPER CLEANING DEVICE

Taper Cleaning Device

307p

NEW



MH-300

MH-300

308p



NEW

TOOL SHRINK BASIC

Shrinking Device

309p

C



CLEAN-TEC FAN

Cleaning Fan

312p



PRECISION MICRO ADJUSTING CARTRIDGE

Precision Micro Adjusting Cartridge

313p



PSBW

Pull Stud Bolt Wrench

313p



TTC

Tool Setting Stand

314p

NEW



TSC

T-Slot Cover

314p



TMB

Magnetic Base

315p



DIGITAL 3D TASTER

Digital 3d Taster

316p



3D TASTER 2007

3D Taster

316p



HDG

Hydraulic Expansion Chuck Gauge

317p



DZH

DINE Z Axial Height Gauge

318p



DZP

DINE Z Axial Setting Height Gauge

318p



DZOP

DINE Z Axial P Reset Gauge

319p



DOP

DINE Optical Edge Finder

319p



ROT
Run-out Tester
320p



TB
Test Bar
321p



SC
Spindle Cleaner
321p



NTSS
New Tool Setting Stand
322p



PULL STUD BOLT
Pull Stud Bolt
323p

NEW

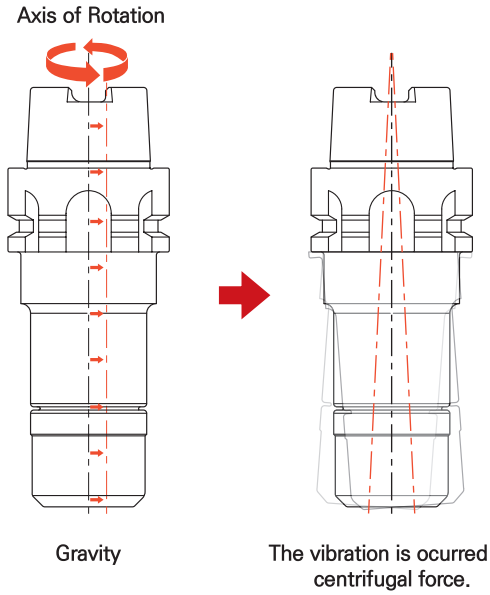


PSB-T
TAUMAX Pull Stud Bolt-T
324p

1:1 CHAT

BALANCING SYSTEM

The Necessity of Balancing Work



The cause of unbalancing

Asymmetry of tool holder shape and weight imbalance.

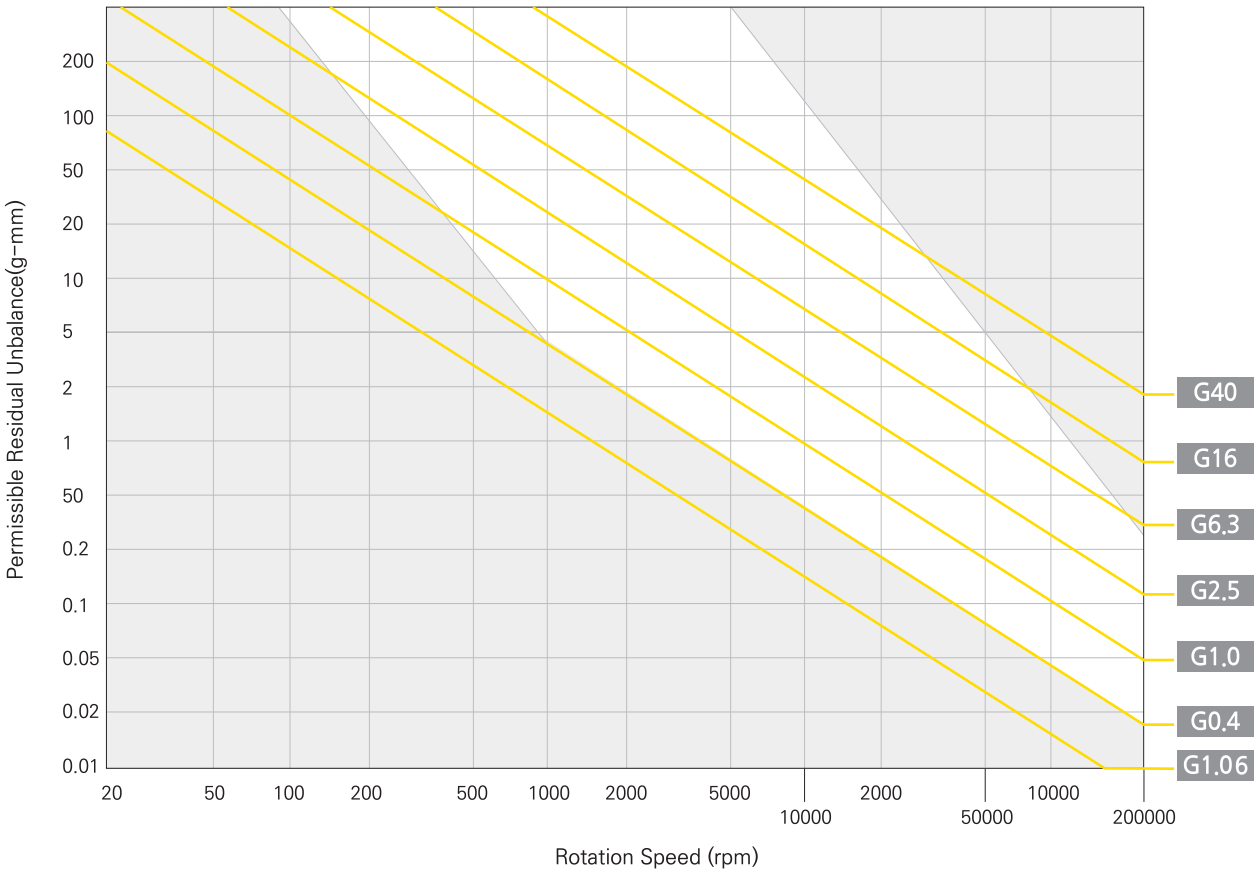
The problem of unbalancing

The vibration in the tool by centrifugal force leads to noise and deterioration of surface roughness and tool life.

The necessity of balancing work

Balancing work is necessary for better surface roughness, accuracy and tool life.

※ The phenomenon is that the center of gravity in tool keeps off from a rotation axis



1:1 CHAT

BALANCING SYSTEM

Balancing

The most optimal accuracy at high-speed

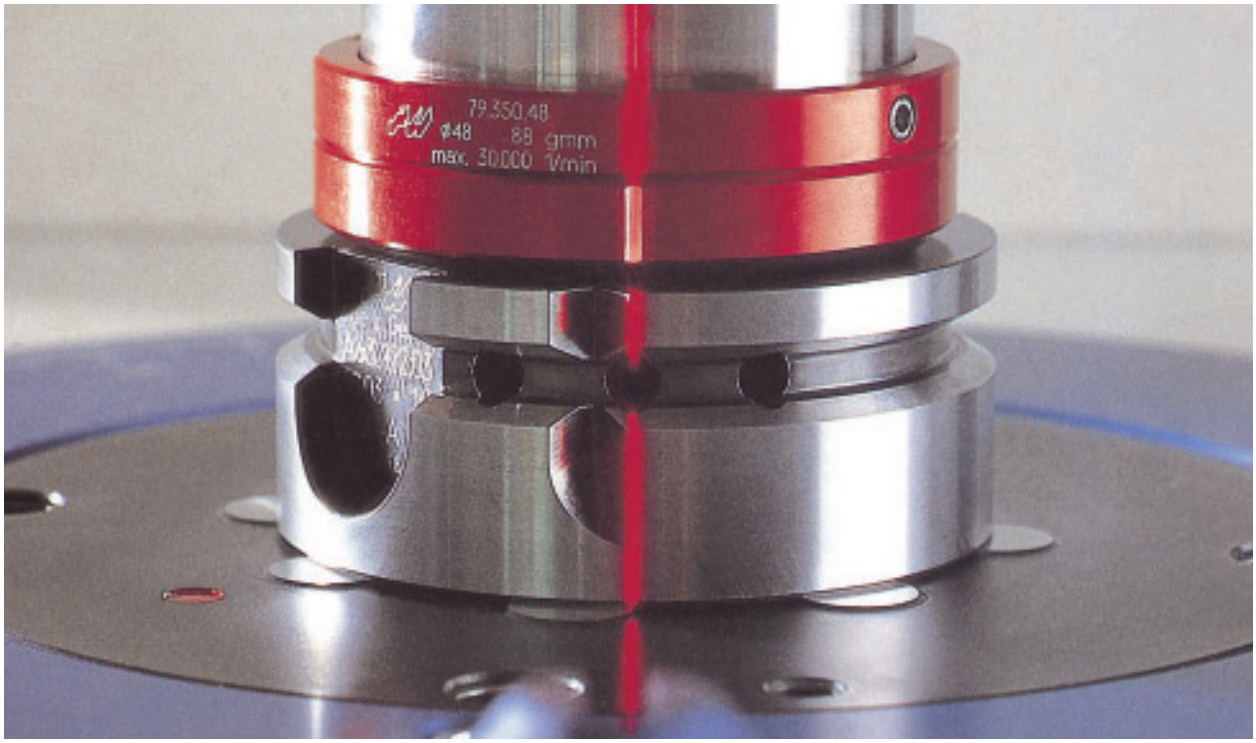
1. Keep high-accuracy and rigidity without bending of rotating product due to unbalanced load
2. Excellent balance(≤G2.5 or 0.5 g·mm/kg)
3. Improve tool life, surface finish, dimension of accuracy and productivity at high-speed

Balancing Grade Standard

The possibility of multiple balancing's quality

Balancing Grade

Non Balancing	General Balancing Quality	High-speed Balancing Quality
	G6.3 MAX 25,000rpm	G2.5 MAX 25,000rpm



BT, SK Shank	HSK Shank
Balancing Type with Hole	Balancing Type with Hole

1:1 CHAT

DBT Series PAT.

For High-speed Machining

DBT Spindle System

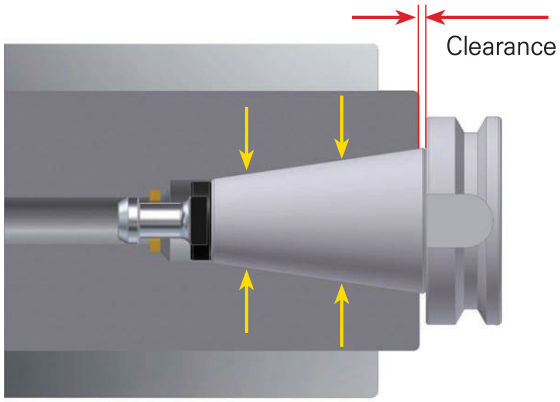
2 Face contact type (taper and flange face) for high speed, roughing, finishing and surface roughness



The advantage of 2 face contact type

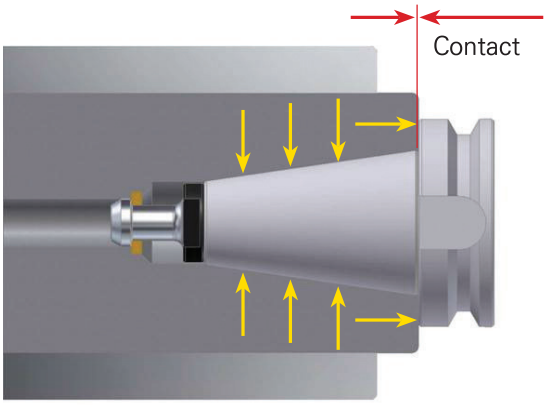
- Improved surface quality and dimensional accuracy
- Extended tool life
- Improved ATC repeatability
- Eliminate Z-axis movement error during high-speed movement

BT Type



The clearance between spindle and flange face

DBT Type

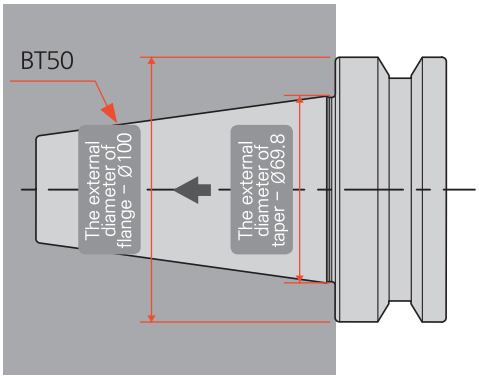


Perfect face contact
(Improved precision and stability)

Powerful Clamping

Unlike BT, DBT shank has better clamping force because of contact both the taper and flange faces

Shank	External Diameter of Taper		External Diameter of Flange
BT30	Ø 31.7	⇒	Ø 46
BT40	Ø 44.4	⇒	Ø 63
BT50	Ø 69.3	⇒	Ø 100



Difference between taper cross-section contact and flange external diameter contact, For high speed machining

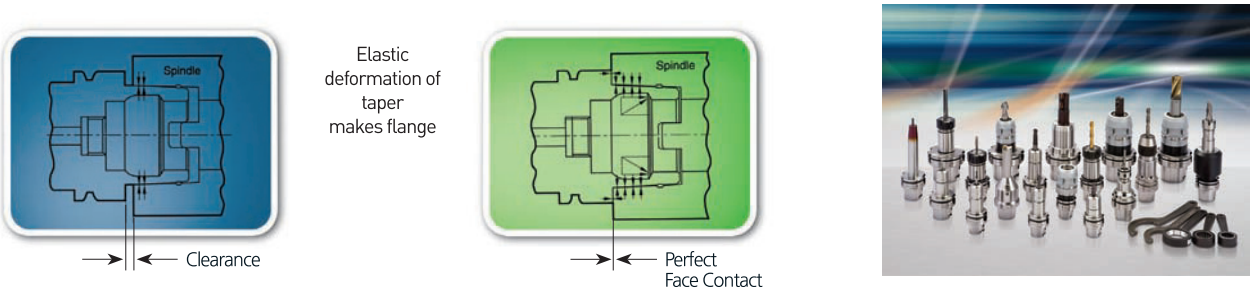
1:1 CHAT

HSK TOOLING SYSTEM

DIN69893-1, ISO12164-1:2001

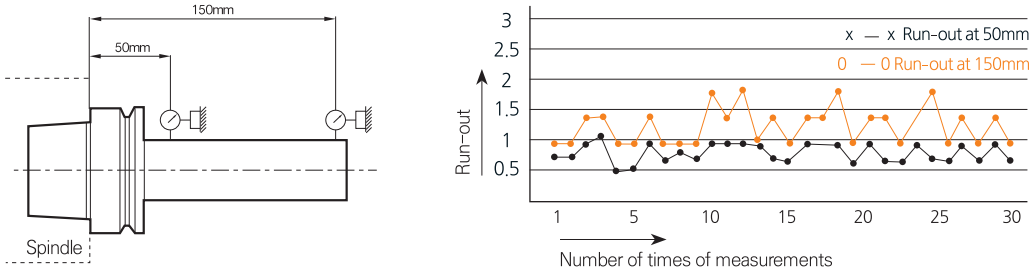
2 Face Constrained Tool Holder

The 7/24 taper shank for multi-purpose has been pointed out that its performance is inappropriate in terms of repeatability, joint stiffness and high-speed machining. Drawbacks of 7/24 taper shank had been eliminated by using new two face contact.

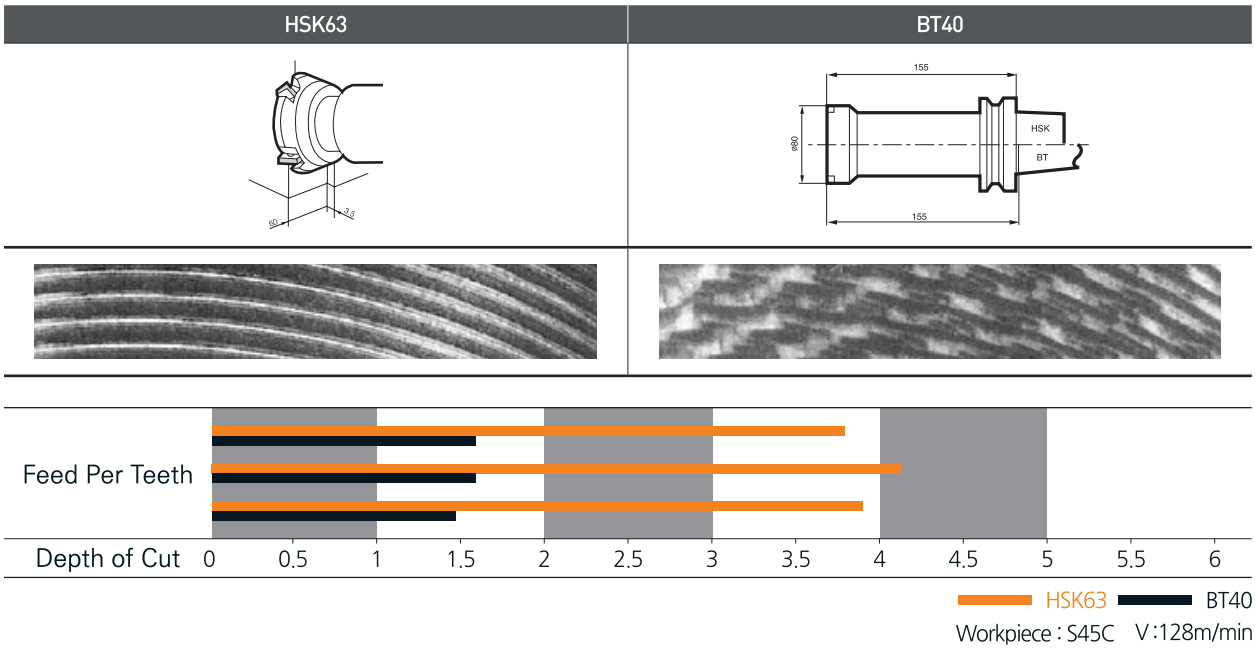


Excellent Repeatability – Run-out Accuracy

As taper of holder elastically deform following the profile of the spindle shape, there is no eccentricity between the spindle and holder. Also, due to perfect face contacts between flange of the holder and spindle face, bending strength of the holder becomes very high, It decides run out accuracy.



High Rigidity Against Bending Load



1:1 CHAT

CATALOGUE MANUAL

NC TOTAL TOOLING SYSTEM

Significant Pictogram Description

Common Pictogram

G6.3 (G value)	Rotational durability value	Ø25 (Max Dia)	Max. endmill diameter	C (Coolant System)	Internal coolant system is basic
15,000 (Max RPM)	Allowable rotation value	130 (Min Range)	Min. boring diameter	C (Coolant System)	Internal coolant system is optional
5㎛ (Run-out)	Vibration tolerance	535 (Max Range)	Max. boring diameter	C (Coolant System)	This product does not support the internal coolant system

ISO Shank Specifications

MAS 403-BT (Shank)	MAS403 spec. BT shank
DIN69871 -1A/B (Shank)	ISO 7388/1 : 1983(E) spec. SK shank
DIN 69893-1 (Shank)	ISO 12164-1 : 2001 spec. HSK shank
DIN2080 JISB6101 (Shank)	ISO 297 : 1988(E) spec. NT shank

Insert

0.3mm (Max Depth) Max. Cutting Depth	Coating (Coating) Coating Insert			
K (Cast Iron)	H (Heat-treated steel)	Sintered Parts (Sintered Parts)	Recommended machining grade	

Intermittent Cutting Intensity

Continuous | Lignt Interrupted | Medium Interrupted | Heavy Interrupted

Recommended Machining Works by Products

Face Cutting | Drilling | Reaming | Milling | Chamfering | Tapping | Deburring | Boring | Damping

Angular Head Machining

Corner Rounding | Copy Machining | Slope Machining | Flank Machining | Free Angle | Inclined Face | Inner Side Machining

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Chuck

DINE TOTAL TOOLING SOLUTION

DHE	34
DHE/S	42
DHE/G	46
DHC Collet (General & Sealed Type)	48
DHJ Collet (Jet Coolant)	49
DZC Collet	50
DSC	52
NPM	64
DMC	73
DCL Collet	74
DCJ Collet	76
DC Collet	77
DCS Collet	78
TC Collet	79
DJT	79
SDC/P	80
SDC/PL	89
TXER	93
GERC Collet	94
ER Collet	99
ER-T Collet	103
ER/L Collet	104
RTJW	106
DSK	108
GSK	112
TSK	117
HC Collet	118
NPU	120
TNPU	123
THPU	123
DTN	124
TCA	127
DST	128
TER Collet	131
TEH	132
STER	135
OFH	136

1:1 CHAT

DHE

Hydraulic Expansion Chuck



G6.3	25,000	5㎛	C			
G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming

Features

- Improved work efficiency through the convenient attachment/detachment of tools
- Improved tool life due to high-precision
- Reduced vibration during machining through the damping effects of the hydraulic chamber
- Tool clamping range : Ø4~Ø32mm

NAMING

BT40	—	DHE	20	—	140
Spindle		Hydraulic Expansion Chuck	Tool Dia.		Length

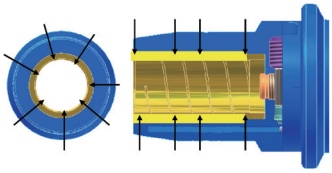


Product Features

Its high-precision not only increases the tool life of a cutting tool by reducing the wear of the tool but also improves machining surface roughness with the effect of vibration reduction by its hydraulic seal.

Completely Closed Inside Construction(Durability)

- The completely closed system of its inner diameter prevents dust, cutting oil, lubricant, and chips, etc. from penetrating it
- Maintains clamping force and precision for a long time



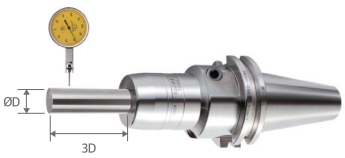
Shank	Grade	Max. RPM
BT50, SK50, HSK100A	G6.3	15,000
BT40, SK40, HSK63A	G6.3	20,000
BT30	G6.3	25,000



C Internal coolant system is basic (DBT, BT, SK Shank)
C Internal coolant system is optional (HSK Shank)

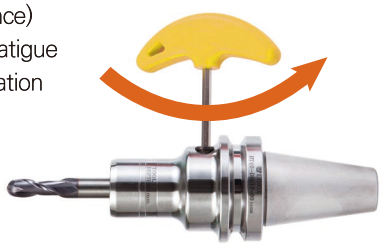
High Precision

- Run-out : 5㎛ or Below
- L= 3 x ØD
- Shank : Tolerance of ØDh6



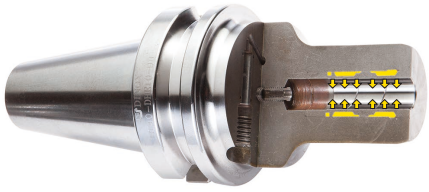
Removal Availability by Using T-wrench Tool

- Clamping/unclamping structure that only requires simple operation (convenience)
  : Reduces operator fatigue
  : Enhances the operation rate of equipment



Stable Clamping Force

- Provides clamping force by fixing the space of the holder and tool with hydraulic pressure



1:1 CHAT

DBT-DHE

Hydraulic Expansion Chuck



DBT	G6.3	25,000	5㎛	C			
Shank	G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming

Fig.1

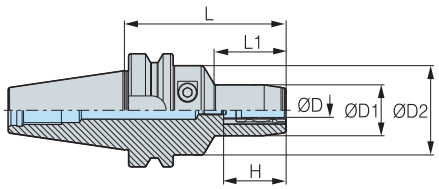
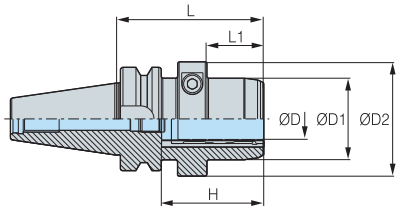


Fig.2



- ● : Stock
- H : Depth of tool insertion (Min.~Max.)

C Internal coolant system is basic

- For more information on product features, see 34P
- For more information on the related parts, see 41P

	Designation	ØD	L	ØD1	ØD2	L1	H	ADJ	RPM	Fig.	kg	Package Weight(kg)	Stock
DBT30	DBT30-DHE6-65	6	65	29	46	33	30~40	M5	25,000	1	0.7	0.8	
	DBT30-DHE8-65	8	65	31	46	33	30~40	M5	25,000	1	0.7	0.8	
	DBT30-DHE10-65	10	65	32	46	34	35~45	M5	25,000	1	0.7	0.8	
	DBT30-DHE12-70	12	70	35	46	34	41~51	M5	25,000	1	0.8	0.8	
	DBT30-DHE14-90	14	90	36	46	40	43~53	M5	25,000	1	1	1.1	
	DBT30-DHE16-90	16	90	40	46	45	46~56	M5	25,000	1	1	1.1	
	DBT30-DHE18-90	18	90	42	46	40	49~59	M5	25,000	1	1.1	1.2	
	DBT30-DHE20-90	20	90	44	46	45	49~59	M5	25,000	1	1.1	1.2	●
DBT40	DBT40-DHE6-90	6	90	29	50	40	30~40	M5	20,000	1	1.4	1.6	●
	DBT40-DHE6-140	6	140	29	50	40	30~40	M5	20,000	1	2.2	2.5	
	DBT40-DHE8-90	8	90	31	50	40	30~40	M5	20,000	1	1.4	1.6	●
	DBT40-DHE8-140	8	140	31	50	40	30~40	M5	20,000	1	2.2	2.5	
	DBT40-DHE10-90	10	90	33	50	40	35~45	M5	20,000	1	1.5	1.7	●
	DBT40-DHE10-140	10	140	33	50	40	35~45	M5	20,000	1	2.2	2.4	
	DBT40-DHE12-90	12	90	35	50	40	41~51	M10	20,000	1	1.5	1.7	●
	DBT40-DHE12-140	12	140	35	50	40	41~51	M10	20,000	1	2.3	2.5	
	DBT40-DHE14-90	14	90	36	50	40	43~53	M10	20,000	1	1.5	1.7	●
	DBT40-DHE14-140	14	140	36	50	40	43~53	M10	20,000	1	2.2	2.4	
	DBT40-DHE16-90	16	90	40	50	45	46~56	M10	20,000	1	1.5	1.7	●
	DBT40-DHE16-140	16	140	40	50	45	46~56	M10	20,000	1	2.2	2.5	
	DBT40-DHE18-90	18	90	42	50	45	49~59	M10	20,000	1	1.5	1.7	●
	DBT40-DHE18-140	18	140	42	50	45	49~59	M10	20,000	1	2.2	2.5	
	DBT40-DHE20-90	20	90	44	50	47	49~59	M10	20,000	1	1.5	1.7	●
	DBT40-DHE20-140	20	140	44	50	50	49~59	M10	20,000	1	2.3	2.5	
	DBT40-DHE25-90	25	90	50	70	35	58~68	M16	20,000	2	2	2.2	●
	DBT40-DHE32-90	32	90	63	75	35	58~68	M16	20,000	2	2.3	2.5	●

(Unit : mm)

1:1 CHAT

DBT-DHE

Hydraulic Expansion Chuck



DBT	G6.3	15,000	5㎛	C			
Shank	G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming

Fig.1

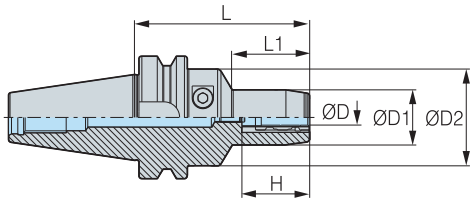
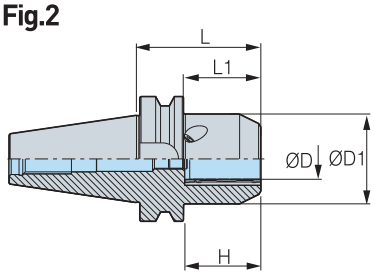


Fig.2



- ● : Stock
- H : Depth of tool insertion (Min.~Max.)

C Internal coolant system is basic

- For more information on product features, see 34P
- For more information on the related parts, see 41P

DBT50

Designation	ØD	L	ØD1	ØD2	L1	H	ADJ	RPM	Fig.	kg	Package Weight(kg)	Stock
DBT50-DHE6-90	6	90	29	50	34	30~40	M5	15,000	1	3.9	4.2	
DBT50-DHE6-140	6	140	29	50	40	30~40	M5	15,000	1	4.5	4.8	
DBT50-DHE8-90	8	90	31	50	34	30~40	M5	15,000	1	4.2	4.5	
DBT50-DHE8-140	8	140	31	50	40	30~40	M5	15,000	1	4.6	5	
DBT50-DHE10-90	10	90	33	50	34	35~45	M5	15,000	1	3.9	4.2	
DBT50-DHE10-140	10	140	33	50	34	35~45	M5	15,000	1	4.5	4.9	
DBT50-DHE12-90	12	90	35	50	34	41~51	M10	15,000	1	4	4.3	
DBT50-DHE12-140	12	140	35	50	34	41~51	M10	15,000	1	4.6	5	
DBT50-DHE14-90	14	90	36	50	34	43~53	M10	15,000	1	3.9	4.2	
DBT50-DHE14-140	14	140	36	50	34	43~53	M10	15,000	1	4.5	4.9	
DBT50-DHE16-90	16	90	40	50	34	46~56	M10	15,000	1	4.1	4.4	
DBT50-DHE16-140	16	140	40	50	34	46~56	M10	15,000	1	4.7	5.1	
DBT50-DHE18-90	18	90	42	50	40	49~59	M10	15,000	1	4	4.3	
DBT50-DHE18-140	18	140	42	50	45	49~59	M10	15,000	1	4.5	4.9	
DBT50-DHE20-90	20	90	44	50	34	49~59	M10	15,000	1	4.2	4.3	
DBT50-DHE20-140	20	140	44	50	47	49~59	M10	15,000	1	4.5	4.9	
DBT50-DHE25-90	25	90	66	-	52	58~68	M16	15,000	2	4.7	5	
DBT50-DHE32-90	32	90	72	-	52	58~68	M16	15,000	2	4.8	6.2	

(Unit : mm)

1:1 CHAT

BT-DHE

Hydraulic Expansion Chuck



MAS 403-BT	G6.3	25,000	5㎛	C	Milling	Drilling	Reaming
Shank	G value	Max RPM	Run-out	Coolant System			

Fig.1

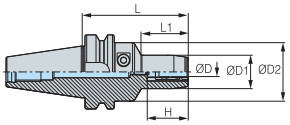


Fig.2

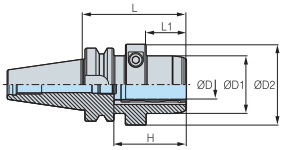


Fig.3

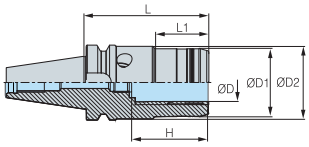
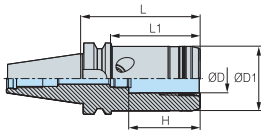


Fig.4



- ● : Stock
- H : Depth of tool insertion (Min.~Max.)

C Internal coolant system is basic

- For more information on product features, see 34P
- For more information on the related parts, see 41P

	Designation	ØD	L	ØD1	ØD2	L1	H	ADJ	RPM	Fig.	kg	Package Weight(kg)	Stock
BT30	BT30-DHE4-65	4	65	29	46	33	40	-	25,000	1	0.7	0.8	●
	BT30-DHE5-65	5	65	29	46	33	40	-	25,000	1	0.7	0.8	●
	BT30-DHE6-65	6	65	29	46	33	30~40	M5	25,000	1	0.7	0.8	●
	BT30-DHE8-65	8	65	31	46	33	30~40	M5	25,000	1	0.7	0.8	●
	BT30-DHE10-65	10	65	32	46	34	35~45	M5	25,000	1	0.7	0.8	●
	BT30-DHE12-70	12	70	35	46	34	36~46	M5	25,000	1	0.8	0.8	●
	BT30-DHE14-90	14	90	36	46	40	43~53	M5	25,000	1	1.0	1.1	●
	BT30-DHE16-90	16	90	40	46	45	46~56	M5	25,000	1	1.0	1.1	●
	BT30-DHE18-90	18	90	42	46	40	49~59	M5	25,000	1	1.1	1.2	●
	BT30-DHE20-90	20	90	44	46	45	49~59	M5	25,000	1	1.1	1.2	●
BT40	BT40-DHE4-90	4	90	29	50	40	40	-	20,000	1	1.4	1.6	●
	BT40-DHE5-90	5	90	29	50	40	40	-	20,000	1	1.4	1.6	●
	BT40-DHE6-90	6	90	29	50	40	30~40	M5	20,000	1	1.4	1.6	●
	BT40-DHE6-140	6	140	29	50	40	30~40	M5	20,000	1	2.2	2.5	●
	BT40-DHE8-90	8	90	31	50	40	30~40	M5	20,000	1	1.4	1.6	●
	BT40-DHE8-140	8	140	31	50	40	30~40	M5	20,000	1	2.2	2.5	●
	BT40-DHE10-90	10	90	33	50	40	35~45	M5	20,000	1	1.5	1.7	●
	BT40-DHE10-140	10	140	33	50	40	35~45	M5	20,000	1	2.2	2.4	●
	BT40-DHE12-90	12	90	35	50	40	41~51	M10	20,000	1	1.5	1.7	●
	BT40-DHE12-140	12	140	35	50	40	41~51	M10	20,000	1	2.3	2.5	●
	BT40-DHE14-90	14	90	36	50	40	43~53	M10	20,000	1	1.5	1.7	●
	BT40-DHE14-140	14	140	36	50	40	43~53	M10	20,000	1	2.2	2.4	●
	BT40-DHE16-90	16	90	40	50	45	46~56	M10	20,000	1	1.5	1.7	●
	BT40-DHE16-140	16	140	40	50	45	46~56	M10	20,000	1	2.2	2.5	●
	BT40-DHE18-90	18	90	42	50	45	49~59	M10	20,000	1	1.5	1.7	●
	BT40-DHE18-140	18	140	42	50	45	49~59	M10	20,000	1	2.2	2.5	●
	BT40-DHE20-90	20	90	44	50	47	49~59	M10	20,000	1	1.5	1.7	●
	BT40-DHE20-140	20	140	44	50	50	49~59	M10	20,000	1	2.3	2.5	●
	BT40-DHE25-90	25	90	50	70	35	58~68	M16	20,000	2	2.0	2.2	●
	BT40-DHE25-105	25	105	57	-	78	51~61	M16	20,000	4	2.0	2.2	●
	BT40-DHE25-140	25	140	57	-	113	51~61	M16	20,000	4	2.6	2.9	●
	BT40-DHE32-90	32	90	63	75	35	58~68	M16	20,000	2	2.3	2.5	●
	BT40-DHE32-105	32	105	57	61	45	55~65	M16	20,000	3	2.4	2.6	●
	BT40-DHE32-140	32	140	57	61	45	55~65	M16	20,000	3	3.0	3.2	●

(Unit : mm)

1:1 CHAT

BT-DHE

Hydraulic Expansion Chuck



MAS 403-BT	G6.3	15,000	5㎛	C			
Shank	G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming

Fig.1

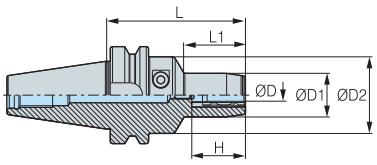


Fig.2

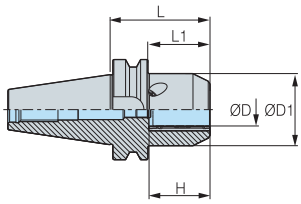
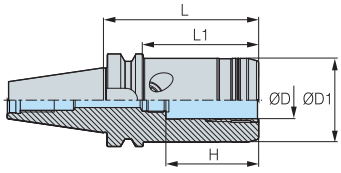


Fig.3



- ● : Stock
- H : Depth of tool insertion (Min.~Max.)

C Internal coolant system is basic

- For more information on product features, see 34P
- For more information on the related parts, see 41P

BT50

Designation	ØD	L	ØD1	ØD2	L1	H	ADJ	RPM	Fig.	kg	Package Weight (kg)	Stock
BT50-DHE4-90	4	90	29	50	34	40	-	15,000	1	3.9	4.2	●
BT50-DHE5-90	5	90	29	50	34	40	-	15,000	1	3.9	4.2	●
BT50-DHE6-90	6	90	29	50	34	30~40	M5	15,000	1	3.9	4.2	●
BT50-DHE6-140	6	140	29	50	40	30~40	M5	15,000	1	4.4	4.8	●
BT50-DHE8-90	8	90	31	50	34	30~40	M5	15,000	1	4.2	4.5	●
BT50-DHE8-140	8	140	31	50	40	30~40	M5	15,000	1	4.6	5.0	●
BT50-DHE10-90	10	90	33	50	34	35~45	M5	15,000	1	3.9	4.2	●
BT50-DHE10-140	10	140	33	50	34	35~45	M5	15,000	1	4.5	4.9	●
BT50-DHE12-90	12	90	35	50	34	41~51	M10	15,000	1	4.0	4.3	●
BT50-DHE12-140	12	140	35	50	34	41~51	M10	15,000	1	4.6	5.0	●
BT50-DHE14-90	14	90	36	50	34	43~53	M10	15,000	1	3.9	4.2	●
BT50-DHE14-140	14	140	36	50	34	43~53	M10	15,000	1	4.5	4.9	●
BT50-DHE16-90	16	90	40	50	34	46~56	M10	15,000	1	4.1	4.4	●
BT50-DHE16-140	16	140	40	50	34	46~56	M10	15,000	1	4.7	5.1	●
BT50-DHE18-90	18	90	42	50	40	49~59	M10	15,000	1	4.0	4.3	●
BT50-DHE18-140	18	140	42	50	45	49~59	M10	15,000	1	4.5	4.9	●
BT50-DHE20-90	20	90	44	50	34	49~59	M10	15,000	1	4.0	4.3	●
BT50-DHE20-140	20	140	44	50	47	49~59	M10	15,000	1	4.5	4.9	●
BT50-DHE25-90	25	90	66	-	52	58~68	M16	15,000	2	4.7	5.0	●
BT50-DHE25-150	25	150	57	-	112	51~61	M16	15,000	3	4.5	4.8	●
BT50-DHE32-90	32	90	72	-	52	58~68	M16	15,000	2	5.8	6.2	●

(Unit : mm)

1:1 CHAT

HSK-DHE

Hydraulic Expansion Chuck



DIN 69893-1 Shank | G6.3 G value | 20,000 Max RPM | 5㎛ Run-out | C Coolant System | Milling | Drilling | Reaming

Fig.1

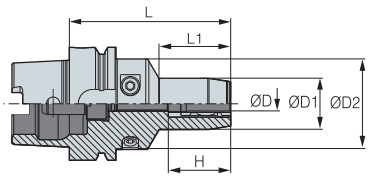
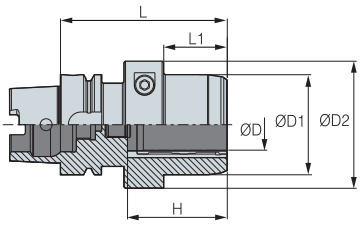


Fig.2



- ● : Stock
- H : Depth of tool insertion (Min.~Max.)

C Internal coolant system is optional

- For more information on product features, see 34P
- For more information on the related parts, see 41P

	Designation	ØD	L	ØD1	ØD2	L1	H	ADJ	Fig.	RPM	kg	Package Weight (kg)	Stock
HSK50A	HSK50A-DHE6-70	6	70	29	40	28	30~40	M5	1	20,000	0.7	0.8	
	HSK50A-DHE8-70	8	70	31	40	28	30~40	M5	1	20,000	0.7	0.9	
	HSK50A-DHE10-80	10	80	33	40	35	35~45	M5	1	20,000	0.8	0.9	
	HSK50A-DHE12-90	12	90	35	40	40	41~51	M5	1	20,000	0.8	1	
	HSK50A-DHE14-95	14	95	36	53	28	43~53	M10	2	20,000	0.8	1.2	
	HSK50A-DHE16-95	16	95	40	53	28	46~56	M10	2	20,000	0.9	1.3	
	HSK50A-DHE18-100	18	100	42	60	28	49~59	M10	2	20,000	0.9	1.4	
	HSK50A-DHE20-100	20	100	44	60	28	49~59	M10	2	20,000	0.9	1.5	
HSK63A	HSK63A-DHE4-75	4	75	29	50	34	40	-	1	20,000	1	1.2	●
	HSK63A-DHE5-75	5	75	29	50	34	40	-	1	20,000	1	1.2	●
	HSK63A-DHE6-75	6	75	29	50	34	30~40	M5	1	20,000	1	1.2	●
	HSK63A-DHE6-150	6	150	29	50	34	30~40	M5	1	20,000	2.2	2.4	
	HSK63A-DHE8-75	8	75	31	50	34	30~40	M5	1	20,000	1	1.2	●
	HSK63A-DHE8-150	8	150	31	50	34	30~40	M5	1	20,000	2.2	2.4	
	HSK63A-DHE10-85	10	85	33	50	34	35~45	M5	1	20,000	1.2	1.4	●
	HSK63A-DHE10-150	10	150	33	51	34	35~45	M5	1	20,000	2.2	2.4	●
	HSK63A-DHE12-90	12	90	35	51	40	41~51	M10	1	20,000	1.2	1.4	●
	HSK63A-DHE12-150	12	150	35	51	40	41~51	M10	1	20,000	2.2	2.4	●
	HSK63A-DHE14-95	14	95	36	52	40	42~53	M10	1	20,000	1.3	1.5	
	HSK63A-DHE14-150	14	150	36	52	40	43~53	M10	1	20,000	2.2	2.4	
	HSK63A-DHE16-95	16	95	40	52	45	46~56	M10	1	20,000	1.3	1.5	●
	HSK63A-DHE16-150	16	150	40	53	45	46~56	M10	1	20,000	2.2	2.4	
	HSK63A-DHE18-100	18	100	42	53	45	49~59	M10	1	20,000	1.4	1.7	
	HSK63A-DHE18-150	18	150	42	53	45	49~59	M10	1	20,000	2.2	2.4	
	HSK63A-DHE20-100	20	100	44	50	50	49~59	M10	1	20,000	1.4	1.7	●
	HSK63A-DHE20-150	20	150	44	50	50	49~59	M10	1	20,000	2.2	2.4	●
	HSK63A-DHE25-110	25	110	50	70	48	56~68	M16	2	20,000	1.9	2.1	●
	HSK63A-DHE32-110	32	110	63	80	48	56~68	M16	2	20,000	2.3	2.5	●

(Unit : mm)

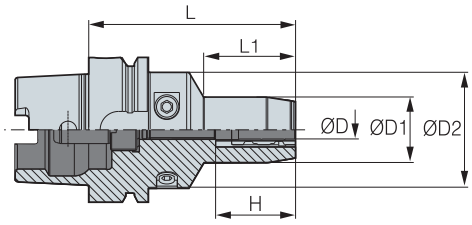
1:1 CHAT

HSK-DHE

Hydraulic Expansion Chuck



DIN 69893-1	G6.3	15,000	5㎛	C			
Shank	G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming



- ● : Stock
- H : Depth of tool insertion (Min.~Max.)

C Internal coolant system is optional

- For more information on product features, see 34P
- For more information on the related parts, see 41P

HSK100A

Designation	ØD	L	ØD1	ØD2	L1	H	ADJ	RPM	kg	Package Weight (kg)	Stock
HSK100A-DHE6-80	6	80	29	50	34	30~40	M5	15,000	2.4	2.6	●
HSK100A-DHE6-150	6	150	29	50	34	30~40	M5	15,000	2.8	3	
HSK100A-DHE8-80	8	80	31	50	34	30~40	M5	15,000	2.4	2.6	●
HSK100A-DHE8-150	8	150	31	50	34	30~40	M5	15,000	2.8	3	
HSK100A-DHE10-90	10	90	33	50	34	35~45	M5	15,000	2.5	2.7	
HSK100A-DHE10-150	10	150	33	50	34	35~45	M5	15,000	3	3.2	
HSK100A-DHE12-95	12	95	35	50	34	41~51	M10	15,000	2.5	2.7	
HSK100A-DHE12-150	12	150	35	50	34	41~52	M10	15,000	3	3.2	
HSK100A-DHE14-100	14	100	36	50	40	43~53	M10	15,000	2.6	2.8	
HSK100A-DHE14-150	14	150	36	50	40	43~54	M10	15,000	3.1	3.3	
HSK100A-DHE16-100	16	100	40	50	45	46~56	M10	15,000	2.6	2.8	
HSK100A-DHE16-150	16	150	40	50	45	46~56	M10	15,000	3.1	3.3	
HSK100A-DHE18-100	18	100	42	50	45	49~59	M10	15,000	2.7	2.9	
HSK100A-DHE18-150	18	150	42	50	45	49~59	M10	15,000	3.2	3.4	
HSK100A-DHE20-105	20	105	44	50	50	49~59	M10	15,000	2.8	3	●
HSK100A-DHE20-150	20	150	44	50	50	49~59	M10	15,000	3.4	3.6	
HSK100A-DHE25-115	25	115	50	63	62	58~68	M16	15,000	3.3	3.5	●
HSK100A-DHE32-115	32	115	63	75	62	58~68	M16	15,000	3.8	4	●

(Unit : mm)

Accessories

SPARE PART

Type / Images / Designation	Accessories: Coolant Tube for HSK	Accessories: Wrench
		
HSK50A	HSK50A-CNS	HSK50-WRENCH(C)
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

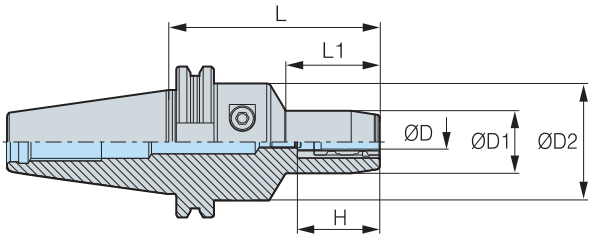
1:1 CHAT

SK-DHE

Hydraulic Expansion Chuck



DIN69871 -1A/B	G6.3	20,000	5㎛	C			
Shank	G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming



- ● : Stock
- ● : To be switched to NP order after stock depletion
- H : Depth of tool insertion (Min.~Max.)

C Internal coolant system is basic

- For more information on product features, see 34P
- For more information on the related parts, see 41P

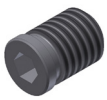
	Designation	ØD	L	ØD1	ØD2	L1	H	ADJ	RPM	Fig.	kg	Package Weight(kg)	Stock
SK40	SK40-DHE6-90	6	90	29	50	40	30-40	M5	20,000	1	1.4	1.6	●
	SK40-DHE8-90	8	90	31	50	40	30-40	M5	20,000	1	1.4	1.6	●
	SK40-DHE10-90	10	90	33	50	40	35-45	M5	20,000	1	1.5	1.7	●
	SK40-DHE12-90	12	90	35	50	40	41~51	M10	20,000	1	1.5	1.7	●
	SK40-DHE12-140	12	140	35	50	40	41~51	M10	20,000	1	2.1	2.3	●
	SK40-DHE14-90	14	90	36	50	40	43~53	M10	20,000	1	1.4	1.6	●
	SK40-DHE16-90	16	90	40	50	45	46~56	M5	20,000	1	1.5	1.7	●
	SK40-DHE18-90	18	90	42	50	45	49~59	M5	20,000	1	1.5	1.7	●
	SK40-DHE20-90	20	90	44	50	50	49~59	M10	20,000	1	1.5	1.7	●
	SK40-DHE20-140	20	140	44	50	50	49~59	M10	20,000	1	2.1	2.4	●
SK50	SK50-DHE12-90	12	90	35	50	40	41~51	M10	15,000	1	3.2	3.5	●
	SK50-DHE14-90	14	90	36	50	40	43~53	M10	15,000	1	3.2	3.5	●
	SK50-DHE16-90	16	90	40	50	45	46~56	M10	15,000	1	3.3	3.5	●
	SK50-DHE18-90	18	90	42	50	40	49~59	M10	15,000	1	3.2	3.5	●
	SK50-DHE20-90	20	90	44	50	47	49~59	M10	15,000	1	3.2	3.5	●

(Unit : mm)

1:1 CHAT

DHE SPARE PARTS

Hydraulic Expansion Chuck Related Parts

SPARE PART	Type / Designation		Main Components: Clamp Bolt	Main Components: Wrench
	Images			
	BT30 / SK30 /HSK50A	DHE4.5,6,8,10,12,14,16,18,20	BTF1010	DHETW-5
	BT40/BT50/SK40/ SK50/HSK63A/HSK100A	DHE4.5,6,8,10,12,14,16,18,20	BTF1010	DHETW-5
		DHE25.32	BTF1212-1.5	DHETW-6

SPARE PART	Type / Designation	Main Components: Adjust Screw
	Images	
	DHE 6,8,10	DHE-M5(ADJ)
	DHE 12,14,16,18,20	DHE-M10(ADJ)
	DHE 25.32	DHE-M16(ADJ)

※ DBT30, BT30, HSK50A is Exception

1:1 CHAT

DHE/S

Slim Hydraulic Expansion Chuck



G6.3	25,000	5~8㎛	C			
G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming



Features

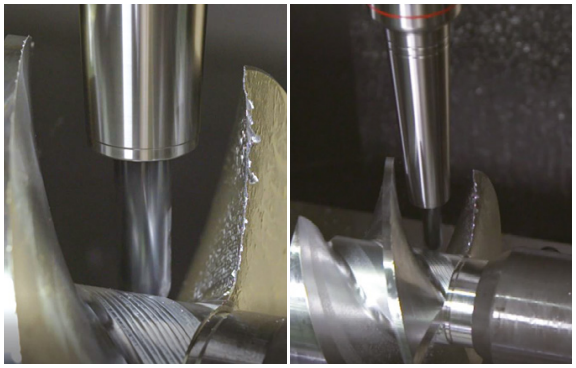
- Excellent workpiece accessibility due to slim design
- Improved tool life due to high-precision
- Reduced vibration during machining through the damping effects of the hydraulic chamber
- Tool clamping range : Ø4-Ø20mm

NAMING

BT30	–	DHE	8	S	–	115
Spindle		Hydraulic Expansion Chuck	Tool Dia.	Slim		Length

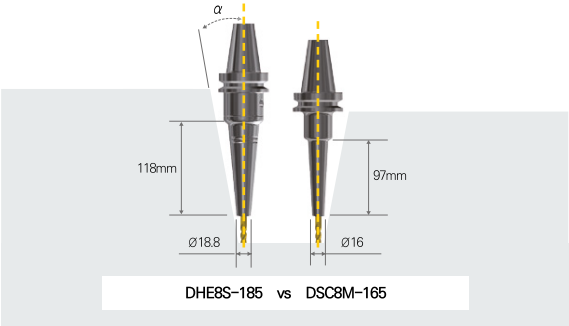
Recommended Machining Works

- Optimized for machining that requires high-precision
- Enables challenging narrow and deep machining
- Products that require finishing



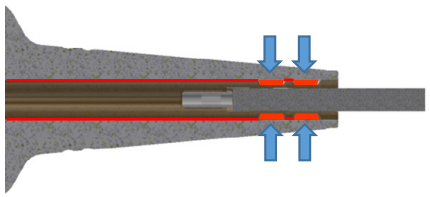
Product Comparison

- Length and thickness are the same as those of DSC/M Type (If the tool projection length is 40mm, difference of α = around 2°)
- Longer gauge line and higher rigidity (versus the DSC/M Type)
- Ideal for mold machining due to its 3-degree taper shape



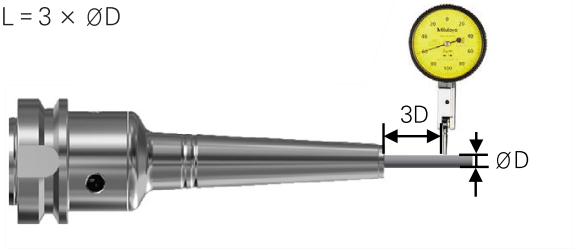
Stable Clamping Force

- Point clamping provides strong grip and stable clamping performance



High Precision

- Run-out : 5㎛ or Below (Long Type 8㎛)
- L = 3 × ØD



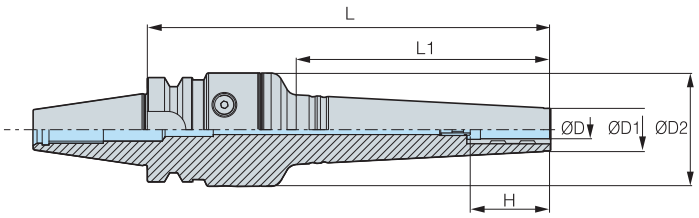
1:1 CHAT

BT-DHE/S

Slim Hydraulic Expansion Chuck



MAS 403-BT	G6.3	25,000	5~8㎛	C			
Shank	G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming



- ● : Stock
- H : Depth of tool insertion (Min.)
- C Internal coolant system is basic

- For more information on product features, see 42P
- For more information on the related parts, see 45P

	Designation	ØD	L	ØD1	ØD2	L1	H	RPM	Run-out	kg	Package Weight (kg)	Stock
BT30	BT30-DHE4S-115	4	115	16.8	50	50	19	25,000	5㎛	1.1	1.2	●
	BT30-DHE5S-115	5	115	16.8	50	50	19	25,000	5㎛	1.1	1.2	●
	BT30-DHE6S-115	6	115	17	50	50	23	25,000	5㎛	1.1	1.2	●
	BT30-DHE6S-180	6	180	17	50	115	23	25,000	8㎛	1.4	1.5	●
	BT30-DHE8S-115	8	115	19	50	50	31	25,000	5㎛	1.1	1.2	●
	BT30-DHE8S-180	8	180	19	50	115	31	25,000	8㎛	1.4	1.6	●
	BT30-DHE10S-120	10	120	21	50	55	36	25,000	5㎛	1.4	1.5	●
	BT30-DHE10S-180	10	180	21	50	115	36	25,000	8㎛	1.9	2	●
	BT30-DHE12S-130	12	130	23	50	65	38	25,000	5㎛	1.2	1.3	●
	BT30-DHE12S-180	12	180	23	50	115	38	25,000	8㎛	1.6	1.7	●
BT40	BT40-DHE4S-120	4	120	16.8	50	50	19	20,000	5㎛	1.7	1.8	●
	BT40-DHE5S-120	5	120	16.8	50	50	19	20,000	5㎛	1.7	1.8	●
	BT40-DHE6S-120	6	120	17	50	50	23	20,000	5㎛	1.7	1.8	●
	BT40-DHE6S-185	6	185	17	50	115	23	20,000	8㎛	2	2.2	●
	BT40-DHE8S-120	8	120	19	50	50	31	20,000	5㎛	2	2.1	●
	BT40-DHE8S-185	8	185	19	50	115	31	20,000	8㎛	2	2.2	●
	BT40-DHE10S-125	10	125	21	50	55	36	20,000	5㎛	1.6	1.7	●
	BT40-DHE10S-185	10	185	21	50	115	36	20,000	8㎛	2	2.2	●
	BT40-DHE12S-135	12	135	23	50	65	38	20,000	5㎛	1.8	1.9	●
	BT40-DHE12S-185	12	185	23	50	115	38	20,000	8㎛	2.2	2.3	●
	BT40-DHE16S-190	16	190	26.8	50	115	41	20,000	8㎛	2.3	2.4	●
	BT40-DHE20S-190	20	190	30.8	50	115	44	20,000	8㎛	2.4	2.5	●
BT50	BT50-DHE6S-200	6	200	16.8	50	115	22	15,000	8㎛	4.6	4.9	●
	BT50-DHE8S-200	8	200	18.8	50	115	30	15,000	8㎛	4.6	4.9	●
	BT50-DHE10S-200	10	200	20.8	50	115	35	15,000	8㎛	4.8	5.0	●
	BT50-DHE12S-200	12	200	22.8	50	115	37	15,000	8㎛	4.9	5.1	●
	BT50-DHE16S-200	16	200	26.8	50	115	41	15,000	8㎛	5.0	5.2	●
	BT50-DHE20S-200	20	200	30.8	50	115	44	15,000	8㎛	5.0	5.3	●

(Unit : mm)

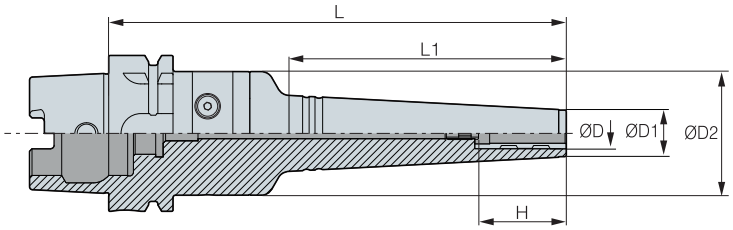
1:1 CHAT

HSK-DHE/S

Slim Hydraulic Expansion Chuck



DIN 69893-1 (Shank) | G6.3 (G value) | 20,000 (Max RPM) | 5~8㎛ (Run-out) | C (Coolant System) | Milling | Drilling | Reaming



- ● : Stock
- H : Depth of tool insertion (Min.)

C Internal coolant system is optional

- For more information on product features, see 42P
- For more information on the related parts, see 45P

	Designation	ØD	L	ØD1	ØD2	L1	H	RPM	Run-out	kg	Package Weight (kg)	Stock
HSK63	HSK63A-DHE4S-120	4	120	16.8	50	50	19	20,000	5㎛	1.4	1.6	●
	HSK63A-DHE5S-120	5	120	16.8	50	50	19	20,000	5㎛	1.4	1.6	●
	HSK63A-DHE6S-120	6	120	17	50	50	23	20,000	5㎛	1.4	1.6	●
	HSK63A-DHE6S-185	6	185	17	50	115	23	20,000	8㎛	1.7	1.9	●
	HSK63A-DHE8S-120	8	120	19	50	50	31	20,000	5㎛	1.4	1.7	●
	HSK63A-DHE8S-185	8	185	19	50	115	31	20,000	8㎛	1.8	2.0	●
	HSK63A-DHE10S-125	10	125	21	50	55	36	20,000	5㎛	1.5	1.7	●
	HSK63A-DHE10S-185	10	185	21	50	115	36	20,000	8㎛	1.8	2.0	●
	HSK63A-DHE12S-135	12	135	23	50	65	38	20,000	5㎛	1.8	1.9	●
	HSK63A-DHE12S-185	12	185	23	50	115	38	20,000	8㎛	1.8	2.1	●
	HSK63A-DHE16S-190	16	190	26.8	50	115	41	20,000	8㎛	2.2	2.4	●
	HSK63A-DHE20S-190	20	190	30.8	50	115	44	20,000	8㎛	2.3	2.5	●
HSK100	HSK100A-DHE16S-190	16	190	26.8	50	115	41	15,000	8㎛	3.1	3.3	●
	HSK100A-DHE20S-190	20	190	30.8	50	115	44	15,000	8㎛	3.3	3.5	●

(Unit : mm)

1:1 CHAT

DHE/S SPARE PART

Slim Hydraulic Expansion Chuck Related Parts

Main Components

SPARE PART

Type		Main Components	
		Clamp Bolt	Wrench
Images / Designation			
BT30	DHE/S 4,5,6,8,10,12	BTF1010	DHETW-5
BT40	DHE/S 4,5,6,8,10,12,16,20	BTF1010	DHETW-5
BT50	DHE/S 6,8,10,12,16,20	BTF1010	DHETW-5
HSK63A	DHE/S 4,5,6,8,10,12,16,20	BTF1010	DHETW-5
HSK100A	DHE/S 16,20	BTF1010	DHETW-5

SPARE PART

Type	Main Components
	Adjust Screw
Images / Designation	
DHE/S 6, 8, 10,12	DHE-M5 (ADJ)
DHE/S 16,20	DHE-M10 (ADJ)

Accessories

SPARE PART

Type	Accessories	
	Coolant Tube for HSK	Wrench
Images / Designation		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

1:1 CHAT

DHE/G NEW

Hydraulic Expansion Chuck for Tool Grinding



G6.3
G value

3㎛
Run-out



Features

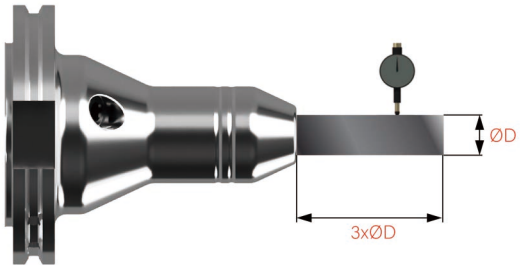
- Minimized wheel interference thanks to the application of 25 degrees to the entrance unit
- Stable run-out within 3㎛ in 3xØD
- Stable clamping force with 2-point clamping

NAMING

SK50	DHE	12	G	110
Spindle	Hydraulic Expansion Chuck	Tool Dia.	Grinding	Length

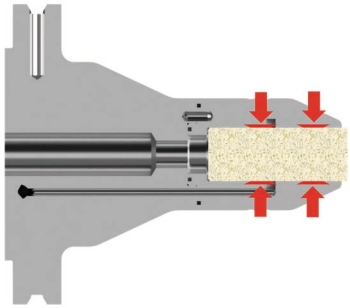
High Precision

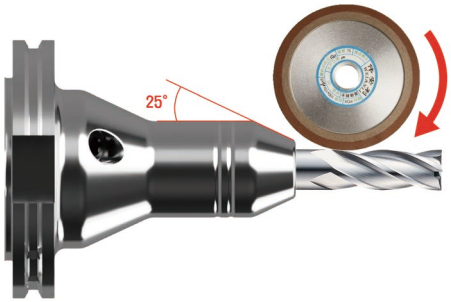
- Run-out within 3㎛ in 3xØD achieved by the application of high-precision.



Stable Clamping

- Achieve high-precision due to the stable clamping of 2 points on the upper side and the lower side.





Minimized Wheel Interference

- The front-end unit employs 25 ° of angle and minimizes wheel interference during machining.

Hydraulic Chuck for Grinding Tools

- Used as a jig for fixing an end tool when grinding the tools.

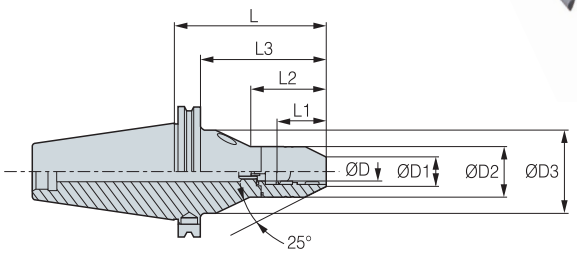
1:1 CHAT

SK-DHE/G

Hydraulic Expansion Chuck for Tool Grinding



DIN69871 -1A/B — Shank
G6.3 — G value
3㎛ — Run-out



• For more information on product features, see 46P
• For more information on the related parts, see 47P

• ● : Stock

	Designation	ØD	L	ØD1	ØD2	ØD3	L1	L2	L3	ADJ	kg	Package Weight (kg)	Stock
SK50	SK50-DHE6G-110	6	110	15	15	32	25	55	90.9	M5	3.2	3.5	
	SK50-DHE8G-110	8	110	17	17	33.5	25	55	90.9	M5	3.4	3.7	
	SK50-DHE10G-110	10	110	19	19	35	30	55	90.9	M5	3.4	3.7	
	SK50-DHE12G-110	12	110	21.5	21.5	36.5	36	55	90.9	M10	3.6	3.9	●
	SK50-DHE14G-110	14	110	23.5	23.5	38	38	60	90.9	M10	3.6	3.9	
	SK50-DHE16G-110	16	110	25.5	25.5	39.5	41	60	90.9	M10	3.7	4	
	SK50-DHE18G-110	18	110	27.5	27.5	41	44	60	90.9	M10	3.8	4.1	
	SK50-DHE20G-110	20	110	28	28	42	44	47	90.9	M10	3.8	4.1	●
	SK50-DHE25G-110	25	110	33	33	47	53	49	90.9	M16	4	4.3	
	SK50-DHE32G-110	32	110	40	40	54	53	62.5	90.9	M16	4.2	4.5	●

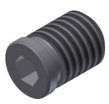
(Unit : mm)

1:1 CHAT

DHE/G SPARE PART

Hydraulic Chuck for Grinder Related Parts

SPARE PART

Type		Main Components	
		Clamp Bolt	Wrench
Images / Designation			
SK50	DHE6,8,10,12,14,16,18,20	BTF1010	DHETW-5
	DHE25.32	BTF1212-1.5	DHETW-6

1:1 CHAT

DHC Collet (General Type & Sealed Type)

DHC Collet (Standard Type) / DHC Collet (Sealed Type)



5㎛ Run-out

C Coolant System

Fig.1

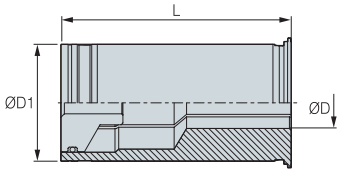
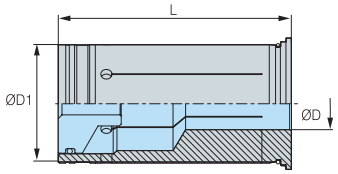


Fig.2



• ● : Stock

C This product does not support the internal coolant system

	Designation (Standard Type)	ØD	L	ØD1	Fig.	kg	Stock
DHC12	DHC12-3	3	47	12	1	0.06~0.08	●
	DHC12-4	4	47	12	1	0.06~0.08	●
	DHC12-5	5	47	12	1	0.06~0.08	●
	DHC12-6	6	47	12	1	0.06~0.08	●
	DHC12-8	8	47	12	1	0.06~0.08	●
DHC20	DHC20-3	3	52	20	1	0.04~0.06	●
	DHC20-4	4	52	20	1	0.04~0.06	●
	DHC20-5	5	52	20	1	0.04~0.06	●
	DHC20-6	6	52	20	1	0.04~0.06	●
	DHC20-7	7	52	20	1	0.04~0.06	●
	DHC20-8	8	52	20	1	0.04~0.06	●
	DHC20-9	9	52	20	1	0.04~0.06	●
	DHC20-10	10	52	20	1	0.04~0.06	●
	DHC20-11	11	52	20	1	0.04~0.06	●
	DHC20-12	12	52	20	1	0.04~0.06	●
	DHC20-14	14	52	20	1	0.04~0.06	●
	DHC20-16	16	52	20	1	0.04~0.06	●
DHC32	DHC32-6	6	63	32	1	0.2~0.5	●
	DHC32-8	8	63	32	1	0.2~0.5	●
	DHC32-10	10	63	32	1	0.2~0.5	●
	DHC32-12	12	63	32	1	0.2~0.5	●
	DHC32-14	14	63	32	1	0.2~0.5	●
	DHC32-16	16	63	32	1	0.2~0.5	●
	DHC32-18	18	63	32	1	0.2~0.5	●
	DHC32-19	19	63	32	1	0.2~0.5	●
	DHC32-20	20	63	32	1	0.2~0.5	●
	DHC32-25	25	63	32	1	0.2~0.5	●

• Other sizes are customizable. (Unit : mm)

• ● : Stock

C Internal coolant system is basic

	Designation (Sealed Type)	ØD	L	ØD1	Fig.	kg	Stock
DHC12	DHC12-3(P)	3	47	12	2	0.04	●
	DHC12-4(P)	4	47	12	2	0.04	●
	DHC12-5(P)	5	47	12	2	0.04	●
	DHC12-6(P)	6	47	12	2	0.04	●
	DHC12-8(P)	8	47	12	2	0.04	●
DHC20	DHC20-3(P)	3	52	20	2	0.06~0.1	●
	DHC20-4(P)	4	52	20	2	0.06~0.1	●
	DHC20-5(P)	5	52	20	2	0.06~0.1	●
	DHC20-6(P)	6	52	20	2	0.06~0.1	●
	DHC20-7(P)	7	52	20	2	0.06~0.1	●
	DHC20-8(P)	8	52	20	2	0.06~0.1	●
	DHC20-9(P)	9	52	20	2	0.06~0.1	●
	DHC20-10(P)	10	52	20	2	0.06~0.1	●
	DHC20-11(P)	11	52	20	2	0.06~0.1	●
	DHC20-12(P)	12	52	20	2	0.06~0.1	●
	DHC20-14(P)	14	52	20	2	0.06~0.1	●
	DHC20-16(P)	16	52	20	2	0.06~0.1	●
DHC32	DHC32-6(P)	6	63	32	2	0.2~0.3	●
	DHC32-8(P)	8	63	32	2	0.2~0.3	●
	DHC32-10(P)	10	63	32	2	0.2~0.3	●
	DHC32-12(P)	12	63	32	2	0.2~0.3	●
	DHC32-14(P)	14	63	32	2	0.2~0.3	●
	DHC32-16(P)	16	63	32	2	0.2~0.3	●
	DHC32-18(P)	18	63	32	2	0.2~0.3	●
	DHC32-19(P)	19	63	32	2	0.2~0.3	●
	DHC32-20(P)	20	63	32	2	0.2~0.3	●
	DHC32-25(P)	25	63	32	2	0.2~0.3	●

• Other sizes are customizable. (Unit : mm)

1:1 CHAT

DHJ Collet (Jet Coolant)

DHJ Jet Coolant Collet

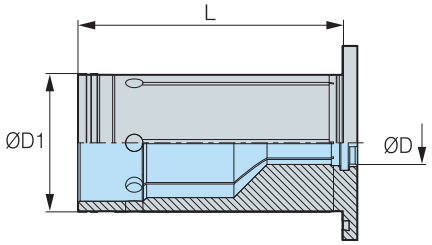


3㎛ Run-out

C Coolant System

Features

- Jet coolant function is available just by fastening hydraulic chuck
- Internal coolant is available when O-ring is fastened
- Reduces damage by the chips on the material



- ● : Stock

C Internal coolant system is basic

DHJ20

Designation	ØD	L	ØD1	kg	Package Weight (kg)	Stock
DHJ20-6	6	50	20	0.1	0.1	●
DHJ20-8	8	50	20	0.1	0.1	●
DHJ20-10	10	50	20	0.1	0.1	●
DHJ20-12	12	50	20	0.1	0.1	●
DHJ20-14	14	50	20	0.08	0.08	●
DHJ20-16	16	50	20	0.08	0.08	●

(Unit : mm)

1:1 CHAT

DZC

Zero Fit Collet



≤2㎛ Run-out

C Coolant System



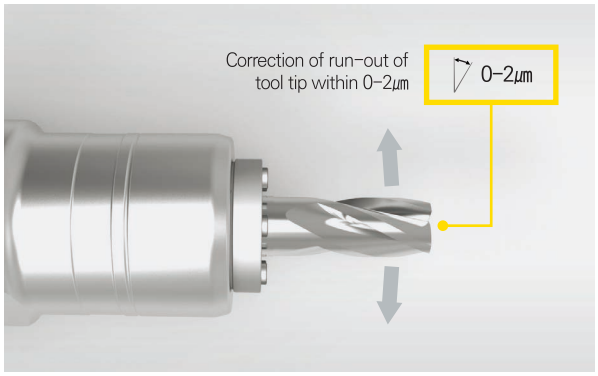
Features

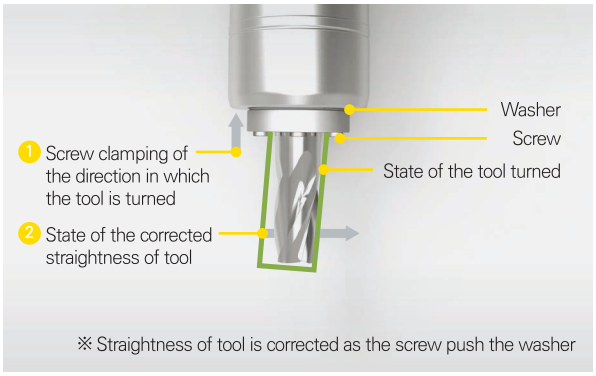
- Run-out setting available for higher precision due to the application of six screws
- Fastening errors with the equipment can be corrected (max. Correction dimension: 20㎛)
- Applicable for both hydraulic chuck and milling chuck

NAMING

DZC	20	–	10
Zero Fit Collet	Collet Size		Tool Dia.

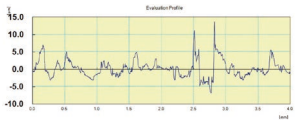
Product Features





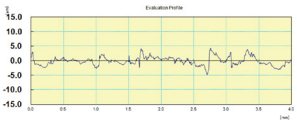
Comparison Test

Run-out of Tool Tip 10-20㎛

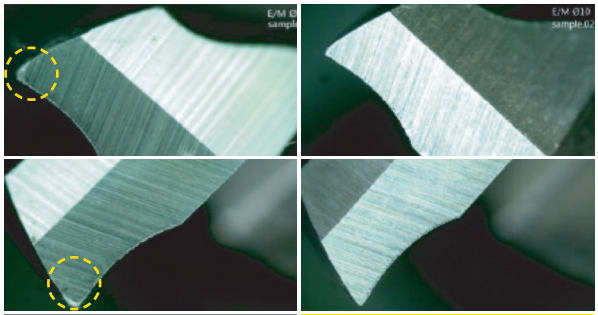


Surface Roughness Rz 11.064

Run-out of Tool Tip 0-2㎛



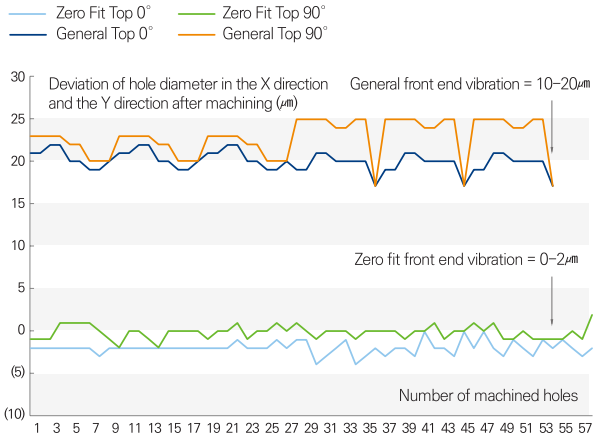
Surface Roughness Rz 6.688



Tool Fracture Occurred

No Fracture Occurred

Results of Hole Machining Test with PCD Reamer



Hole Actual Deviation as Machining Result(mm)		
Based on Ø8	Zero Fit	General
	+0.003	+0.02

1:1 CHAT

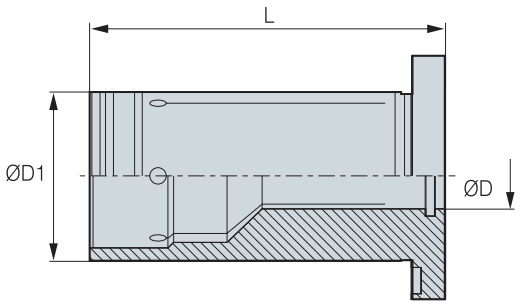
DZC

Zero Fit Collet



≤2㎛ Run-out

C Coolant System



• ● : Stock

C This product does not support the internal coolant system

• For more information on product features, see 50P

	Designation	ØD	L	ØD1	Stock
DZC20	DZC20-6	6	57	20	●
	DZC20-8	8	57	20	●
	DZC20-10	10	57	20	●
	DZC20-12	12	57	20	●
	DZC20-14	14	57	20	●
	DZC20-16	16	57	20	●
DZC32	DZC32-6	6	68	32	●
	DZC32-8	8	68	32	●
	DZC32-10	10	68	32	●
	DZC32-12	12	68	32	●
	DZC32-16	16	68	32	●
	DZC32-20	20	68	32	●
	DZC32-25	25	68	32	●

(Unit : mm)

※ Precautions

- Run-out can be adjusted with small force.
- Excessive clamping of the adjustment screw may result in deformation of the product.
  (Suggested clamping torque : less than 600cN·m)
- If the run-out adjustment screw is clamped using excessive force, all six screws must be completely unclamped and adjusted again.

1:1 CHAT

DSC

Shrinking Chuck



G2.5	25,000	3㎛	C				
G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming	Chamfering



Features

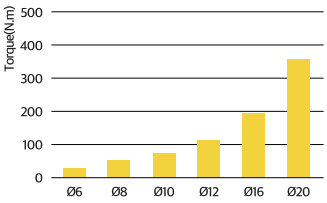
- Tools can be fastened with high rigidity and precision due to the minimized fastening structure
- Optimized balancing for high-speed machining is achieved by the symmetric design
- The simple structure allows for stable maintenance
- Boring range : Ø3~Ø20mm

NAMING

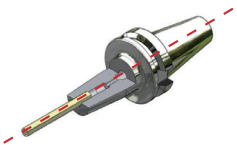
BT50	–	DSC	6	–	S	140	–	S
Shank Shape BT, HSK, SK, ST		Shrinking Chucks	Tool Dia.		Type S:Slim M:Middle NON:General	Length		Special S:Curve Type NON:General

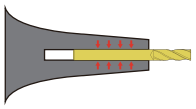
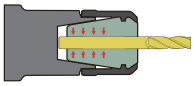
High Clamping Force

- Increase of 30% clamping force versus hydraulic expansion chuck
- Definite power transmission
- Run-out(≤0.003mm)



Symmetrical Design



Shrinking Chuck	Collet Chuck
Fix the space between the holder and tool as the heat contraction	Fix the tool using elasticity of the collet
	
Heat Expansion ▶ Heat Contraction	Elastic Strain
Very High Clamping Force	High Clamping Force

Slim Type Series Configuration

Straight Type

Used by combining with various holders such as hydraulic expansion chuck, milling chuck, and collet chuck, etc.



Mono Type

Used with high-precision as integral types



1:1 CHAT

DSC

Shrinking Chuck



Tool Tightening Tolerance

Tool Shank	Tool Shank Tolerance(h6)	Tool Shank	Tool Shank Tolerance(h6)	Tool Shank	Tool Shank Tolerance(h6)	Tool Shank	Tool Shank Tolerance(h6)
Ø3	0~-0.008	Ø6	0~-0.008	Ø12	0~-0.011	Ø25	0~-0.013
Ø4	0~-0.009	Ø8	0~-0.009	Ø16	0~-0.011	Ø32	0~-0.016
Ø5	0~-0.011	Ø10	0~-0.011	Ø20	0~-0.013		

(Unit : mm)

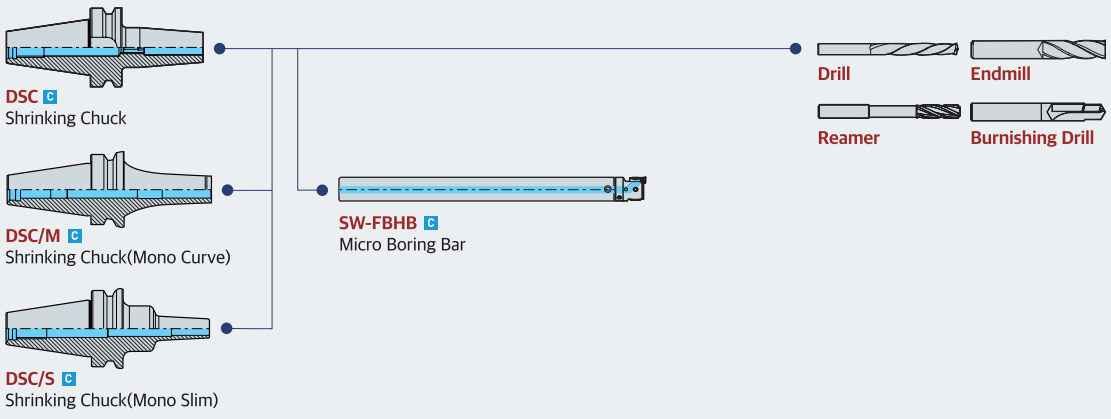
Min. Tool Insertion Depth

Inner Diameter	Type	Ø6	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
Tool's Min. Insertion Depth	Slim	18	24	30	30	-	-	-	-
	Medium	18	24	30	30	32	40	-	-
	General	26	26	32	37	37	40	42	52

(Unit : mm)

DSC Map

Shrinking Chuck



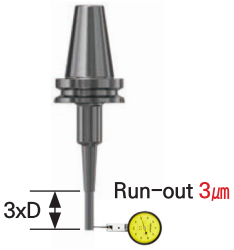
1:1 CHAT

DSC

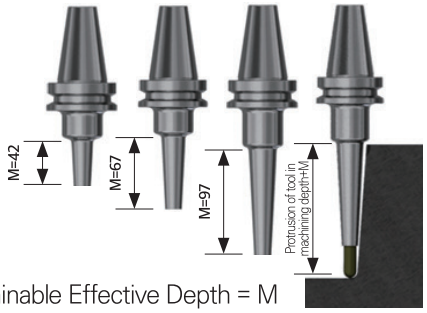
Shrinking Chuck



Mono Type

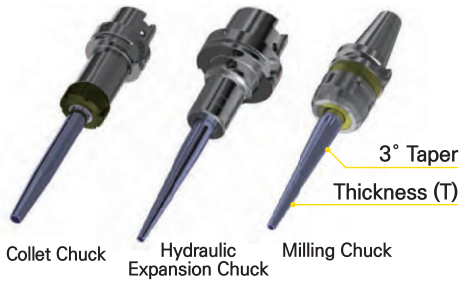
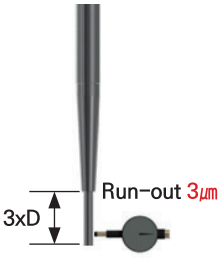
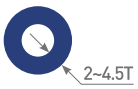
Shape	Accuracy	Type	
		 Slim Type	 Medium Type

- Ensures good rigidity by using special steel instead of general steel and maintains high-precision due to its excellent thermal resistance even when it is used moer than 5,000 times
- Enables stable cutting and good surface roughness due to its high rigidity
- Provides a long tool life due to its high-precision

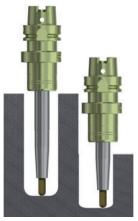


Machinable Effective Depth = M

Straight Type

Shape	Accuracy	Type	
		 Slim Type	 Medium Type
		Used by being combined with various holders such as hydraulic chuck, milling chuck, and collet chuck	

- Straight types used by combining with various holders such as hydraulic expansion chuck and collet chuck, etc. maintain high-precision and help enable various machining operations at an affordable price
- There are 20 types of shanks that can be used according to work situations

Examples	
 Ø6~Ø12 tools can be tightened Various lengths and shank sizes	 Lengths can be adjusted and used according to machining situations

1:1 CHAT

DSC

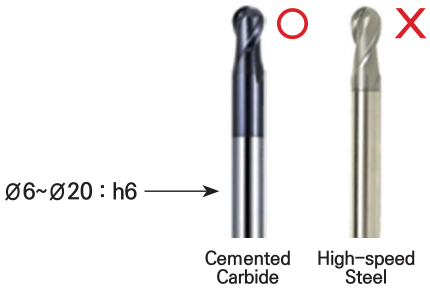
Shrinking Chuck



Precautions in Use

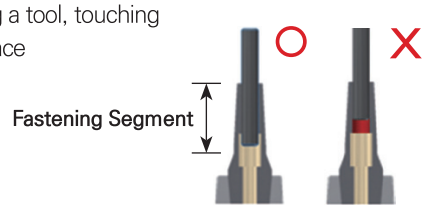
Tools to Use

- Use cemented carbide tools
- High-speed-steel may not be disassembled
- Using an excessive tolerance tool affects clamping force, causing an accident



Precautions for Fastening Tools

- Maintain clean state by removing rust, dust, cutting oil, etc. generated by corrosion of the inner diameter of the chuck before tool tightening
- When tightening a tool, tighten it under the tightening section
- Tool tightening in the middle of the tightening section affects accuracy and durability
- When tightening a tool, touching the bottom surface affects accuracy



High-frequency Heating-related Precautions

- When tightening/disassembling a tool, it is recommended that slim-type programmed shrink fit devices be used
- Using devices with no slim-type program may cause overheating.(Overheating may affect the product durability, service life, and accuracy.)

Storage Method

- When the shrink fit chuck is not used, the tool should be separated from the chuck. (Long-time connection may affect the service life of the product.)
- After using the shrink fit chuck, be sure to remove moisture and use inhibited oil and rust-preventing spray to prevent rust from occurring. (Less rust occurs compared to general steel as special steel is used; however, long-time non-use may cause rust occurrence.)

Components for Separate Sale

Shrinking Device MH-300 NEW

- Enables a maximum of 30-times consecutive heating per hour
- Compatible with steel and SUS holders
- Presets for 10 frequently used tool diameters can be saved
- Interchangeable heating coils for small(35mm) and large(58mm) diameters
- Standard BT30/BT40/HSK63 compatible; other shanks available(optional)
- Prevents overheating and enables manual cooling through settings



TOOL SHRINK BASIC NEW

- Improved tool life of the holders by preventing overheating by using automatic control of power between 7kW-16kW
- Applicable to holders with an outer diameter of Ø3-Ø32 mm without replacing a coil(regardless of materials such as steel, SUS, HSS, and carbide)
- Easy to use keypad
- Evo-Pi PC is installed for customizing using Wi-Fi
- Online remote support service available



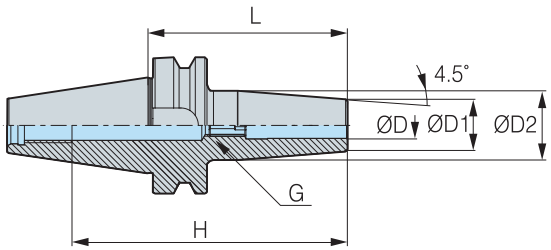
1:1 CHAT

BT-DSC

Shrinking Chuck



MAS 403-BT	G2.5	25,000	3㎛	C				
Shank	G value	Max RPM	Run-out	Coolant System	Milling	Drilling	Reaming	Chamfering



- ● : To be switched to NP order after stock depletion
- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is basic

- For more information on product features, see 52P
- For more information on the related parts, see 63P

	Designation	ØD	L	ØD1	ØD2	H	G	RPM	kg	Package Weight (kg)	Stock
BT30	BT30-DSC3-60	3	60	11	18.5	82	-	25,000	0.4	0.5	●
	BT30-DSC4-60	4	60	13	20.5	82	-	25,000	0.4	0.5	●
BT40	BT40-DSC6-90	6	90	21	27	36	M5	20,000	1.1	1.3	●
	BT40-DSC6-120	6	120	21	27	36	M5	20,000	1.2	1.5	●
	BT40-DSC6-160	6	160	21	27	36	M5	20,000	1.4	1.7	●
	BT40-DSC8-90	8	90	21	27	36	M5	20,000	1.1	1.3	●
	BT40-DSC8-120	8	120	21	27	36	M5	20,000	1.2	1.4	●
	BT40-DSC8-160	8	160	21	27	36	M5	20,000	1.4	1.7	●
	BT40-DSC10-90	10	90	24	32	42	M8	20,000	1.1	1.3	●
	BT40-DSC10-120	10	120	24	32	42	M8	20,000	1.3	1.6	●
	BT40-DSC10-160	10	160	24	32	42	M8	20,000	1.6	1.8	●
	BT40-DSC12-90	12	90	24	32	47	M8	20,000	1.1	1.3	●
	BT40-DSC12-120	12	120	24	32	47	M8	20,000	1.3	1.5	●
	BT40-DSC12-160	12	160	24	32	47	M8	20,000	1.6	1.8	●
	BT40-DSC16-90	16	90	27	34	50	M12	20,000	1.2	1.4	●
	BT40-DSC16-120	16	120	27	34	50	M12	20,000	1.3	1.6	●
	BT40-DSC16-160	16	160	27	34	50	M12	20,000	1.7	1.9	●
	BT40-DSC20-90	20	90	33	42	52	M12	20,000	1.3	1.5	●
	BT40-DSC20-120	20	120	33	42	52	M12	20,000	1.5	1.8	●
	BT40-DSC20-160	20	160	33	42	52	M12	20,000	2.0	2.3	

(Unit : mm)

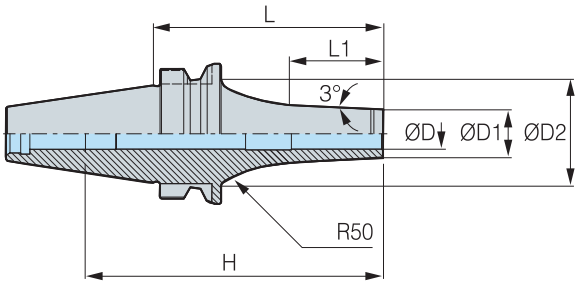
1:1 CHAT

BT-DSC/M MONO CURVE TYPE

Shrinking Chuck



MAS 403-BT Shank | G2.5 G value | 25,000 Max RPM | 3㎛ Run-out | C Coolant System | Milling | Drilling | Reaming | Chamfering



- ● : To be switched to NP order after stock depletion
- H : Depth of tool insertion

C Internal coolant system is basic

※ Adjustment screws cannot be used for this product

- For more information on product features, see 52P
- For more information on the related parts, see 63P

BT30

Designation	ØD	L	ØD1	ØD2	L1	H	RPM	kg	Package Weight (kg)	Stock
BT30-DSC3M-75S	3	75	8	25	30	97	25,000	0.4	0.5	
BT30-DSC4M-75S	4	75	10	25	32	97	25,000	0.4	0.5	
BT30-DSC6M-75S	6	75	12	30	29	97	25,000	0.5	0.5	●
BT30-DSC8M-75S	8	75	14	32	29	97	25,000	0.5	0.5	
BT30-DSC10M-75S	10	75	16	32	31	45	25,000	0.5	0.5	●
BT30-DSC12M-75S	12	75	19	32	34	45	25,000	0.5	0.5	●

(Unit : mm)

1:1 CHAT

BT-DSC/M MONO TYPE

Shrinking Chuck



MAS 403-BT	G2.5	20,000	3㎛	C	Milling	Drilling	Reaming	Chamfering
Shank	G value	Max RPM	Run-out	Coolant System				

Fig.1

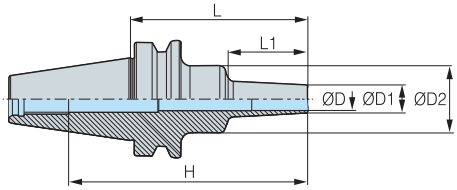
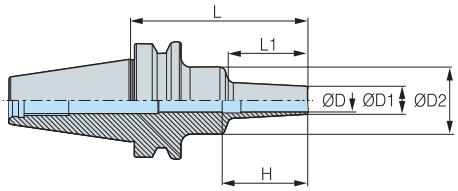


Fig.2



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is basic

※ Adjustment screws cannot be used for this product

※ Fig.1 allows the insertion of 100mm or more.

- For more information on product features, see 52P
- For more information on the related parts, see 63P

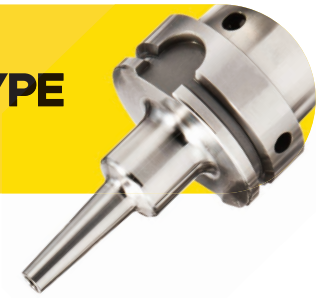
	Designation	ØD	L	ØD1	ØD2	L1	H	RPM	Fig.	kg	Package Weight (kg)	Stock
BT40	BT40-DSC3M-95	3	95	8	26	42	128	20,000	-	1.1	1.2	●
	BT40-DSC4M-95	4	95	8	26	42	128	20,000	-	1.1	1.1	●
	BT40-DSC6M-95	6	95	10	26	42	128	20,000	-	1.0	1.2	●
	BT40-DSC6M-120	6	120	10	26	67	153	20,000	-	1.0	1.2	●
	BT40-DSC6M-160	6	160	10	36	97	193	20,000	-	1.2	1.3	●
	BT40-DSC8M-95	8	95	13	36	42	128	20,000	-	1.3	1.4	●
	BT40-DSC8M-120	8	120	13	36	67	153	20,000	-	1.3	1.5	●
	BT40-DSC8M-160	8	160	13	36	97	193	20,000	-	1.3	1.5	●
	BT40-DSC10M-95	10	95	16	36	42	128	20,000	-	1.1	1.3	●
	BT40-DSC10M-120	10	120	16	36	67	153	20,000	-	1.1	1.4	●
	BT40-DSC10M-160	10	160	16	36	97	193	20,000	-	1.3	1.6	
	BT40-DSC12M-95	12	95	19	36	42	128	20,000	-	1.1	1.2	●
	BT40-DSC12M-120	12	120	19	36	67	153	20,000	-	1.2	1.4	●
	BT40-DSC12M-160	12	160	19	36	97	193	20,000	-	1.4	1.6	
	BT40-DSC16M-95	16	95	24	50	42	47	20,000	2	1.3	1.5	●
	BT40-DSC16M-120	16	120	24	50	67	47	20,000	2	1.4	1.6	
	BT40-DSC16M-160	16	160	24	50	97	47	20,000	2	1.7	2.0	
	BT40-DSC20M-95	20	95	29	50	42	55	20,000	2	1.3	1.5	●
	BT40-DSC20M-120	20	120	29	50	67	55	20,000	2	1.5	1.7	
	BT40-DSC20M-160	20	160	29	50	97	55	20,000	2	1.9	2.1	
BT50	BT50-DSC6M-110	6	110	10	26	42	163	15,000	-	3.5	3.8	●
	BT50-DSC6M-160	6	160	10	36	97	213	15,000	-	3.6	4.0	●
	BT50-DSC8M-110	8	110	13	36	42	163	15,000	-	3.7	4.0	●
	BT50-DSC8M-160	8	160	13	36	97	213	15,000	-	3.7	4.1	●
	BT50-DSC10M-110	10	110	16	36	42	163	15,000	-	3.7	4.0	●
	BT50-DSC10M-160	10	160	16	36	97	213	15,000	-	3.7	4.1	●
	BT50-DSC12M-110	12	110	19	36	42	163	15,000	-	3.7	4.0	●
	BT50-DSC12M-160	12	160	19	50	97	213	15,000	-	4.0	4.4	●
	BT50-DSC16M-110	16	110	24	50	42	163	15,000	-	3.9	4.2	
	BT50-DSC16M-160	16	160	24	50	97	213	15,000	-	4.1	4.5	●
	BT50-DSC20M-110	20	110	29	50	42	55	15,000	2	3.9	4.2	●
	BT50-DSC20M-160	20	160	29	50	97	55	15,000	2	4.2	4.6	●

(Unit : mm)

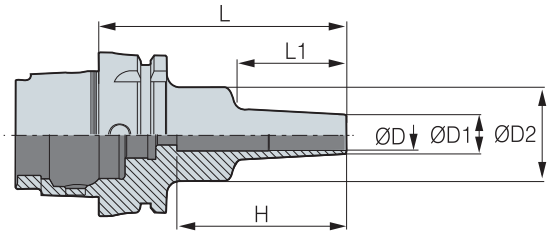
1:1 CHAT

HSK-DSC/M MONO TYPE

Shrinking Chuck



DIN 69893-1 (Shank) | G2.5 (G value) | 20,000 (Max RPM) | 3㎛ (Run-out) | C (Coolant System) | Milling | Drilling | Reaming | Chamfering



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

※ Adjustment screws cannot be used for this product

- For more information on product features, see 52P
- For more information on the related parts, see 63P

HSK63A

Designation	ØD	L	ØD1	ØD2	L1	H	RPM	kg	Package Weight (kg)	Stock
HSK63A-DSC6M-95	6	95	10	26	42	73	20,000	0.7	0.9	●
HSK63A-DSC8M-95	8	95	13	36	42	39	20,000	0.8	1	●
HSK63A-DSC10M-120	10	120	16	36	67	45	20,000	0.8	1	●
HSK63A-DSC12M-120	12	120	19	36	67	45	20,000	0.9	1.1	●
HSK63A-DSC16M-120	16	120	24	50	67	47	20,000	1.1	1.3	●

(Unit : mm)

Accessories

SPARE PART

Type	Accessories	
Images / Designation	Coolant Tube for HSK	Wrench
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)

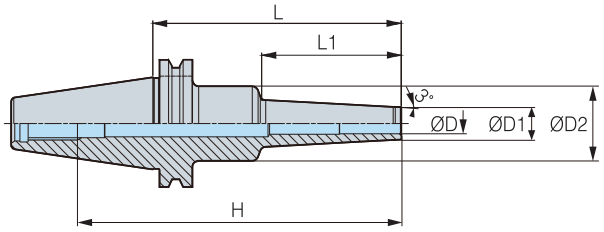
1:1 CHAT

SK-DSC/M MONO TYPE

Shrinking Chuck



DIN69871 -1A/B Shank | G2.5 G value | 20,000 Max RPM | 3㎛ Run-out | C Coolant System | Milling | Drilling | Reaming | Chamfering



- ● : To be switched to NP order after stock depletion
- H : Depth of tool insertion

C Internal coolant system is basic

※ Adjustment screws cannot be used for this product

- For more information on product features, see 52P
- For more information on the related parts, see 63P

SK40

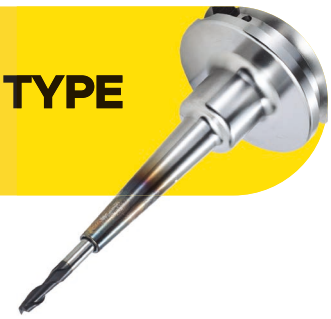
Designation	ØD	L	ØD1	ØD2	L1	H	RPM	kg	Package Weight (kg)	Stock
SK40-DSC6M-95	6	95	10	26	42	131	20,000	0.8	1.0	
SK40-DSC6M-120	6	120	10	26	67	156	20,000	1.0	1.2	
SK40-DSC8M-95	8	95	13	36	42	131	20,000	1.4	1.6	
SK40-DSC8M-120	8	120	13	36	67	156	20,000	1.0	1.2	
SK40-DSC10M-95	10	95	16	36	42	131	20,000	1.0	1.2	●
SK40-DSC10M-120	10	120	16	36	67	156	20,000	1.0	1.3	
SK40-DSC12M-95	12	95	19	36	42	131	20,000	1.0	1.2	
SK40-DSC12M-120	12	120	19	36	67	156	20,000	1.1	1.3	
SK40-DSC16M-95	16	95	24	50	42	47	20,000	1.3	1.5	
SK40-DSC16M-120	16	120	24	50	67	47	20,000	1.4	1.6	●
SK40-DSC20M-95	20	95	29	50	42	55	20,000	1.3	1.5	
SK40-DSC20M-120	20	120	29	50	67	55	20,000	1.4	1.6	

(Unit : mm)

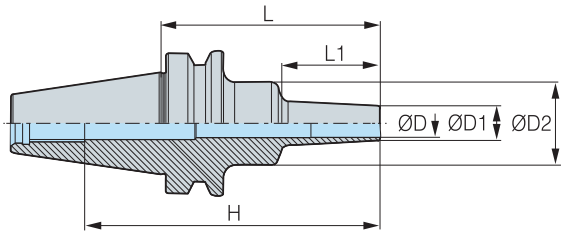
1:1 CHAT

BT-DSC/S MONO SLIM TYPE

Shrinking Chuck



MAS 403-BT	G2.5	25,000	3㎛	C	Milling	Drilling	Reaming	Chamfering
Shank	G value	Max RPM	Run-out	Coolant System				



- ● : To be switched to NP order after stock depletion
- H : Depth of tool insertion

C Internal coolant system is basic

※ Adjustment screws cannot be used for this product

- For more information on product features, see 52P
- For more information on the related parts, see 63P

	Designation	ØD	L	ØD1	ØD2	L1	H	RPM	kg	Package Weight (kg)	Stock
BT30	BT30-DSC6S-60	6	60	9	20	22	82	25,000	0.4	0.5	●
	BT30-DSC6S-80	6	80	9	20	42	102	25,000	0.5	0.5	●
	BT30-DSC6S-120	6	120	9	25	67	142	25,000	0.5	0.6	●
BT40	BT40-DSC6S-95	6	95	9	26	42	128	20,000	1.0	1.2	
	BT40-DSC6S-120	6	120	9	26	67	153	20,000	1.0	1.2	
	BT40-DSC6S-160	6	160	9	36	97	193	20,000	1.2	1.4	
	BT40-DSC8S-95	8	95	11	36	42	128	20,000	1.1	1.3	
	BT40-DSC8S-120	8	120	11	36	67	153	20,000	1.1	1.3	
	BT40-DSC8S-160	8	160	11	36	97	193	20,000	1.2	1.5	
	BT40-DSC10S-95	10	95	13	36	42	128	20,000	1.0	1.2	●
	BT40-DSC10S-120	10	120	13	36	67	153	20,000	1.1	1.3	
	BT40-DSC10S-160	10	160	13	36	97	193	20,000	1.2	1.5	
	BT40-DSC12S-95	12	95	15	36	42	128	20,000	1.1	1.3	●
	BT40-DSC12S-120	12	120	15	36	67	153	20,000	1.1	1.3	●
	BT40-DSC12S-160	12	160	15	36	97	193	20,000	1.2	1.4	
BT50	BT50-DSC6S-110	6	110	9	26	42	166	15,000	3.5	3.8	
	BT50-DSC6S-160	6	160	9	36	97	216	15,000	3.6	4.0	●
	BT50-DSC8S-110	8	110	11	36	42	166	15,000	3.6	3.9	
	BT50-DSC8S-160	8	160	11	36	97	216	15,000	3.6	4.0	●
	BT50-DSC10S-110	10	110	13	36	42	166	15,000	3.6	3.9	
	BT50-DSC10S-160	10	160	13	36	97	216	15,000	3.6	4.0	●
	BT50-DSC12S-110	12	110	15	36	42	166	15,000	3.6	3.9	
	BT50-DSC12S-160	12	160	15	36	97	216	15,000	3.7	4.1	●

(Unit : mm)

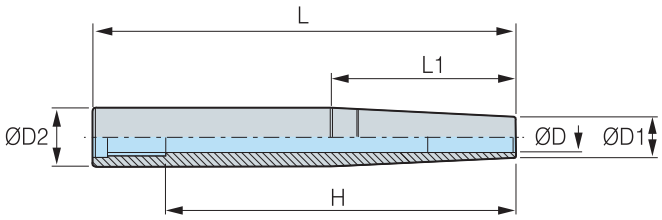
1:1 CHAT

ST-DSC/M

Straight Shank Shrinking Chuck



3㎛ Run-out | C Coolant System | Milling | Drilling | Reaming | Chamfering



- ● : To be switched to NP order after stock depletion
- H : Depth of tool insertion

C Internal coolant system is basic

- For more information on product features, see 52P
- For more information on the related parts, see 63P

	Designation	ØD	L	ØD1	ØD2	L1	H	kg	Package Weight (kg)	Stock
ST16	ST16-DSC6M-115	6	115	10	16	50	95	0.1	0.2	●
	ST16-DSC6M-140	6	140	10	16	60	120	0.1	0.2	●
ST20	ST20-DSC6M-175	6	175	10	20	95	155	0.2	0.3	●
	ST20-DSC8M-145	8	145	13	20	70	125	0.2	0.3	●
	ST20-DSC10M-120	10	120	16	20	50	45	0.2	0.3	●
ST25	ST25-DSC8M-175	8	175	13	25	105	155	0.4	0.5	●
	ST25-DSC10M-145	10	145	16	25	75	45	0.4	0.5	●
	ST25-DSC10M-175	10	175	16	25	105	45	0.4	0.5	●
	ST25-DSC12M-120	12	120	19	25	50	45	0.4	0.4	
	ST25-DSC12M-150	12	150	19	25	80	45	0.4	0.4	●
	ST25-DSC16M-175	16	175	24	25	50	47	0.5	0.6	●
ST32	ST32-DSC20M-175	20	175	29	32	50	55	0.8	0.9	●

(Unit : mm)

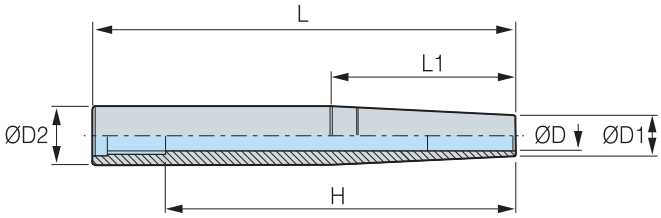
1:1 CHAT

ST-DSC/S

Straight Shank Shrinking Chuck



3㎛ Run-out | C Coolant System | Milling | Drilling | Reaming | Chamfering



- ● : To be switched to NP order after stock depletion
- H : Depth of tool insertion

C Internal coolant system is basic

- For more information on product features, see 52P
- For more information on the related parts, see 63P

	Designation	ØD	L	ØD1	ØD2	L1	H	kg	Package Weight (kg)	Stock
ST16	ST16-DSC6S-115	6	115	9	16	55	95	0.1	0.2	●
	ST16-DSC6S-140	6	140	9	16	70	120	0.1	0.2	●
	ST16-DSC8S-115	8	115	11	16	50	95	0.1	0.2	
ST20	ST20-DSC6S-175	6	175	9	20	105	155	0.2	0.3	●
	ST20-DSC8S-175	8	175	11	20	85	155	0.2	0.3	●
	ST20-DSC10S-145	10	145	13	20	75	77	0.2	0.3	
	ST20-DSC12S-120	12	120	15	20	50	52	0.2	0.3	●
ST32	ST32-DSC12S-315	12	315	15	32	185	295	1.2	1.3	●

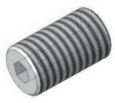
(Unit : mm)

1:1 CHAT

DSC SPARE PART

Shrinking Chuck Related Parts

SPARE PART

Type	Main Components	Type	Accessories	
	Adjust Screw		Coolant Tube for HSK	Wrench
Images / Designation		Images / Designation		
DSC6, DSC8	M520C			
DSC10, DSC12	M830C	HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
DSC14, DSC16, DSC18, DSC20, DSC25, DSC32	M1230C			

※Slim and mono type untightened

1:1 CHAT

NPM

New Power Milling Chuck



15㎛ Run-out | Coolant System | Milling | Drilling



Features

- Strong clamping force improves tool precision
- Dust block function prevents cutting oil and chips from penetrating inside the tool during machining
- Slot design minimizes holder deformation even in roughing
- Boring range : Ø20~Ø42mm

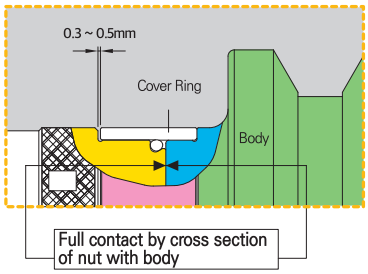
NAMING

BT40	—	NPM	32	—	110
Spindle		New Power Milling Chuck	Tool Dia.		Length

Strong Clamping Force

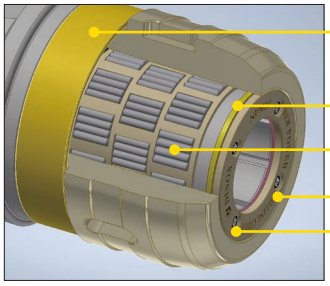
- NPM20 : Min. 130kgf·m
- NPM25 : Min. 265kgf·m
- NPM32 : Min. 350kgf·m
- NPM42 : Min. 500kgf·m
- NPM32(Short Type) : Min. 230kgf·m

Durability Enhanced by Preventing Foreign Objects to be Mixed (Dust Block) PAT.

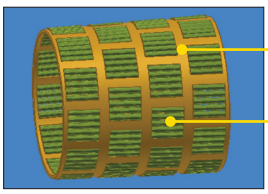


STOP RING applied to the front part
Preventing mixing of SHIM RING and O-ring

NPM Structural Features



• Needle Roller Bearing 〈NPM20〉



• Special steel bearing used to prevent damage
• Strong tightening due to load dispersion in the process of chucking

Enables Stable Operation from Rough to Medium Machining

Ensures excellent vibration absorption and enhanced cutting power when cutting due to perfect cross-sectional adhesion and strong clamping force



Enables stable operation from rough to medium machining



Radial Depth of Cut (Ae)=1.0mm



Radial Depth of Cut (Ae)=2.5mm



Radial Depth of Cut (Ae)=3.5mm



Radial Depth of Cut (Ae)=5.0mm



Radial Depth of Cut (Ae)=8.0mm

1:1 CHAT

NPM

New Power Milling Chuck



Type

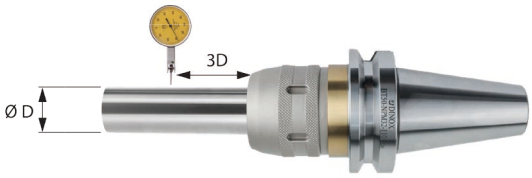
- DBT Type : DBT30, DBT40, DBT50
- BT Type : BT30, BT40, BT50
- HSK Type : HSK63A, HSK50A, HSK100A
- SK Type : SK30, SK40, SK50
- NT Type : NT40, NT50



BT Type | HSK Type | SK Type | NT Type | DBT Type

High Precision

- Run-out accuracy within 15㎛ in the case of L/D=3
- Clamp inner diameter (Clamp I.D.) accuracy within 5㎛



Run-out within 15㎛ (Measurement Location : 3D)

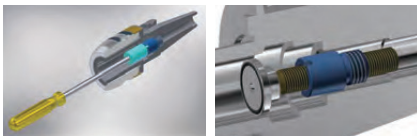
Internal Coolant Applicable



NPM + CTC(Option) = Internal Coolant Application System

Internal Refueling System

- HSK shank is not available
- Add specifications of the CRS if not the basic application is adopted.
  Ex) CTC20-6 : Nut + Screw + CSR-6 (Changeable to the Coolant Stop Ring with specific size instead of standard type)
  ※ Caution: When you fasten the Coolant stop ring (CSR) by using a wrench, if you rotate it continuously, the coolant adjust screw (CAS) will fall below the coolant bush nut (CBN) and the CSR may deviate. So please be careful when using it.





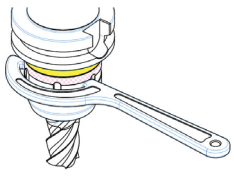
Designation	Nut	Screw	Coolant Stop Ring	Inner Diameter(Ø)	Applicable Shank	Remarks
CTC32(M16)-□□	CBN-M16N	CAS-M12	CSR-□□	20, 25, 32	#30, 40, 50	#50 is not applicable to inner diameter of Ø32.
CTC32(M24)-□□	CBN-M24N			32, 42	#50	

※ The above is just an example.

• For more information on product features, see 72P

⚠ CAUTION

- Be sure not to use a spanner with a pipe, etc. inserted when tightening a milling chuck
- Excessive clamping can deform and/or adversely affect a cutting tool
- When tightening a cutting tool, be sure not to touch it with bare hands
- When using a collet, push it all the way into the milling chuck
- If the insertion depth of the collet is not normal, the tool such as an end mill may fall out and/or the milling chuck may be internally damaged
- In case of a milling chuck failure, do not disassemble it arbitrarily
- In case of a problem arising out of arbitrary disassembly, remember that no compensation will be provided



Removable within an average of 2.5 turns

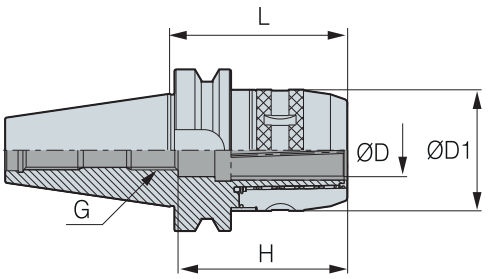
1:1 CHAT

DBT-NPM

New Power Milling Chuck



DBT Shank | 15㎛ Run-out | 130~500 kgf·m Clamping Force | C Coolant System | Milling | Drilling



- ● : Stock
- H : Depth of tool insertion
- C Internal coolant system is optional

- For more information on product features, see 64P
- For more information on the related parts, see 72P

	Designation	ØD	L	ØD1	H	G	Collet	kg	Package Weight (kg)	Stock
DBT30	DBT30-NPM20-85	20	85	54	85	M16	DC20, DCS20, DCJ20	1.1	1.3	
DBT40	DBT40-NPM20-85	20	85	54	85	M16	DC20, DCS20, DCJ20	2.3	2.5	●
	DBT40-NPM20-100	20	100	54	85	M16	DC20, DCS20, DCJ20	2.4	2.6	
	DBT40-NPM20-135	20	135	54	85	M16	DC20, DCS20, DCJ20	2.5	2.7	
	DBT40-NPM25-85	25	85	61	83	M16	DC25, DCS25	1.8	1.9	
	DBT40-NPM32-90	32	90	75	85	M16	DC32, DCS32, DCJ32	2.4	2.5	
	DBT40-NPM32-110	32	110	75	95	M16	DC32, DCS32, DCJ32	2.9	3.1	●
	DBT40-NPM32-120	32	120	75	95	M16	DC32, DCS32, DCJ32	3.1	3.3	
	DBT40-NPM32-135	32	135	75	95	M16	DC32, DCS32, DCJ32	3.4	3.6	
DBT50	DBT50-NPM20-95	20	95	54	85	M16	DC20, DCS20, DCJ20	4.3	4.6	
	DBT50-NPM20-105	20	105	54	85	M16	DC20, DCS20, DCJ20	4.5	4.8	●
	DBT50-NPM20-125	20	125	54	85	M16	DC20, DCS20, DCJ20	4.8	5.1	
	DBT50-NPM20-165	20	165	54	85	M16	DC20, DCS20, DCJ20	5.3	5.6	
	DBT50-NPM25-95	25	95	61	83	M16	DCS25, DC25	4.6	4.8	
	DBT50-NPM32-90	32	90	75	93	M24	DC32, DCS32, DCJ32	4.9	5.1	
	DBT50-NPM32-110	32	110	75	105	M24	DC32, DCS32, DCJ32	5	5.3	●
	DBT50-NPM32-135	32	135	75	105	M24	DC32, DCS32, DCJ32	5.8	6.2	
	DBT50-NPM32-165	32	165	75	105	M24	DC32, DCS32, DCJ32	6.9	7.3	
	DBT50-NPM42-110	42	110	90	125	M24	DC42, DCS42	5.6	5.9	●
	DBT50-NPM42-135	42	135	90	125	M24	DC42, DCS42	6.6	6.9	
	DBT50-NPM42-165	42	165	90	125	M24	DC42, DCS42	8	8.3	

※ If L≤90, products with over 90 are recommended for roughing due to the application of short type caps.

(Unit : mm)

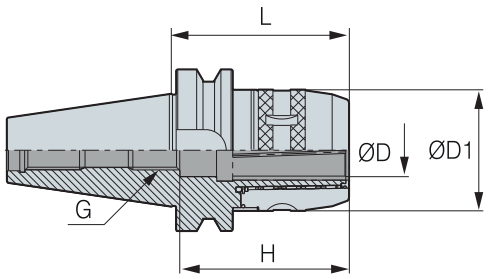
1:1 CHAT

BT-NPM

New Power Milling Chuck



MAS 403-BT Shank | 15㎛ Run-out | 130~500 kgf·m Clamping Force | C Coolant System | Milling | Drilling



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

- For more information on product features, see 64P
- For more information on the related parts, see 72P

	Designation	ØD	L	ØD1	H	G	Collet	kg	Package Weight (kg)	Stock
BT30	BT30-NPM20-85	20	85	54	85	M16	DC20, DSC20, DCJ20	1.2	1.3	●
BT40	BT40-NPM20-85	20	85	54	85	M16	DC20, DCS20, DCJ20	2.3	2.6	●
	BT40-NPM20-100	20	100	54	85	M16	DC20, DCS20, DCJ20	2.3	2.5	●
	BT40-NPM20-135	20	135	54	85	M16	DC20, DCS20, DCJ20	2.4	2.6	
	BT40-NPM25-85	25	85	61	83	M16	DC25, DCS25	1.7	1.9	●
	BT40-NPM32-90	32	90	75	85	M16	DC32, DCS32, DCJ32	2.3	2.5	●
	BT40-NPM32-110	32	110	75	95	M16	DC32, DCS32, DCJ32	2.8	3.1	●
	BT40-NPM32-120	32	120	75	95	M16	DC32, DCS32, DCJ32	3.0	3.3	
	BT40-NPM32-135	32	135	75	95	M16	DC32, DCS32, DCJ32	3.5	3.8	●
BT50	BT50-NPM20-95	20	95	54	85	M16	DC20, DCS20, DCJ20	4.3	4.6	●
	BT50-NPM20-125	20	125	54	85	M16	DC20, DCS20, DCJ20	4.7	5.1	●
	BT50-NPM20-165	20	165	54	85	M16	DC20, DCS20, DCJ20	5.2	5.6	●
	BT50-NPM25-95	25	95	61	83	M16	DC25, DCS25	4.6	4.8	
	BT50-NPM32-90	32	90	75	93	M24	DC32, DCS32, DCJ32	4.9	5.1	
	BT50-NPM32-110	32	110	75	105	M24	DC32, DCS32, DCJ32	5.0	5.3	●
	BT50-NPM32-135	32	135	75	105	M24	DC32, DCS32, DCJ32	5.7	6.1	●
	BT50-NPM32-165	32	165	75	105	M24	DC32, DCS32, DCJ32	6.9	7.3	●
	BT50-NPM42-110	42	110	90	125	M24	DC42, DCS42	5.4	5.7	●
	BT50-NPM42-135	42	135	90	125	M24	DC42, DCS42	6.5	6.9	●
	BT50-NPM42-165	42	165	90	125	M24	DC42, DCS42	7.9	8.3	●

※ If L≤90, products with over 90 are recommended for roughing due to the application of short type caps.

(Unit : mm)

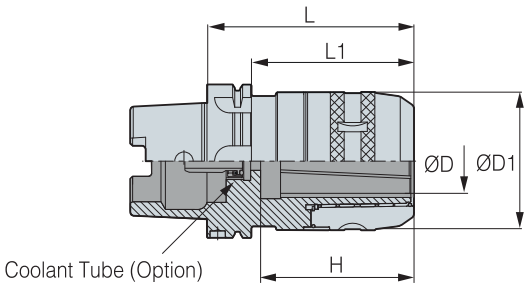
1:1 CHAT

HSK-NPM

New Power Milling Chuck



DIN 69893-1 Shank | 15㎛ Run-out | 130~350 kgf·m Clamping Force | C Coolant System | Milling | Drilling



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

- For more information on product features, see 64P
- For more information on the related parts, see 72P

	Designation	ØD	L	ØD1	L1	H	Collet	kg	Package Weight (kg)	Stock
HSK50A	HSK50A-NPM20-100	20	100	54	74	75	DC20, DCS20, DCJ20	1	1.2	
HSK63A	HSK63A-NPM20-100	20	100	54	74	75	DC20, DCS20, DCJ20	1.6	1.8	●
	HSK63A-NPM25-100	25	100	61	74	75	DC25,DCS25	1.9	2.1	
	HSK63A-NPM32-110	32	110	75	84	82	DC32, DCS32, DCJ32	2.5	2.7	
	HSK63A-NPM32-120	32	120	75	84	90	DC32, DCS32, DCJ32	2.9	2.8	●
HSK100A	HSK100A-NPM20-110	20	110	54	81	75	DC20,DCS20,DCJ20	3	3.2	
	HSK100A-NPM25-110	25	110	61	81	75	DC25,DCS25,DCJ25	3.2	3.4	
	HSK100A-NPM32-115	32	115	75	86	82	DC32,DCS32,DCJ32	4.1	4.4	
	HSK100A-NPM32-130	32	130	75	101	90	DC32,DCS32,DCJ32	4	4.9	●
	HSK100A-NPM42-135	42	135	90	106	100	DC42,DCS42	5.7	6.0	

(Unit : mm)

Accessories

SPARE PART

Type / Images / Designation	Accessories: Coolant Tube for HSK	Accessories: Wrench
		
HSK50A	HSK50A-CNS	HSK50-WRENCH(C)
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

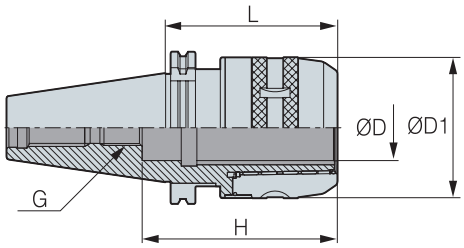
1:1 CHAT

SK-NPM

New Power Milling Chuck



DIN69871 -1A/B Shank | 15㎛ Run-out | 130~500 kgf·m Clamping Force | C Coolant System | Milling | Drilling



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

- For more information on product features, see 64P
- For more information on the related parts, see 72P

	Designation	ØD	L	ØD1	H	G	Collet	kg	Package Weight (kg)	Stock
SK40	SK40-NPM20-95	20	95	54	85	M16	DC20, DCS20, DCJ20	2.4	2.6	●
	SK40-NPM32-95	32	95	75	85	M16	DC32, DCS32, DCJ32	2.4	2.6	●
	SK40-NPM32-110	32	110	75	95	M16	DC32, DCS32, DCJ32	2.8	3.0	●
	SK40-NPM32-135	32	135	75	95	M16	DC32, DCS32, DCJ32	3.2	3.5	●
SK50	SK50-NPM20-100	20	100	54	85	M16	DC20, DCS20, DCJ20	3.6	3.9	●
	SK50-NPM32-100	32	100	75	105	M24	DC32, DCS32, DCJ32	4.3	4.6	●
	SK50-NPM32-130	32	130	75	105	M24	DC32, DCS32, DCJ32	5.2	5.6	●
	SK50-NPM42-110	42	110	90	125	M24	DC42, DCS42	5.2	5.5	●
	SK50-NPM42-135	42	135	90	125	M24	DC42, DCS42	6.1	6.5	●

(Unit : mm)

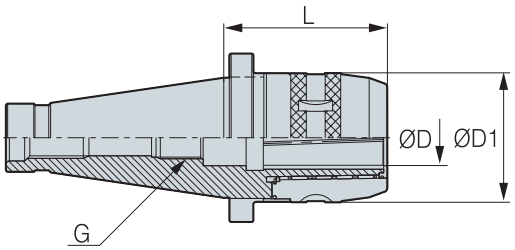
1:1 CHAT

NT-NPM

New Power Milling Chuck



DIN2080 JISB6101 Shank | 15㎛ Run-out | C Coolant System | Milling | Drilling



• ● : Stock
C This product does not support the internal coolant system

• For more information on product features, see 64P
• For more information on the related parts, see 72P

	Designation	ØD	L	ØD1	G	Collet	kg	Package Weight (kg)	Stock
NT40	NT40-NPM32-95	32	95	75	M16	DC32, DCS32	2.7	2.9	●
NT50	NT50-NPM32-95	32	95	75	M24	DC32, DCS32	4.3	4.6	●
	NT50-NPM42-95	42	95	90	M24	DC42, DCS42	4.8	5.1	●
NT50M	NT50M-NPM32-95	32	95	75	M24	DC32, DCS32	4.4	4.7	●
	NT50M-NPM42-95	42	95	90	M24	DC42, DCS42	4.9	5.2	●

(Unit : mm)

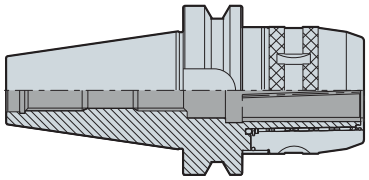
1:1 CHAT

BT-NPM SET

New Power Milling Chuck SET



MAS 403-BT (Shank) | 15㎛ (Run-out) | 130~500 kgf·m (Clamping Force) | C (Coolant System) | Milling | Drilling



- ● : Stock
- HSK, SK / B Set are customizable

C Internal coolant system is optional

• For more information on product features, see 64P.

	Type / Images / Designation	Body	Collet	TC	DJT	Spanner	Stock
A SET	BT40-NPM20-85(A)	BT40-NPM20-85	DC20-6, 8, 10, 12, 16	-	-	57-60	
	BT40-NPM32-110(A)	BT40-NPM32-110	DC32-6, 8, 10, 12, 16, 20, 25	-	-	75-79	●
	BT50-NPM32-110(A)	BT50-NPM32-110	DC32-6, 8, 10, 12, 16, 20, 25	-	-	75-79	●
	BT50-NPM42-110(A)	BT50-NPM42-110	DC42-6, 8, 10, 12, 16, 20, 25	-	-	92-96	●
B SET	BT40-NPM20-85(B)	BT40-NPM20-85	DC20-6, 8, 10, 12, 16	TC20-1,2	DJT20-6	57-60	
	BT40-NPM32-110(B)	BT40-NPM32-110	DC32-6, 8, 10, 12, 16, 20, 25	TC32-1,2,3	DJT32-6	75-79	
	BT50-NPM32-110(B)	BT50-NPM32-110	DC32-6, 8, 10, 12, 16, 20, 25	TC32-1,2,3	DJT32-6	75-79	
	BT50-NPM42-110(B)	BT50-NPM42-110	DC42-6, 8, 10, 12, 16, 20, 25	TC42-1,2,3	DJT42-6	92-96	

(Unit : mm)

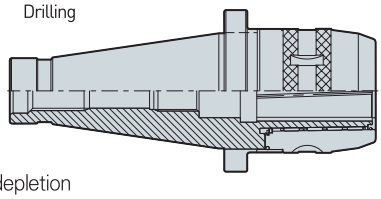
1:1 CHAT

NT-NPM SET

New Power Milling Chuck SET



DIN2080 JISB6101 (Shank) | 15㎛ (Run-out) | C (Coolant System) | Milling | Drilling



- ● : To be switched to NP order after stock depletion

C This product does not support the internal coolant system

• For more information on product features, see 64P

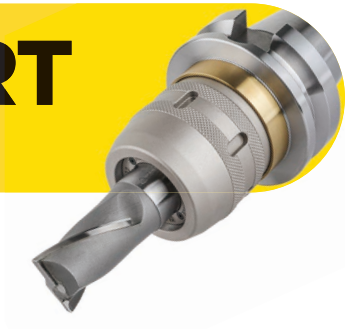
	Type / Images / Designation	Body	Collet	TC Collet	DJT	Spanner	Stock
NT40	NT40-NPM32-95(B)	NT40-NPM32-95	DC32-6, 8, 10, 12, 16, 20, 25	TC32-MT1,2,3	DJT32-6	75-79	●
NT50	NT50-NPM32-95(B)	NT50-NPM32-95	DC32-6, 8, 10, 12, 16, 20, 25	TC32-MT1,2,3	DJT32-6	75-79	●
	NT50-NPM42-95(B)	NT50-NPM42-95	DC42-6, 8, 10, 12, 16, 20, 25, 32	TC42-MT1,2,3,4	DJT42-6	92-96	●

(Unit : mm)

1:1 CHAT

NPM SPARE PART

New Power Milling Chuck Related Parts



Accessories(BT/SK)

SPARE PART

Type / Images / Designation	Accessories		
	Coolant System (BT/SK)	Collet	Spanner
			
NPM20	CTC20-□□	DCS20, DC20, DCJ20	57-60
NPM25	-	DCS25, DC25	61-65
NPM32	CTC32-□□	DCS32, DC32, DCJ32	75-79
NPM42	CTC42-□□	DC42, DCS42	92-96

Accessories(HSK)

SPARE PART

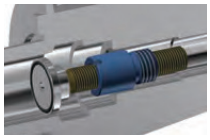
Type / Images / Designation	Accessories	
	Coolant Tube for HSK	Wrench
		
HSK50A	HSK50A-CNS	HSK50-WRENCH(C)
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

Internal Refueling System

- HSK shank is not available
- Select the CSR according to the outer diameter of the tool shank you want to use.
  EX) CTC20-6 : Nut + Screw + CSR-6
  ※ Caution : If the coolant stop ring (CSR) is rotated continuously using Wrench that the coolant adjust screw (CAS) will be used, falls below the Coolant Bush Nut (CBN) and the CSR is dropped, so please be careful when using it.







Designation	Nut	Screw	Coolant Stop Ring	Inner Diameter	Hole Diameter	Applied Screw(G)	Remarks
CTC20(M16)-□□	CBN-M16N	CAS-M12	CSR-□□	20	6,8,10,12,16,20	M16	-
CTC32(M16)-□□	CBN-M16N	CAS-M12	CSR-□□	32	6,8,10,12,16,20,25,32	M16	-
CTC32(M16)-□□	CBN-M24N	CAS-M12	CSR-□□	32	6,8,10,12,16,20,25,32	M24	-
CTC32(M16)-□□	CBN-M24N	CAS-M12	CSR-□□	42	6,8,10,12,16,20,25,32,42	M24	-
CTC42(M24)-□□	CBN-M24N	CAS-M12	CSR-□□	42	42	M24	-

※ For the CTC32 type, use two types, CTC32(M12) and CTC32(M24), because the standard of Adjust Screw per Shank is different.
※ For the Coolant Stop Ring (CSR), you can select the specification option that suits your situation.

1:1 CHAT

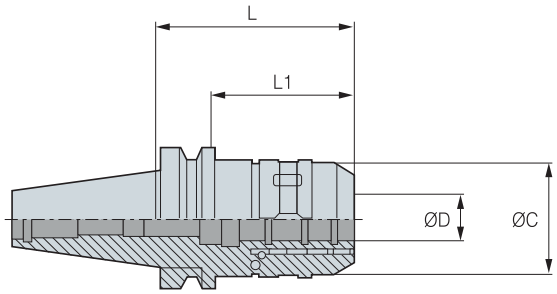
BT-DMC

NEW

Dine Milling Chuck



MAS 403-BT Shank | 15㎛ Run-out | 130~500 kgf·m Clamping Force | C Coolant System



• ● : Stock

C Internal coolant system is optional

	Designation	ØD	L	ØC	L1	Applicable Collet (Optional)	Package Weight (kg)	Stock
BT30	BT30-DMC20-80	20	80	54	80	DC20, DCS20	1.0	●
BT40	BT40-DMC20-90	20	90	54	80	DC20, DCS20	2.3	●
	BT40-DMC32-105	32	105	75	95	DC32, DCS32	2.9	●
BT50	BT50-DMC32-105	32	105	75	95	DC32, DCS32	4.9	●
	BT50-DMC32-165	32	165	75	95	DC32, DCS32	6.7	●
	BT50-DMC42-105	42	105	90	125	DC42, DCS42	5.2	●
	BT50-DMC42-165	42	165	90	125	DC42, DCS42	8.0	●

(Unit : mm)

Accessories

SPARE PART

Type / Images / Designation	Spanner
	
DMC 20	57-60
DMC 32	75-79
DMC 42	92-96

1:1 CHAT

DCL

Lock Collet for Milling Chuck



C
Coolant System

Lock



Features

- The mechanical fastening method enables the prevention of tool deviation
- Stable tool fastening force even under extreme machining conditions

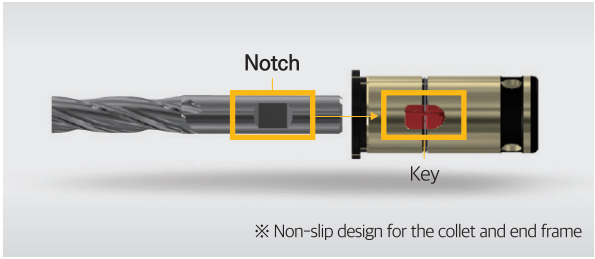
NAMING

DCL	32	–	20
DINE Lock-Collet	Collet Size		Tool Dia.

Structural Features

Designed to Prevent Fallout

- Designed especially for extreme machining with a lot of mechanical actions, prevents the tool from deviating or pull out
- Weldon flat (DINE 6535HB) end mill used



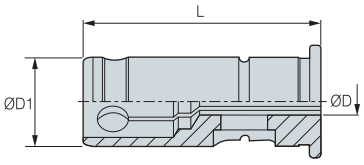
※ Non-slip design for the collet and end frame

Non-slip Structure

- Closely adhered to the grooves of the milling chuck
  – No slip occurring even under high torque



Detailed Specifications



- ● To be switched to NP order after stock depletion

※ Use DIN 6535HB standard end mill

	Designation	ØD	L	ØD1	Stock
DCL20	DCL20-6	6	53	20	●
	DCL20-8	8	53	20	●
	DCL20-10	10	53	20	●
	DCL20-12	12	53	20	●
	DCL20-14	14	53	20	●
	DCL20-16	16	53	20	●
DCL32	DCL32-6	6	53	32	●
	DCL32-8	8	65	32	●
	DCL32-10	10	65	32	●
	DCL32-12	12	65	32	●
	DCL32-14	14	65	32	●
	DCL32-16	16	65	32	●
	DCL32-18	18	65	32	●
	DCL32-20	20	65	32	●
	DCL32-25	25	65	32	●

※ Caution: In order to use DCL, an exclusive milling chuck is required, so please inquire the details at the sales department

(Unit : mm)

Example Order BT40-NPM32-110 (DCL)

1:1 CHAT

DCL SPARE PART

Non-slip Milling Chuck Collet Related Parts



SPARE PART

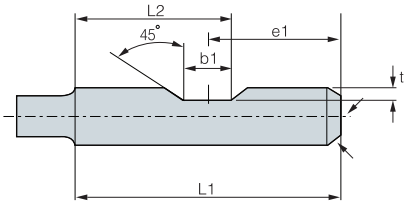
Type / Images / Designation	Main Components	
	Key	C-grip
		
DCL20-6	DCL20-6K	DCL-CG20
DCL20-8	DCL20-8K	DCL-CG20
DCL20-10	DCL20-10K	DCL-CG20
DCL20-12	DCL20-12K	DCL-CG20
DCL20-14	DCL20-14K	DCL-CG20
DCL20-16	DCL20-16K	DCL-CG20
DCL32-6	DCL32-6K	DCL-CG32
DCL32-8	DCL32-8K	DCL-CG32
DCL32-10	DCL32-10K	DCL-CG32
DCL32-12	DCL32-12K	DCL-CG32
DCL32-14	DCL32-14K	DCL-CG32
DCL32-16	DCL32-16K	DCL-CG32
DCL32-18	DCL32-18K	DCL-CG32
DCL32-20	DCL32-20K	DCL-CG32
DCL32-25	DCL32-25K	DCL-CG32

(Unit : mm)

1:1 CHAT

NOTCHED ENDMILL

Notched Endmill



Tool Ø	Tool (DIN6535)				
	L1	e1	b1	L2	t
6	36	18	4.2	20.1	0.9
8	36	18	5.5	20.75	1.1
10	40	20	7	23.5	1.5
12	45	22.5	8	26.5	1.6
14	45	22.5	8	26.5	1.3
16	48	24	10	29	1.8
18	48	24	10	29	1.8
20	50	25	11	30.5	1.8
25	56	32	12	30	2.0
32	60	36	14	31	2.0

※ Use DIN 6535HB standard end mill. ※ As a separate purchase, it can be referred to when using ER/L collet. (Unit : mm)

1:1 CHAT

DCJ

Jet Coolant Collet (for Milling Chuck)



Jet Coolant Inside Coolant



Features

- Jet coolant function is available just by fastening the milling chuck
- Internal coolant use possible with O-ring fastening
- Reduces damage on workpiece caused by chips

Designation	Ø6	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
NPM20	V	V	V	V	V			
NPM32	V	V	V	V	V	V	V	
NPM42	V	V	V	V	V	V	V	V

※ Can be used for an ultrahigh-pressure inside coolant

NPM+JET Coolant Collet

Cutting

Chip Discharge

Quick Cooling Effect

Increased Tool Service Life

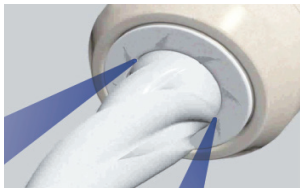
Easy Assembly

Can be used by only combining a collet with the conventional chuck (NPM)



Coolant Type

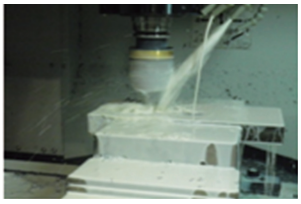
Jet Coolant

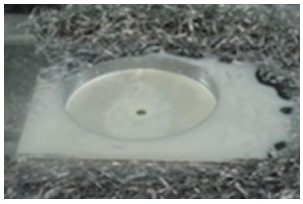


Inside Coolant



Chip Evacuation





Coolant Type

	Type	Designation	Stock
NPM20	NPM20	DCJ20-6	
	NPM20	DCJ20-8	
	NPM20	DCJ20-10	
	NPM20	DCJ20-12	
	NPM20	DCJ20-16	
NPM32	NPM32	DCJ32-6	
	NPM32	DCJ32-8	
	NPM32	DCJ32-10	
	NPM32	DCJ32-12	
	NPM32	DCJ32-16	
	NPM32	DCJ32-20	
	NPM32	DCJ32-25	

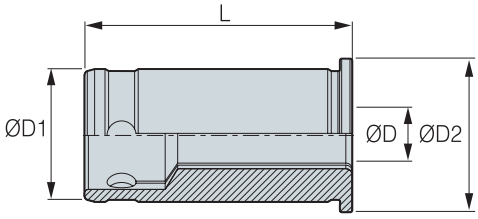
(Unit : mm)

1:1 CHAT

DC

Straight Collet





• ● : Stock

	Designation	ØD	L	ØD1	ØD2	kg	Package Weight (kg)	Stock
DC20	DC20-6	6	53	20	25	0.1	0.1	●
	DC20-8	8	53	20	25	0.1	0.1	●
	DC20-10	10	53	20	25	0.1	0.1	●
	DC20-12	12	53	20	25	0.1	0.1	●
	DC20-14	14	53	20	25	0.1	0.1	●
	DC20-16	16	53	20	25	0.1	0.1	●
DC25	DC25-6	6	62	25	29	0.2	0.2	●
	DC25-8	8	62	25	29	0.2	0.2	●
	DC25-10	10	62	25	29	0.2	0.2	●
	DC25-12	12	62	25	29	0.2	0.2	●
	DC25-16	16	62	25	29	0.2	0.2	●
DC32	DC32-6	6	65	32	37	0.2	0.3	●
	DC32-8	8	65	32	37	0.2	0.3	●
	DC32-10	10	65	32	37	0.2	0.3	●
	DC32-12	12	65	32	37	0.2	0.3	●
	DC32-14	14	65	32	37	0.2	0.3	●
	DC32-16	16	65	32	37	0.2	0.3	●
	DC32-19	19	65	32	37	0.2	0.3	●
	DC32-20	20	65	32	37	0.2	0.3	●
	DC32-25	25	65	32	37	0.2	0.3	●
DC42	DC42-6	6	73	42	47	0.5	0.5	●
	DC42-8	8	73	42	47	0.5	0.5	●
	DC42-10	10	73	42	47	0.5	0.5	●
	DC42-12	12	73	42	47	0.5	0.5	●
	DC42-16	16	73	42	47	0.5	0.5	●
	DC42-20	20	73	42	47	0.5	0.5	●
	DC42-25	25	73	42	47	0.5	0.5	●
	DC42-32	32	73	42	47	0.5	0.5	●

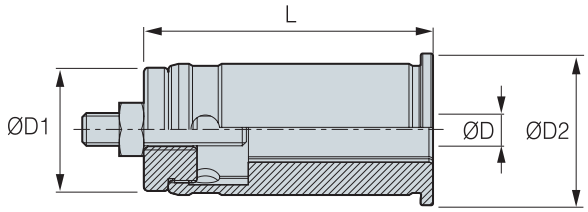
(Unit : mm)

1:1 CHAT

DCS

Straight Collet





- ● : Stock
- It can be adjusted in length with a collet adjustment screw

	Designation	ØD	L	ØD1	ØD2	kg	Package Weight (kg)	Stock
DCS20	DCS20-6	6	57	20	25	0.1	0.1	●
	DCS20-8	8	57	20	25	0.1	0.1	●
	DCS20-10	10	57	20	25	0.1	0.1	●
	DCS20-12	12	57	20	25	0.1	0.1	●
	DCS20-16	16	57	20	25	0.1	0.1	●
DCS32	DCS32-6	6	70.5	32	37	0.2	0.3	●
	DCS32-8	8	70.5	32	37	0.2	0.3	●
	DCS32-10	10	70.5	32	37	0.2	0.3	●
	DCS32-12	12	70.5	32	37	0.2	0.3	●
	DCS32-14	14	70.5	32	37	0.2	0.3	●
	DCS32-16	16	70.5	32	37	0.2	0.3	●
	DCS32-19	19	70.5	32	37	0.2	0.3	●
	DCS32-20	20	70.5	32	37	0.2	0.3	●
	DCS32-25	25	70.5	32	37	0.2	0.3	●
DCS42	DCS42-6	6	80	42	47	0.5	0.6	●
	DCS42-8	8	80	42	47	0.5	0.6	●
	DCS42-10	10	80	42	47	0.5	0.6	●
	DCS42-12	12	80	42	47	0.5	0.6	●
	DCS42-16	16	80	42	47	0.5	0.6	●
	DCS42-20	20	80	42	47	0.5	0.6	●
	DCS42-25	25	80	42	47	0.5	0.6	●
	DCS42-32	32	80	42	47	0.5	0.6	●

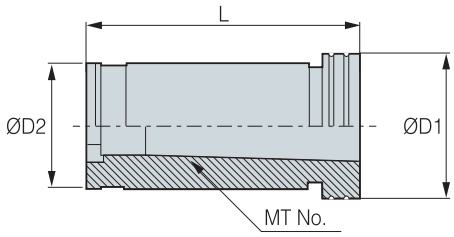
(Unit : mm)

1:1 CHAT

TC

Taper Collet





• ● : Stock

	Designation	MT No.	L	ØD1	ØD2	kg	Package Weight (kg)	Stock
TC20	TC20-1	MT1	60	26	20	0.1	0.1	●
	TC20-2	MT2	72	26	20	0.1	0.1	●
TC25	TC25-1	MT1	60	32	25	0.2	0.2	●
	TC25-2	MT2	72	32	25	0.2	0.2	●
TC32	TC32-1	MT1	60	38	32	0.4	0.4	●
	TC32-2	MT2	72	38	32	0.4	0.4	●
	TC32-3	MT3	90	38	32	0.4	0.4	●
TC42	TC42-1	MT1	60	48	42	0.6	0.6	●
	TC42-2	MT2	72	48	42	0.7	0.7	●
	TC42-3	MT3	90	48	42	0.8	0.8	●
	TC42-4	MT4	113	48	42	0.9	0.9	●

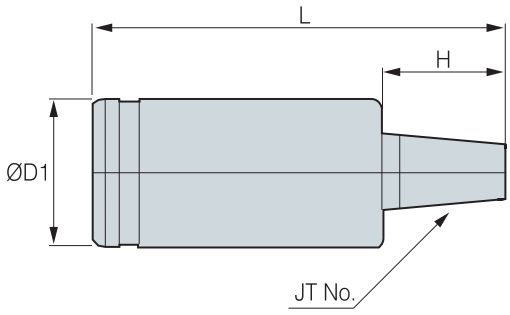
(Unit : mm)

1:1 CHAT

DJT

Drill Chuck Arbor





• ● : Stock

	Designation	JT No.	L	ØD1	H	kg	Package Weight (kg)	Stock
DJT20	DJT20-6	JT6	83	20	28	0.2	0.2	●
DJT32	DJT32-6	JT6	93	32	28	0.5	0.5	●
DJT42	DJT42-6	JT6	103	42	28	0.9	0.9	●

(Unit : mm)

1:1 CHAT

SDC/P

Precision Collet Chuck for Multi Purpose Machining



Ø26 Max Dia | C Coolant System | ER Collet | Milling | Drilling | Tapping | Chamfering



Features

- Superior efficiency for general machining due to affordable pricing and stable performance
- The sleeve nuts allows stable run-out when compared to other companies
- Wide fastening range applicable
- Various machining available just by replacing the collet
- Chucking Range : Ø1-Ø26mm

NAMING

BT30	–	SDC	10	P	–	100
Spindle		Collet Chuck	Tool Dia.	Precision		Length

Bearing Nuts Designed for Improved Precision

Soft Sleeve Bearing RN Nut

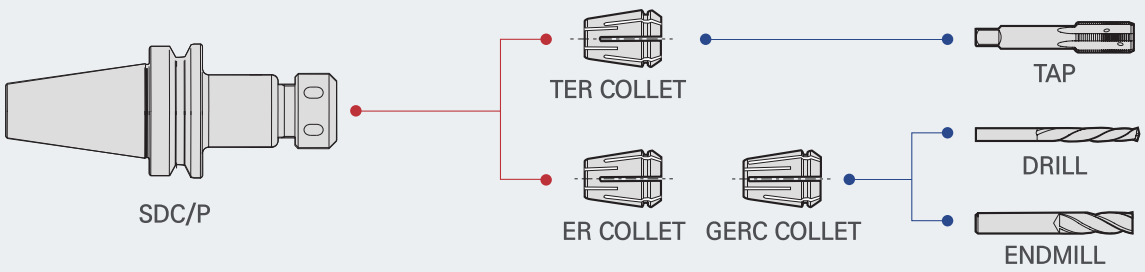


Jet Coolant Disk Applicable

After replacing with RT/RUT nut, connect RTJW to use jet coolant – internal coolant



SDC/P Application



1:1 CHAT

DBT-SDC/P

Precision Collet Chuck for Multi Purpose Machining



DBT Shank | Ø26 Max Dia | C Coolant System | ER Collet | Milling | Drilling | Tapping | Chamfering

Fig.1

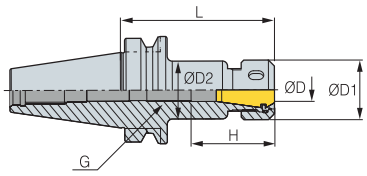


Fig.2

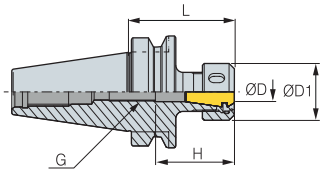
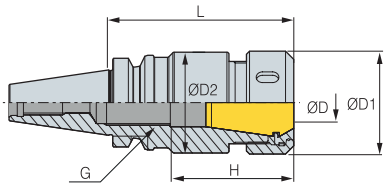


Fig.3



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

※ Coolant collet is used when applying coolant system.

- For more information on product features, see 80P
- For more information on the related parts, see 86P
- For more information on the applicable collet, see 94P

	Designation	ØD	L	ØD1	ØD2	H	Collet/Step	G	Fig.	kg	Package Weight (kg)	Stock
DBT30	DBT30-SDC7P-70	1.0~7.0	70	18	17	33	GERC11/0.5	M7	1	0.5	0.5	
	DBT30-SDC7P-100	1.0~7.0	100	18	17	33	GERC11/0.5	M7	1	0.5	0.6	
	DBT30-SDC10P-50	1.0~10.0	50	32	-	45	GERC16/1.0	M10	2	0.5	0.6	
	DBT30-SDC10P-70	1.0~10.0	70	32	31	45	GERC16/1.0	M10	1	0.6	0.6	●
	DBT30-SDC10P-100	1.0~10.0	100	32	31	45	GERC16/1.0	M10	1	0.7	0.9	
	DBT30-SDC13P-50	1.0~13.0	50	35	-	49	GERC20/1.0	M13	2	0.5	0.6	
	DBT30-SDC13P-70	1.0~13.0	70	35	34	49	GERC20/1.0	M13	1	0.6	0.7	
	DBT30-SDC13P-100	1.0~13.0	100	35	34	49	GERC20/1.0	M13	1	0.8	0.9	
	DBT30-SDC16P-50	2.0~16.0	50	42	-	50	GERC25/1.0	M18	2	0.5	0.6	
	DBT30-SDC16P-70	2.0~16.0	70	42	41	50	GERC25/1.0	M18	1	0.7	0.8	
	DBT30-SDC16P-100	2.0~16.0	100	42	41	50	GERC25/1.0	M18	1	1.0	1.1	
	DBT30-SDC20P-60	2.0~20.0	60	50	-	60	GERC32/1.0	M22	2	0.6	0.7	●
	DBT30-SDC20P-90	2.0~20.0	90	50	49	60	GERC32/1.0	M22	3	1.0	1.1	●
	DBT30-SDC20P-120	2.0~20.0	120	50	49	60	GERC32/1.0	M22	3	1.4	1.5	
DBT40	DBT40-SDC7P-70	1.0~7.0	70	18	17	33	GERC11/0.5	M7	1	0.9	1.1	
	DBT40-SDC7P-90	1.0~7.0	90	18	17	33	GERC11/0.5	M7	1	0.9	1.2	●
	DBT40-SDC7P-130	1.0~7.0	130	18	17	33	GERC11/0.5	M7	1	1.0	1.2	
	DBT40-SDC10P-70	1.0~10.0	70	32	31	45	GERC16/1.0	M10	1	1.0	1.2	
	DBT40-SDC10P-90	1.0~10.0	90	32	31	45	GERC16/1.0	M10	1	1.2	1.4	●
	DBT40-SDC10P-130	1.0~10.0	130	32	31	45	GERC16/1.0	M10	2	1.4	1.5	●
	DBT40-SDC13P-70	1.0~13.0	70	35	34	49	GERC20/1.0	M13	1	1.1	1.2	
	DBT40-SDC13P-90	1.0~13.0	90	35	34	49	GERC20/1.0	M13	1	1.2	1.4	●
	DBT40-SDC13P-130	1.0~13.0	130	35	34	49	GERC20/1.0	M13	1	1.4	1.6	
	DBT40-SDC13P-150	1.0~13.0	150	35	34	49	GERC20/1.0	M13	1	1.6	1.8	
	DBT40-SDC16P-70	2.0~16.0	70	42	41	50	GERC25/1.0	M18	1	1.1	1.3	
	DBT40-SDC16P-90	2.0~16.0	90	42	41	50	GERC25/1.0	M18	1	1.3	1.5	●
	DBT40-SDC16P-130	2.0~16.0	130	42	41	50	GERC25/1.0	M18	1	1.7	1.9	
	DBT40-SDC20P-70	2.0~20.0	70	50	-	60	GERC32/1.0	M22	2	1.1	1.3	
	DBT40-SDC20P-90	2.0~20.0	90	50	49	60	GERC32/1.0	M22	1	1.4	1.6	●
	DBT40-SDC20P-130	2.0~20.0	130	50	49	60	GERC32/1.0	M22	1	1.9	2.2	●
	DBT40-SDC20P-150	2.0~20.0	150	50	49	60	GERC32/1.0	M22	1	2.2	2.5	
	DBT40-SDC26P-90	4.0~26.0	90	63	62	71	GERC40/1.0	M28	1	1.7	1.9	

(Unit : mm)

1:1 CHAT

DBT-SDC/P

Precision Collet Chuck for Multi Purpose Machining



DBT Shank | Ø26 Max Dia | C Coolant System | ER Collet | Milling | Drilling | Tapping | Chamfering

Fig.1

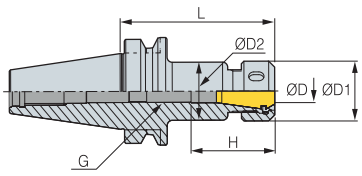
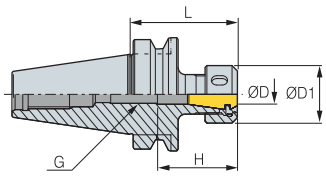


Fig.2



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

※ Using oil hole types requires the standard dimension

- For more information on product features, see 80P
- For more information on the related parts, see 86P
- For more information on the applicable collet, see 94P

DBT50

Designation	ØD	L	ØD1	ØD2	H	Collet/Step	G	Fig.	kg	Package Weight (kg)	Stock
DBT50-SDC10P-100	1.0~10.0	100	32	31	45	GERC16/1.0	M10	1	3.7	4.0	
DBT50-SDC10P-120	1.0~10.0	120	32	31	45	GERC16/1.0	M10	1	3.7	4.1	
DBT50-SDC10P-160	1.0~10.0	160	32	31	45	GERC16/1.0	M10	1	3.8	4.4	
DBT50-SDC13P-100	1.0~13.0	100	35	34	49	GERC20/1.0	M13	1	3.8	4.1	
DBT50-SDC13P-130	1.0~13.0	130	35	34	49	GERC20/1.0	M13	1	3.8	4.2	●
DBT50-SDC13P-160	1.0~13.0	160	35	34	49	GERC20/1.0	M13	1	4.1	4.5	
DBT50-SDC13P-180	1.0~13.0	180	35	34	49	GERC20/1.0	M13	1	4.2	4.6	
DBT50-SDC16P-100	2.0~16.0	100	42	41	50	GERC25/1.0	M18	1	3.9	4.2	●
DBT50-SDC16P-160	2.0~16.0	160	42	41	50	GERC25/1.0	M18	1	4.3	4.7	
DBT50-SDC20P-70	2.0~20.0	70	50	-	60	GERC32/1.0	M22	2	1.7	2.0	
DBT50-SDC20P-100	2.0~20.0	100	50	49	60	GERC32/1.0	M22	1	4.0	4.3	●
DBT50-SDC20P-130	2.0~20.0	130	50	49	60	GERC32/1.0	M22	1	4.3	4.7	
DBT50-SDC20P-160	2.0~20.0	160	50	49	60	GERC32/1.0	M22	1	4.7	5.1	●
DBT50-SDC20P-180	2.0~20.0	180	50	49	60	GERC32/1.0	M22	1	5.0	5.4	
DBT50-SDC26P-160	4.0~26.0	160	63	62	71	GERC40/1.0	M28	1	5.5	5.9	

(Unit : mm)

1:1 CHAT

BT-SDC/P

Precision Collet Chuck for Multi Purpose Machining



MAS 403-BT Shank | Ø26 Max Dia | C Coolant System | ER Collet | Milling | Drilling | Tapping | Chamfering

Fig.1

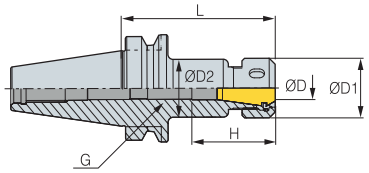


Fig.2

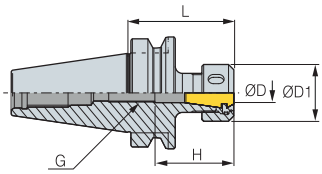
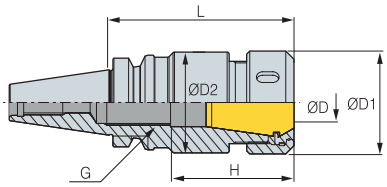


Fig.3



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

※ Using oil hole types requires the standard dimension

- For more information on product features, see 80P
- For more information on the related parts, see 86P
- For more information on the applicable collet, see 94P

	Designation	ØD	L	ØD1	ØD2	H	Collet/Step	G	Fig.	kg	Package Weight (kg)	Stock
BT30	BT30-SDC7P-70	1.0~7.0	70	18	17	33	GERC11/0.5	M7	1	0.5	0.5	●
	BT30-SDC7P-100	1.0~7.0	100	18	17	33	GERC11/0.5	M7	1	0.5	0.6	●
	BT30-SDC10P-50	1.0~10.0	50	32	-	45	GERC16/1.0	M10	2	0.5	0.6	●
	BT30-SDC10P-70	1.0~10.0	70	32	31	45	GERC16/1.0	M10	1	0.6	0.6	●
	BT30-SDC10P-100	1.0~10.0	100	32	31	45	GERC16/1.0	M10	1	0.7	0.9	●
	BT30-SDC13P-50	1.0~13.0	50	35	-	49	GERC20/1.0	M13	2	0.5	0.6	●
	BT30-SDC13P-70	1.0~13.0	70	35	34	49	GERC20/1.0	M13	1	0.6	0.7	●
	BT30-SDC13P-100	1.0~13.0	100	35	34	49	GERC20/1.0	M13	1	0.8	0.9	●
	BT30-SDC16P-50	2.0~16.0	50	42	-	50	GERC25/1.0	M18	2	0.5	0.6	●
	BT30-SDC16P-70	2.0~16.0	70	42	41	50	GERC25/1.0	M18	1	0.7	0.8	●
	BT30-SDC16P-100	2.0~16.0	100	42	41	50	GERC25/1.0	M18	1	1.0	1.1	●
	BT30-SDC20P-60	2.0~20.0	60	50	-	60	GERC32/1.0	M22	2	0.6	0.7	●
	BT30-SDC20P-90	2.0~20.0	90	50	49	60	GERC32/1.0	M22	3	1.0	1.1	●
	BT30-SDC20P-120	2.0~20.0	120	50	49	60	GERC32/1.0	M22	3	1.4	1.5	●
BT40	BT40-SDC7P-70	1.0~7.0	70	18	17	33	GERC11/0.5	M7	1	0.9	1.1	●
	BT40-SDC7P-90	1.0~7.0	90	18	17	33	GERC11/0.5	M7	1	0.9	1.2	●
	BT40-SDC7P-130	1.0~7.0	130	18	17	33	GERC11/0.5	M7	1	1.0	1.2	●
	BT40-SDC10P-70	1.0~10.0	70	32	31	45	GERC16/1.0	M10	1	1.0	1.2	●
	BT40-SDC10P-90	1.0~10.0	90	32	31	45	GERC16/1.0	M10	1	1.2	1.4	●
	BT40-SDC10P-130	1.0~10.0	130	32	31	45	GERC16/1.0	M10	2	1.4	1.5	●
	BT40-SDC13P-70	1.0~13.0	70	35	34	49	GERC20/1.0	M13	1	1.1	1.2	●
	BT40-SDC13P-90	1.0~13.0	90	35	34	49	GERC20/1.0	M13	1	1.2	1.4	●
	BT40-SDC13P-130	1.0~13.0	130	35	34	49	GERC20/1.0	M13	1	1.4	1.6	●
	BT40-SDC13P-150	1.0~13.0	150	35	34	49	GERC20/1.0	M13	1	1.6	1.8	●
	BT40-SDC16P-70	2.0~16.0	70	42	41	50	GERC25/1.0	M18	1	1.1	1.3	●
	BT40-SDC16P-90	2.0~16.0	90	42	41	50	GERC25/1.0	M18	1	1.3	1.5	●
	BT40-SDC16P-130	2.0~16.0	130	42	41	50	GERC25/1.0	M18	1	1.7	1.9	●
	BT40-SDC20P-70	2.0~20.0	70	50	-	60	GERC32/1.0	M22	2	1.1	1.3	●
	BT40-SDC20P-90	2.0~20.0	90	50	49	60	GERC32/1.0	M22	1	1.4	1.6	●
	BT40-SDC20P-130	2.0~20.0	130	50	49	60	GERC32/1.0	M22	1	1.9	2.2	●
	BT40-SDC20P-150	2.0~20.0	150	50	49	60	GERC32/1.0	M22	1	2.2	2.5	●
	BT40-SDC26P-90	4.0~26.0	90	63	62	71	GERC40/1.0	M28	1	1.7	1.9	●

(Unit : mm)

1:1 CHAT

BT-SDC/P

Precision Collet Chuck for Multi Purpose Machining



MAS 403-BT Shank | Ø26 Max Dia | C Coolant System | ER Collet | Milling | Drilling | Tapping | Chamfering

Fig.1

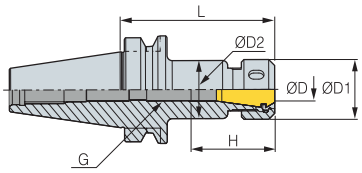
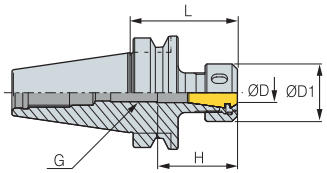


Fig.2



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

※ Using oil hole types requires the standard dimension

- For more information on product features, see 80P
- For more information on the related parts, see 86P
- For more information on the applicable collet, see 94P

	Designation	ØD	L	ØD1	ØD2	H	Collet/Step	G	Fig.	kg	Package Weight (kg)	Stock
BT50	BT50-SDC10P-100	1.0~10.0	100	32	31	45	GERC16/1.0	M10	1	3.7	4.0	●
	BT50-SDC10P-120	1.0~10.0	120	32	31	45	GERC16/1.0	M10	1	3.7	4.1	●
	BT50-SDC10P-160	1.0~10.0	160	32	31	45	GERC16/1.0	M10	1	3.8	4.4	●
	BT50-SDC13P-100	1.0~13.0	100	35	34	49	GERC20/1.0	M13	1	3.8	4.1	●
	BT50-SDC13P-130	1.0~13.0	130	35	34	49	GERC20/1.0	M13	1	3.8	4.2	●
	BT50-SDC13P-160	1.0~13.0	160	35	34	49	GERC20/1.0	M13	1	4.1	4.5	●
	BT50-SDC13P-180	1.0~13.0	180	35	34	49	GERC20/1.0	M13	1	4.2	4.6	●
	BT50-SDC16P-100	2.0~16.0	100	42	41	50	GERC25/1.0	M18	1	3.9	4.2	●
	BT50-SDC16P-160	2.0~16.0	160	42	41	50	GERC25/1.0	M18	1	4.3	4.7	●
	BT50-SDC20P-70	2.0~20.0	70	50	-	60	GERC32/1.0	M22	2	1.7	2.0	●
	BT50-SDC20P-100	2.0~20.0	100	50	49	60	GERC32/1.0	M22	1	4.0	4.3	●
	BT50-SDC20P-130	2.0~20.0	130	50	49	60	GERC32/1.0	M22	1	4.3	4.7	●
	BT50-SDC20P-160	2.0~20.0	160	50	49	60	GERC32/1.0	M22	1	4.7	5.1	●
	BT50-SDC20P-180	2.0~20.0	180	50	49	60	GERC32/1.0	M22	1	5.0	5.4	●
	BT50-SDC26P-160	4.0~26.0	160	63	62	71	GERC40/1.0	M28	1	5.5	5.9	●

(Unit : mm)

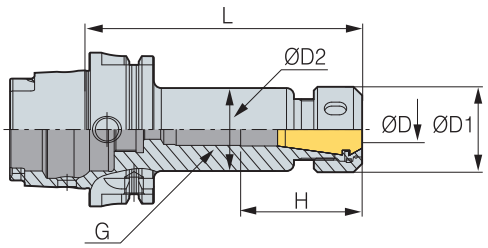
1:1 CHAT

HSK-SDC/P

Precision Collet Chuck for Multi Purpose Machining



DIN 69893-1 Shank | Ø26 Max Dia | C Coolant System | ER Collet | Milling | Drilling | Tapping | Chamfering



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

※ Using oil hole types requires the standard dimension

- For more information on product features, see 80P
- For more information on the related parts, see 86P
- For more information on the applicable collet, see 94P

	Designation	ØD	L	ØD1	ØD2	H	G	Collet/Step	kg	Package Weight (kg)	Stock
HSK63A	HSK63A-SDC7P-100	1.0-7.0	100	18	17	33	M7	GERC11/0.5	0.9	1.0	
	HSK63A-SDC7P-120	1.0-7.0	120	18	17	34	M8	GERC11/0.5	0.9	1.0	
	HSK63A-SDC10P-100	1.0-10.0	100	32	31	44.5	M10	GERC16/1.0	1.0	1.1	●
	HSK63A-SDC10P-120	1.0-10.0	120	32	31	44.5	M10	GERC16/1.0	1.0	1.1	
	HSK63A-SDC13P-100	1.0-13.0	100	35	34	49	M7	GERC20/1.0	1.1	1.2	●
	HSK63A-SDC13P-120	1.0-13.0	120	35	34	49	M7	GERC20/1.0	1.2	1.4	
	HSK63A-SDC13P-150	1.0-13.0	150	35	34	49	M7	GERC20/1.0	1.2	1.4	
	HSK63A-SDC16P-100	2.0-16.0	100	42	41	50	M7	GERC25/1.0	1.2	1.4	●
	HSK63A-SDC20P-110	2.0-20.0	110	50	49	60	M7	GERC32/1.0	1.5	1.7	●
	HSK63A-SDC26P-130	4.0~26.0	130	63	62	71	M10	GERC40/1.0	1.6	1.8	
HSK100A	HSK100A-SDC7P-100	1.0-7.0	100	18	17	33	M7	GERC11/0.5	2.0	2.2	
	HSK100A-SDC10P-100	1.0-10.0	100	32	31	44.5	M10	GERC16/1.0	2.2	2.4	
	HSK100A-SDC13P-100	1.0-13.0	100	35	34	49	M7	GERC20/1.0	2.4	2.6	
	HSK100A-SDC16P-110	2.0-16.0	100	42	41	50	M13	GERC25/1.0	2.6	2.9	●
	HSK100A-SDC20P-120	2.0-20.0	120	50	49	60	M10	GERC32/1.0	2.9	3.3	●
	HSK100A-SDC26P-130	4.0~26.0	130	63	62	71	M28	GERC40/1.0	3.8	4.0	

(Unit : mm)

Accessories

SPARE PART

Type / Images / Designation	Accessories: Coolant Tube for HSK	Accessories: Wrench
		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

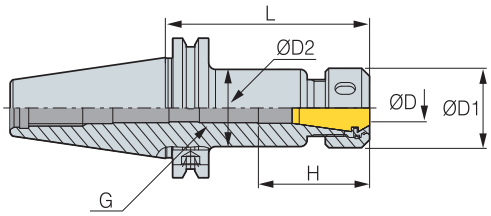
1:1 CHAT

SK-SDC/P

Precision Collet Chuck for Multi Purpose Machining



DIN69871 -1A/B Shank | Ø20 Max Dia | C Coolant System | ER Collet | Milling | Drilling | Tapping | Chamfering



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

※ Using oil hole types requires the standard dimension

- For more information on product features, see 80P
- For more information on the related parts, see 86P
- For more information on the applicable collet, see 94P

SK40

Designation	ØD	L	ØD1	ØD2	H	Collet/Step	G	kg	Package Weight (kg)	Stock
SK40-SDC10P-90	1.0~10.0	90	32	31	44.5	GERC16/1.0	M10	1.1	1.2	●
SK40-SDC13P-90	1.0~13.0	90	35	34	49	GERC20/1.0	M13	1.2	1.3	●
SK40-SDC13P-120	1.0~13.0	120	35	34	49	GERC20/1.0	M13	1.3	1.5	
SK40-SDC16P-90	2.0~16.0	90	42	41	50	GERC25/1.0	M18	1.4	1.5	●
SK40-SDC20P-90	2.0~20.0	90	50	49	60	GERC32/1.0	M13	1.5	1.6	●

(Unit : mm)

1:1 CHAT

SDC/P SPARE PART

ER Collet Chuck Related Parts

SPARE PART

Type	Main Components		Accessories	
	Sleeve Bearing Nut	Adjust Screw	Spanner	Collet
Images / Designation				
SDC7P	RN11	BN0716F	20-22	GERC/ER 11-ØD
SDC10P	RN16	BN1025F	32-35	GERC/ER 16-ØD
SDC13P	RN20	BN1325F	35-38	GERC/ER 20-ØD
SDC16P	RN25	BN1830F	42-46	GERC/ER 25-ØD
SDC20P	RN32	BN2230F	48-52	GERC/ER 32-ØD
SDC26P	RN40	BN2838F	62-65	GERC/ER 40-ØD

※ BT30-SDC13P-50/ HSK63A-SDC13P-100 is applied with BN0716F screw.

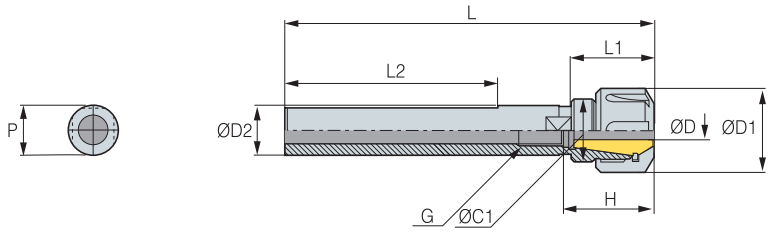
1:1 CHAT

S-SDC

Straight Shank Collet Chuck



Ø20 Max Dia | C Coolant System | ER Collet | Milling | Drilling | Tapping | Chamfering



- ● : Stock

C Internal coolant system is optional

※ For milling (M)/ for turning (T) – e.g.) S16-SDC7-120M (for milling) / S16-SDC7-120T (for turning)

※ It can be used in combination with a milling chuck

• For more information on the applicable collet, see 94P

	Designation	ØD	L	ØD1	ØD2	P	ØC1	L1	L2	H	Collet/Step	G	kg	Package Weight (kg)	Stock
S16	S16-SDC7-120M	1.0~7.0	120	19	16	-	16	-	-	33	GERC11/0.5	M7	0.1	0.2	●
	S16-SDC7-120T	1.0~7.0	120	19	16	15	16	-	73	33	GERC11/0.5	M7	0.1	0.2	●
	S16-SDC10-150T	1.0~10.0	150	28	16	15	22	46.5	83	34.5	GERC16/1.0	M10	0.2	0.3	●
S20	S20-SDC10-150M	1.0~10.0	150	28	20	-	22	26.5	-	34.5	GERC16/1.0	M10	0.3	0.4	●
	S20-SDC10-150T	1.0~10.0	150	28	20	19	22	26.5	83	34.5	GERC16/1.0	M10	0.3	0.4	●
	S20-SDC13-150M	1.0~13.0	150	35	20	-	25	50	-	49	GERC20/1.0	M13	0.3	0.4	●
	S20-SDC13-150T	1.0~13.0	150	35	20	19	25	50	83	49	GERC20/1.0	M13	0.3	0.4	●
S25	S25-SDC10-150M	1.0~10.0	150	28	25	-	22	-	-	34.5	GERC16/1.0	M10	0.4	0.5	●
	S25-SDC10-150T	1.0~10.0	150	28	25	24	22	-	83	34.5	GERC16/1.0	M10	0.4	0.5	●
	S25-SDC13-150M	1.0~13.0	150	35	25	-	25	-	-	49	GERC20/1.0	M13	0.4	0.5	●
	S25-SDC13-150T	1.0~13.0	150	35	25	24	25	-	83	49	GERC20/1.0	M13	0.4	0.5	●
S32	S32-SDC13-150M	1.0~13.0	150	35	32	-	25	-	-	49	GERC20/1.0	M13	0.7	0.8	●
	S32-SDC13-150T	1.0~13.0	150	35	32	31	25	-	83	49	GERC20/1.0	M13	0.7	0.8	●
	S32-SDC20-165M	2.0~20.0	165	50	32	-	40	-	-	60	GERC32/1.0	M22	0.9	1.0	●
	S32-SDC20-165T	2.0~20.0	165	50	32	31	40	-	83	60	GERC32/1.0	M22	0.9	1.0	●

(Unit : mm)

SPARE PART

Type	Main Components		Accessories		
	Nut		Spanner		GERC/ER
Images / Designation					
S-SDC7	R11		S-17		GERC11/ER11-ØD
S-SDC10	R16		S-25		GERC16/ER16-ØD
S-SDC13		RU20		35-38	GERC20/ER20-ØD
S-SDC20		RU32		48-52	GERC32/ER32-ØD

※ BT30-SDC13P-50/ HSK63A-SDC13P-100 is applied with BN0716F screw.

1:1 CHAT

S-SDC/S

Straight Shank Collet Chuck Slim Type



Ø16 Max Dia | C Coolant System | ER Collet | Milling | Drilling | Tapping | Chamfering

Fig.1

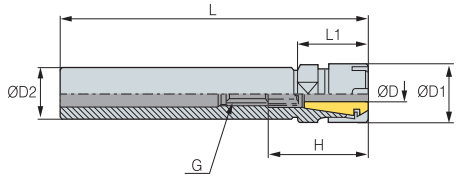
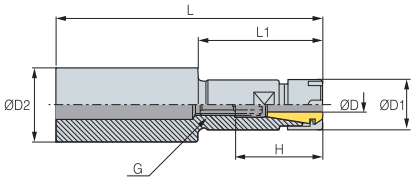


Fig.2



- ● : Stock
- H : Depth of tool insertion

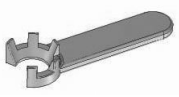
C Internal coolant system is optional

• For more information on the applicable collet, see 94P

	Designation	ØD	L	ØD1	ØD2	L1	H	Collet/Step	G	kg	Package Weight (kg)	Stock
S16	S16-SDC7S-100M	1.0~7.0	100	16	16	21	33	GERC11/0.5	M7	0.1	0.2	●
	S16-SDC7S-150M	1.0~7.0	150	16	16	21	33	GERC11/0.5	M7	0.1	0.2	●
	S16-SDC10S-100M	1.0~10.0	100	22	16	50	4.5	GERC16/1.0	M10	0.1	0.2	●
	S16-SDC10S-150M	1.0~10.0	150	22	16	50	4.5	GERC16/1.0	M10	0.1	0.2	●
S20	S20-SDC7S-100M	1.0~7.0	100	16	20	30	35	GERC11/0.5	M7	0.1	0.2	●
	S20-SDC7S-150M	1.0~7.0	150	16	20	80	35	GERC11/0.5	M7	0.2	0.3	●
	S20-SDC10S-100M	1.0~10.0	100	22	20	50	4.5	GERC16/1.0	M10	0.1	0.2	●
	S20-SDC10S-150M	1.0~10.0	150	22	20	50	4.5	GERC16/1.0	M10	0.2	0.3	●
	S20-SDC10S-200M	1.0~10.0	200	22	20	50	4.5	GERC16/1.0	M10	0.3	0.4	●
	S20-SDC13S-100M	1.0~13.0	100	28	20	50	49	GERC20/1.0	M13	0.1	0.2	●
	S20-SDC13S-150M	1.0~13.0	150	28	20	50	49	GERC20/1.0	M13	0.2	0.3	●
S25	S25-SDC7S-100M	1.0~7.0	100	16	25	30	33	GERC11/0.5	M7	0.2	0.3	●
	S25-SDC7S-150M	1.0~7.0	150	16	25	80	33	GERC11/0.5	M7	0.2	0.3	●
	S25-SDC10S-100M	1.0~10.0	100	22	25	30	4.5	GERC16/1.0	M10	0.2	0.3	●
	S25-SDC10S-150M	1.0~10.0	150	22	25	80	4.5	GERC16/1.0	M10	0.3	0.4	●
	S25-SDC13S-100M	1.0~13.0	100	28	25	50	49	GERC20/1.0	M13	0.2	0.3	●
	S25-SDC13S-150M	1.0~13.0	150	28	25	50	49	GERC20/1.0	M13	0.4	0.5	●
	S25-SDC16S-100M	2.0~16.0	100	35	25	50	50	GERC25/1.0	M18	0.3	0.4	●
	S25-SDC16S-150M	2.0~16.0	150	35	25	50	50	GERC25/1.0	M18	0.4	0.5	●
	S25-SDC16S-200M	2.0~16.0	200	35	25	50	50	GERC25/1.0	M18	0.6	0.7	●
S32	S32-SDC16S-120M	2.0~16.0	120	35	32	50	50	GERC25/1.0	M18	0.5	0.6	●
	S32-SDC16S-150M	2.0~16.0	150	35	32	50	50	GERC25/1.0	M18	0.6	0.7	●

(Unit : mm)

SPARE PART

Type	Main Components	Accessories	
	Nut	Spanner	GERC/ER
Images			
Designation			
S-SDC7S	R11M	M11M	GERC11/ER11-ØD
S-SDC10S	R16M	M16M	GERC16/ER16-ØD
S-SDC13S	R20M	M20M	GERC20/ER20-ØD
S-SDC16S	R25M	M25M	GERC25/ER25-ØD

1:1 CHAT

SDC/PL

Precision Collet Chuck(Length Adjustment Type)



C Coolant System | Ø26 Max Dia | ER Collet | Milling | Drilling | Chamfering | Tapping



Features

- Precise tool length adjustment
- Improved production efficiency by reducing tool setup time

NAMING

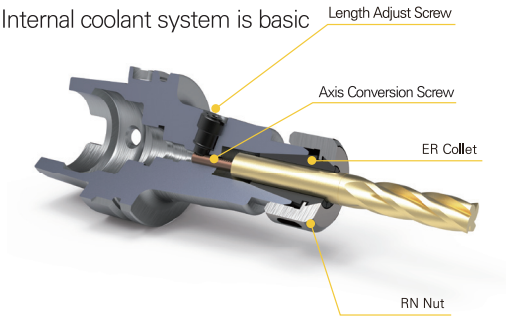
BT40	–	SDC	16	P	L	–	130
Spindle		Collet Chuck	Tool Dia.	Precision	Length Adjustment		Length

What is SDC/PL?

Reduced tool setting time by designing the length to be adjustable from the outside.

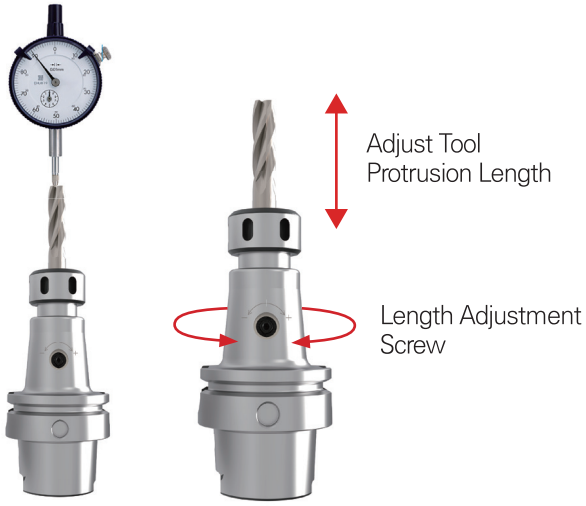
Part Name

- Internal coolant system is basic



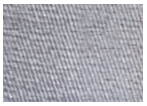
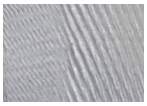
How to Adjust Length

- Rotate the adjustment screw to adjust the tool length



Test

Cutting Conditions	Material	S45C
	Cutting Speed (m/min)	60
	Feed (mm/t)	0.05
	Depth of Cut (mm)	40
	Machining Distance (mm)	20
		External Coolant Supply

Depth of Cut(mm)	SDC/PL	General Collet Chuck
		
Ae : 0.8mm	• Ra:1.058㎛ • Rz:6.354㎛ • Rt:8.307㎛	• Ra:1.110㎛ • Rz:6.078㎛ • Rt:8.895㎛ • Noise • Machining Impossible

1:1 CHAT

BT-SDC/PL

Precision Collet Chuck(Length Adjustment Type)



MAS 403-BT Shank | C Coolant System | Ø26 Max Dia | ER Collet | Milling | Drilling | Chamfering | Tapping

Fig.1

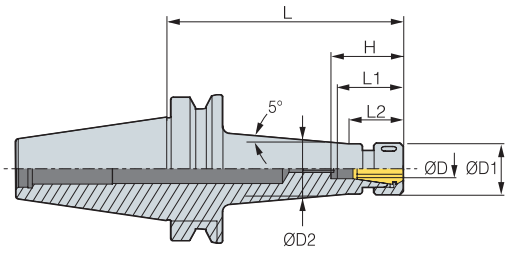
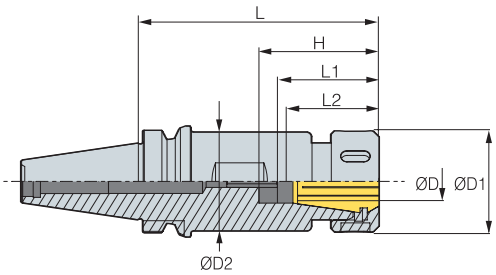


Fig.2



• ● : Stock

C Internal coolant system is optional

※L1 : Length adjustable range

※L2 : 5° Taper start point

• For more information on product features, see 89P

For more information on the related parts, see 92P

• For more information on the applicable collet, see 94P

	Designation	ØD	L	ØD1	ØD2	H	*L1	*L2	Collet/Step	Fig.	Stock
BT30	BT30-SDC13PL-100	1.0~13.0	100	35	34	49	39~49	37	GERC20/1.0	1	●
	BT30-SDC16PL-100	2.0~16.0	100	42	41	50	40~50	45	GERC25/1.0	2	●
	BT30-SDC20PL-120	2.0~20.0	120	50	49	60	50~60	55	GERC32/1.0	2	●
BT40	BT40-SDC13PL-90	1.0~13.0	90	35	34	49	39~49	37	GERC20/1.0	1	●
	BT40-SDC13PL-130	1.0~13.0	130	35	34	49	39~49	37	GERC20/1.0	1	●
	BT40-SDC13PL-150	1.0~13.0	150	35	34	49	39~49	37	GERC20/1.0	1	●
	BT40-SDC16PL-90	2.0~16.0	90	42	41	50	40~50	37	GERC25/1.0	1	●
	BT40-SDC16PL-130	2.0~16.0	130	42	41	50	40~50	57	GERC25/1.0	1	●
	BT40-SDC20PL-130	2.0~20.0	130	50	49	60	50~60	58	GERC32/1.0	1	●
	BT40-SDC20PL-150	2.0~20.0	150	50	49	60	50~60	68	GERC32/1.0	1	●
BT50	BT50-SDC13PL-100	1.0~13.0	100	35	34	49	39~49	37	GERC20/1.0	1	●
	BT50-SDC13PL-130	1.0~13.0	130	35	34	49	39~49	37	GERC20/1.0	1	●
	BT50-SDC13PL-160	1.0~13.0	160	35	34	49	39~49	37	GERC20/1.0	1	●
	BT50-SDC13PL-180	1.0~13.0	180	35	34	49	39~49	37	GERC20/1.0	1	●
	BT50-SDC16PL-100	2.0~16.0	100	42	41	50	40~50	37	GERC25/1.0	1	●
	BT50-SDC16PL-160	2.0~16.0	160	42	41	50	40~50	67	GERC25/1.0	1	●
	BT50-SDC20PL-130	2.0~20.0	130	50	49	60	50~60	52	GERC32/1.0	1	●
	BT50-SDC20PL-160	2.0~20.0	160	50	49	60	50~60	67	GERC32/1.0	1	●
	BT50-SDC20PL-180	2.0~20.0	180	50	49	60	50~60	77	GERC32/1.0	1	●
	BT50-SDC26PL-160	4.0~26.0	160	63	62	71	61~71	68	GERC40/1.0	1	●

(Unit : mm)

1:1 CHAT

HSK-SDC/PL

Precision Collet Chuck(Length Adjustment Type)



DIN 69893-1 Shank | C Coolant System | Ø20 Max Dia | ER Collet | Milling | Drilling | Chamfering | Tapping

Fig.1

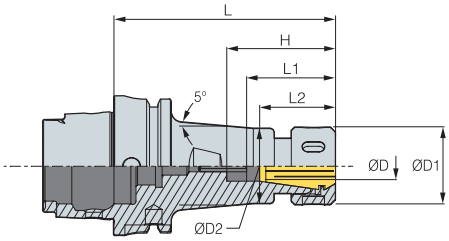
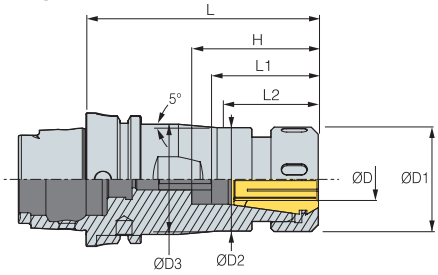


Fig.2



• ● : Stock
C Internal coolant system is optional
※L1 : Length adjustable range
※L2 : 5° Taper start point

• For more information on product features, see 89P
For more information on the related parts, see 92P
• For more information on the applicable collet, see 94P

	Designation	ØD	L	ØD1	ØD2	ØD3	H	*L1	*L2	Collet/Step	Fig.	Stock
HSK63A	HSK63A-SDC13PL-100	1.0~13.0	100	35	34	-	49	39~49	37	GERC20/1.0	1	●
	HSK63A-SDC16PL-100	2.0~16.0	100	42	41	-	50	40~50	43	GERC25/1.0	1	●
	HSK63A-SDC20PL-110	2.0~20.0	110	50	49	52	60	50~60	48	GERC32/1.0	2	●
HSK100A	HSK100A-SDC16PL-110	2.0~16.0	110	42	41	-	50	40~50	46	GERC25/1.0	1	●
	HSK100A-SDC20PL-120	2.0~20.0	120	50	49	-	60	50~60	52	GERC32/1.0	1	●

(Unit : mm)

Accessories

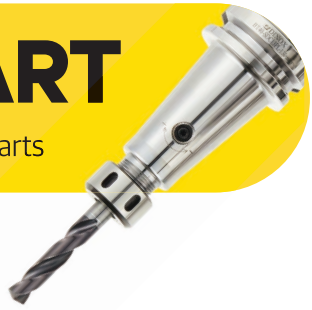
SPARE PART

Type	Accessories	
	Coolant Tube for HSK	Wrench
Images		
Designation		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

1:1 CHAT

SDC/PL SPARE PART

Precision Collet Chuck(Length Adjustment Type) Related Parts



Main Components

SPARE PART

Chuck	Main Components
	Sleeve Bearing Nut
Images / Designation	
SDC13PL	RN20
SDC16PL	RN25
SDC20PL	RN32
SDC26PL	RN40

Accessories

SPARE PART

Chuck	Accessories	
	Spanner	Collet
Images / Designation		
SDC13PL	35-38	GERC/ER 20-ØD
SDC16PL	42-46	GERC/ER 25-ØD
SDC20PL	48-52	GERC/ER 32-ØD
SDC26PL	62-65	GERC/ER 40-ØD

SPARE PART

For Each Shank	Accessories	
	Internal Coolant	Wrench
Images / Designation		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

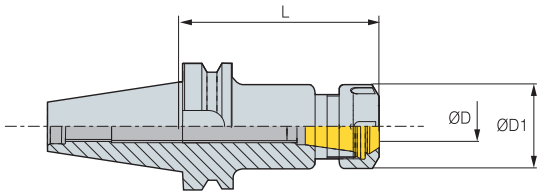
1:1 CHAT

BT-TXER

ER Collet Chuck



MAS 403-BT (Shank) | C (Coolant System) | Ø20 (Max Dia) | Milling | Drilling | Chamfering | Tapping | TAUMAX



• ● : Stock

C Internal coolant system is optional

	Designation	ØD	L	ØD1	Collet	Used Nut Fig.	Package Weight (kg)	Stock
BT30	BT30-TXER16-70	1.0-10.0	70	28	ER16	1	0.7	●
	BT30-TXER16-100	1.0-10.0	100	28	ER16		0.7	●
	BT30-TXER20-70	1.0-13.0	70	34	ER20		0.7	●
	BT30-TXER20-100	1.0-13.0	100	34	ER20		0.9	●
	BT30-TXER25-70	2.0-16.0	70	42	ER25	2	0.8	●
	BT30-TXER25-100	2.0-16.0	100	42	ER25		0.9	●
	BT30-TXER32-70	2.0-20.0	70	50	ER32		0.8	●
	BT30-TXER32-100	2.0-20.0	100	50	ER32		1.0	●
BT40	BT40-TXER16-70	1.0-10.0	70	28	ER16	1	1.2	●
	BT40-TXER16-100	1.0-10.0	100	28	ER16		1.3	●
	BT40-TXER16-160	1.0-10.0	160	28	ER16		1.5	●
	BT40-TXER20-70	1.0-13.0	70	34	ER20		1.2	●
	BT40-TXER20-100	1.0-13.0	100	34	ER20		1.4	●
	BT40-TXER20-160	1.0-13.0	160	34	ER20		1.8	●
	BT40-TXER25-70	2.0-16.0	70	42	ER25	2	1.3	●
	BT40-TXER25-100	2.0-16.0	100	42	ER25		1.4	●
	BT40-TXER25-130	2.0-16.0	130	42	ER25		1.6	●
	BT40-TXER25-160	2.0-16.0	160	42	ER25		2.0	●
	BT40-TXER32-70	2.0-20.0	70	50	ER32		1.4	●
	BT40-TXER32-100	2.0-20.0	100	50	ER32		1.7	●
	BT40-TXER32-130	2.0-20.0	130	50	ER32		2.0	●
	BT40-TXER32-160	2.0-20.0	160	50	ER32		2.5	●
BT50	BT50-TXER16-100	1.0-10.0	100	28	ER16	1	3.8	●
	BT50-TXER16-160	1.0-10.0	160	28	ER16		4.1	●
	BT50-TXER20-100	1.0-13.0	100	34	ER20		3.9	●
	BT50-TXER20-160	1.0-13.0	160	34	ER20		4.5	●
	BT50-TXER25-100	2.0-16.0	100	42	ER25	2	3.9	●
	BT50-TXER25-130	2.0-16.0	100	42	ER25		4.2	●
	BT50-TXER25-160	2.0-16.0	160	42	ER25		4.6	●
	BT50-TXER32-100	2.0-20.0	100	50	ER32		4.1	●
	BT50-TXER32-130	2.0-20.0	130	50	ER32		4.5	●
	BT50-TXER32-160	2.0-20.0	160	50	ER32		4.9	●

(Unit : mm)

	Designation	ØC	L	G	Fig.
ER	ER16-DIN6499	28	17.5	M22X1.5	1
	ER20-DIN6499	34	19	M25X1.5	1
	ER25-DIN6499	42	20	M32X1.5	2
	ER32-DIN6499	50	22.5	M40X1.5	2

(Unit : mm)

Fig.1

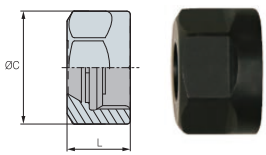
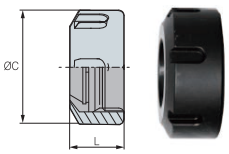


Fig.2



1:1 CHAT

GERC

GERC Collet



General 5㎛ Run-out | Precision 2㎛ Run-out | Waterproof | ER Collet



Features

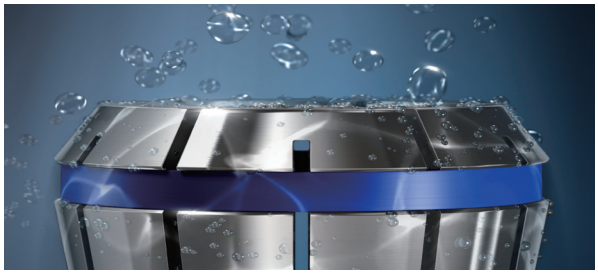
- Top-tier ER collets with high-precision and anti-corrosion coating
- FAHRION's own small incision relative to other companies displays the equivalent fastening force
- All corners are honed, and the damage to nuts and collet chucks is minimized

NAMING

GERC	16	—	4	HP
GERC Collet	Collet Size		Tool Dia.	HP : Precision NON : General

Special Coating Technology

The characteristics of the conventional unprotected collet unlike GERC collets are as follows:
The conventional uncoated collet is affected by corrosion in a short time due to various causes such as humidity, cutting oil, detergent, salt, and gas. This affects not only the collet but also the entire machining process.



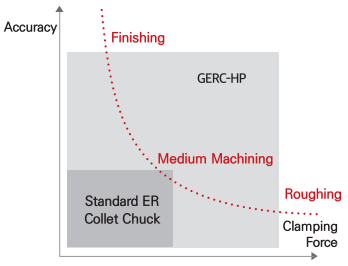
A rusty collet shortens tool service life and greatly lowers precision. To avoid this situation, surface coating is performed to micro range to effectively protect a collet and maintain its precision for a long time by preventing it from corroding in the long term.



Two Collets Used for 4 Months
The left one is an uncoated collet, and the right one is a GERC-used collet.

GERC-HP(Precision Type)

Precision collets are more expensive than general collets, but its high-precision allows better workpieces to be generated, which leads to a higher cost efficiency in the long run.

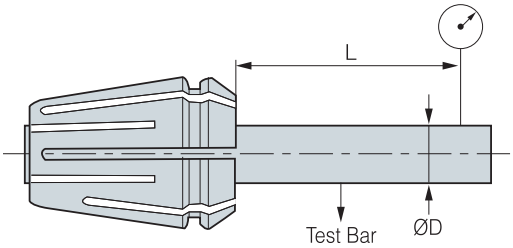




Precision Type Collet 2㎛

Accuracy (L/D=3)

- General Type = 5㎛
- Precision Type 2㎛



1:1 CHAT

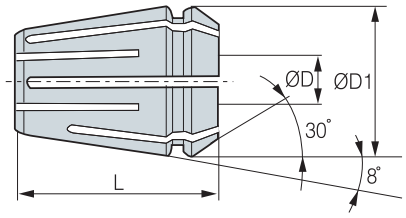
GERC COLLET

GERC Collet (General Type)



General 5㎛ Run-out

ER Collet



• ● : Stock

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
GERC11	GERC11-1.0	11	1.0	18.0	11.5	5㎛	●
	GERC11-1.5	11	1.5	18.0	11.5	5㎛	●
	GERC11-2.0	11	2.0	18.0	11.5	5㎛	●
	GERC11-2.5	11	2.5	18.0	11.5	5㎛	●
	GERC11-3.0	11	3.0	18.0	11.5	5㎛	●
	GERC11-3.5	11	3.5	18.0	11.5	5㎛	●
	GERC11-4.0	11	4.0	18.0	11.5	5㎛	●
	GERC11-4.5	11	4.5	18.0	11.5	5㎛	●
	GERC11-5.0	11	5.0	18.0	11.5	5㎛	●
	GERC11-5.5	11	5.5	18.0	11.5	5㎛	●
	GERC11-6.0	11	6.0	18.0	11.5	5㎛	●
	GERC11-6.5	11	6.5	18.0	11.5	5㎛	●
	GERC11-7.0	11	7.0	18.0	11.5	5㎛	●
GERC16	GERC16-1.0	16	1.0	27.5	17.0	5㎛	●
	GERC16-2.0	16	2.0	27.5	17.0	5㎛	●
	GERC16-3.0	16	3.0	27.5	17.0	5㎛	●
	GERC16-4.0	16	4.0	27.5	17.0	5㎛	●
	GERC16-4.5	16	4.5	27.5	17.0	5㎛	●
	GERC16-5.0	16	5.0	27.5	17.0	5㎛	●
	GERC16-6.0	16	6.0	27.5	17.0	5㎛	●
	GERC16-7.0	16	7.0	27.5	17.0	5㎛	●
	GERC16-8.0	16	8.0	27.5	17.0	5㎛	●
	GERC16-9.0	16	9.0	27.5	17.0	5㎛	●
	GERC16-10.0	16	10.0	27.5	17.0	5㎛	●
GERC20	GERC20-1.0	20	1.0	31.5	21.0	5㎛	●
	GERC20-2.0	20	2.0	31.5	21.0	5㎛	●
	GERC20-3.0	20	3.0	31.5	21.0	5㎛	●
	GERC20-4.0	20	4.0	31.5	21.0	5㎛	●
	GERC20-5.0	20	5.0	31.5	21.0	5㎛	●
	GERC20-6.0	20	6.0	31.5	21.0	5㎛	●
	GERC20-7.0	20	7.0	31.5	21.0	5㎛	●
	GERC20-8.0	20	8.0	31.5	21.0	5㎛	●
	GERC20-9.0	20	9.0	31.5	21.0	5㎛	●
	GERC20-10.0	20	10.0	31.5	21.0	5㎛	●
	GERC20-11.0	20	11.0	31.5	21.0	5㎛	●
	GERC20-12.0	20	12.0	31.5	21.0	5㎛	●
	GERC20-13.0	20	13.0	31.5	21.0	5㎛	●

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
GERC25	GERC25-2.0	25	2.0	34.0	26.0	5㎛	●
	GERC25-3.0	25	3.0	34.0	26.0	5㎛	●
	GERC25-4.0	25	4.0	34.0	26.0	5㎛	●
	GERC25-5.0	25	5.0	34.0	26.0	5㎛	●
	GERC25-6.0	25	6.0	34.0	26.0	5㎛	●
	GERC25-7.0	25	7.0	34.0	26.0	5㎛	●
	GERC25-8.0	25	8.0	34.0	26.0	5㎛	●
	GERC25-9.0	25	9.0	34.0	26.0	5㎛	●
	GERC25-10.0	25	10.0	34.0	26.0	5㎛	●
	GERC25-11.0	25	11.0	34.0	26.0	5㎛	●
	GERC25-12.0	25	12.0	34.0	26.0	5㎛	●
	GERC25-13.0	25	13.0	34.0	26.0	5㎛	●
	GERC25-14.0	25	14.0	34.0	26.0	5㎛	●
	GERC25-15.0	25	15.0	34.0	26.0	5㎛	●
	GERC25-16.0	25	16.0	34.0	26.0	5㎛	●
GERC32	GERC32-2.0	32	2.0	40.0	33.0	5㎛	●
	GERC32-3.0	32	3.0	40.0	33.0	5㎛	●
	GERC32-4.0	32	4.0	40.0	33.0	5㎛	●
	GERC32-5.0	32	5.0	40.0	33.0	5㎛	●
	GERC32-6.0	32	6.0	40.0	33.0	5㎛	●
	GERC32-7.0	32	7.0	40.0	33.0	5㎛	●
	GERC32-8.0	32	8.0	40.0	33.0	5㎛	●
	GERC32-9.0	32	9.0	40.0	33.0	5㎛	●
	GERC32-10.0	32	10.0	40.0	33.0	5㎛	●
	GERC32-11.0	32	11.0	40.0	33.0	5㎛	●
	GERC32-12.0	32	12.0	40.0	33.0	5㎛	●
	GERC32-13.0	32	13.0	40.0	33.0	5㎛	●
	GERC32-14.0	32	14.0	40.0	33.0	5㎛	●
	GERC32-15.0	32	15.0	40.0	33.0	5㎛	●
	GERC32-16.0	32	16.0	40.0	33.0	5㎛	●
	GERC32-17.0	32	17.0	40.0	33.0	5㎛	●
	GERC32-18.0	32	18.0	40.0	33.0	5㎛	●
	GERC32-19.0	32	19.0	40.0	33.0	5㎛	●
	GERC32-20.0	32	20.0	40.0	33.0	5㎛	●
GERC40	GERC40-16.0	40	16.0	46.0	41.0	5㎛	●
	GERC40-20.0	40	20.0	46.0	41.0	5㎛	●
	GERC40-25.0	40	25.0	46.0	41.0	5㎛	●

Order Example • General Type – **Order as GERC16-6.0** • Precision Type – **Order as GERC16-6.0HP**
• General Sealed Type – **Order as GERC16-6.0C**

(Unit : mm)

※ Please contact us about precision sealed type.
※ Please contact us about GERC40 precision type and other diameter.

1:1 CHAT

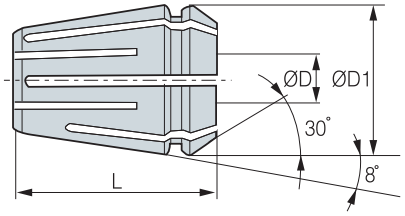
GERC COLLET

GERC Collet (Precision Type)



Precision 2㎛ Run-out

ER Collet



• ● : Stock

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
GERC11	GERC11-3.0HP	11.0	3.0	18.0	11.5	2㎛	●
	GERC11-4.0HP	11.0	4.0	18.0	11.5	2㎛	●
	GERC11-5.0HP	11.0	5.0	18.0	11.5	2㎛	●
	GERC11-6.0HP	11.0	6.0	18.0	11.5	2㎛	●
GERC16	GERC16-3.0HP	16.0	3.0	27.5	17.0	2㎛	●
	GERC16-4.0HP	16.0	4.0	27.5	17.0	2㎛	●
	GERC16-5.0HP	16.0	5.0	27.5	17.0	2㎛	●
	GERC16-6.0HP	16.0	6.0	27.5	17.0	2㎛	●
	GERC16-7.0HP	16.0	7.0	27.5	17.0	2㎛	●
	GERC16-8.0HP	16.0	8.0	27.5	17.0	2㎛	●
	GERC16-9.0HP	16.0	9.0	27.5	17.0	2㎛	●
	GERC16-10.0HP	16.0	10.0	27.5	17.0	2㎛	●
GERC20	GERC20-3.0HP	20.0	3.0	31.5	21.0	2㎛	●
	GERC20-4.0HP	20.0	4.0	31.5	21.0	2㎛	●
	GERC20-5.0HP	20.0	5.0	31.5	21.0	2㎛	●
	GERC20-6.0HP	20.0	6.0	31.5	21.0	2㎛	●
	GERC20-8.0HP	20.0	8.0	31.5	21.0	2㎛	●
	GERC20-9.0HP	20.0	9.0	31.5	21.0	2㎛	●
	GERC20-10.0HP	20.0	10.0	31.5	21.0	2㎛	●
	GERC20-11.0HP	20.0	11.0	31.5	21.0	2㎛	●
	GERC20-12.0HP	20.0	12.0	31.5	21.0	2㎛	●
	GERC20-13.0HP	20.0	13.0	31.5	21.0	2㎛	●
GERC25	GERC25-6.0HP	25.0	6.0	34.0	26.0	2㎛	●
	GERC25-10.0HP	25.0	10.0	34.0	26.0	2㎛	●
	GERC25-12.0HP	25.0	12.0	34.0	26.0	2㎛	●
	GERC25-14.0HP	25.0	14.0	34.0	26.0	2㎛	●
	GERC25-16.0HP	25.0	16.0	34.0	26.0	2㎛	●
GERC32	GERC32-6.0HP	32.0	6.0	40.0	33.0	2㎛	●
	GERC32-10.0HP	32.0	10.0	40.0	33.0	2㎛	●
	GERC32-12.0HP	32.0	12.0	40.0	33.0	2㎛	●
	GERC32-16.0HP	32.0	16.0	40.0	33.0	2㎛	●
	GERC32-18.0HP	32.0	18.0	40.0	33.0	2㎛	●
	GERC32-20.0HP	32.0	20.0	40.0	33.0	2㎛	●

Order Example • General Type – **Order as GERC16-6.0** • Precision Type – **Order as GERC16-6.0HP**
• General Sealed Type – **Order as GERC16-6.0C**

(Unit : mm)

※ Please contact us for the waterproof general type.
※ Please contact us about GERC40 precision type and other diameter.

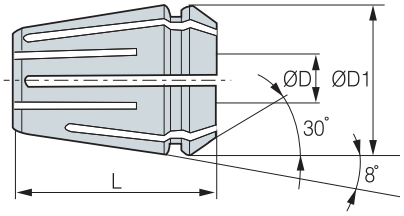
1:1 CHAT

GERC COLLET

GERC Collet (General Sealed Type)



General 5㎛ Run-out | Waterproof | ER Collet



• ● : Stock

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
GERC16	GERC16-5.0C	16	5.0	27.5	17.0	5㎛	●
	GERC16-6.0C	16	6.0	27.5	17.0	5㎛	●
	GERC16-8.0C	16	8.0	27.5	17.0	5㎛	●
	GERC16-10.0C	16	10.0	27.5	17.0	5㎛	●
GERC20	GERC20-6.0C	20	6.0	31.5	21.0	5㎛	●
	GERC20-8.0C	20	8.0	31.5	21.0	5㎛	●
	GERC20-10.0C	20	10.0	31.5	21.0	5㎛	●
	GERC20-12.0C	20	12.0	31.5	21.0	5㎛	●
GERC25	GERC25-6.0C	25	6.0	34.0	26.0	5㎛	●
	GERC25-8.0C	25	8.0	34.0	26.0	5㎛	●
	GERC25-10.0C	25	10.0	34.0	26.0	5㎛	●
	GERC25-12.0C	25	12.0	34.0	26.0	5㎛	●
	GERC25-14.0C	25	14.0	34.0	26.0	5㎛	●
	GERC25-16.0C	25	16.0	34.0	26.0	5㎛	●
GERC32	GERC32-8.0C	32	8.0	40.0	33.0	5㎛	●
	GERC32-9.0C	32	9.0	40.0	33.0	5㎛	●
	GERC32-10.0C	32	10.0	40.0	33.0	5㎛	●
	GERC32-11.0C	32	11.0	40.0	33.0	5㎛	●
	GERC32-12.0C	32	12.0	40.0	33.0	5㎛	●
	GERC32-13.0C	32	13.0	40.0	33.0	5㎛	●
	GERC32-14.0C	32	14.0	40.0	33.0	5㎛	●
	GERC32-15.0C	32	15.0	40.0	33.0	5㎛	●
	GERC32-16.0C	32	16.0	40.0	33.0	5㎛	●
	GERC32-18.0C	32	18.0	40.0	33.0	5㎛	●
	GERC32-20.0C	32	20.0	40.0	33.0	5㎛	●

Order example • General Type – **Order as GERC16-6.0** • Precision Type – **Order as ER16-6.0P**
• General Sealed Type – **Order as GERC16-6.0C**

(Unit : mm)

※ Please contact us for the waterproof general type.
※ Please contact us about GERC40 precision type and other diameter.

1:1 CHAT

GERC COLLET SET

GERC Collet Set (General Type)



General 5㎛
Run-out

ER
ER Collet



• ● : Stock

GERC SET

Designation	ØD	Clearance	Collet Quantity	Accuracy	kg	Package Weight(kg)	Stock
GERC11 (SET)	1.0-7.0	0.5	13pcs	5㎛	0.1	0.3	●
GERC16 (SET)	1.0-10.0	1.0	10pcs	5㎛	0.2	0.4	●
GERC20 (SET)	2.0-13.0	1.0	12pcs	5㎛	0.5	0.8	●
GERC25 (SET)	2.0-16.0	1.0	15pcs	5㎛	1.1	1.5	●
GERC32 (SET)	3.0-20.0	1.0	18pcs	5㎛	2.6	3.1	●
GERC40 (SET)	4.0-26.0	1.0	23pcs	5㎛	5.8	6.9	●

※ Collet components for each set are different for precision/sealed type. Please check before ordering.

(Unit : mm)

1:1 CHAT

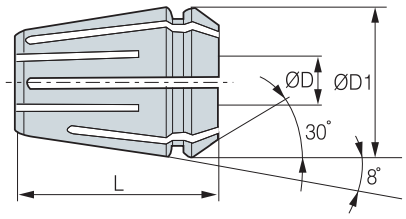
ER COLLET

ER Collet (General Type)



General 10㎛ Run-out

ER ER Collet



• ● : Stock

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
ER11	ER11-1.0	11	1.0	18.0	11.5	10㎛	●
	ER11-1.5	11	1.5	18.0	11.5	10㎛	●
	ER11-2.0	11	2.0	18.0	11.5	10㎛	●
	ER11-2.5	11	2.5	18.0	11.5	10㎛	●
	ER11-3.0	11	3.0	18.0	11.5	10㎛	●
	ER11-3.5	11	3.5	18.0	11.5	10㎛	●
	ER11-4.0	11	4.0	18.0	11.5	10㎛	●
	ER11-4.5	11	4.5	18.0	11.5	10㎛	●
	ER11-5.0	11	5.0	18.0	11.5	10㎛	●
	ER11-5.5	11	5.5	18.0	11.5	10㎛	●
	ER11-6.0	11	6.0	18.0	11.5	10㎛	●
	ER11-6.5	11	6.5	18.0	11.5	10㎛	●
	ER11-7.0	11	7.0	18.0	11.5	10㎛	●
ER16	ER16-1.0	16	1.0	27.5	17.0	10㎛	●
	ER16-2.0	16	2.0	27.5	17.0	10㎛	●
	ER16-3.0	16	3.0	27.5	17.0	10㎛	●
	ER16-4.0	16	4.0	27.5	17.0	10㎛	●
	ER16-5.0	16	5.0	27.5	17.0	10㎛	●
	ER16-6.0	16	6.0	27.5	17.0	10㎛	●
	ER16-7.0	16	7.0	27.5	17.0	10㎛	●
	ER16-8.0	16	8.0	27.5	17.0	10㎛	●
	ER16-9.0	16	9.0	27.5	17.0	10㎛	●
	ER16-10.0	16	10.0	27.5	17.0	10㎛	●
ER20	ER20-1.0	20	1.0	31.5	21.0	10㎛	●
	ER20-2.0	20	2.0	31.5	21.0	10㎛	●
	ER20-3.0	20	3.0	31.5	21.0	10㎛	●
	ER20-4.0	20	4.0	31.5	21.0	10㎛	●
	ER20-5.0	20	5.0	31.5	21.0	10㎛	●
	ER20-6.0	20	6.0	31.5	21.0	10㎛	●
	ER20-7.0	20	7.0	31.5	21.0	10㎛	●
	ER20-8.0	20	8.0	31.5	21.0	10㎛	●
	ER20-9.0	20	9.0	31.5	21.0	10㎛	●
	ER20-10.0	20	10.0	31.5	21.0	10㎛	●
	ER20-11.0	20	11.0	31.5	21.0	10㎛	●
	ER20-12.0	20	12.0	31.5	21.0	10㎛	●
	ER20-13.0	20	13.0	31.5	21.0	10㎛	●

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
ER25	ER25-2.0	25	2.0	34.0	26.0	10㎛	●
	ER25-3.0	25	3.0	34.0	26.0	10㎛	●
	ER25-4.0	25	4.0	34.0	26.0	10㎛	●
	ER25-5.0	25	5.0	34.0	26.0	10㎛	●
	ER25-6.0	25	6.0	34.0	26.0	10㎛	●
	ER25-7.0	25	7.0	34.0	26.0	10㎛	●
	ER25-8.0	25	8.0	34.0	26.0	10㎛	●
	ER25-9.0	25	9.0	34.0	26.0	10㎛	●
	ER25-10.0	25	10.0	34.0	26.0	10㎛	●
	ER25-11.0	25	11.0	34.0	26.0	10㎛	●
	ER25-12.0	25	12.0	34.0	26.0	10㎛	●
	ER25-13.0	25	13.0	34.0	26.0	10㎛	●
	ER25-14.0	25	14.0	34.0	26.0	10㎛	●
	ER25-15.0	25	15.0	34.0	26.0	10㎛	●
	ER25-16.0	25	16.0	34.0	26.0	10㎛	●
ER32	ER32-2.0	32	2.0	40.0	33.0	10㎛	●
	ER32-3.0	32	3.0	40.0	33.0	10㎛	●
	ER32-4.0	32	4.0	40.0	33.0	10㎛	●
	ER32-5.0	32	5.0	40.0	33.0	10㎛	●
	ER32-6.0	32	6.0	40.0	33.0	10㎛	●
	ER32-7.0	32	7.0	40.0	33.0	10㎛	●
	ER32-8.0	32	8.0	40.0	33.0	10㎛	●
	ER32-9.0	32	9.0	40.0	33.0	10㎛	●
	ER32-10.0	32	10.0	40.0	33.0	10㎛	●
	ER32-11.0	32	11.0	40.0	33.0	10㎛	●
	ER32-12.0	32	12.0	40.0	33.0	10㎛	●
	ER32-13.0	32	13.0	40.0	33.0	10㎛	●
	ER32-14.0	32	14.0	40.0	33.0	10㎛	●
	ER32-15.0	32	15.0	40.0	33.0	10㎛	●
	ER32-16.0	32	16.0	40.0	33.0	10㎛	●
	ER32-17.0	32	17.0	40.0	33.0	10㎛	●
	ER32-18.0	32	18.0	40.0	33.0	10㎛	●
	ER32-19.0	32	19.0	40.0	33.0	10㎛	●
	ER32-20.0	32	20.0	40.0	33.0	10㎛	●

Order Example • General Type – **Order as ER16-6.0** • Precision Type – **Order as ER16-6.0P**
• General Sealed Type – **Order as ER16-6.0C**

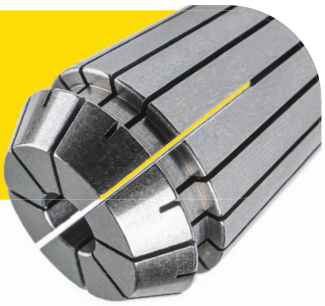
(Unit : mm)

※ Please contact us about other diameter.
※ The (C) type is a sealed ER collet.

1:1 CHAT

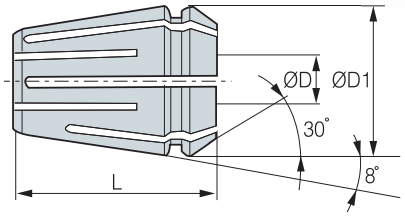
ER COLLET NEW

ER collet (Precision Type)



Precision 5㎛ Run-out

ER Collet



• ● : Stock

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
ER11	ER11-2.0P	11	2.0	18.0	11.3	5㎛	●
	ER11-3.0P	11	3.0	18.0	11.3	5㎛	●
	ER11-4.0P	11	4.0	18.0	11.3	5㎛	●
	ER11-5.0P	11	5.0	18.0	11.3	5㎛	●
	ER11-6.0P	11	6.0	18.0	11.3	5㎛	●
	ER11-7.0P	11	7.0	18.0	11.3	5㎛	●
ER16	ER16-3.0P	16	3.0	27.5	16.7	5㎛	●
	ER16-4.0P	16	4.0	27.5	16.7	5㎛	●
	ER16-5.0P	16	5.0	27.5	16.7	5㎛	●
	ER16-6.0P	16	6.0	27.5	16.7	5㎛	●
	ER16-7.0P	16	7.0	27.5	16.7	5㎛	●
	ER16-8.0P	16	8.0	27.5	16.7	5㎛	●
	ER16-9.0P	16	9.0	27.5	16.7	5㎛	●
	ER16-10.0P	16	10.0	27.5	16.7	5㎛	●
ER20	ER20-3.0P	20	3.0	31.5	20.7	5㎛	●
	ER20-4.0P	20	4.0	31.5	20.7	5㎛	●
	ER20-5.0P	20	5.0	31.5	20.7	5㎛	●
	ER20-6.0P	20	6.0	31.5	20.7	5㎛	●
	ER20-7.0P	20	7.0	31.5	20.7	5㎛	●
	ER20-8.0P	20	8.0	31.5	20.7	5㎛	●
	ER20-9.0P	20	9.0	31.5	20.7	5㎛	●
	ER20-10.0P	20	10.0	31.5	20.7	5㎛	●
	ER20-11.0P	20	11.0	31.5	20.7	5㎛	●
	ER20-12.0P	20	12.0	31.5	20.7	5㎛	●
	ER20-13.0P	20	13.0	31.5	20.7	5㎛	●

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
ER25	ER25-3.0P	25	3.0	34.0	25.8	5㎛	●
	ER25-4.0P	25	4.0	34.0	25.8	5㎛	●
	ER25-5.0P	25	5.0	34.0	25.8	5㎛	●
	ER25-6.0P	25	6.0	34.0	25.8	5㎛	●
	ER25-7.0P	25	7.0	34.0	25.8	5㎛	●
	ER25-8.0P	25	8.0	34.0	25.8	5㎛	●
	ER25-9.0P	25	9.0	34.0	25.8	5㎛	●
	ER25-10.0P	25	10.0	34.0	25.8	5㎛	●
	ER25-11.0P	25	11.0	34.0	25.8	5㎛	●
	ER25-12.0P	25	12.0	34.0	25.8	5㎛	●
	ER25-13.0P	25	13.0	34.0	25.8	5㎛	●
	ER25-14.0P	25	14.0	34.0	25.8	5㎛	●
	ER25-15.0P	25	15.0	34.0	25.8	5㎛	●
	ER25-16.0P	25	16.0	34.0	25.8	5㎛	●
ER32	ER32-3.0P	32	3.0	40.0	32.8	5㎛	●
	ER32-4.0P	32	4.0	40.0	32.8	5㎛	●
	ER32-5.0P	32	5.0	40.0	32.8	5㎛	●
	ER32-6.0P	32	6.0	40.0	32.8	5㎛	●
	ER32-7.0P	32	7.0	40.0	32.8	5㎛	●
	ER32-8.0P	32	8.0	40.0	32.8	5㎛	●
	ER32-9.0P	32	9.0	40.0	32.8	5㎛	●
	ER32-10.0P	32	10.0	40.0	32.8	5㎛	●
	ER32-11.0P	32	11.0	40.0	32.8	5㎛	●
	ER32-12.0P	32	12.0	40.0	32.8	5㎛	●
	ER32-13.0P	32	13.0	40.0	32.8	5㎛	●
	ER32-14.0P	32	14.0	40.0	32.8	5㎛	●
	ER32-15.0P	32	15.0	40.0	32.8	5㎛	●
	ER32-16.0P	32	16.0	40.0	32.8	5㎛	●
	ER32-17.0P	32	17.0	40.0	32.8	5㎛	●
	ER32-18.0P	32	18.0	40.0	32.8	5㎛	●
	ER32-19.0P	32	19.0	40.0	32.8	5㎛	●
	ER32-20.0P	32	20.0	40.0	32.8	5㎛	●

Order example • General Type – **Order as ER16-6.0** • Precision Type – **Order as ER16-6.0P**
• General Sealed Type – **Order as ER16-6.0C**

(Unit : mm)

※ Please contact us about other diameter.
※ The (C) type is a sealed ER collet.

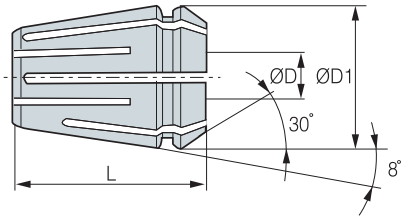
1:1 CHAT

ER COLLET

ER Collet (General Sealed Type)



General 10㎛ Run-out | Waterproof | ER Collet



• ● : Stock

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
ER16	ER16-5.0C	16	5.0	27.5	17.0	10㎛	●
	ER16-6.0C	16	6.0	27.5	17.0	10㎛	●
	ER16-8.0C	16	8.0	27.5	17.0	10㎛	●
	ER16-10.0C	16	10.0	27.5	17.0	10㎛	●
ER20	ER20-6.0C	20	6.0	31.5	21.0	10㎛	●
	ER20-8.0C	20	8.0	31.5	21.0	10㎛	●
	ER20-10.0C	20	10.0	31.5	21.0	10㎛	●
	ER20-12.0C	20	12.0	31.5	21.0	10㎛	●
ER25	ER25-6.0C	25	6.0	34.0	26.0	10㎛	●
	ER25-8.0C	25	8.0	34.0	26.0	10㎛	●
	ER25-10.0C	25	10.0	34.0	26.0	10㎛	●
	ER25-12.0C	25	12.0	34.0	26.0	10㎛	●
	ER25-14.0C	25	14.0	34.0	26.0	10㎛	●
	ER25-16.0C	25	16.0	34.0	26.0	10㎛	●
ER32	ER32-8.0C	32	8.0	40.0	33.0	10㎛	●
	ER32-9.0C	32	9.0	40.0	33.0	10㎛	●
	ER32-10.0C	32	10.0	40.0	33.0	10㎛	●
	ER32-11.0C	32	11.0	40.0	33.0	10㎛	●
	ER32-12.0C	32	12.0	40.0	33.0	10㎛	●
	ER32-13.0C	32	13.0	40.0	33.0	10㎛	●
	ER32-14.0C	32	14.0	40.0	33.0	10㎛	●
	ER32-15.0C	32	15.0	40.0	33.0	10㎛	●
	ER32-16.0C	32	16.0	40.0	33.0	10㎛	●
	ER32-18.0C	32	18.0	40.0	33.0	10㎛	●
	ER32-20.0C	32	20.0	40.0	33.0	10㎛	●

Order example • General Type – **Order as ER16-6.0** • Precision Type – **Order as ER16-6.0P**
• General Sealed Type – **Order as ER16-6.0C**

(Unit : mm)

※ Please contact us about other diameter.
※ The (C) type is a sealed ER collet.

1:1 CHAT

ER COLLET SET

ER Collet (General Type)



General 10㎛ Run-out

ER Collet



• ● : Stock

ER SET

Designation	ØD	Clearance	Collet Quantity	Accuracy	kg	Package Weight (kg)	Stock
ER11(SET)	1.0-7.0	0.5	13pcs	10㎛	0.1	0.2	●
ER16(SET)	1.0-10.0	1.0	10pcs	10㎛	0.1	0.3	●
ER20(SET)	2.0-13.0	1.0	12pcs	10㎛	0.4	0.7	●
ER25(SET)	2.0-16.0	1.0	15pcs	10㎛	1.1	1.5	●
ER32(SET)	3.0-20.0	1.0	18pcs	10㎛	2.6	3.1	●

(Unit : mm)

1:1 CHAT

ER-T COLLET

NEW

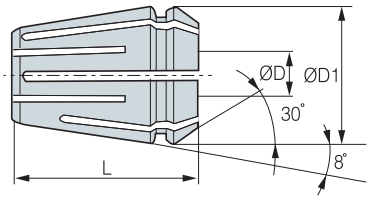
ER-T Collet (General Type)



General 8㎛ Run-out

ER Collet

TAUMAX



• ● : Stock

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
ER11	ER11-2.0-T	11	2.0	18.0	11.5	8㎛	●
	ER11-3.0-T	11	3.0	18.0	11.5	8㎛	●
	ER11-4.0-T	11	4.0	18.0	11.5	8㎛	●
	ER11-5.0-T	11	5.0	18.0	11.5	8㎛	●
	ER11-6.0-T	11	6.0	18.0	11.5	8㎛	●
	ER11-7.0-T	11	7.0	18.0	11.5	8㎛	●
ER16	ER16-2.0-T	16	2.0	27.5	17.0	8㎛	●
	ER16-3.0-T	16	3.0	27.5	17.0	8㎛	●
	ER16-4.0-T	16	4.0	27.5	17.0	8㎛	●
	ER16-5.0-T	16	5.0	27.5	17.0	8㎛	●
	ER16-6.0-T	16	6.0	27.5	17.0	8㎛	●
	ER16-7.0-T	16	7.0	27.5	17.0	8㎛	●
	ER16-8.0-T	16	8.0	27.5	17.0	8㎛	●
	ER16-9.0-T	16	9.0	27.5	17.0	8㎛	●
	ER16-10.0-T	16	10.0	27.5	17.0	8㎛	●
ER20	ER20-2.0-T	20	2.0	31.5	21.0	8㎛	●
	ER20-3.0-T	20	3.0	31.5	21.0	8㎛	●
	ER20-4.0-T	20	4.0	31.5	21.0	8㎛	●
	ER20-5.0-T	20	5.0	31.5	21.0	8㎛	●
	ER20-6.0-T	20	6.0	31.5	21.0	8㎛	●
	ER20-7.0-T	20	7.0	31.5	21.0	8㎛	●
	ER20-8.0-T	20	8.0	31.5	21.0	8㎛	●
	ER20-9.0-T	20	9.0	31.5	21.0	8㎛	●
	ER20-10.0-T	20	10.0	31.5	21.0	8㎛	●
	ER20-11.0-T	20	11.0	31.5	21.0	8㎛	●
	ER20-12.0-T	20	12.0	31.5	21.0	8㎛	●
	ER20-13.0-T	20	13.0	31.5	21.0	8㎛	●

(Unit : mm)

	Designation	ER Size	ØD	L	ØD1	Accuracy	Stock
ER25	ER25-2.0-T	25	2.0	34.0	26.0	8㎛	●
	ER25-3.0-T	25	3.0	34.0	26.0	8㎛	●
	ER25-4.0-T	25	4.0	34.0	26.0	8㎛	●
	ER25-5.0-T	25	5.0	34.0	26.0	8㎛	●
	ER25-6.0-T	25	6.0	34.0	26.0	8㎛	●
	ER25-7.0-T	25	7.0	34.0	26.0	8㎛	●
	ER25-8.0-T	25	8.0	34.0	26.0	8㎛	●
	ER25-9.0-T	25	9.0	34.0	26.0	8㎛	●
	ER25-10.0-T	25	10.0	34.0	26.0	8㎛	●
	ER25-11.0-T	25	11.0	34.0	26.0	8㎛	●
	ER25-12.0-T	25	12.0	34.0	26.0	8㎛	●
	ER25-13.0-T	25	13.0	34.0	26.0	8㎛	●
	ER25-14.0-T	25	14.0	34.0	26.0	8㎛	●
	ER25-15.0-T	25	15.0	34.0	26.0	8㎛	●
	ER25-16.0-T	25	16.0	34.0	26.0	8㎛	●
ER32	ER32-2.0-T	32	2.0	40.0	33.0	8㎛	●
	ER32-3.0-T	32	3.0	40.0	33.0	8㎛	●
	ER32-4.0-T	32	4.0	40.0	33.0	8㎛	●
	ER32-5.0-T	32	5.0	40.0	33.0	8㎛	●
	ER32-6.0-T	32	6.0	40.0	33.0	8㎛	●
	ER32-7.0-T	32	7.0	40.0	33.0	8㎛	●
	ER32-8.0-T	32	8.0	40.0	33.0	8㎛	●
	ER32-9.0-T	32	9.0	40.0	33.0	8㎛	●
	ER32-10.0-T	32	10.0	40.0	33.0	8㎛	●
	ER32-11.0-T	32	11.0	40.0	33.0	8㎛	●
	ER32-12.0-T	32	12.0	40.0	33.0	8㎛	●
	ER32-13.0-T	32	13.0	40.0	33.0	8㎛	●
	ER32-14.0-T	32	14.0	40.0	33.0	8㎛	●
	ER32-15.0-T	32	15.0	40.0	33.0	8㎛	●
	ER32-16.0-T	32	16.0	40.0	33.0	8㎛	●
	ER32-17.0-T	32	17.0	40.0	33.0	8㎛	●
	ER32-18.0-T	32	18.0	40.0	33.0	8㎛	●
	ER32-19.0-T	32	19.0	40.0	33.0	8㎛	●
	ER32-20.0-T	32	20.0	40.0	33.0	8㎛	●

(Unit : mm)

1:1 CHAT

ER/L

Lock Collet for ER Collet Chuck



ER Collet | Lock | Coolant System



Features

- The mechanical fastening method enables the prevention of tool deviation
- Stable tool fastening force even under extreme machining conditions

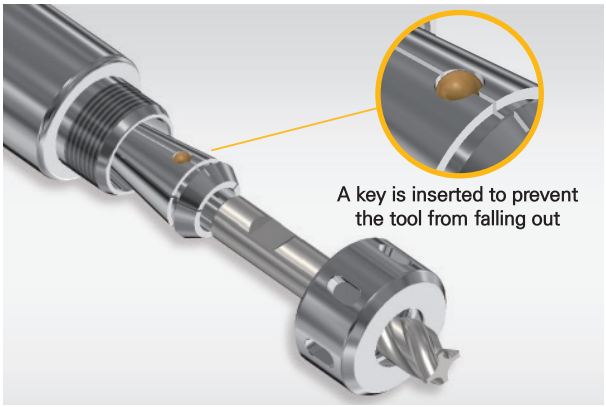
NAMING

ER	20	–	12	–	L
ER Collet	Collet Size		Tool Dia.		Lock

Structural Features

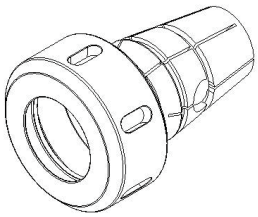
Designed to Prevent Fallout

- Tool fallout is prevented by a key inserted in the collet.
- A key is inserted to prevent the tool from pull out.



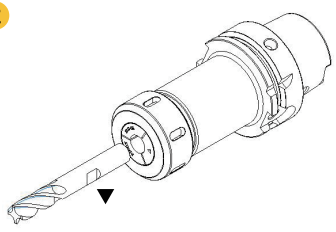
How to Use

1



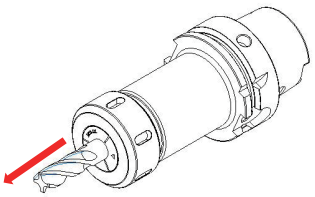
Combine the non-slip ER collet with nut.

2



Clamp the nut after inserting no. 1 into the collet chuck. After that, insert the end mill notch to be aligned with the part ▼ (steel ball position).

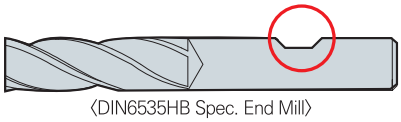
3



After checking that the steel ball in the collet is caught in the notched part, completely clamp the nut by pulling the end mill in the axial direction (arrow direction)

Note If an auto clamp device is used, skip step 3. (Endmill rotation may cause injury.)

Applicable Endmill



〈DIN6535HB Spec. End Mill〉

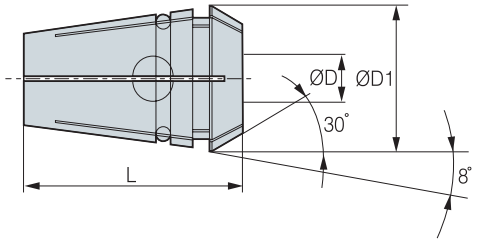
※ Please refer to 105p for detailed specifications.

1:1 CHAT

ER/L

Lock Collet for ER Collet Chuck





• ● : Stock

	Designation	ER Size	ØD	L	ØD1	Stock
ER20L	ER20-6L	20	6	31.5	20.7	●
	ER20-8L	20	8	31.5	20.7	●
	ER20-10L	20	10	31.5	20.7	●
	ER20-12L	20	12	31.5	20.7	●
ER32L	ER32-12L	32	12	40.0	32.7	●
	ER32-16L	32	16	40.0	32.7	●
	ER32-20L	32	20	40.0	32.7	●

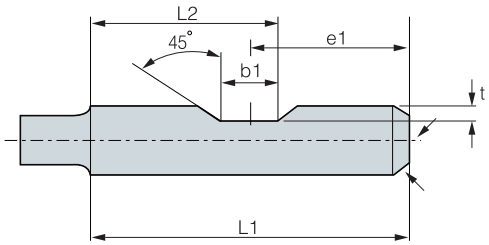
※ Manufactured based on DIN ISO 15488-A

(Unit : mm)

1:1 CHAT

NOTCHED ENDMILL

Notched Endmill



Tool Ø	Tool (DIN6535)				
	L1	e1	b1	L2	t
6	36	18	4.2	20.1	0.9
8	36	18	5.5	20.75	1.1
10	40	20	7	23.5	1.5
12	45	22.5	8	26.5	1.6
14	45	22.5	8	26.5	1.3
16	48	24	10	29	1.8
18	48	24	10	29	1.8
20	50	25	11	30.5	1.8
25	56	32	12	30	2.0
32	60	36	14	31.0	2.0

※ DIN 6535HB standard endmill used. ※ Not supplied with ER/L collet.

(Unit : mm)

1:1 CHAT

RTJW

Jet Coolant Disk



Jet Coolant Inside Coolant



Features

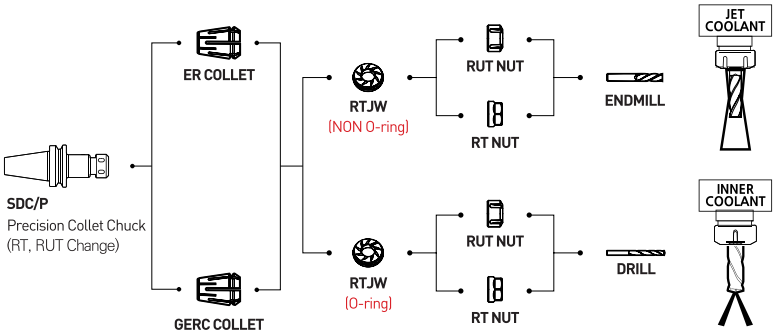
- Internal coolant function available without using an expensive waterproof collet
- When O-ring is removed, the jet coolant function is available
- Reduces damage on workpiece caused by chips

NAMING

RTJW	16	–	6
Jet Coolant Disk	Nut Size		Tool Dia.

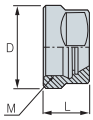
Application

- With one waterproof type (RT, RUT) NUT, the inside jet coolant is simultaneously used
- Enables a fast change of the inside jet coolant only by disk replacement
- Strong jet injection with no scattering even in the high-speed rotation



RT NUT

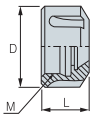




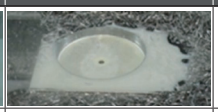
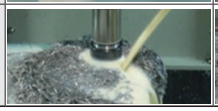
Type	M	D	L
RT16	M22x1.50	28.0	22.5

RUT NUT



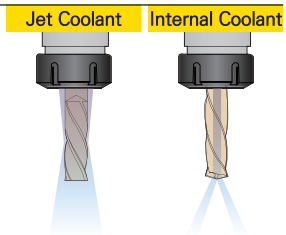


Type	M	D	L
RUT20	M25x1.50	35	24
RUT25	M32x1.50	42	25
RUT32	M40x1.50	50	27.5
RUT40	M50x1.50	63	30.5

Type	Pocket Machining	After	Remarks
Jet Coolant			• The chips in the pocket completely are removed by a strong jet injection.
Outside Coolant			• The chips in the pocket are not removed. • Chips are accumulated in the collet and nut.

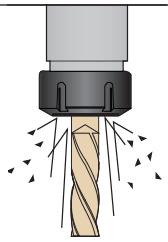
Coolant Method

According to use, inside coolant and jet coolant refueling can be used.



Mixing Prevention

Effective for vibration proof by preventing mixing of cutting chips by using RTJW.



1:1 CHAT

RTJW

Jet Coolant Disk



Jet Coolant Inside Coolant



- ● : To be switched to NP order after stock depletion
- ● : Stock

※ We do not manufacture less than Ø5

- For more information on product features, see 106P
- For more information on the products to be tightened, see 80P

	Designation	ER Size	Inner Diameter	Available Nut	Stock
RTJW16	RTJW16-6	16	6	RUT16	●
	RTJW16-7	16	7	RUT16	●
	RTJW16-8	16	8	RUT16	●
RTJW20	RTJW20-6	20	6	RUT20	●
	RTJW20-7	20	7	RUT20	●
	RTJW20-8	20	8	RUT20	●
	RTJW20-9	20	9	RUT20	●
	RTJW20-10	20	10	RUT20	●
RTJW25	RTJW25-6	25	6	RUT25	●
	RTJW25-7	25	7	RUT25	●
	RTJW25-8	25	8	RUT25	●
	RTJW25-9	25	9	RUT25	●
	RTJW25-10	25	10	RUT25	●
	RTJW25-11	25	11	RUT25	●
	RTJW25-12	25	12	RUT25	●
	RTJW25-13	25	13	RUT25	●
	RTJW25-14	25	14	RUT25	●
	RTJW25-15	25	15	RUT25	●
	RTJW25-16	25	16	RUT25	●

(Unit : mm)

	Designation	ER Size	Inner Diameter	Available Nut	Stock
RTJW32	RTJW32-6	32	6	RUT32	●
	RTJW32-7	32	7	RUT32	●
	RTJW32-8	32	8	RUT32	●
	RTJW32-9	32	9	RUT32	●
	RTJW32-10	32	10	RUT32	●
	RTJW32-11	32	11	RUT32	●
	RTJW32-12	32	12	RUT32	●
	RTJW32-13	32	13	RUT32	●
	RTJW32-14	32	14	RUT32	●
	RTJW32-15	32	15	RUT32	●
	RTJW32-16	32	16	RUT32	●
	RTJW32-17	32	17	RUT32	●
	RTJW32-18	32	18	RUT32	●
	RTJW32-20	32	20	RUT32	●
RTJW40	RTJW40-18	40	18	RUT40	●
	RTJW40-19	40	19	RUT40	●
	RTJW40-20	40	20	RUT40	●
	RTJW40-21	40	21	RUT40	●
	RTJW40-22	40	22	RUT40	●
	RTJW40-24	40	24	RUT40	●

(Unit : mm)

1:1 CHAT

DSK

Slim Type Collet Chuck



G6.3	15,000	Ø25	C	HC		
G value	Max RPM	Max Dia	Coolant System	HC Collet	Milling	Drilling



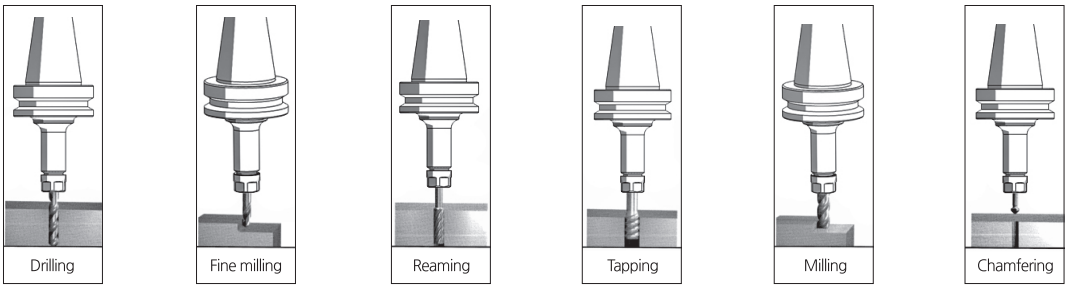
Features

- Applied 8-degree collet and broader fastening area
- Stable machinability thanks to high fastening force
- Balancing design for high-speed machining
- Tool clamping range : Ø2-Ø25mm

NAMING

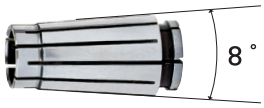
BT30	–	DSK	10	–	90
Spindle		Slim Type Collet Chuck	Tool Dia.		Length

Multipurpose Operation



Collet

General Type & Precision Type	Designation	Max Chucking	Run-out
	HC6 - ØD	6.0	General Type 5 μm Precision Type 3μm
	HC10 - ØD	10.0	
	HC13 - ØD	13.0	
	HC16 - ØD	16.0	
	HC20 - ØD	20.0	
	HC25 - ØD	25.0	

8 ° HC Collet

Minimizes tool vibration during machining

Spanner(Accessories)

Spanner	Designation	Chuck
	DSS - 6	DSK 6
	DSS - 10	DSK 10
	DSS - 13	DSK 13
	DSS - 16	DSK 16
	DSS - 20	DSK 20
	DSS - 25	DSK 25

Collet Extract Tool

Collet Extractor	Designation	Chuck
	DSS - 6CE	DSK 6
	DSS - 10CE	DSK 10
	DSS - 13CE	DSK 13
	DSS - 16CE	DSK 16
	DSS - 20CE	DSK 20
	DSS - 25CE	DSK 25

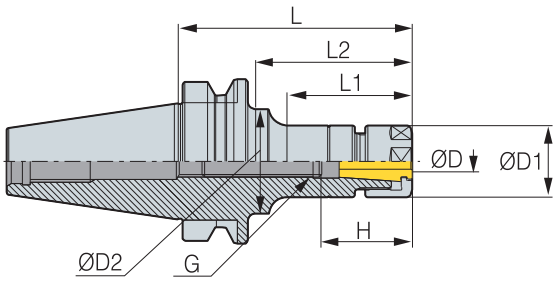
1:1 CHAT

BT-DSK

Slim Type Collet Chuck



MAS 403-BT	G6.3	15,000	Ø25	C	HC		
Shank	G value	Max RPM	Max Dia	Coolant System	HC Collet	Milling	Drilling



- ● : Stock
- C Internal coolant system is optional.
- ※ Sealed collet is used when applying internal coolant.

- For more information on product features, see 108P
- For more information on the related parts, see 111P
- For more information on the applicable collet, see 118P

	Designation	ØD	L	ØD1	ØD2	L1	L2	H	Collet	G	RPM	kg	Package Weight (kg)	Stock
BT30	BT30-DSK6-60	3.0~6.0	60	20	20	33	33	31	HC6	M8	15,000	0.4	0.5	●
	BT30-DSK6-90	3.0~6.0	90	20	32	56	65	31	HC6	M8	15,000	0.5	0.6	●
	BT30-DSK10-60	2.0~10.0	60	28	28	35	35	38	HC10	M12	15,000	0.5	0.6	●
	BT30-DSK10-90	2.0~10.0	90	28	28	65	65	38	HC10	M12	15,000	0.6	0.7	●
	BT30-DSK10-120	2.0~10.0	120	28	28	95	95	38	HC10	M12	15,000	1.1	1.1	
	BT30-DSK13-60	3.0~13.0	60	33	33	36	36	43	HC13	M12	15,000	0.5	0.6	●
	BT30-DSK16-60	3.0~16.0	60	40	40	37	37	52	HC16	M12	15,000	0.6	0.7	●
	BT30-DSK16-90	3.0~16.0	90	40	40	67	67	52	HC16	M18	15,000	0.8	0.9	●
	BT30-DSK16-120	3.0~16.0	120	40	40	97	97	60	HC16	M18	15,000	1.1	1.1	
	BT30-DSK20-75	4.0~20.0	75	48	48	52	52	70	HC20	M12	15,000	1.1	1.1	
	BT30-DSK20-90	4.0~20.0	90	48	48	52	52	70	HC20	M18	15,000	1.2	1.2	
	BT30-DSK25-90	16.0~25.0	90	55	55	67.5	67.5	63.5	HC25	M12	15,000	0.9	1.1	●
BT40	BT40-DSK6-60	3.0~6.0	60	20	20	30	30	35	HC6	M8	10,000	1.0	1.0	
	BT40-DSK6-90	3.0~6.0	90	20	32	51	61	31	HC6	M8	10,000	1.1	1.3	●
	BT40-DSK6-120	3.0~6.0	120	20	32	60	90	31	HC6	M8	10,000	1.1	1.3	●
	BT40-DSK6-150	3.0~6.0	150	20	25	60	120	31	HC6	M8	10,000	1.1	1.4	●
	BT40-DSK10-60	2.0~10.0	60	28	28	32	32	50	HC10	M12	10,000	1.1	1.1	
	BT40-DSK10-90	2.0~10.0	90	28	40	48	60	38	HC10	M12	10,000	1.2	1.4	●
	BT40-DSK10-120	2.0~10.0	120	28	40	73	90	38	HC10	M12	10,000	1.2	1.5	●
	BT40-DSK10-150	2.0~10.0	150	28	35	73	118	38	HC10	M12	10,000	1.4	1.7	●
	BT40-DSK10-180	2.0~10.0	180	28	39	73	148	50	HC10	M12	10,000	1.4	1.7	
	BT40-DSK13-90	3.0~13.0	90	33	33	59	59	43	HC13	M15	10,000	1.3	1.5	●
	BT40-DSK16-60	3.0~16.0	60	40	40	32	32	60	HC16	M18	10,000	1.3	1.5	
	BT40-DSK16-90	3.0~16.0	90	40	40	58	58	52	HC16	M18	10,000	1.3	1.5	●
	BT40-DSK16-120	3.0~16.0	120	40	40	88	88	52	HC16	M18	10,000	1.5	1.7	●
	BT40-DSK16-150	3.0~16.0	150	40	40	118	118	52	HC16	M18	10,000	1.9	2.1	●
	BT40-DSK16-180	3.0~16.0	180	40	40	148	148	60	HC16	M18	10,000	1.9	2.1	
	BT40-DSK20-60	4.0~20.0	60	48	48	32	32	70	HC20	M22	10,000	1.5	1.7	
	BT40-DSK20-90	4.0~20.0	90	49	49	60	60	60	HC20	M22	10,000	1.5	1.7	●
	BT40-DSK20-120	4.0~20.0	120	49	49	90	90	60	HC20	M22	10,000	1.8	2.0	●
	BT40-DSK25-90	16.0~25.0	90	55	55	61	61	63.5	HC25	M28	10,000	1.6	1.8	●
	BT40-DSK25-120	16.0~25.0	120	55	55	91	91	85	HC25	M28	10,000	2.0	2.3	●

(Unit : mm)

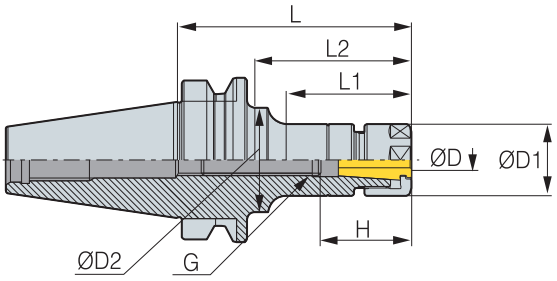
1:1 CHAT

BT-DSK

Slim Type Collet Chuck



MAS 403-BT	G6.3	8,000	Ø25	C	HC		
Shank	G value	Max RPM	Max Dia	Coolant System	HC Collet	Milling	Drilling



• ● : Stock
C Internal coolant system is optional.
※ Sealed collet is used when applying internal coolant

• For more information on product features, see 108P
• For more information on the related parts, see 111P
• For more information on the applicable collet, see 118P

BT50

Designation	ØD	L	ØD1	ØD2	L1	L2	H	Collet	G	RPM	kg	Package Weight (kg)	Stock
BT50-DSK6-105	3.0~6.0	105	20	32	55	64	31	HC6	M8	8,000	3.6	3.9	●
BT50-DSK6-135	3.0~6.0	135	20	32	60	92	31	HC6	M8	8,000	3.7	4.1	●
BT50-DSK6-165	3.0~6.0	165	20	32	60	114	31	HC6	M8	8,000	4.1	4.4	●
BT50-DSK10-105	2.0~10.0	105	28	27.5	57	57	38	HC10	M12	8,000	3.8	4.1	●
BT50-DSK10-135	2.0~10.0	135	28	32	70	92	38	HC10	M12	8,000	3.9	4.3	●
BT50-DSK10-165	2.0~10.0	165	28	36	75	114	38	HC10	M12	8,000	4.1	4.5	●
BT50-DSK10-195	2.0~10.0	195	28	36	75	146	38	HC10	M12	8,000	4.5	4.8	
BT50-DSK13-135	3.0~13.0	135	33	33	92	92	43	HC13	M15	8,000	3.8	4.2	●
BT50-DSK16-105	3.0~16.0	105	40	40	62	62	52	HC16	M18	8,000	4.0	4.3	●
BT50-DSK16-135	3.0~16.0	135	40	40	92	92	52	HC16	M18	8,000	4.2	4.6	●
BT50-DSK16-165	3.0~16.0	165	40	50	40	122	52	HC16	M18	8,000	4.6	5.0	●
BT50-DSK16-195	3.0~16.0	195	40	52	40	152	60	HC16	M18	8,000	4.6	50	
BT50-DSK20-105	4.0~20.0	105	48	40	62	62	60	HC20	M22	8,000	4.2	4.5	●
BT50-DSK20-135	4.0~20.0	135	48	40	92	92	60	HC20	M22	8,000	4.5	4.9	●
BT50-DSK20-165	4.0~20.0	165	48	40	122	122	60	HC20	M22	8,000	4.9	5.3	●
BT50-DSK25-105	16.0~25.0	105	55	55	62	62	64	HC25	M28	8,000	4.4	4.7	●
BT50-DSK25-135	16.0~25.0	135	55	55	92	92	64	HC25	M28	8,000	4.5	4.9	●
BT50-DSK25-165	16.0~25.0	165	55	55	122	122	64	HC25	M28	8,000	5.2	5.6	●

(Unit : mm)

1:1 CHAT

DSK SPARE PART

Slim Collet Chuck Related Parts



Main Components

SPARE PART

Type	Main Components		
	Nut	Adjust Screw	Extraction Tool
Images / Designation			
DSK6	DN6	BN0825	DSK-6CE
DSK10	DN10	BN1230	DSK-10CE
DSK13	DN13	BN1230(BT30) / BN1524F(ETC)	DSK-13CE
DSK16	DN16	BN1830F	DSK-16CE
DSK20	DN20	BN2230F	DSK-20CE
DSK25	DN25	BN2838F	DSK-25CE

※ BN1230 screws are used for BT30-DSK25-90.

Accessories

SPARE PART

Spanner	Designation	Chuck
	DSS-6	DSK6
	DSS-10	DSK10
	DSS-13	DSK13
	DSS-16	DSK16
	DSS-20	DSK20
	DSS-25	DSK25

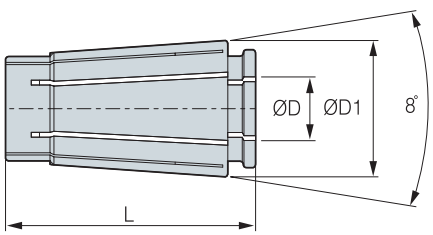
1:1 CHAT

HC COLLET

HC Slim Collet (General Type, Precision Type)



Accessories



SPARE PART

Designation	ØD1	L	ØD	General	Precision (P)
HC6 ØD(P)	10.5	25.0	6.0	5㎛	3㎛
HC10 ØD(P)	15.6	30.5	10.0	5㎛	3㎛
HC13 ØD(P)	20.1	39.0	13.0	5㎛	3㎛
HC16 ØD(P)	24.6	45.0	16.0	5㎛	3㎛
HC20 ØD(P)	29.2	54.3	20.0	5㎛	3㎛
HC25 ØD(P)	35.7	57.0	25.0	5㎛	3㎛

※ For more information on the detailed specifications, see 118P. (Unit : mm)

Order Example
- General Type – **Order as HC16-8.0**
- Precision Type – **Order as HC16-8.0P**

1:1 CHAT

GSK

Great Speed Slim Collet Chuck



G2.5	25,000	Ø25	C	HC		
G value	Max RPM	Max Dia	Coolant System	HC Collet	Milling	Drilling



Features

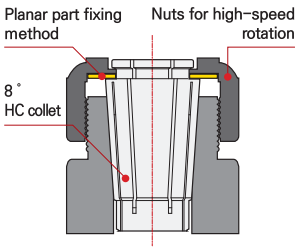
- Improved repeatability of fastening tolerance through the sleeve bearing nut
- Applied 8-degree collet and broader fastening area
- Minimizes imbalance due to fastening grooves through high-speed type nuts
- Tool clamping range : Ø2-Ø25mm

NAMING

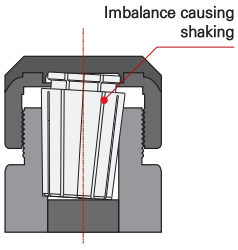
BT40	–	GSK	10	–	90
Spindle		Great Speed Silm Collet Chuck	Tool Dia.		Length

Original Design

GSK	Other Companies



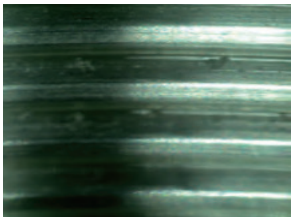
Provides strong tightening force with a 8 °collet and good fixation degree based on planar part fixing method



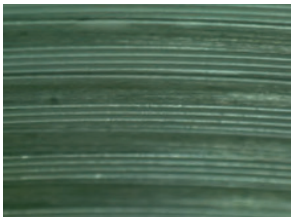
Unstable balance is generated by the centrifugal force at the time of high-speed rotation

Comparison of Screw Polishing at Points of Nut Tighetned

GSK	Other Companies



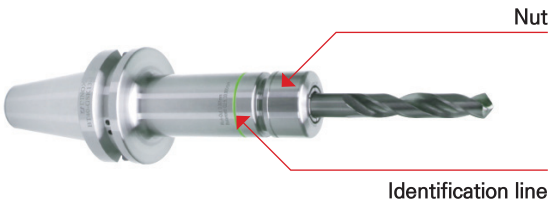
Provides excellent reproduction precision through screw grinding



Unstable precision due to turning operation

Special Design

Optimized for great-speed collet chucks and uniquely designed to enable easy run-out measurement by designating the test bar area to the product



C Internal coolant system is optional

Spanner(Optional)



Designation	GSK
GSK6 SPANNER	GSK6
GSK10 SPANNER	GSK10
GSK13 SPANNER	GSK13
GSK16 SPANNER	GSK16
GSK20 SPANNER	GSK20
GSK25 SPANNER	GSK25

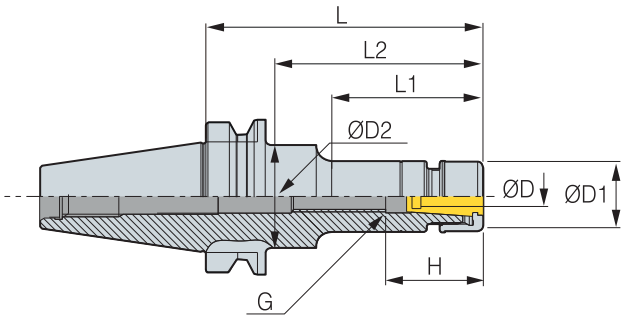
1:1 CHAT

BT-GSK

Great Speed Slim Type Collet Chuck



MAS 403-BT	G2.5	25,000	Ø25	C	HC		
Shank	G value	Max RPM	Max Dia	Coolant System	HC Collet	Milling	Drilling



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional.

※ Sealed collet is used when applying internal coolant

- For more information on product features, see 112P
- For more information on the related parts, see 117P
- For more information on the applicable collet, see 118P

	Designation	ØD	L	ØD1	ØD2	L1	L2	H	Collet	G	RPM	kg	Package Weight (kg)	Stock
BT30	BT30-GSK6-60	3.0~6.0	60	20	20	33	33	31	HC6	M8	25,000	0.4	0.4	●
	BT30-GSK6-90	3.0~6.0	90	20	32	56	65	31	HC6	M8	25,000	0.5	0.6	●
	BT30-GSK10-60	2.0~10.0	60	27	27	35	35	38	HC10	M12	25,000	0.5	0.6	●
	BT30-GSK10-90	2.0~10.0	90	27	27	65	65	38	HC10	M12	25,000	0.6	0.7	●
	BT30-GSK13-60	3.0~13.0	60	35	35	36	36	43	HC13	M12	25,000	0.6	0.7	●
	BT30-GSK16-60	3.0~16.0	60	40	40	37	37	52	HC16	M12	25,000	0.6	0.7	●
	BT30-GSK16-90	3.0~16.0	90	40	40	67	67	52	HC16	M18	25,000	0.8	0.9	●
	BT30-GSK25-90	16.0~25.0	90	55	55	68	68	64	HC25	M12	25,000	1.0	1.1	●
BT40	BT40-GSK6-90	3.0~6.0	90	20	32	51	61	31	HC6	M8	20,000	1.0	1.2	●
	BT40-GSK6-120	3.0~6.0	120	20	32	60	90	31	HC6	M8	20,000	1.2	1.5	●
	BT40-GSK6-150	3.0~6.0	150	20	25	60	120	31	HC6	M8	20,000	1.2	1.4	●
	BT40-GSK10-90	2.0~10.0	90	27	40	48	60	38	HC10	M12	20,000	1.1	1.3	●
	BT40-GSK10-120	2.0~10.0	120	27	40	73	90	38	HC10	M12	20,000	1.3	1.5	●
	BT40-GSK10-150	2.0~10.0	150	27	65	73	118	38	HC10	M12	20,000	1.4	1.6	●
	BT40-GSK13-90	3.0~13.0	90	35	35	59	59	43	HC13	M15	20,000	1.2	1.4	●
	BT40-GSK16-90	3.0~16.0	90	40	40	58	58	52	HC16	M18	20,000	1.3	1.5	●
	BT40-GSK16-120	3.0~16.0	120	40	40	88	88	52	HC16	M18	20,000	1.5	1.7	●
	BT40-GSK16-150	3.0~16.0	150	40	40	118	118	52	HC16	M18	20,000	1.8	2.0	●
	BT40-GSK20-90	4.0~20.0	90	48	48	60	60	60	HC20	M22	20,000	1.4	1.6	●
	BT40-GSK20-120	4.0~20.0	120	48	48	90	90	60	HC20	M22	20,000	1.8	2.0	●
	BT40-GSK25-90	16.0~25.0	90	55	55	61	61	64	HC25	M28	20,000	1.6	1.8	●
	BT40-GSK25-120	16.0~25.0	120	55	55	91	91	64	HC25	M28	20,000	2.0	2.2	●

(Unit : mm)

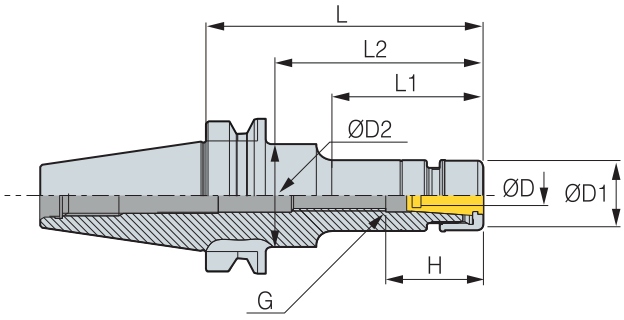
1:1 CHAT

BT-GSK

Great Speed Slim Type Collet Chuck



MAS 403-BT	G2.5	15,000	Ø25	C	HC		
Shank	G value	Max RPM	Max Dia	Coolant System	HC Collet	Milling	Drilling



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

※ Sealed collet is used when applying internal coolant

- For more information on product features, see 112P
- For more information on the related parts, see 117P
- For more information on the applicable collet, see 118P

BT50

Designation	ØD	L	ØD1	ØD2	L1	L2	H	Collet	G	RPM	kg	Package Weight (kg)	Stock
BT50-GSK6-105	3.0~6.0	105	20	32	55	64	31	HC6	M8	15,000	3.6	3.9	●
BT50-GSK6-135	3.0~6.0	135	20	32	60	92	31	HC6	M8	15,000	3.6	4.0	●
BT50-GSK6-165	3.0~6.0	165	20	32	60	114	31	HC6	M8	15,000	3.9	4.3	●
BT50-GSK10-105	2.0~10.0	105	27	27	57	57	38	HC10	M12	15,000	3.7	4.0	●
BT50-GSK10-135	2.0~10.0	135	27	32	70	92	38	HC10	M12	15,000	3.7	4.1	●
BT50-GSK10-165	2.0~10.0	165	27	36	75	114	38	HC10	M12	15,000	4.0	4.4	●
BT50-GSK13-135	3.0~13.0	135	35	35	92	92	43	HC13	M15	15,000	3.9	4.3	●
BT50-GSK16-105	3.0~16.0	105	40	40	62	62	52	HC16	M18	15,000	3.9	4.2	●
BT50-GSK16-135	3.0~16.0	135	40	40	92	92	52	HC16	M18	15,000	4.1	4.5	●
BT50-GSK16-165	3.0~16.0	165	40	50	40	122	52	HC16	M18	15,000	4.3	4.7	●
BT50-GSK20-105	4.0~20.0	105	48	-	-	62	60	HC20	M22	15,000	4.1	4.4	●
BT50-GSK20-135	4.0~20.0	135	48	-	-	92	60	HC20	M22	15,000	4.4	4.8	●
BT50-GSK20-165	4.0~20.0	165	48	-	-	122	60	HC20	M22	15,000	4.9	5.1	●
BT50-GSK25-105	16.0~25.0	105	55	55	62	62	64	HC25	M28	15,000	4.2	4.5	●
BT50-GSK25-135	16.0~25.0	135	55	55	92	92	64	HC25	M28	15,000	4.6	5.0	●
BT50-GSK25-165	16.0~25.0	165	55	55	122	122	64	HC25	M28	15,000	5.1	5.5	●

(Unit : mm)

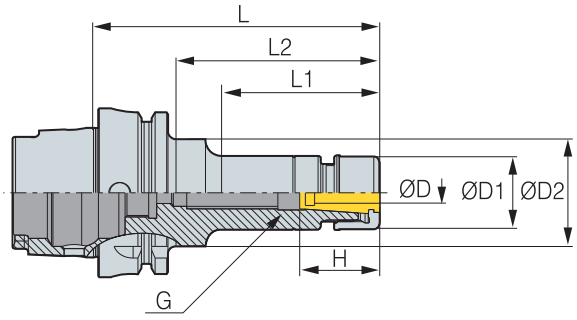
1:1 CHAT

HSK-GSK

Great Speed Slim Type Collet Chuck



DIN 69893-1	G2.5	20,000	Ø25	C	HC		
Shank	G value	Max RPM	Max Dia	Coolant System	HC Collet	Milling	Drilling



- ● : Stock
- H : Depth of tool insertion

C Internal coolant system is optional

※ Sealed collet is used when applying internal coolant

- For more information on product features, see 112P
- For more information on the related parts, see 117P
- For more information on the applicable collet, see 118P

	Designation	ØD	L	ØD1	ØD2	L1	L2	H	Collet	G	RPM	kg	Package Weight (kg)	Stock
HSK63A	HSK63A-GSK6-100	3.0~6.0	100	20	32	51	71	31	HC6	M8	20,000	0.8	1.0	●
	HSK63A-GSK10-105	2.0~10.0	105	27	35	60	76	38	HC10	M12	20,000	0.9	1.2	●
	HSK63A-GSK16-120	3.0~16.0	120	40	40	90	-	52	HC16	M18	20,000	1.3	1.5	●
	HSK63A-GSK20-120	4.0~20.0	120	48	48	92	-	60	HC20	M22	20,000	1.6	1.8	●
HSK100A	HSK100A-GSK6-120	3.0~6.0	120	19.5	32	70	88	31	HC6	M8	15,000	2.2	2.6	●
	HSK100A-GSK10-120	2.0~10.0	120	27	27	70	88	38	HC10	M12	15,000	2.3	2.7	●
	HSK100A-GSK16-140	3.0~16.0	140	40	40	105	-	52	HC16	M18	15,000	2.8	3.1	●
	HSK100A-GSK25-155	16.0~25.0	155	55	55	120	-	64	HC25	M28	15,000	3.6	4.0	●

(Unit : mm)

Accessories

SPARE PART

Type / Images / Designation	Accessories: Coolant Tube for HSK	Accessories: Wrench
		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

1:1 CHAT

SK-GSK

Great Speed Slim Type Collet Chuck



DIN69871 -1A/B	G2.5	20,000	Ø25	C	HC		
Shank	G value	Max RPM	Max Dia	Coolant System	HC Collet	Milling	Drilling

Fig.1

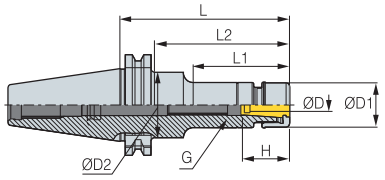


Fig.2

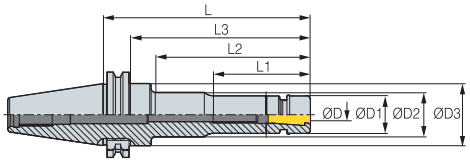
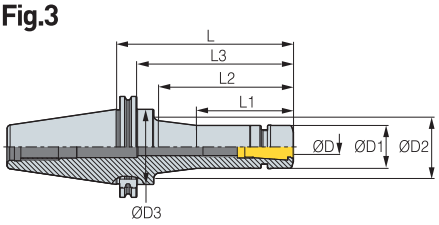


Fig.3



- ● : To be switched to NP order after stock depletion
- ● : Stock

C Internal coolant system is optional

※ Sealed collet is used when applying internal coolant

- For more information on product features, see 112P
- For more information on the related parts, see 117P
- For more information on the applicable collet, see 118P

	Designation	ØD	L	ØD1	ØD2	ØD3	L1	L2	L3	H	Collet	G	RPM	Fig.	kg	Package Weight (kg)	Stock
SK40	SK40-GSK6-60	3.0~6.0	60	20	-	-	41	-	-	31	HC6	M8	20,000	1	0.8	1.0	●
	SK40-GSK6-90	3.0~6.0	90	20	45	-	48	71	-	31	HC6	M8	20,000	1	1.0	1.2	●
	SK40-GSK10-90	2.0~10.0	90	27	45	-	50	71	-	38	HC10	M12	20,000	1	1.1	1.3	●
	SK40-GSK10-150	2.0~10.0	150	27	32	45	70	112	131	38	HC10	M12	20,000	2	1.3	1.6	●
	SK40-GSK16-90	3.0~16.0	90	40	-	-	68	-	-	52	HC16	M18	20,000	1	1.2	1.4	●
	SK40-GSK16-150	3.0~16.0	150	40	45	-	114	118	-	52	HC16	M18	20,000	1	1.7	2.0	●
	SK40-GSK20-90	4.0~20.0	90	48	-	-	71	-	-	60	HC20	M22	20,000	1	1.3	1.5	●
	SK40-GSK25-90	16.0~25.0	90	55	-	-	71	-	-	64	HC25	M28	20,000	1	1.3	1.5	●
SK50	SK50-GSK6-105	3.0~6.0	105	20	70	-	60	86	-	31	HC6	M8	15,000	1	3.1	3.4	●
	SK50-GSK6-165	3.0~6.0	165	20	32	70	60	120	15	31	HC6	M8	15,000	2	3.3	3.7	●
	SK50-GSK10-105	2.0~10.0	105	27	70	-	65	86	-	38	HC10	M12	15,000	1	3.2	3.5	●
	SK50-GSK10-165	2.0~10.0	165	27	32	70	75	120	15	38	HC10	M12	15,000	2	3.4	3.8	●
	SK50-GSK16-105	3.0~16.0	105	40	70	-	65	86	-	52	HC16	M18	15,000	1	3.4	3.7	●
	SK50-GSK16-165	3.0~16.0	165	40	50	70	90	126	15	52	HC16	M18	15,000	3	3.9	4.3	●
	SK50-GSK20-105	4.0~20.0	105	48	70	-	65	86	-	60	HC20	M22	15,000	1	3.6	3.9	●
	SK50-GSK20-165	4.0~20.0	165	48	70	-	125	146	-	60	HC20	M22	15,000	1	4.3	4.7	●
	SK50-GSK25-105	16.0~25.0	105	55	70	-	65	86	-	64	HC25	M28	15,000	1	3.7	4.0	●
	SK50-GSK25-165	16.0~25.0	165	55	70	-	125	146	-	64	HC25	M28	15,000	1	4.6	5.0	●

(Unit : mm)

1:1 CHAT

GSK SPARE PART

Great Speed Slim Collet Chuck Related Parts



Main Components

SPARE PART

Type / Images / Designation	Main Components		
	Nut	Adjust Screw	Extraction Tool
			
GSK6	GN6	BN0825	DSK-6CE
GSK10	GN10	BN1230	DSK-10CE
GSK13	GN13	BN1230(BT30) / BN1524F(ETC)	DSK-13CE
GSK16	GN16	BN1830F	DSK-16CE
GSK20	GN20	BN2230F	DSK-20CE
GSK25	GN25	BN2838F	DSK-25CE

Accessories

SPARE PART

Spanner	Applicable Chuck	Spanner Designation
	GSK6	GSK6 SPANNER
	GSK10	GSK10 SPANNER
	GSK13	GSK13 SPANNER
	GSK16	GSK16 SPANNER
	GSK20	GSK20 SPANNER
	GSK25	GSK25 SPANNER

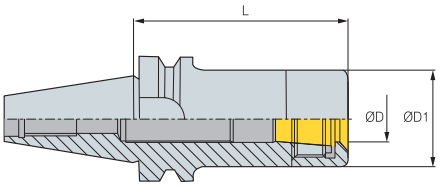
1:1 CHAT

BT-TSK

High Speed Slim Collet Chuck



MAS 403-BT Shank | G2.5 G value | 25,000 Max RPM | C Coolant System | Milling | Drilling | TAUMAX



• ● : Stock

C Internal coolant system is optional

	Designation	ØD	L	ØD1	Collet	Package Weight (kg)	Stock
BT30	BT30-TSK10-60	2.0~10.0	60	27.5	HC10	0.9	●
	BT30-TSK10-90	2.0~10.0	90	27.5	HC10	1	●
	BT30-TSK10-120	2.0~10.0	120	27.5	HC10	1.3	●
	BT30-TSK16-60	3.0~16.0	60	40	HC16	1.2	●
	BT30-TSK16-90	3.0~16.0	90	40	HC16	1.4	●
	BT30-TSK16-120	3.0~16.0	120	40	HC16	1.5	●
BT40	BT40-TSK10-90	2.0~10.0	90	27.5	HC10	1.2	●
	BT40-TSK16-90	3.0~16.0	90	40	HC16	1.5	●

(Unit : mm)

1:1 CHAT

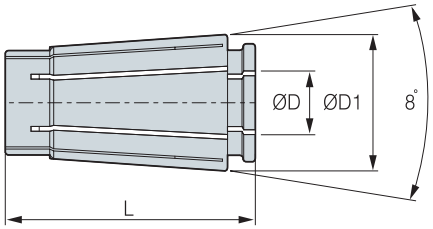
HC COLLET

HC Slim Collet (General Type)



General 5㎛ Run-out

HC Collet



• ● : Stock

	Designation	ØD	L	ØD1	Accuracy	Stock
HC6	HC6-3.0	3.0	25.0	10.5	5㎛	●
	HC6-4.0	4.0	25.0	10.5	5㎛	●
	HC6-5.0	5.0	25.0	10.5	5㎛	●
	HC6-6.0	6.0	25.0	10.5	5㎛	●
HC10	HC10-2.0	2.0	30.5	15.6	5㎛	●
	HC10-3.0	3.0	30.5	15.6	5㎛	●
	HC10-4.0	4.0	30.5	15.6	5㎛	●
	HC10-5.0	5.0	30.5	15.6	5㎛	●
	HC10-6.0	6.0	30.5	15.6	5㎛	●
	HC10-7.0	7.0	30.5	15.6	5㎛	●
	HC10-8.0	8.0	30.5	15.6	5㎛	●
	HC10-9.0	9.0	30.5	15.6	5㎛	●
	HC10-10.0	10.0	30.5	15.6	5㎛	●
HC13	HC13-3.0	3.0	39.0	20.1	5㎛	●
	HC13-4.0	4.0	39.0	20.1	5㎛	●
	HC13-5.0	5.0	39.0	20.1	5㎛	●
	HC13-6.0	6.0	39.0	20.1	5㎛	●
	HC13-7.0	7.0	39.0	20.1	5㎛	●
	HC13-8.0	8.0	39.0	20.1	5㎛	●
	HC13-9.0	9.0	39.0	20.1	5㎛	●
	HC13-10.0	10.0	39.0	20.1	5㎛	●
	HC13-11.0	11.0	39.0	20.1	5㎛	●
	HC13-12.0	12.0	39.0	20.1	5㎛	●
	HC13-13.0	13.0	39.0	20.1	5㎛	●
HC16	HC16-3.0	3.0	45.0	24.6	5㎛	●
	HC16-4.0	4.0	45.0	24.6	5㎛	●
	HC16-5.0	5.0	45.0	24.6	5㎛	●
	HC16-6.0	6.0	45.0	24.6	5㎛	●
	HC16-7.0	7.0	45.0	24.6	5㎛	●
	HC16-8.0	8.0	45.0	24.6	5㎛	●
	HC16-9.0	9.0	45.0	24.6	5㎛	●
	HC16-10.0	10.0	45.0	24.6	5㎛	●
	HC16-11.0	11.0	45.0	24.6	5㎛	●
	HC16-12.0	12.0	45.0	24.6	5㎛	●
	HC16-13.0	13.0	45.0	24.6	5㎛	●
	HC16-14.0	14.0	45.0	24.6	5㎛	●
	HC16-15.0	15.0	45.0	24.6	5㎛	●
	HC16-16.0	16.0	45.0	24.6	5㎛	●

(Unit : mm)

	Designation	ØD	L	ØD1	Accuracy	Stock
HC20	HC20-4.0	4.0	54.3	29.2	5㎛	●
	HC20-6.0	6.0	54.3	29.2	5㎛	●
	HC20-8.0	8.0	54.3	29.2	5㎛	●
	HC20-10.0	10.0	54.3	29.2	5㎛	●
	HC20-12.0	12.0	54.3	29.2	5㎛	●
	HC20-14.0	14.0	54.3	29.2	5㎛	●
	HC20-16.0	16.0	54.3	29.2	5㎛	●
	HC20-18.0	18.0	54.3	29.2	5㎛	●
	HC20-20.0	20.0	54.3	29.2	5㎛	●
HC25	HC25-16.0	16.0	57.0	35.7	5㎛	●
	HC25-17.0	17.0	57.0	35.7	5㎛	●
	HC25-18.0	18.0	57.0	35.7	5㎛	●
	HC25-19.0	19.0	57.0	35.7	5㎛	●
	HC25-20.0	20.0	57.0	35.7	5㎛	●
	HC25-21.0	21.0	57.0	35.7	5㎛	●
	HC25-22.0	22.0	57.0	35.7	5㎛	●
	HC25-23.0	23.0	57.0	35.7	5㎛	●
	HC25-24.0	24.0	57.0	35.7	5㎛	●
	HC25-25.0	25.0	57.0	35.7	5㎛	●

(Unit : mm)

Order Example · General Type – **Order as HC16-8.0** · Precision Type – **Order as HC16-8.0P**

※ Please contact us for items not in the catalog.

1:1 CHAT

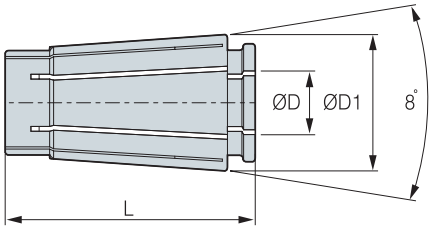
HC COLLET

HC Slim Collet (General Type)



Precision 3㎛ Run-out

HC Collet



• ● : Stock

	Designation	ØD	L	ØD1	Accuracy	Stock
HC6(P)	HC6-3.0P	3.0	25.0	10.5	3㎛	●
	HC6-4.0P	4.0	25.0	10.5	3㎛	●
	HC6-5.0P	5.0	25.0	10.5	3㎛	●
	HC6-6.0P	6.0	25.0	10.5	3㎛	●
HC10(P)	HC10-2.0P	2.0	30.5	15.6	3㎛	●
	HC10-3.0P	3.0	30.5	15.6	3㎛	●
	HC10-4.0P	4.0	30.5	15.6	3㎛	●
	HC10-5.0P	5.0	30.5	15.6	3㎛	●
	HC10-6.0P	6.0	30.5	15.6	3㎛	●
	HC10-7.0P	7.0	30.5	15.6	3㎛	●
	HC10-8.0P	8.0	30.5	15.6	3㎛	●
	HC10-9.0P	9.0	30.5	15.6	3㎛	●
	HC10-10.0P	10.0	30.5	15.6	3㎛	●
HC13(P)	HC13-3.0P	3.0	39.0	20.1	3㎛	●
	HC13-4.0P	4.0	39.0	20.1	3㎛	●
	HC13-5.0P	5.0	39.0	20.1	3㎛	●
	HC13-6.0P	6.0	39.0	20.1	3㎛	●
	HC13-7.0P	7.0	39.0	20.1	3㎛	●
	HC13-8.0P	8.0	39.0	20.1	3㎛	●
	HC13-9.0P	9.0	39.0	20.1	3㎛	●
	HC13-10.0P	10.0	39.0	20.1	3㎛	●
	HC13-11.0P	11.0	39.0	20.1	3㎛	●
	HC13-12.0P	12.0	39.0	20.1	3㎛	●
	HC13-13.0P	13.0	39.0	20.1	3㎛	●
HC16(P)	HC16-3.0P	3.0	45.0	24.6	3㎛	●
	HC16-4.0P	4.0	45.0	24.6	3㎛	●
	HC16-5.0P	5.0	45.0	24.6	3㎛	●
	HC16-6.0P	6.0	45.0	24.6	3㎛	●
	HC16-7.0P	7.0	45.0	24.6	3㎛	●
	HC16-8.0P	8.0	45.0	24.6	3㎛	●
	HC16-9.0P	9.0	45.0	24.6	3㎛	●
	HC16-10.0P	10.0	45.0	24.6	3㎛	●
	HC16-11.0P	11.0	45.0	24.6	3㎛	●
	HC16-12.0P	12.0	45.0	24.6	3㎛	●
	HC16-13.0P	13.0	45.0	24.6	3㎛	●
	HC16-14.0P	14.0	45.0	24.6	3㎛	●
	HC16-15.0P	15.0	45.0	24.6	3㎛	●
	HC16-16.0P	16.0	45.0	24.6	3㎛	●

(Unit : mm)

• ● : To be switched to NP order after stock depletion

	Designation	ØD	L	ØD1	Accuracy	Stock
HC20(P)	HC20-4.0P	4.0	54.3	29.2	3㎛	●
	HC20-6.0P	6.0	54.3	29.2	3㎛	●
	HC20-8.0P	8.0	54.3	29.2	3㎛	●
	HC20-10.0P	10.0	54.3	29.2	3㎛	●
	HC20-12.0P	12.0	54.3	29.2	3㎛	●
	HC20-14.0P	14.0	54.3	29.2	3㎛	●
	HC20-16.0P	16.0	54.3	29.2	3㎛	●
	HC20-18.0P	18.0	54.3	29.2	3㎛	●
	HC20-20.0P	20.0	54.3	29.2	3㎛	●
HC25(P)	HC25-16.0P	16.0	57.0	35.7	3㎛	●
	HC25-17.0P	17.0	57.0	35.7	3㎛	
	HC25-18.0P	18.0	57.0	35.7	3㎛	
	HC25-19.0P	19.0	57.0	35.7	3㎛	
	HC25-20.0P	20.0	57.0	35.7	3㎛	●
	HC25-21.0P	21.0	57.0	35.7	3㎛	
	HC25-22.0P	22.0	57.0	35.7	3㎛	
	HC25-23.0P	23.0	57.0	35.7	3㎛	
	HC25-24.0P	24.0	57.0	35.7	3㎛	
	HC25-25.0P	25.0	57.0	35.7	3㎛	●

(Unit : mm)

Order example · General Type – **Order as HC16-8.0** · Precision Type – **Order as HC16-8.0P**

※ Please contact us for items not in the catalog.

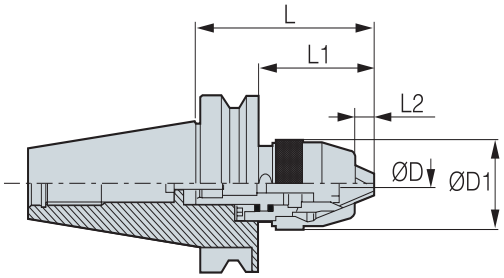
1:1 CHAT

BT-NPU

Drill Chuck



MAS 403-BT Shank | C Coolant System | Drilling



• ● : Stock

C This product does not support the internal coolant system

• For more information on the related parts, see 122P

	Designation	ØD	L	ØD1	L1	L2	kg	Package Weight (kg)	Stock
BT30	BT30-NPU8-97	1~8	97	38	75	8	0.8	0.9	●
	BT30-NPU13-125	1~13	125	50	103	12	1.4	1.6	●
BT40	BT40-NPU8-87	1~8	87	38	60	8	1.2	1.4	●
	BT40-NPU13-105	1~13	105	50	78	12	1.6	1.9	●
	BT40-NPU13-130	1~13	130	50	103	12	1.9	2.2	●
BT50	BT50-NPU13-130	1~13	130	50	92	12	4.5	4.9	●
	BT50-NPU13-190	1~13	190	50	152	12	5.3	5.7	●

(Unit : mm)

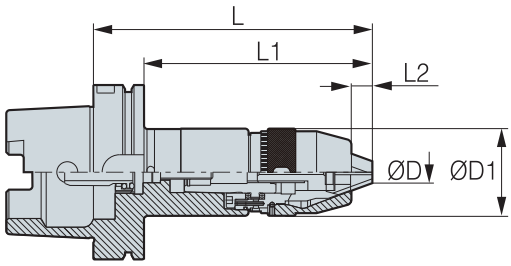
1:1 CHAT

HSK-NPU

Drill Chuck



DIN 69893-1 Shank | C Coolant System | Drilling



• ● : Stock

C This product does not support the internal coolant system

• For more information on the related parts, see 122P

	Designation	ØD	L	ØD1	L1	L2	kg	Package Weight (kg)	Stock
HSK63A	HSK63A-NPU13-175	1~13	175	50	149	12	2.4	2.6	●
HSK100A	HSK100A-NPU13-180	1~13	180	50	151	12	3.6	4.0	●

(Unit : mm)

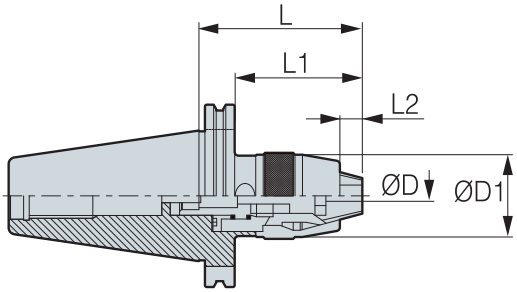
1:1 CHAT

SK-NPU

Drill Chuck



DIN69871 -1A/B Shank | C Coolant System | Drilling



• ● : Stock

C This product does not support the internal coolant system

• For more information on the related parts, see 122P

	Designation	ØD	L	ØD1	L1	L2	kg	Package Weight (kg)	Stock
SK40	SK40-NPU13-105	1~13	105	50	78	12.5	1.6	1.8	●
SK50	SK50-NPU13-111	1~13	111	50	84	12.5	3.6	3.9	●

(Unit : mm)

1:1 CHAT

NPU SPARE PART

Drill Chuck Related Parts



SPARE PART

Type	Main Components		Accessories
	Drill Chuck Head	Bolt	Spanner
Images / Designation			
NPU8	NPU8	BX0620	NPU0836
NPU13	NPU13	BX0825	NPU1348

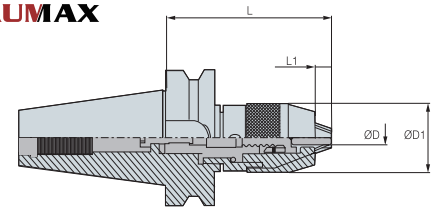
1:1 CHAT

BT-TNPU

Drill Chuck



MAS 403-BT Shank | C Coolant System | Drilling | TAUMAX



• ● : Stock

C This product does not support the internal coolant system

	Designation	ØD	ØD1	L	L1	Package Weight (kg)	Stock
BT30	BT30-TNPU08-75	0.3-8	38	84.5	7.5	0.7	●
BT40	BT40-TNPU08-80	0.3-8	38	87.5	7.5	1.3	●
	BT40-TNPU13-90	0.3-13	50	102.5	12.5	1.7	●
	BT40-TNPU13-130	0.3-13	50	142.5	12.5	2.2	●
BT50	BT50-TNPU13-110	0.3-13	50	122.5	12.5	4.4	●
	BT50-TNPU13-130	0.3-13	50	142.5	12.5	4.7	●
	BT50-TNPU13-190	0.3-13	50	202.5	12.5	5.4	●

* Min. tool insertion depth
– TNPU08 : 20mm or above / – TNPU13 : 30mm or above

(Unit : mm)

1:1 CHAT

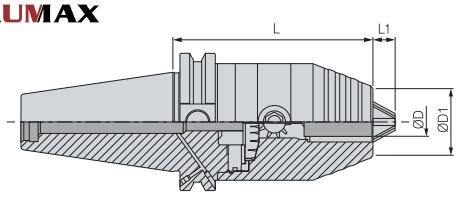
SK-THPU

NEW

Hex Key Drill Chuck



MAS 403-BT Shank | C Coolant System | Drilling | TAUMAX



• ● : Stock

C This product does not support the internal coolant system

	Designation	ØD	ØD1	L	L1	Package Weight (kg)	Stock
SK40	SK40-THPU13-90	0.3-13	50	90	11	1.5	●
	SK40-THPU16-95	1.5-16	50	95	9	1.6	●
SK50	SK50-THPU13-90	0.3-13	50	90	11	4.0	●
	SK50-THPU16-95	1.5-16	50	95	9	4.0	●

* Min. tool insertion depth
– THPU13 : 30mm or above / – THPU16 : 40mm or above

(Unit : mm)

SPARE PART

Type	Accessories
	Wrench
Images	
Designation	
SK40	THPUTW-6
SK50	THPUTW-6

1:1 CHAT

DTN

Tapping Holder



C Coolant System

Tapping



Features

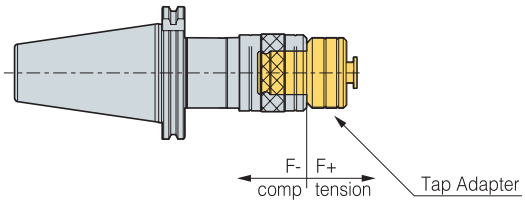
- Quick and convenient modular tool change using exclusive adapter
- Increased tap life in general machining center through the tension function
- Tapping range : M3-M38

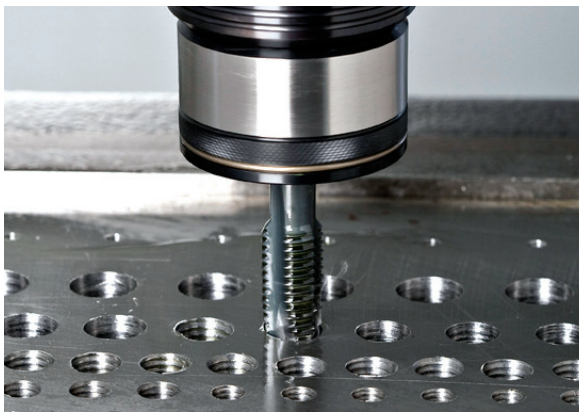
NAMING

BT40	–	DTN	22	–	130
Spindle		Tapping Holder	Tapping Range		Length

Easy TCA (Tap Adapter) Change

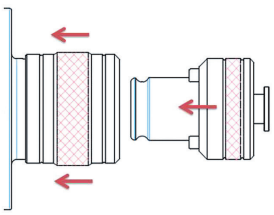
- One-touch-replaceable adapter with high-precision level and long lifespan
- Quick exchange of tabs for each diameter and applicable for various machining
- Enables tensile contraction using the axial direction floating method





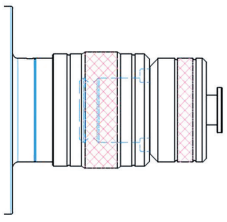
How to Tighten

TCA Insertion



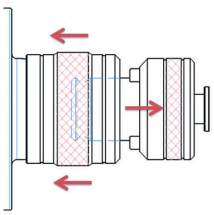
1. Insert TCA after pressing the tap holder cover down
2. Connect TCA to be aligned with the key groove and press it until the sound "click" is heard.

TCA Mounting



1. The tap holder cover is put in the normal position.

TCA Removal



1. Remove TCA after pressing the tap holder cover.

※ DTN12, DTN22 : Remove them by pulling the sliding ring down. ※ DTN38 : Remove it by pulling the adapter forward.

1:1 CHAT

BT-DTN

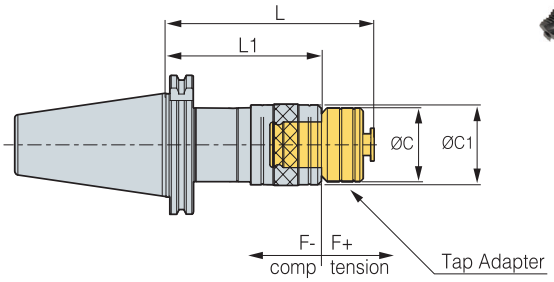
Tapping Holder



MAS 403-BT
Shank

C
Coolant System

Tapping



• ● : Stock
C This product does not support the internal coolant system

• For more information on product features, see 124P
• For more information on the applicable adapter, see 127P

	Designation	Tap Size	ØC	L	ØC1	L1	Adapter Used	F−	F+	kg	Package Weight(kg)	Stock
BT30	BT30-DTN12-85	M3~M12	32	85	39	60	TCA1-M	4	10	0.5	0.7	●
BT40	BT40-DTN12-90	M3~M12	32	90	39	65	TCA1-M	4	10	1.2	1.4	●
	BT40-DTN12-120	M3~M12	32	120	39	95	TCA1-M	4	10	1.5	1.7	●
	BT40-DTN22-130	M8~M24	50	130	56	96	TCA2-M	12.5	12.5	1.7	1.9	●
	BT40-DTN22-160	M8~M24	50	160	56	126	TCA2-M	12.5	12.5	2.2	2.4	●
BT50	BT50-DTN12-100	M3~M12	32	100	39	75	TCA1-M	4	10	3.9	4.2	●
	BT50-DTN12-130	M3~M12	32	130	39	105	TCA1-M	4	10	3.9	4.3	●
	BT50-DTN22-140	M8~M24	50	140	56	106	TCA2-M	12.5	12.5	4.3	4.7	●
	BT50-DTN22-170	M8~M24	50	170	56	136	TCA2-M	12.5	12.5	4.7	5.1	●
	BT50-DTN38-185	M16~M38	72	185	81	140	TCA3-M	20	20	5.7	6.1	●
	BT50-DTN38-215	M16~M38	72	215	81	170	TCA3-M	20	20	6.7	7.1	●

(Unit : mm)

1:1 CHAT

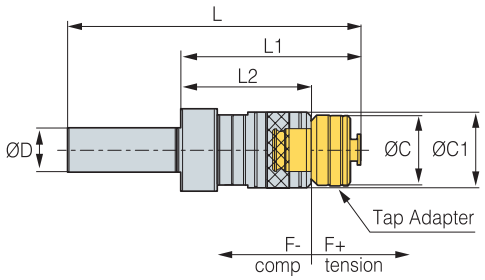
S-DTN

Straight Shank Tapping Holder



C Coolant System

Tapping



• ● : Stock

C This product does not support the internal coolant system

• For more information on product features, see 124P

• For more information on the applicable adapter, see 127P

	Designation	Tapping Range	ØC	ØD	L	ØC1	L1	L2	Adapter Used	F−	F+	kg	Package Weight (kg)	Stock
S32	S32-DTN12-90	M3-M12	32	32	170	39	90	65	TCA1	4	10	1.0	1.1	●
	S32-DTN22-130	M8-M24	50	32	210	56	130	96	TCA2	12.5	12.5	1.8	1.9	●

(Unit : mm)

1:1 CHAT

SK-DTN

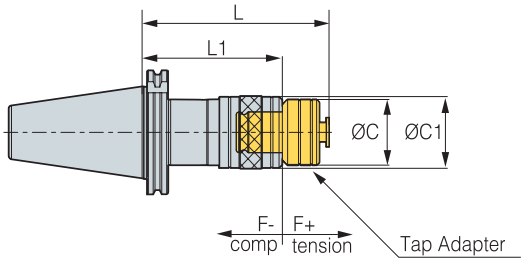
Tapping Holder



DIN69871 -1A/B Shank

C Coolant System

Tapping



• ● : Stock

C This product does not support the internal coolant system

• For more information on product features, see 124P

• For more information on the applicable adapter, see 127P

	Designation	Tap Size	ØC	L	ØC1	L1	Adapter Used	F−	F+	kg	Package Weight (kg)	Stock
SK40	SK40-DTN12-90	M3~M12	32	90	39	65	TCA1-M	4	10	1.0	1.2	●
	SK40-DTN22-130	M8~M22	50	130	56	96	TCA2-M	12.5	12.5	1.6	1.8	●
SK50	SK50-DTN12-100	M3~M12	32	100	39	75	TCA1-M	4	10	2.9	3.2	●
	SK50-DTN22-140	M8~M22	50	140	56	106	TCA2-M	12.5	12.5	3.5	3.9	●

(Unit : mm)

1:1 CHAT

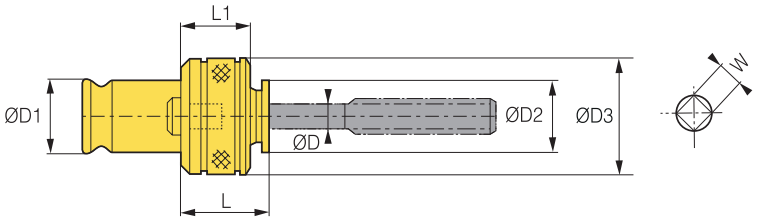
TCA

Tap Adapter



C Coolant System

Tapping



• ● : Stock

C This product does not support the internal coolant system

※ DIN standards can be made to order

• For more information on product features, see 124P.

	Designation	ØD	L	ØD1	L1	ØD2	ØD3	W	kg	Package Weight (kg)	Stock
TCA1	TCA1-M3	4	27	19	25	19	32	3	0.2	0.2	●
	TCA1-M4	5	27	19	25	19	32	4	0.2	0.2	●
	TCA1-M5	6	27	19	25	19	32	4	0.2	0.2	●
	TCA1-M6	6	27	19	25	19	32	4	0.2	0.2	●
	TCA1-M8	6.2	27	19	25	19	32	5	0.2	0.2	●
	TCA1-M10	7	27	19	25	19	32	6	0.2	0.2	●
	TCA1-M11	8	27	19	25	19	32	6	0.2	0.2	●
	TCA1-M12	9	27	19	25	19	32	7	0.2	0.2	●
TCA2	TCA2-M8	6.2	34	31	31	29	50	5	0.5	0.5	●
	TCA2-M10	7	34	31	31	29	50	6	0.5	0.5	●
	TCA2-M12	8.5	34	31	31	29	50	7	0.5	0.5	●
	TCA2-M14	11	34	31	31	29	50	8	0.5	0.5	●
	TCA2-P1/4	11	34	31	31	29	50	9	0.5	0.5	●
	TCA2-M16	13	34	31	31	29	50	10	0.5	0.5	●
	TCA2-M18	14	34	31	31	29	50	11	0.5	0.5	●
	TCA2-M20	15	34	31	31	29	50	12	0.5	0.5	●
	TCA2-M22	17	34	31	31	29	50	13	0.5	0.5	●
	TCA2-P1/2	18	34	31	31	29	50	14	0.5	0.5	●
	TCA2-M24	19	34	31	31	29	50	15	0.5	0.5	●
TCA3	TCA3-M16	13	45	48	41	44	72	10	1.4	1.6	●
	TCA3-M18	14	45	48	41	44	72	11	1.4	1.6	●
	TCA3-M20	15	45	48	41	44	72	12	1.4	1.6	●
	TCA3-M22	17	45	48	41	44	72	13	1.4	1.6	●
	TCA3-M24	19	45	48	41	44	72	15	1.4	1.6	●
	TCA3-M27	20	45	48	41	44	72	15	1.4	1.6	●
	TCA3-M30	23	45	48	41	44	72	17	1.4	1.6	●
	TCA3-M33	25	45	48	41	44	72	19	1.4	1.6	●
	TCA3-M36	28	45	48	41	44	72	21	1.4	1.6	●

(Unit : mm)

1:1 CHAT

DST PAT.

High Speed Synchro Tapping Chuck



C Coolant System | TER Collet | Tapping



Features

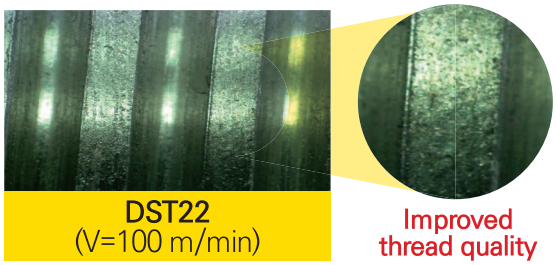
- Optimized floating design allows for the highest high-speed tap machinability
- Design for minimizing synchronous error (when using the MCT TAP rigid function)
- Internal coolant applicable
- Tapping range : M1 – M22

NAMING

BT40	–	DST	22	–	110
Spindle		Tapping Holder	Tapping Range		Length

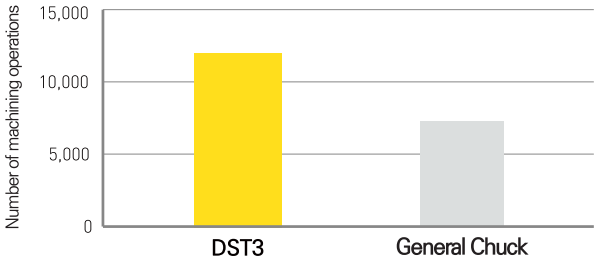
Precise Machining

Machining Range Expanded





M1.4x0.3 Service Life Test



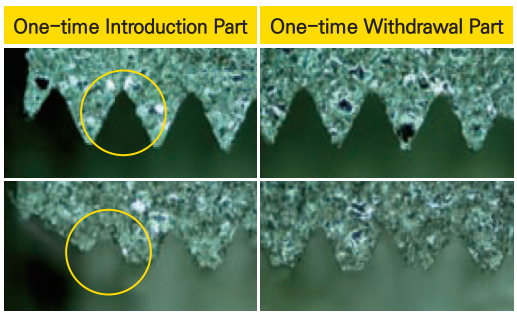
Increased Tool Service Life versus Collet Chuck Use

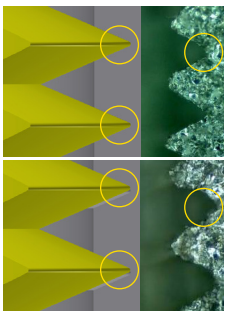
Tapping Dedicated Collet

- In the case of tapping, it is recommended to use TER collet
- DST3 : ER11 collet used



Comparison of Thread Shape





Synchro Tap Chuck (DST3)

Clean thread shape without collapse

General Collet Chuck

Collapsed thread due to no adjustment for synchro error

C Internal coolant system is optional

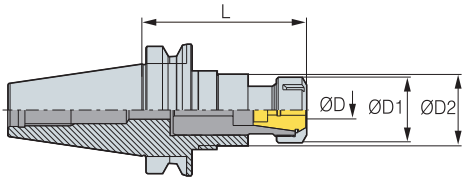
1:1 CHAT

BT-DST

High Speed Synchro Tapping Chuck



MAS 403-BT Shank | C Coolant System | TER Collet | Tapping



• For more information on product features, see 128P
• For more information on ER collet, see 100P
• For more information on TER collet, see 131P

• ● : Stock
C Internal coolant system is optional

	Designation	ØD	L	ØD1	ØD2	Collet Used	F−	F+	kg	Package Weight (kg)	Stock
BT30	BT30-DST3-70	M1~M3	70	20	19	ER11	0.5	0.5	0.5	0.5	●
	BT30-DST10-100	M3~M10	100	40.4	28	TER16	0.5	0.5	0.8	0.9	●
BT40	BT40-DST3-70	M1~M3	70	20	19	ER11	0.5	0.5	1.0	1.1	●
	BT40-DST10-100	M3~M10	100	40.4	28	TER16	0.5	0.5	1.3	1.4	●
	BT40-DST22-110	M6~M22	110	60	50	TER32	0.7	0.7	1.7	2.0	●
BT50	BT50-DST10-110	M3~M10	110	60	50	TER16	0.5	0.5	3.8	4.1	●
	BT50-DST22-130	M6~M22	130	60	50	TER32	0.7	0.7	4.5	4.9	●

(Unit : mm)

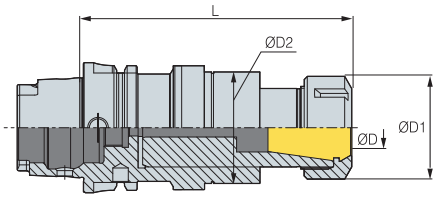
1:1 CHAT

HSK-DST

High Speed Synchro Tapping Chuck



DIN 69893-1 Shank | C Coolant System | TER Collet | Tapping



• For more information on product features, see 128P
• For more information on ER collet, see 100P
• For more information on TER collet, see 131P
• For more information on Internal coolant system, see 130P

• ● : Stock
C Internal coolant system is optional

	Designation	ØD	L	ØD1	ØD2	Collet Used	F−	F+	kg	Package Weight (kg)	Stock
HSK63A	HSK63A-DST3-80	M1~M3	80	19	20	ER11	0.5	0.5	0.7	0.8	
	HSK63A-DST10-100	M3~M10	100	28	40.4	TER16	0.5	0.5	0.9	1.2	●
	HSK63A-DST22-130	M6~M22	130	49.5	60	TER32	0.7	0.7	1.8	2.0	●

(Unit : mm)

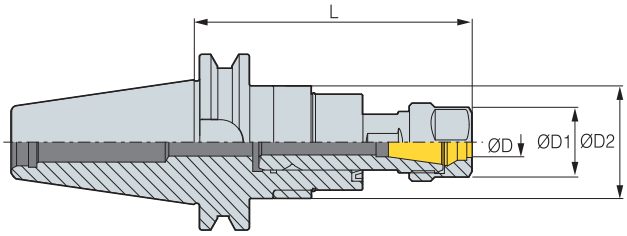
1:1 CHAT

SK-DST

High Speed Synchro Tapping Chuck



DIN69871 -1A/B — Shank
C — Coolant System
Tapping
TER Collet — TER Collet



- For more information on product features, see 128P
- For more information on ER collet, see 100P
- For more information on TER collet, see 131P

- ● : Stock
- C Internal coolant system is optional

	Designation	ØD	L	ØD1	ØD2	Collet Used	F−	F+	kg	Package Weight (kg)	Stock
SK30	SK30-DST3-70	M1~M3	70	19	20	ER11	0.2	0.2	0.4	0.5	●
SK40	SK40-DST3-70	M1~M3	70	19	20	ER11	0.2	0.2	0.9	1.0	
	SK40-DST10-110	M3~M10	110	28	35	TER16	0.5	0.5	1.2	1.4	●
	SK40-DST22-120	M6~M22	120	50	54	TER32	0.7	0.7	1.8	2.1	●
SK50	SK50-DST10-110	M3~M10	110	28	35	TER16	0.5	0.5	3.0	3.3	●
	SK50-DST22-120	M6~M22	120	50	54	TER32	0.7	0.7	3.7	4.1	●

(Unit : mm)

1:1 CHAT

DST SPARE PART

High Speed Synchro Tapping Chuck Related Parts

SPARE PART

Type	Main Components		Accessories				Type	Accessories	
	Nut		Spanner		ER/TER			Coolant Tube for HSK	Wrench
Images / Designation							Images / Designation		
DST3	R11		S-17		GERC11/ER11-ØD		HSK50A	HSK50A-CNS	HSK50-WRENCH(C)
DST10	R16		S-25			TER16-ØD	HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
DST22		RU32		48-52		TER32-ØD	HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

1:1 CHAT

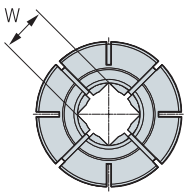
TER

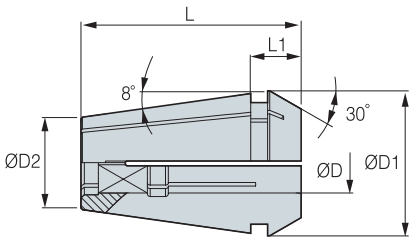
TER Collet



TER Collet







• ● : Stock

※ Waterproof type tapping is possible by using RTJW and RUT nuts (standard dimension only)

	Designation	Tap Applied	ØD	L	W	ØD1	ØD2	L1	kg	Package Weight (kg)	Stock
TER16	TER16-4x3.2	M3	4	27.5	3.2	16.74	10.1	6.3	0.03	0.03	●
	TER16-5x4	M4	5	27.5	4	16.74	10.1	6.3	0.03	0.03	●
	TER16-5.5x4.5	M5	5.5	27.5	4.5	16.74	10.1	6.3	0.02	0.02	●
	TER16-6x4.5	M6,U1/4	6	27.5	4.5	16.74	10.1	6.3	0.02	0.02	●
	TER16-6.2x5	M7, M8	6.2	27.5	5	16.74	10.1	6.3	0.02	0.02	●
	TER16-7x5.5	M9, M10, U3/8	7	27.5	5.5	16.74	10.1	6.3	0.02	0.02	●
TER20	TER20-5x4	M4	5	31.5	4	20.74	13.2	7.2	0.05	0.05	●
	TER20-5.5x4.5	M5	5.5	31.5	4.5	20.74	13.2	7.2	0.05	0.05	●
	TER20-6x4.5	M6,U1/4	6	31.5	4.5	20.74	13.2	7.2	0.05	0.05	●
	TER20-6.2x5	M7, M8	6.2	31.5	5	20.74	13.2	7.2	0.04	0.04	●
	TER20-7x5.5	M9, M10, U3/8	7	31.5	5.5	20.74	13.2	7.2	0.05	0.05	●
	TER20-8x6	M11, U7/16, P1/8	8	31.5	6	20.74	13.2	7.2	0.04	0.04	●
	TER20-8.5x6.5	M12	8.5	31.5	6.5	20.74	13.2	7.2	0.04	0.04	●
TER25	TER25-5x4	M4	5	34	4	25.74	17.6	7.5	0.9	0.9	●
	TER25-5.5x4.5	M5	5.5	34	4.5	25.74	17.6	7.5	0.8	0.8	●
	TER25-6x4.5	M6	6	34	4.5	25.74	17.6	7.5	0.8	0.8	●
	TER25-6.2x5	M7, M8	6.2	34	5	25.74	17.6	7.5	0.1	0.1	●
	TER25-7x5.5	M9, M10, U3/8	7	34	5.5	25.74	17.6	7.5	0.8	0.8	●
	TER25-8.5x6.5	M12	8.5	34	6.5	25.74	17.6	7.5	0.8	0.8	●
TER32	TER32-6x4.5	M6,U1/4	6.2	40	4.5	32.74	23.1	8.2	0.2	0.2	●
	TER32-6.2x5	M7, M8	6.2	40	5	32.74	23.1	8.2	0.2	0.2	●
	TER32-7x5.5	M9, M10, U3/8	7	40	5.5	32.74	23.1	8.2	0.2	0.2	●
	TER32-8X6	M11, U7/16, P1/8	8	40	6	32.74	23.1	8.2	0.2	0.2	●
	TER32-8.5x6.5	M12	8.5	40	6.5	32.74	23.1	8.2	0.2	0.2	●
	TER32-10.5x8	M14, U9/16	10.5	40	8	32.74	23.1	8.2	0.2	0.2	●
	TER32-12.5x10	M16	12.5	40	10	32.74	23.1	8.2	0.2	0.2	●
	TER32-9x7	U1/2	9	40	7	32.74	23.1	8.2	0.2	0.2	●
	TER32-11x9	P1/4	11	40	9	32.74	23.1	8.2	0.2	0.2	●
	TER32-12x9	U5/8	12	40	9	32.74	23.1	8.2	0.2	0.2	●
	TER32-14x11	M18, P3/8	14	40	11	32.74	23.1	8.2	0.1	0.1	●
	TER32-15x12	M20	15	40	12	32.74	23.1	8.2	0.1	0.1	●
	TER32-17x13	M22, U7/8	17	40	13	32.74	23.1	8.2	0.1	0.1	●

(Unit : mm)

1:1 CHAT

TEH NEW

Tap Extension Holder



Coolant System Tapping



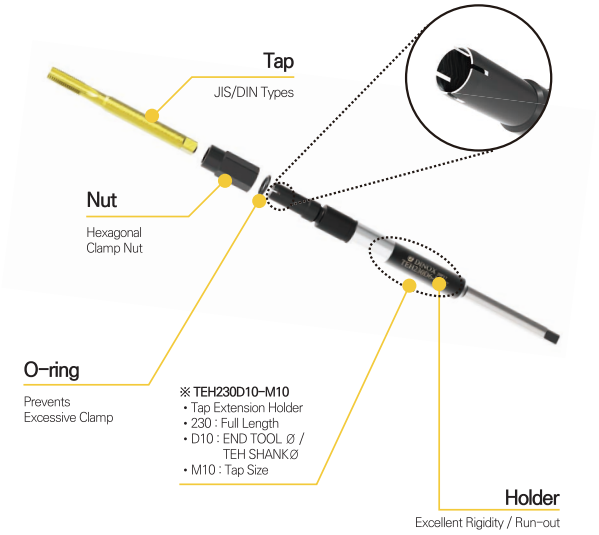
Features

- Length-extending holder exclusive for tap when applying to the interference section
- Tool cost is reduced, and machining performance is improved compared to the use of long taps

NAMING

THE	230	D6	J	–	M6	C
Tap Extension Holder	Length	Shank Dia.	J : JIS NON : DIN		Tap Size	C : Coolant NON : None Coolant

Part Name

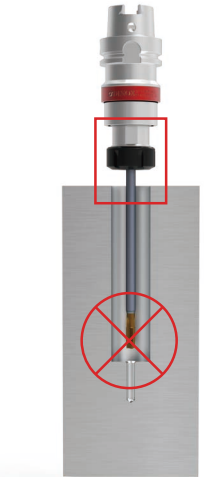


Processing of Deep Holes



TEH

With Machining



General Long Tap

No Machining

Total Length Comparison	Long Tap	TEH
M10	150mm	230mm
M22	200mm	330mm

※Since the full length is longer than that of the general long tap, it is favorable for processing narrow, deep holes.

TEH Setting Method



DST
High Speed Synchro Tapping Chuck

TER Collet

TEH
Tap Extension Holder

Tap
(M4~M22)

1:1 CHAT

TEH(SPEC/JIS) NEW

Tap Extension Holder



Coolant System Tapping

Fig.1

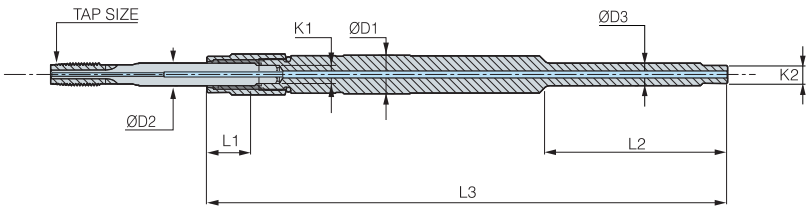
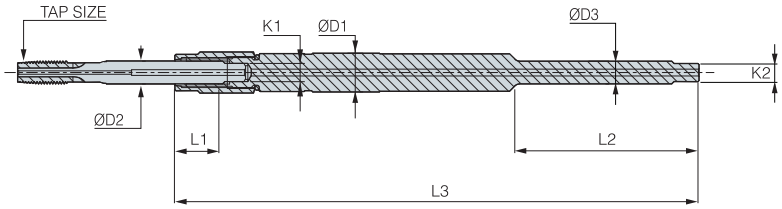


Fig.2



C Internal coolant system is basic

C This product does not support the internal coolant system
(Fig.2 Designation is non-coolant type)

• For more information on product features, see 132P

	Designation (JIS Specifications)	Tap Size	L1	L2	L3	ØD1	ØD2	ØD3	K1	K2	Nut External Dia. Ø	Fig.	Stock
TEH230	TEH230D5J-M4	M4	18	50	230	11	5	6	4	4.5	12.1	2	
	TEH230D6J-M6C	M6	18	50	230	12	6	6	4.5	4.5	13.3	1	
	TEH230D6.2J-M8C	M8	18	65	230	12	6.2	6.2	5	5	13.3	1	
	TEH230D7J-M10C	M10	18	65	230	13	7	7	5.5	5.5	14.4	1	
	TEH230D8.5J-M12C	M12	22	65	230	14	8.5	8.5	6.5	6.5	15.6	1	
TEH330	TEH330D10.5J-M14C	M14	25	70	330	16	10.5	10.5	8	8	17.9	1	
	TEH330D12.5J-M16C	M16	25	70	330	18	12.5	12.5	10	10	19.9	1	
	TEH330D14J-M18C	M18	25	70	330	20	14	14	11	11	21.9	1	
	TEH330D15J-M20C	M20	25	75	330	21	15	15	12	12	22.9	1	
	TEH330D17J-M22C	M22	25	75	330	23	17	17	13	13	25.9	1	

(Unit : mm)

1:1 CHAT

TEH(SPEC/DIN) NEW

Tap Extension Holder



Coolant System Tapping

Fig.1

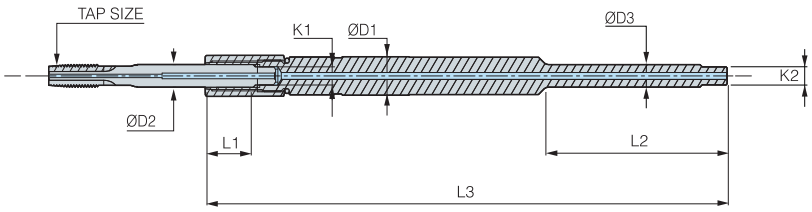
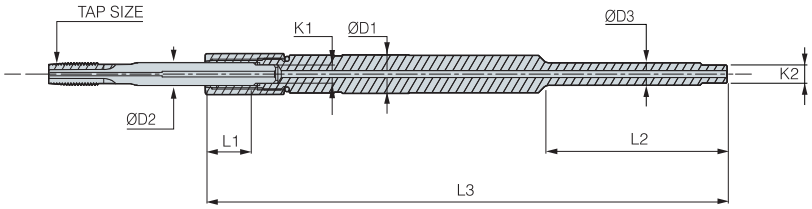


Fig.2



C Internal coolant system is basic

C This product does not support the internal coolant system
(Fig.2 Designation is non-coolant type)

• For more information on product features, see 132P

	Designation (DIN Specifications)	Tap Size	L1	L2	L3	ØD1	ØD2	ØD3	K1	K2	Nut External Dia. Ø	Fig.	Stock
TEH230	TEH230D4.5-M4	M4	18	50	230	10	4.5	6	3.4	4.5	11.1	2	
	TEH230D6-M6C	M6	20	50	230	12	6	7	4.9	5.5	13.3	1	
	TEH230D8-M8C	M8	23	65	230	14	8	8	6.3	6.2	15.6	1	
	TEH230D10-M10C	M10	24	65	230	16	10	10	8	8	17.9	1	
	TEH230D9-M12C	M12	23	65	230	15	9	9	7	7	16.8	1	
TEH330	TEH330D11-M14C	M14	26	70	330	17	11	11	9	9	19.1	1	
	TEH330D12-M16C	M16	26	70	330	18	12	12	9	9	19.9	1	
	TEH330D14-M18C	M18	28	70	330	20	14	14	11	11	21.9	1	
	TEH330D16-M20C	M20	28	75	330	22	16	16	12	12	23.9	1	
	TEH330D18-M22C	M22	28	75	330	24	18	18	14.5	14.5	25.9	1	

(Unit : mm)

1:1 CHAT

STER PAT. NEW

DINE Synchro Tapping ER Collet



Features

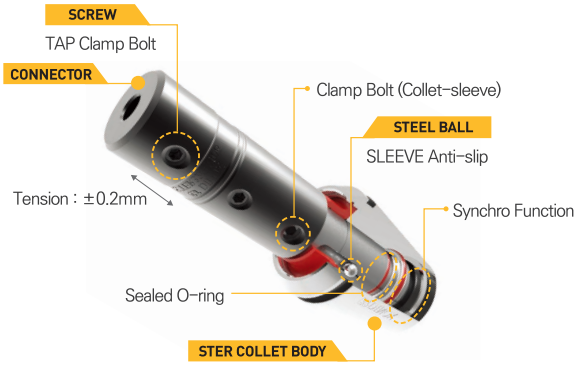
- Floating function applicable for tap machining just by fastening the ER collet chuck
- Tap size can be converted just by replacing the connector
- Tap : M6~M16

NAMING

ST	ER	32	M6
Synchronizing Tapping Collet	Collet	Collet Size	Tapping Range

Details

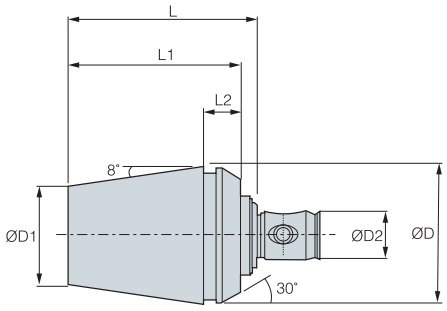
STER32



Detailed Specifications

Collet

Fig.1



Connector

Fig.1

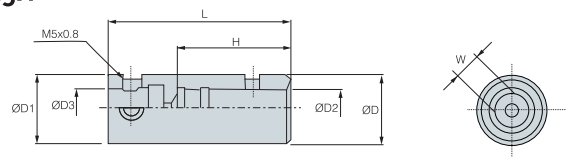
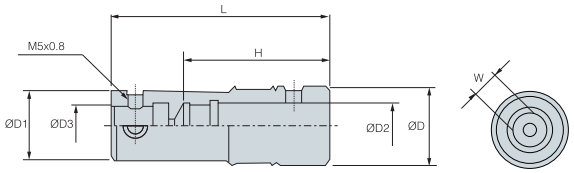


Fig.2



※ Collet

• ● : Stock

Designation	ØD	ØD1	ØD2	ØD3	L	L1	L2	Stock
STER32	32	23.1	11	11	44	40	8.2	●

(Unit : mm)

※ Connector

• ● : Stock

Designation	ØD	ØD1	ØD2	ØD3	L	H	W	Fig.	Stock
STER32C-M6	19	19	6	11	50	29.5	4.5	1	●
STER32C-M8	19	19	6.2	11	50	30	5	1	●
STER32C-M10	19	19	7	11	50	29	5.5	1	●
STER32C-M12	19	19	8.5	11	50	30.5	6.5	1	●
STER32C-M14	19	19	10.5	11	50	31	8	1	●
STER32C-M16	19	21	12.5	11	50	40.5	10	2	●

(Unit : mm)

Part(Screw)
BTT0506F



BT0504



Part(Screw)
LW-2.5



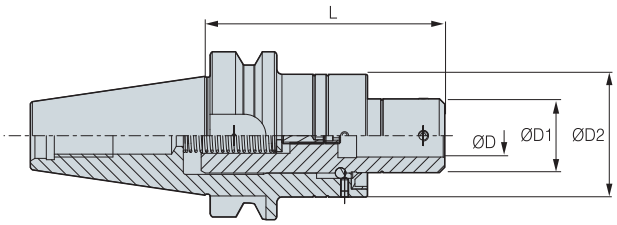
1:1 CHAT

BT-OFH

Floating Holder for Brush



MAS 403-BT	G6.3	15,000	6mm	C	
Shank	G value	Max RPM	Sleeve	Coolant System	Deburring



• ● : Stock

C This product does not support the internal coolant system

BT30

Designation	Sleeve Dia. (ØD)	L	ØD1	ØD2	Sleeve Stroke(F)	RPM	Stock
BT30-OFH6-75	6	75	19.7	38	6	15,000	●

(Unit : mm)

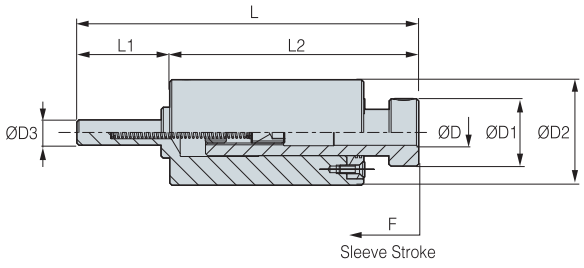
1:1 CHAT

ST-OFH

Floating Holder for Brush



G6.3	15,000	6mm	C	
G value	Max RPM	Sleeve	Coolant System	Deburring



• ● : Stock

C This product does not support the internal coolant system

ST06

Designation	Sleeve Dia. (ØD)	L	ØD1	ØD2	ØD3	L1	L2	Sleeve Stroke(F)	RPM	Stock
ST06-OFH6-60	6	81	16	25	6	59	22	6	15,000	●

(Unit : mm)



Arbor/ Modular

DINE TOTAL TOOLING SOLUTION

SLA	138
TSLA	142
MTA	143
TMTA	143
FMA	144
TFMA	147
FMC	148
TFMC	152
TFMC-L	153
MD	154
TMD	161
EXT	162
RDC	162

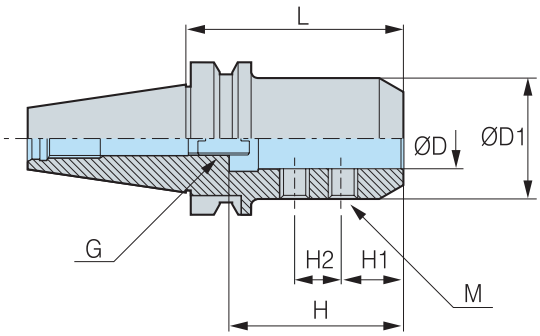
1:1 CHAT

BT-SLA

Side Lock Arbor



MAS 403-BT Shank | C Coolant System | Milling | Drilling



• ● : Stock

C Internal coolant system is basic

• For more information on the related parts, see 141P

	Designation	ØD	L	ØD1	H	H1	H2	M	G	kg	Package Weight(kg)	Stock
BT30	BT30-SLA16-90	16	90	40	72	25	20	M10	M12	0.9	1.0	●
	BT30-SLA20-90	20	90	50	72	25	20	M12	M12	1.2	1.3	●
	BT30-SLA25-90	25	90	50	72	25	20	M12	M12	1.1	1.2	●
BT40	BT40-SLA16-90	16	90	40	72	25	20	M10	M12	1.4	1.6	●
	BT40-SLA20-90	20	90	50	72	25	20	M12	M12	1.8	2.0	●
	BT40-SLA25-90	25	90	50	72	25	20	M12	M12	1.6	1.8	●
	BT40-SLA32-90	32	90	60	82	25	25	M14	M12	1.8	2.0	●
	BT40-SLA32-105	32	105	60	82	25	25	M14	M12	2.0	2.3	●
	BT40-SLA40-105	40	105	80	82	25	25	M16	M12	2.9	3.1	●
BT50	BT50-SLA16-90	16	90	40	72	25	20	M10	M12	4.0	4.3	
	BT50-SLA20-105	20	105	50	72	25	20	M12	M12	4.4	4.7	●
	BT50-SLA25-105	25	105	50	72	25	20	M12	M12	4.3	4.6	●
	BT50-SLA25-135	25	135	50	72	25	20	M12	M12	4.6	4.9	
	BT50-SLA25-165	25	165	50	72	25	20	M12	M12	5.2	5.5	
	BT50-SLA32-105	32	105	60	82	25	25	M14	M12	4.5	4.8	●
	BT50-SLA32-135	32	135	60	82	25	25	M14	M12	5.1	5.4	
	BT50-SLA32-165	32	165	60	82	25	25	M14	M12	5.7	6.1	
	BT50-SLA40-105	40	105	90	82	25	25	M16	M12	6.1	6.4	●
	BT50-SLA40-150	40	150	90	82	25	25	M16	M12	8.1	8.5	
	BT50-SLA42-105	42	105	90	82	25	25	M16	M12	5.9	6.2	●

(Unit : mm)

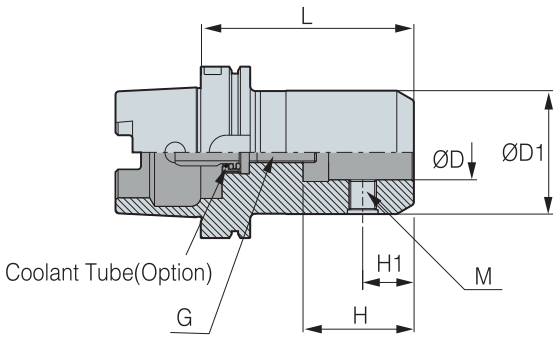
1:1 CHAT

HSK-SLA

Side Lock Arbor



DIN 69893-1 Shank | C Coolant System | Milling | Drilling



• ● : Stock

C Internal coolant system is optional

• For more information on the related parts, see 141P

	Designation	ØD	L	ØD1	H	H1	M	G	kg	Package Weight(kg)	Stock
HSK63A	HSK63A-SLA20-100	20	100	52	51	25	M8	M12	1.6	1.8	●
	HSK63A-SLA25-105	25	105	65	59	25	M8	M12	2.1	2.4	●
	HSK63A-SLA32-105	32	105	72	63	30	M5	M12	2.3	2.6	●
HSK100A	HSK100A-SLA20-105	20	105	52	51	25	M16	M12	3.1	3.4	●
	HSK100A-SLA25-110	25	110	65	59	25	M18	M12	3.8	4.0	●
	HSK100A-SLA32-125	32	125	72	63	30	M20	M12	4.4	4.8	●
	HSK100A-SLA40-135	40	135	80	73	32	M20	M12	5.2	5.6	

(Unit : mm)

Accessories

SPARE PART

Type	Accessories	
	Coolant Tube for HSK	Wrench
Images		
Designation		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

1:1 CHAT

SK-SLA

Side Lock Arbor



DIN69871 -1A/B Shank | C Coolant System | Milling | Drilling

Fig.1

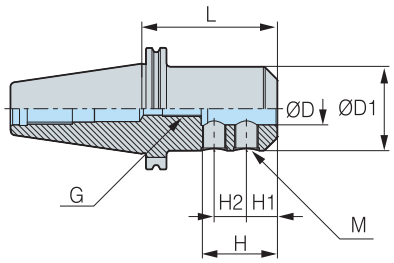
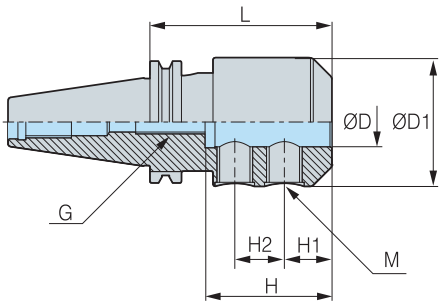


Fig.2



• ● : Stock

C Internal coolant system is basic

• For more information on the related parts, see 141P

	Designation	ØD	L	ØD1	H	H1	H2	M	G	Fig.	kg	Package Weight(kg)	Stock
SK40	SK40-SLA16-75	16	75	48	49	24	-	M14	M12	1	1.4	1.6	●
	SK40-SLA20-75	20	75	52	51	25	-	M16	M12	1	1.5	1.7	●
	SK40-SLA25-95	25	95	65	59	24	25	M18	M12	2	2.1	2.4	●
	SK40-SLA32-105	32	105	72	63	24	28	M20	M12	2	2.8	2.9	●
SK50	SK50-SLA16-90	16	90	48	49	24	-	M14	M12	1	3.5	3.8	●
	SK50-SLA20-90	20	90	52	51	25	-	M16	M12	1	3.6	3.9	●
	SK50-SLA25-105	25	105	65	59	24	25	M18	M12	1	4.5	4.8	●
	SK50-SLA32-120	32	120	72	63	24	28	M20	M12	1	5.2	5.6	●
	SK50-SLA40-120	40	120	80	73	30	32	M20	M12	1	5.6	5.6	●

(Unit : mm)

1:1 CHAT

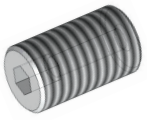
SLA SPARE PART

Side Lock Arbor Related Parts



Main Components

SPARE PART

Type / Images / Designation	Main Components		
	Set Screw		Adjust Screw
			
	BT Type	HSK / SK Type	
SLA16	BTF1010	BTF1414 - 1.5	M1230C
SLA20	BTF1212-1.5	BTF1616 - 1.5	M1230C
SLA25	BTF1212-1.5	BTF1818 - 1.5	M1230C
SLA32	BTF1414-1.5	BTF2020 - 1.5	M1230C
SLA40	BTF1616-1.5	BTF2020 - 1.5	M1230C
SLA42	BTF1624-1.5	BTF2020 - 1.5	M1230C

※ In the case of HSK types, adjustment screws may be different.

Accessories

SPARE PART

Type / Images / Designation	Accessories	
	Wrench	
		
	BT Type	HSK / SK Type
SLA16	LW - 5	LW - 6
SLA20	LW - 6	LW - 8
SLA25	LW - 6	LW - 8
SLA32	LW - 6	LW - 10
SLA40	LW - 8	LW - 10
SLA42	LW - 8	LW - 10

SPARE PART

Type / Images / Designation	Accessories	
	Coolant Tube for HSK	Wrench
		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

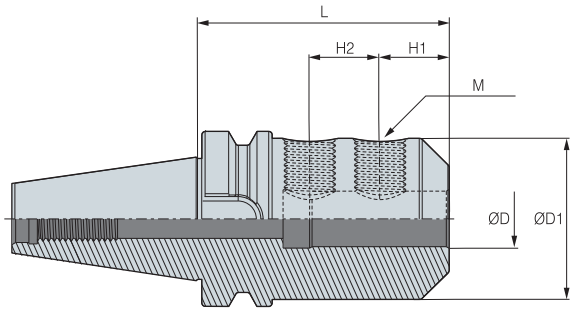
1:1 CHAT

BT-TSLA

Side Lock Arbor



MAS 403-BT Shank | C Coolant System | Milling | Drilling | TAUMAX



• ● : Stock

C Internal coolant system is optional

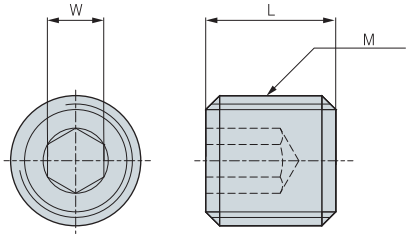
	Designation	ØD	L	ØD1	H1	H2	M	Package Weight(kg)	Stock
BT30	BT30-TSLA20-90	20	90	50	25	20	M12	1.3	●
	BT30-TSLA25-90	25	90	50	25	20	M12	1.8	●
BT40	BT40-TSLA16-100	16	100	40	25	20	M10	1.8	●
	BT40-TSLA20-100	20	100	50	25	20	M12	2.2	●
	BT40-TSLA25-90	25	90	50	25	20	M12	2.6	●
	BT40-TSLA32-100	32	100	60	25	25	M14	3.8	●
	BT40-TSLA40-105	40	105	70	25	25	M16	3.1	●
BT50	BT50-TSLA16-100	16	100	40	25	20	M10	3.8	●
	BT50-TSLA20-100	20	100	50	25	20	M12	4.0	●
	BT50-TSLA25-100	25	100	50	25	20	M12	4.8	●
	BT50-TSLA32-105	32	105	60	25	25	M14	5.1	●
	BT50-TSLA40-120	40	120	90	25	25	M16	6.1	●
	BT50-TSLA42-120	42	120	90	25	25	M16	5.8	●

(Unit : mm)

Set Screw

Designation	M	L	W
TSLN-M10*16	M10	16	5
TSLN-M16*16	M16	16	8
TSLN-M16*10	M16	10	8

(Unit : mm)



1:1 CHAT

SK-MTA

Morse Taper Arbor



DIN69871 -1A/B Shank | C Coolant System | Drilling | Reaming

Fig.1

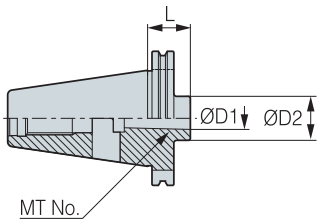
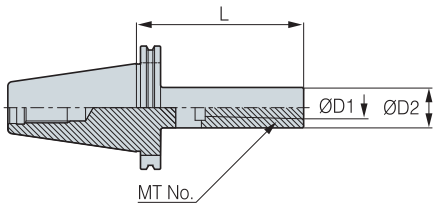


Fig.2



- ● : Stock
- Holder for morse taper shank tools (drill, reamer)

C This product does not support the internal coolant system

	Designation	MT No.	L	ØD1	ØD2	Fig.	kg	Package Weight(kg)	Stock
SK50	SK50-MTA3-45	3	45	23.825	40	1	2.7	3.0	●
	SK50-MTA3-150	3	150	23.825	40	2	3.6	4.0	●
	SK50-MTA4-75	4	75	31.267	50	1	2.9	3.2	●

(Unit : mm)

1:1 CHAT

BT-TMTA

Morse Taper Arbor



MAS 403-BT Shank | C Coolant System | Drilling | Reaming | TAUMAX

Fig.1

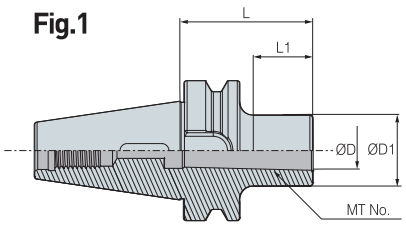
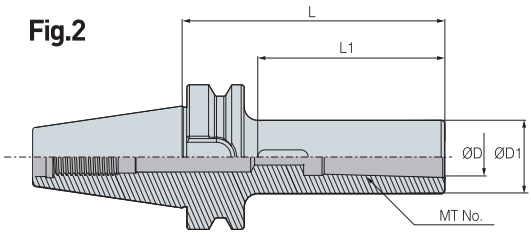


Fig.2



- ● : Stock

C Internal coolant system is optional

	Designation	MT No.	L	ØD	ØD1	L1	Fig	Package Weight(kg)	Stock
BT40	BT40-TMTA1-120	1	120	12.065	25	93	2	1.3	●
	BT40-TMTA2-120	2	120	17.78	32	93	2	1.4	●
	BT40-TMTA3-135	3	135	23.825	40	108	2	1.7	●
BT50	BT50-TMTA2-60	2	60	17.78	32	22	1	3.6	●
	BT50-TMTA2-135	2	135	17.78	32	97	2	4.2	●
	BT50-TMTA3-65	3	65	23.825	40	27	1	4.4	●
	BT50-TMTA3-150	3	150	23.825	40	112	2	4.4	●
	BT50-TMTA3-180	3	180	23.825	40	142	2	4.6	●
	BT50-TMTA4-95	4	95	31.267	50	57	1	3.9	●

(Unit : mm)

1:1 CHAT

BT-FMA

Face Mill Arbor



MAS 403-BT Shank | C Coolant System | Face Cutting

Fig.1

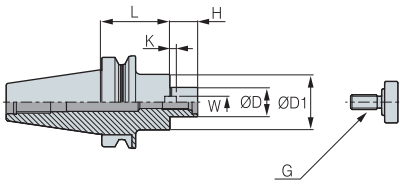


Fig.2

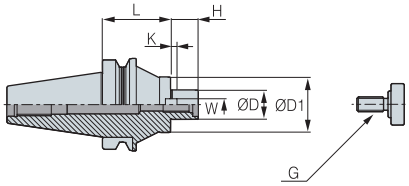


Fig.3

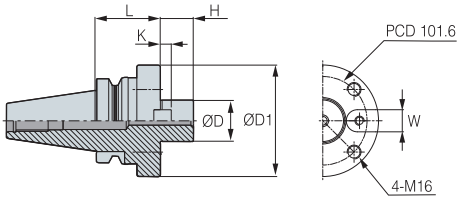
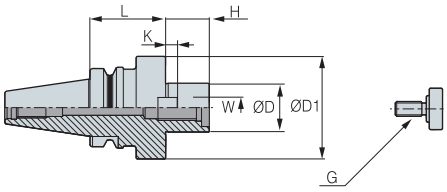


Fig.4



• ● : Stock

C Internal coolant system is optional

※ The relevant weight excludes the weight of the face cutter

• For more information on the related parts, see 146P

	Designation	Cutter Diameter	ØD	L	ØD1	H	W	K	G	Fig.	kg	Package Weight(kg)	Stock
BT30	BT30-FMA25.4-45	80	25.4	45	50	22	9.5	5	M12	4	1.0	1.0	●
BT40	BT40-FMA25.4-45	80	25.4	45	50	22	9.5	5	M12	1	1.4	1.6	●
	BT40-FMA25.4-90	80	25.4	90	50	22	9.5	5	M12	1	2.2	2.4	●
	BT40-FMA31.75-45	100	31.75	45	60	30	12.7	7	M16	1	1.6	1.8	●
	BT40-FMA31.75-75	100	31.75	75	60	30	12.7	7	M16	1	2.2	2.4	
	BT40-FMA31.75-90	100	31.75	90	60	30	12.7	7	M16	1	2.5	2.7	●
	BT40-FMA38.1-60	125	38.1	60	80	34	15.87	9	M20	4	2.6	2.8	●
BT50	BT50-FMA25.4-45	80	25.4	45	50	22	9.5	5	M12	1	4.0	4.3	●
	BT50-FMA25.4-90	80	25.4	90	50	22	9.5	5	M12	1	4.7	5.0	●
	BT50-FMA25.4-150	80	25.4	150	50	22	9.5	5	M12	2	6.4	6.8	●
	BT50-FMA31.75-45	100	31.75	45	60	30	12.7	7	M16	1	4.1	4.4	●
	BT50-FMA31.75-75	100	31.75	75	60	30	12.7	7	M16	1	4.8	5.1	●
	BT50-FMA31.75-105	100	31.75	105	60	30	12.7	7	M16	2	5.6	5.9	●
	BT50-FMA38.1-45	125	38.1	45	80	34	15.87	9	M20	1	4.4	4.7	●
	BT50-FMA38.1-75	125	38.1	75	80	34	15.87	9	M20	1	5.6	5.9	●
	BT50-FMA50.8-45	160	50.8	45	100	36	19.05	10	M24	1	4.9	5.2	●
	BT50-FMA50.8-75	160	50.8	75	100	36	19.05	10	M24	1	6.8	7.1	●
	BT50-FMA47.625-75	200	47.625	75	128	38	25.4	12.5	-	3	8.3	8.6	●

(Unit : mm)

1:1 CHAT

NT-FMA

Face Mill Arbor



DIN2080 JISB6101
Shank

C
Coolant System

Face Cutting

Fig.1

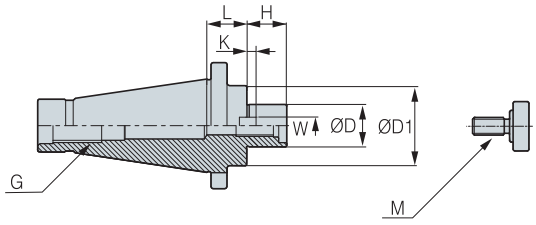
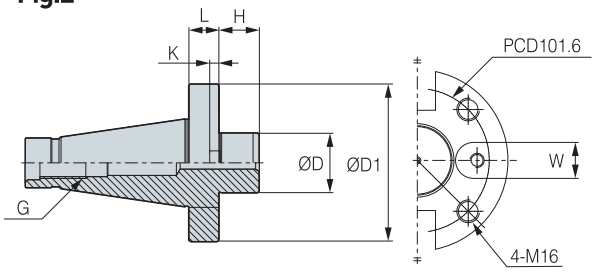


Fig.2



• ● : Stock

C This product does not support the internal coolant system

※ The relevant weight excludes the weight of the face cutter

• For more information on the related parts, see 146P

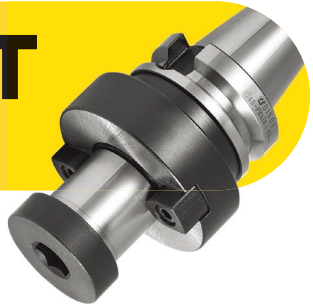
	Designation	Cutter Diameter	ØD	L	ØD1	H	M	W	K	G	Fig.	kg	Package Weight(kg)	Stock
NT40	NT40-FMA25.4-25	80	25.4	25	50	22	M12	9.5	5	M16	1	1.1	1.3	●
	NT40-FMA31.75-25	100	31.75	25	60	30	M16	12.7	7	M16	1	1.3	1.5	●
	NT40-FMA38.1-25	125	38.1	25	80	34	M20	15.87	9	M16	1	1.8	2.0	●
	NT40-FMA50.8-25	160	50.8	25	100	36	M24	19.05	10	M16	1	2.8	3.0	●
NT50	NT50-FMA25.4-25	80	25.4	23.2	50	22	M12	9.5	5	M24	1	3.1	3.4	●
	NT50-FMA31.75-30	100	31.75	26.2	60	30	M16	12.7	7	M24	1	3.3	3.6	●
	NT50-FMA38.1-30	125	38.1	25.2	80	34	M20	15.87	9	M24	1	3.6	3.9	●
	NT50-FMA50.8-30	160	50.8	27.2	100	36	M24	19.05	10	M24	1	4.2	4.5	●
	NT50-FMA47.625-25	200	47.625	27.2	128	38	-	25.4	12.5	M24	2	5.3	5.6	●

(Unit : mm)

1:1 CHAT

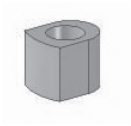
FMA SPARE PART

Face Mill Arbor Related Parts



Main Components

SPARE PART

Type	Main Components			
	Key	Key Bolt	Mount Bolt	Clamp Bolt
Images / Designation				
FMA25.4	K9.5	BX0412	MBA-M12	BX1230
FMA31.75	K12.7	BX0515	MBA-M16	-
FMA38.1	K15.87	BX0616	MBA-M20	-
FMA50.8	K19.05	BX0820	MBA-M24	-
FMA47.625	K25.4	BX1020	-	BX1645

Accessories

SPARE PART

Type	Accessories
	Wrench
Images / Designation	
FMA25.4	LW-10
FMA31.75	LW-14
FMA38.1	LW-17

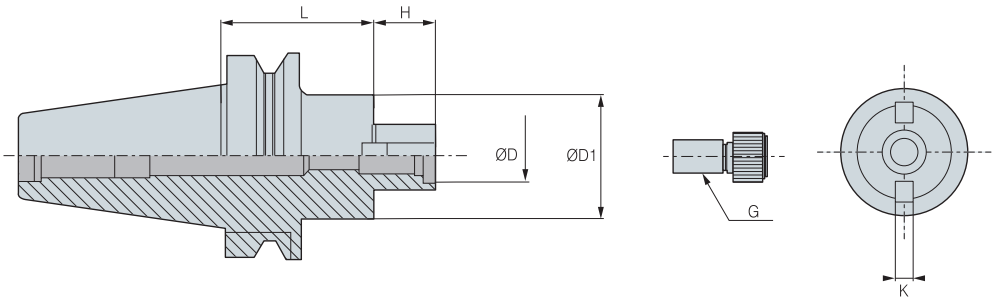
1:1 CHAT

BT-TFMA

Face Mill Arbor



MAS 403-BT Shank | C Coolant System | Face Cutting | TAUMAX



• ● : Stock

C Internal coolant system is optional

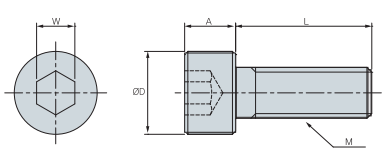
	Designation	ØD	L	ØD1	H	K	G	Package Weight(kg)	Stock
BT30	BT30-TFMA25.4-45	25.4	45	50	20	9.5	TMBA-M12	1.2	●
BT40	BT40-TFMA25.4-45	25.4	45	50	20	9.5	TMBA-M12	1.4	●
	BT40-TFMA25.4-90	25.4	90	50	20	9.5	TMBA-M12	3.1	●
	BT40-TFMA31.75-45	31.75	45	60	22	12.7	TMBA-M16	1.6	●
BT50	BT50-TFMA25.4-90	25.4	90	50	20	9.5	TMBA-M12	4.5	●
	BT50-TFMA25.4-150	25.4	150	50	20	9.5	TMBA-M12	5.5	●
	BT50-TFMA31.75-105	31.75	105	98	22	12.7	TMBA-M16	6.0	●
	BT50-TFMA38.1-75	38.1	75	50	25	15.9	TMBA-M20	5.5	●

(Unit : mm)

Clamp Bolt

Designation	M	A	L	ØD	W
TCB-M8	M8	7.8	25	12.9	6
TCB-M10	M10	9.6	30	15.6	8

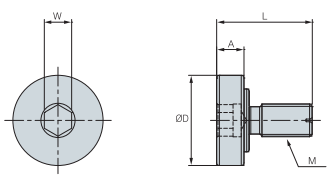
(Unit : mm)



Mount Bolt

Designation	M	A	L	ØD	W
TMBA-M12	M12*1.75	10	35	33	10
TMBA-M16	M16*2.0	10	50	39	14

(Unit : mm)



1:1 CHAT

BT-FMC

Face Mill Arbor



MAS 403-BT Shank | C Coolant System | Face Cutting

Fig.1

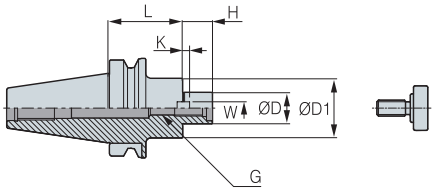


Fig.2

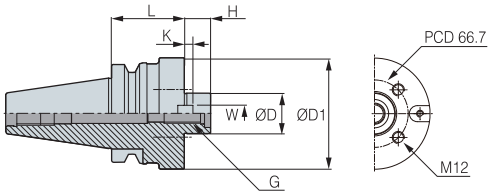
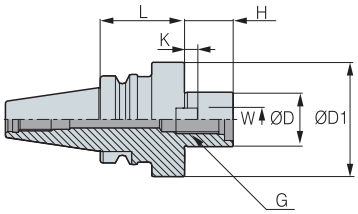


Fig.3



• ● : Stock

C Internal coolant system is optional

※ The relevant weight excludes the weight of the face cutter

• For more information on the related parts, see 151P

	Designation	Cutter Diameter	ØD	L	ØD1	H	W	K	G	Fig.	kg	Package Weight(kg)	Stock
BT30	BT30-FMC16-45	40	16	45	38	17	8	5.0	M8	1	0.7	0.7	●
	BT30-FMC22-45	50/63	22	45	48	19	10	5.6	M10	2	0.8	0.9	●
	BT30-FMC27-50	80	27	50	60	21	12	6.3	M12	2	1.0	1.1	●
BT40	BT40-FMC16-60	40	16	60	38	17	8	5.0	M8	1	1.3	1.5	●
	BT40-FMC22-45	50/63	22	45	48	19	10	5.6	M10	1	1.3	1.5	●
	BT40-FMC22-90	50/63	22	90	48	19	10	5.6	M10	1	1.9	2.1	●
	BT40-FMC27-60	80	27	60	60	21	12	6.3	M12	1	1.8	2.0	●
	BT40-FMC27-90	80	27	90	60	21	12	6.3	M12	1	2.4	2.6	●
	BT40-FMC32-60	100	32	60	78	24	14	7.0	M16	2	2.1	2.3	●
	BT40-FMC40-50	125/160	40	50	89	27	15.87	8.0	M20	3	2.3	2.5	●
BT50	BT50-FMC16-60	40	16	60	38	17	8	5.0	M8	1	3.9	4.2	●
	BT50-FMC22-60	50/63	22	60	48	19	10	5.6	M10	1	4.1	4.4	●
	BT50-FMC27-40	80	27	40	60	21	12	6.3	M12	1	3.8	4.1	●
	BT50-FMC27-90	80	27	90	60	21	12	6.3	M12	1	4.8	5.1	●
	BT50-FMC27-150	80	27	150	60	21	12	6.3	M12	1	6.1	6.5	●
	BT50-FMC32-45	100	32	45	78	24	14	7.0	M16	1	4.1	4.4	●
	BT50-FMC32-75	100	32	75	78	24	14	7.0	M16	1	5.2	5.5	●
	BT50-FMC32-105	100	32	105	78	24	14	7.0	M16	1	6.3	6.6	●
	BT50-FMC40-50	125/160	40	50	89	27	15.87	8.0	M20	2	4.6	4.9	●

(Unit : mm)

1:1 CHAT

HSK-FMC

Face Mill Arbor



DIN 69893-1 Shank | C Coolant System | Face Cutting

Fig.1

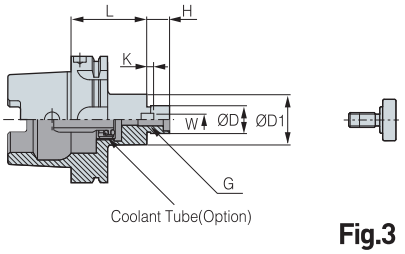


Fig.2

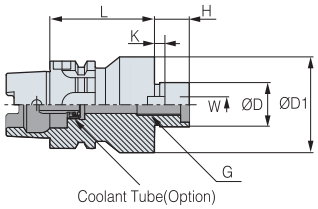
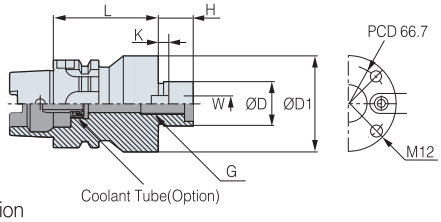


Fig.3



- ● : To be switched to NP order after stock depletion
- ● : Stock

C Internal coolant system is optional

※ The relevant weight excludes the weight of the face cutter

• For more information on the related parts, see 151P

	Designation	Cutter Diameter	ØD	L	ØD1	H	W	K	G	Fig.	kg	Package Weight(kg)	Stock
HSK50A	HSK50A-FMC16-40	40	16	40	38	17	8	5.0	M8	1	0.4	0.7	●
	HSK50A-FMC22-50	50/63	22	50	48	19	10	5.6	M10	1	0.8	0.9	●
HSK63A	HSK63A-FMC16-50	40	16	50	38	17	8	5.0	M8	1	0.9	1.1	●
	HSK63A-FMC22-50	50/63	22	50	48	19	10	5.6	M10	1	1.1	1.3	●
	HSK63A-FMC27-60	80	27	60	60	21	12	6.3	M12	1	1.4	1.6	●
	HSK63A-FMC32-60	100	32	60	78	24	14	7.0	M16	2	1.7	1.9	●
	HSK63A-FMC40-60	125/160	40	60	89	27	15.87	8.0	M20	3	2.5	2.6	●

(Unit : mm)

1:1 CHAT

SK-FMC

Face Mill Arbor



DIN69871 -1A/B
Shank

C
Coolant System

Face Cutting

Fig.1

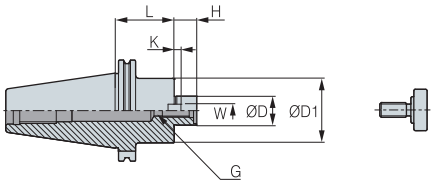


Fig.2

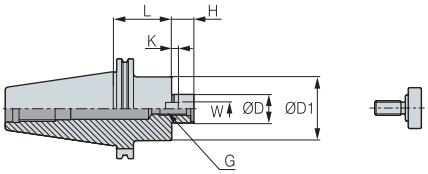
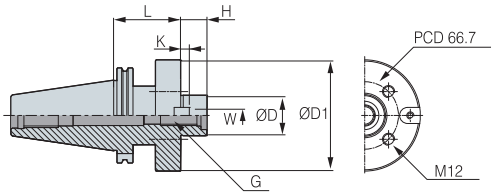


Fig.3



- ● : To be switched to NP order after stock depletion
- ● : Stock

C Internal coolant system is optional

※ The relevant weight excludes the weight of the face cutter

• For more information on the related parts, see 151P

	Designation	Cutter Diameter	ØD	L	ØD1	H	W	K	G	Fig.	kg	Package Weight(kg)	Stock
SK30	SK30-FMC16-60	40	16	60	38	17	8	5.0	M8	1	0.8	0.8	●
	SK30-FMC22-50	50/63	22	50	48	19	10	5.6	M10	2	0.8	0.9	●
	SK30-FMC27-55	80	27	55	60	21	12	6.3	M12	2	1.1	1.2	●
SK40	SK40-FMC16-55	40	16	55	38	17	8	5.0	M8	1	1.2	1.4	
	SK40-FMC22-55	50/63	22	55	48	19	10	5.6	M10	1	1.4	1.6	●
	SK40-FMC27-60	80	27	60	60	21	12	6.3	M12	2	1.6	1.8	●
	SK40-FMC32-60	100	32	60	78	24	14	7.0	M16	2	2.2	2.4	●
	SK40-FMC40-50	125/160	40	50	89	27	15.87	8.0	M20	3	2.3	2.5	●
SK50	SK50-FMC16-60	40	16	60	38	17	8	5.0	M8	1	2.9	3.2	
	SK50-FMC22-60	50/63	22	60	48	19	10	5.6	M10	1	3.2	3.5	●
	SK50-FMC27-40	80	27	40	60	21	12	6.3	M12	1	3.2	3.5	●
	SK50-FMC32-45	100	32	45	78	24	14	7.0	M16	1	3.7	4.0	●
	SK50-FMC40-50	125/160	40	50	89	27	15.87	8.0	M20	3	4.2	4.5	●

(Unit : mm)

1:1 CHAT

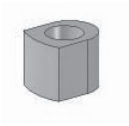
FMC SPARE PART

Face Mill Arbor Related Parts



Main Components

SPARE PART

Type	Main Components			
	Key	Key Bolt	Mount Bolt	Clamp Bolt
Images / Designation				
FMC16	K8.0	BX0310	-	BX0830
FMC22	K10.0	BX0412	-	BX1030
FMC27	K12.0	BX0516	MBA-M12	BX1230
FMC32	K14.0	BX0616	MBA-M16	-
FMC40	K15.87	BX0616	MBA-M20	BX1230

※ BX1235 clamp bolts are used for SK40-FMC40-50.

Accessories

SPARE PART

Type	Accessories
	Wrench
Images / Designation	
FMC16	LW-6
FMC22	LW-8
FMC27	LW-10
FMC32	LW-14
FMC40	LW-17

SPARE PART

Type	Accessories	
	Coolant Tube for HSK	Wrench
Images / Designation		
HSK50A	HSK50A-CNS	HSK50-WRENCH(C)
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)

1:1 CHAT

BT-TFMC

Face Mill Arbor



MAS 403-BT Shank | C Coolant System | Face Cutting

TAUMAX

Fig.1

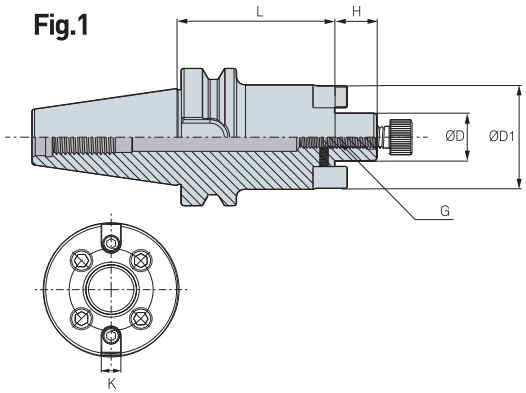
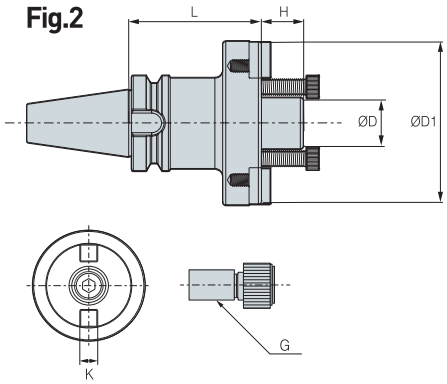


Fig.2



• ● : Stock

C Internal coolant system is optional

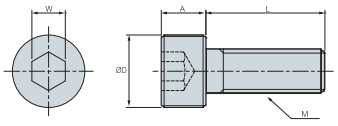
	Designation	ØD	L	ØD1	H	K	G	Fig	Package Weight(kg)	Stock
BT30	BT30-TFMC16-35	16	35	38	17	8.0	M8	1	0.5	●
	BT30-TFMC22-45	22	45	48	18	10.0	M10	1	0.8	●
	BT30-TFMC27-45	27	45	60	20	12.0	M12	1	0.9	●
BT40	BT40-TFMC16-40	16	40	38	17	8.0	M8	1	1.1	●
	BT40-TFMC22-40	22	40	48	19	10.0	M10	1	1.2	●
	BT40-TFMC22-100	22	100	48	19	10.0	M10	1	2.0	●
	BT40-TFMC27-40	27	40	60	21	12.0	M12	1	1.3	●
	BT40-TFMC27-100	27	100	60	20	12.0	M12	1	2.6	●
	BT40-TFMC32-50	32	50	78	24	14.0	M16	1	2.0	●
BT50	BT50-TFMC16-55	16	55	38	17	8.0	M8	1	3.7	●
	BT50-TFMC22-55	22	55	48	19	10.0	M10	1	3.8	●
	BT50-TFMC27-55	27	55	60	21	12.0	M12	1	4.1	●
	BT50-TFMC27-100	27	100	60	21	12.0	M12	1	5.2	●
	BT50-TFMC32-55	32	55	78	24	14.0	M16	1	4.4	●
	BT50-TFMC32-75	32	75	78	22	14.0	M16	1	5.5	●
	BT50-TFMC32-100	32	100	78	24	14.0	M16	1	6.0	●
	BT50-TFMC40-55(D160)	40	55	108	27	16.0	M20	2	4.8	●

(Unit : mm)

Clamp Bolt

Designation	M	A	L	ØD	W
TCB-M8	M8	7.8	25	12.9	6
TCB-M10	M10	9.6	30	15.6	8

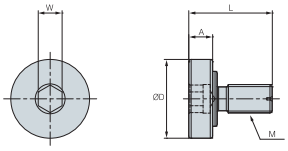
(Unit : mm)



Mount Bolt

Designation	M	A	L	ØD	W
TMBA-M12	M12*1.75	10	35	33	10
TMBA-M16	M16*2.0	10	50	39	14

(Unit : mm)



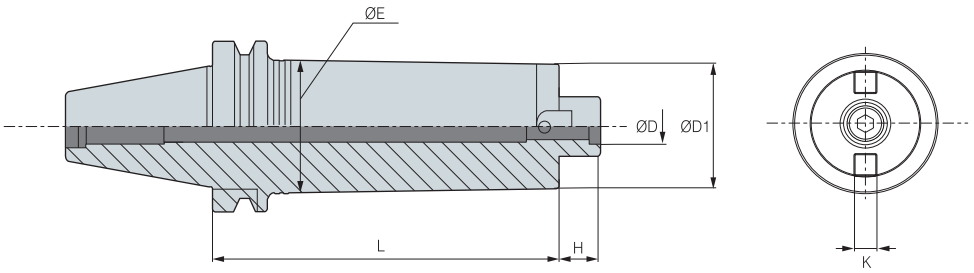
1:1 CHAT

BT-TFMC-L

Long Face Mill Arbor



MAS 403-BT Shank | C Coolant System | Face Cutting | TAUMAX



• ● : Stock

C Internal coolant system is optional

	Designation	ØD	L	ØD1	ØE	H	K	Package Weight(kg)	Stock
BT50	BT50-TFMC22-160R(D50)	22	160	46	49	19	5.6	5.0	●
	BT50-TFMC22-200R(D50)	22	200	46	49	19	5.6	5.4	●
	BT50-TFMC22-250R(D50)	22	250	46	49	19	5.6	6.9	●
	BT50-TFMC22-160R(D63)	22	160	59	62	19	5.6	6.1	●
	BT50-TFMC22-200R(D63)	22	200	59	62	19	5.6	6.9	●
	BT50-TFMC22-250R(D63)	22	250	59	62	19	5.6	7.9	●
	BT50-TFMC22-300R(D63)	22	300	59	62	19	5.6	8.8	●
	BT50-TFMC27-200R(D80)	27	200	62	78	21	6.3	8.2	●
	BT50-TFMC27-250R(D80)	27	250	62	78	21	6.3	9.6	●
	BT50-TFMC27-300R(D80)	27	300	62	78	21	6.3	11.0	●

(Unit : mm)

1:1 CHAT

DBT-MD

Modular Arbor



DBT Shank | G6.3 G value | C Coolant System

Fig.1

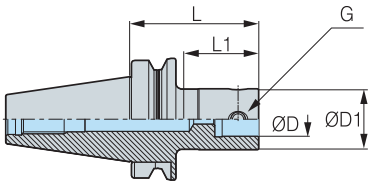


Fig.2

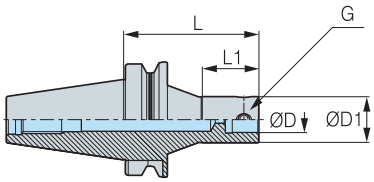


Fig.3

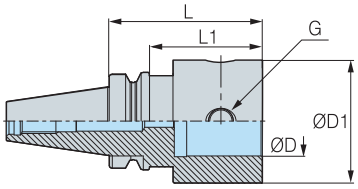
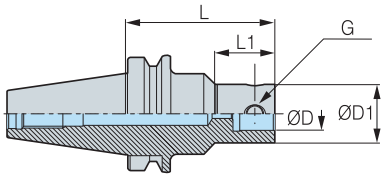


Fig.4



C Internal coolant system is basic

• For more information on the related parts, see 160P

	Designation	ØD	L	ØD1	L1	G	Fig.	kg	Package Weight(kg)	Stock
DBT30	DBT30-MD19F-70R	11	70	19	27	M5	4	0.5	0.6	
	DBT30-MD25F-90R	14	90	25	43	M6	4	0.6	0.7	
	DBT30-MD32F-80R	18	80	32	39	M8	4	0.7	0.8	
	DBT30-MD40F-45	22	45	40	24	M10	1	0.5	0.6	
	DBT30-MD40F-80R	22	80	40	49	M10	4	0.8	0.9	
	DBT30-MD50F-70	28	70	50	48	M12	3	0.9	1.0	
DBT40	DBT40-MD19F-70	11	70	19	43	M5	1	1.0	1.2	
	DBT40-MD25F-95	14	95	25	68	M6	1	1.1	1.3	
	DBT40-MD25F-105R	14	105	25	40	M6	2	1.2	1.4	
	DBT40-MD32F-100	18	100	32	70	M8	1	1.2	1.5	
	DBT40-MD32F-115R	18	115	32	45	M8	2	1.5	1.7	
	DBT40-MD40F-50	22	50	40	21	M10	1	1.2	1.4	
	DBT40-MD40F-110R	22	110	40	60	M10	2	1.6	1.8	
	DBT40-MD40F-115	22	115	40	83	M10	1	1.6	1.8	
	DBT40-MD50F-100R	28	100	50	50	M12	2	1.8	2.1	
	DBT40-MD50F-105	28	105	50	75	M12	1	1.9	2.1	
	DBT40-MD63F-64	36	64	63	37	M16	3	1.5	1.7	
	DBT40-MD63F-90	36	90	63	63	M16	3	2.1	2.3	
	DBT40-MD63F-110	36	110	63	83	M16	3	2.5	2.7	
	DBT40-MD80F-100	45	100	80	73	M16	3	2.9	3.1	

(Unit : mm)

1:1 CHAT

DBT-MD

Modular Arbor



DBT Shank | G6.3 G value | C Coolant System

Fig.1

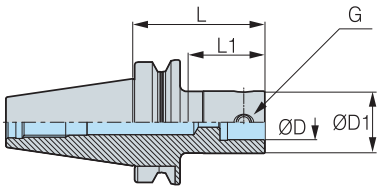


Fig.2

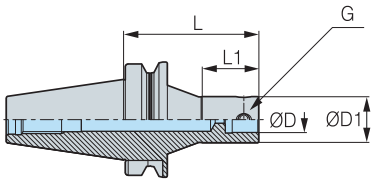


Fig.3

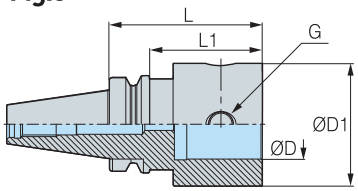
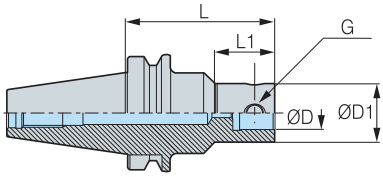


Fig.4



C Internal coolant system is basic

• For more information on the related parts, see 160P

	Designation	ØD	L	ØD1	L1	G	Fig.	kg	Package Weight(kg)	Stock
DBT50	DBT50-MD19F-85	11	85	19	45	M5	1	3.7	4.0	
	DBT50-MD19F-100	11	100	19	60	M5	1	3.8	4.1	
	DBT50-MD25F-105	14	105	25	64	M6	1	3.9	4.2	
	DBT50-MD25F-120R	14	120	25	40	M6	2	4.0	4.4	
	DBT50-MD32F-110	18	110	32	67	M8	1	4.1	4.4	
	DBT50-MD32F-115R	18	115	32	45	M8	2	4.2	4.6	
	DBT50-MD32F-235R	18	235	32	115	M8	2	5.5	5.9	
	DBT50-MD40F-60	22	60	40	22	M10	1	3.7	4.0	
	DBT50-MD40F-125R	22	125	40	59	M10	2	4.3	4.7	
	DBT50-MD40F-145	22	145	40	102	M10	1	4.5	4.9	
	DBT50-MD40F-195R	22	195	40	83	M10	4	4.8	5.2	
	DBT50-MD40F-230R	22	230	40	180	M10	2	5.0	5.4	
	DBT50-MD50F-125	28	125	50	82	M12	1	4.6	5.0	
	DBT50-MD50F-160R	28	160	50	61	M12	2	5.8	6.2	
	DBT50-MD50F-225R	28	225	50	125	M12	4	6.0	6.4	
	DBT50-MD50F-250R	28	250	50	81	M12	2	7.0	7.4	
	DBT50-MD63F-75	36	75	63	35	M16	1	4.2	4.5	
	DBT50-MD63F-130	36	130	63	87	M16	1	5.3	5.7	
	DBT50-MD63F-140	36	140	63	97	M16	1	5.5	5.9	
	DBT50-MD63F-140R	36	140	63	70	M16	2	5.7	6.1	
	DBT50-MD63F-195R	36	195	63	120	M16	4	6.8	7.2	
	DBT50-MD63F-230R	36	230	63	149	M16	4	7.5	7.9	
	DBT50-MD63F-240R	36	240	63	190	M16	2	7.8	8.2	
	DBT50-MD80F-75	45	75	80	36	M16	1	4.4	4.7	
	DBT50-MD80F-110	45	110	80	69	M16	1	5.8	6.1	
	DBT50-MD80F-160	45	160	80	119	M16	1	8.0	8.4	
	DBT50-MD90F-75	45	75	90	37	M16	1	4.8	5.1	
	DBT50-MD90F-145	45	145	90	107	M16	1	7.4	7.8	

(Unit : mm)

1:1 CHAT

BT-MD

Modular Arbor



MAS 403-BT — Shank
G6.3 — G value
C — Coolant System

Fig.1

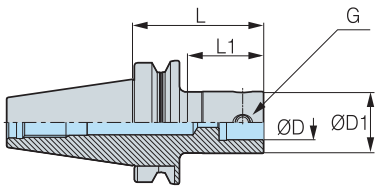


Fig.2

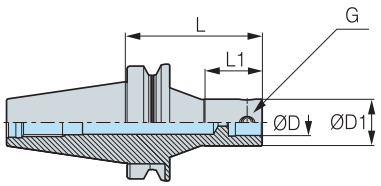
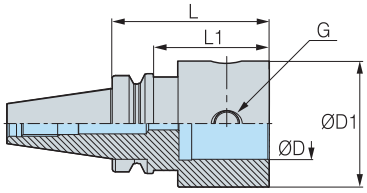


Fig.3



• ● : Stock

C Internal coolant system is basic

• For more information on the related parts, see 160P

	Designation	ØD	L	ØD1	L1	G	Fig.	kg	Package Weight(kg)	Stock
BT30	BT30-MD19F-70	11	70	19	45	M5	1	0.5	0.5	●
	BT30-MD25F-90	14	90	25	63	M6	1	0.6	0.7	●
	BT30-MD32F-80	18	80	32	55	M8	1	0.7	0.7	●
	BT30-MD40F-45	22	45	40	22	M10	1	0.5	0.6	●
	BT30-MD40F-60	22	60	40	36	M10	1	0.7	0.7	●
	BT30-MD40F-80	22	80	40	56	M10	1	0.9	0.9	●
	BT30-MD50F-70	28	70	50	48	M12	3	0.9	1.0	●
BT40	BT40-MD19F-70	11	70	19	40	M5	1	1.0	1.2	●
	BT40-MD25F-95	14	95	25	63	M6	1	1.1	1.3	●
	BT40-MD25F-105R	14	105	25	40	M6	2	1.2	1.4	●
	BT40-MD32F-100	18	100	32	70	M8	1	1.2	1.5	●
	BT40-MD32F-115R	18	115	32	45	M8	2	1.5	1.8	●
	BT40-MD40F-60	22	60	40	31	M10	1	1.1	1.3	●
	BT40-MD40F-110R	22	110	40	60	M10	2	1.6	1.9	●
	BT40-MD40F-115	22	115	40	83	M10	1	1.6	1.8	●
	BT40-MD50F-60	28	60	50	30	M12	1	1.3	1.5	
	BT40-MD50F-100R	28	100	50	50	M12	2	1.8	2.1	
	BT40-MD50F-105	28	105	50	73	M12	1	1.8	2.1	●
	BT40-MD63F-64	36	64	63	37	M16	3	1.5	1.7	●
	BT40-MD63F-90	36	90	63	63	M16	3	2.0	2.3	
	BT40-MD63F-110	36	110	63	83	M16	3	2.4	2.6	●
	BT40-MD63F-135	36	135	63	108	M16	3	3.0	3.3	●
	BT40-MD80F-100	45	100	80	73	M16	3	2.9	3.1	●

(Unit : mm)

1:1 CHAT

BT-MD

Modular Arbor



MAS 403-BT — Shank
G6.3 — G value
C — Coolant System

Fig.1

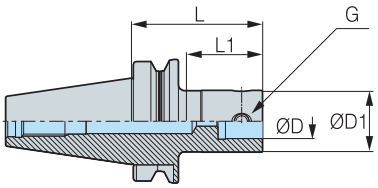
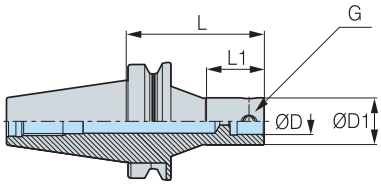


Fig.2



• ● : Stock
C Internal coolant system is basic
• For more information on the related parts, see 160P

BT50

Designation	ØD	L	ØD1	L1	G	Fig.	kg	Package Weight(kg)	Stock
BT50-MD19F-85	11	85	19	44	M5	1	3.7	4.0	●
BT50-MD19F-100	11	100	19	59	M5	1	3.7	4.0	
BT50-MD25F-105	14	105	25	62	M6	1	3.8	4.1	●
BT50-MD25F-120R	14	120	25	40	M6	2	3.8	4.1	●
BT50-MD32F-110	18	110	32	67	M8	1	4.0	4.3	●
BT50-MD32F-115R	18	115	32	45	M8	2	4.1	4.5	●
BT50-MD32F-235R	18	235	32	115	M8	2	5.5	5.9	●
BT50-MD40F-60	22	60	40	22	M10	1	3.7	4.0	●
BT50-MD40F-125R	22	125	40	59	M10	2	3.8	4.1	
BT50-MD40F-145	22	145	40	102	M10	1	4.3	4.7	
BT50-MD40F-195	22	195	40	152	M10	1	4.8	5.2	●
BT50-MD40F-230R	22	230	40	180	M10	2	5.0	5.4	●
BT50-MD50F-125	28	125	50	82	M12	1	4.6	5.0	●
BT50-MD50F-160R	28	160	50	61	M12	2	5.7	6.1	
BT50-MD50F-225	28	225	50	182	M12	1	6.0	6.4	●
BT50-MD50F-250R	28	250	50	81	M12	2	7.0	7.4	●
BT50-MD63F-75	36	75	63	35	M16	1	4.2	4.5	●
BT50-MD63F-130	36	130	63	87	M16	1	5.3	5.7	●
BT50-MD63F-140	36	140	63	97	M16	1	5.5	5.9	
BT50-MD63F-140R	36	140	63	80	M16	2	5.7	6.1	
BT50-MD63F-195	36	195	63	152	M16	1	6.8	7.2	●
BT50-MD63F-230	36	230	63	187	M16	1	7.5	7.9	●
BT50-MD63F-240R	36	240	63	190	M16	2	7.8	8.2	
BT50-MD80F-75	45	75	80	36	M16	1	4.3	4.6	●
BT50-MD80F-110	45	110	80	69	M16	1	5.7	6.0	●
BT50-MD80F-175	45	175	80	134	M16	1	8.0	8.4	●
BT50-MD90F-75	45	75	90	36	M16	1	4.8	5.1	●
BT50-MD90F-145	45	145	90	104	M16	1	7.4	7.8	●
BT50-MD90F-195	45	195	90	154	M16	1	9.4	9.8	●

(Unit : mm)

1:1 CHAT

HSK-MD

Modular Arbor



DIN 69893-1 (Shank) | G6.3 (G value) | C (Coolant System)

Fig.1

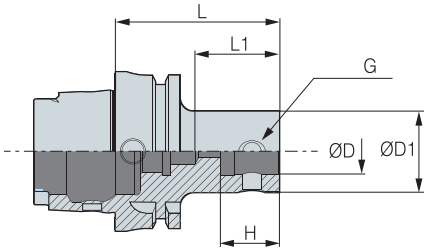
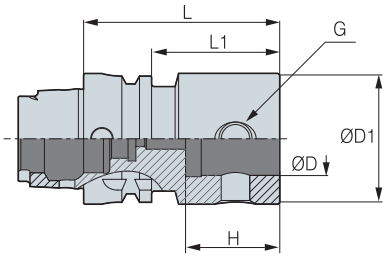


Fig.2



• ● : Stock

C Internal coolant system is optional

• For more information on the related parts, see 160P

	Designation	ØD	L	ØD1	L1	H	G	Fig.	kg	Package Weight(kg)	Stock
HSK63A	HSK63A-MD19F-60	11	60	19	31	15.5	M5	1	0.7	0.9	●
	HSK63A-MD25F-60	14	60	25	31	18.5	M6	1	0.7	0.9	●
	HSK63A-MD32F-65	18	65	32	36	23.5	M8	1	0.8	1.0	●
	HSK63A-MD40F-70	22	70	40	41	29.0	M10	1	0.9	1.1	●
	HSK63A-MD50F-85	28	85	50	58	36.0	M12	1	1.3	1.5	●
	HSK63A-MD63F-95	36	95	63	69	46.0	M16	2	1.7	1.9	●
HSK100A	HSK100A-MD19F-60	11	60	19	19	15.5	M5	1	2.1	2.3	
	HSK100A-MD25F-60	14	60	25	20	18.5	M6	1	2.1	2.3	
	HSK100A-MD32F-65	18	65	32	26	23.5	M8	1	2.1	2.4	
	HSK100A-MD40F-70	22	70	40	38	29	M10	1	2.3	2.6	
	HSK100A-MD50F-80	28	80	50	48	36	M12	1	2.6	2.9	
	HSK100A-MD63F-90	36	90	63	58	46	M16	1	3.0	3.4	
	HSK100A-MD80F-105	45	105	80	73	57	M16	1	4.2	4.5	
	HSK100A-MD90F-105	45	105	90	76	57	M16	1	4.7	5.0	

(Unit : mm)

Accessories

SPARE PART

Type	Accessories	
	Coolant Tube for HSK	Wrench
Images		
Designation		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

1:1 CHAT

SK-MD

Modular Arbor



DIN69871 -1A/B — Shank
G6.3 — G value
C — Coolant System

Fig.1

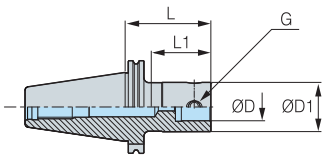


Fig.2

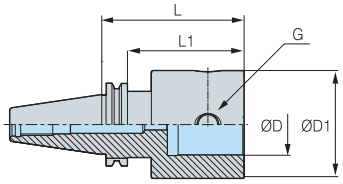
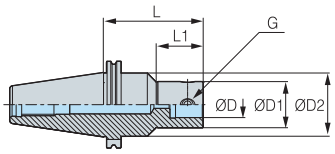


Fig.3



• ● : Stock
C Internal coolant system is basic

• For more information on the related parts, see 160P

	Designation	ØD	L	ØD1	ØD2	L1	G	Fig.	kg	Package Weight(kg)	Stock
SK40	SK40-MD19F-80R	11	80	19	30	12	M5	3	1.0	1.2	
	SK40-MD25F-80R	14	80	25	35	22	M6	3	1.1	1.3	●
	SK40-MD32F-115R	18	115	32	42	36	M8	3	1.5	1.7	●
	SK40-MD40F-60	22	60	40	-	40	M10	1	1.1	1.3	●
	SK40-MD40F-100	22	100	40	-	79	M10	1	1.4	1.6	●
	SK40-MD50F-75	28	75	50	-	55	M10	1	1.5	1.7	●
	SK40-MD50F-100	28	100	50	-	80	M12	1	1.8	2.0	●
	SK40-MD63F-70	36	70	63	-	50	M16	2	1.4	1.6	●
SK50	SK50-MD19F-85R	11	85	19	40	12	M5	3	3.0	3.3	
	SK50-MD25F-80R	14	80	25	44	22	M6	3	3.1	3.4	●
	SK50-MD25F-105R	14	105	25	44	22	M6	3	3.3	3.6	●
	SK50-MD32F-110	18	110	32	-	87	M8	1	3.0	3.3	●
	SK50-MD32F-110R	18	110	32	50	36	M8	3	3.5	3.8	●
	SK50-MD40F-100	22	100	40	-	75	M10	1	3.2	3.5	●
	SK50-MD40F-145	22	145	40	-	120	M10	1	3.5	3.9	●
	SK50-MD40F-220R	22	220	40	60	83	M10	3	5.6	6.0	●
	SK50-MD50F-125R	28	125	50	65	60	M12	3	4.3	4.6	●
	SK50-MD50F-240R	28	240	50	65	125	M12	3	6.6	7.0	●
	SK50-MD63F-75	36	75	63	-	52	M16	1	3.6	3.9	●
	SK50-MD63F-130	36	130	63	-	107	M16	1	4.7	5.1	●
	SK50-MD63F-230R	36	230	63	80	149	M16	3	7.9	8.3	●
	SK50-MD80F-95	45	95	80	-	75	M16	1	4.8	5.1	●
	SK50-MD80F-150	45	150	80	-	130	M16	1	6.8	7.2	●
	SK50-MD90F-115	45	115	90	-	95	M16	2	6.3	6.6	●
	SK50-MD90F-165	45	165	90	-	145	M16	2	8.1	8.5	●

(Unit : mm)

1:1 CHAT

MD SPARE PART

Modular Arbor Related Parts



Main Components

SPARE PART

Type / Images / Designation	Main Components
	Taper Screw
	
MD19F	BTT0506F
MD25F	BTT0608F
MD32F	BTT0810F
MD40F	BTT1013F
MD50F	BTT1215F
MD63F	BTT1620F
MD80F	BTT1626F
MD90F	BTT1631F

Accessories

SPARE PART

Type / Images / Designation	Accessories
	Wrench
	
MD19F	LW-2.5
MD25F	LW-3
MD32F	LW-4
MD40F	LW-5
MD50F	LW-6
MD63F	LW-8
MD80F	LW-8
MD90F	LW-8

SPARE PART

Type / Images / Designation	Accessories	
	Coolant Tube for HSK	Wrench
		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)
HSK100A	HSK100A-CNS	HSK100-WRENCH(C)

1:1 CHAT

BT-TMD

NEW

Modular Arbor



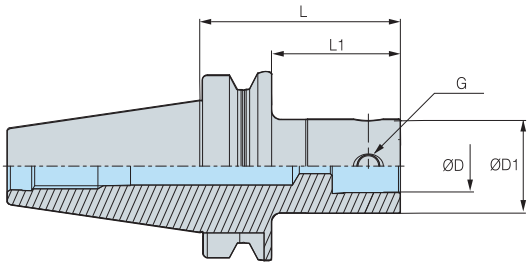
MAS 403-BT
Shank

C
Coolant System

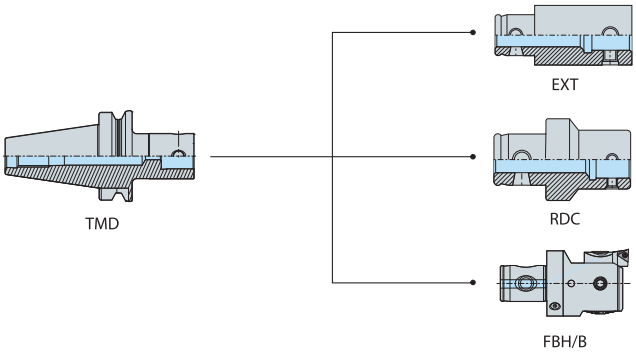
TAUMAX

Features

- A multipurpose tooling system allows users to combine and use various tools
- A specially manufactured screw to guarantee high-precision and easy clamping and unclamping.
- Compatible with the modular units of Dine (please refer to the compatibility chart)



Compatibility Chart



• ● : Stock

C Internal coolant system is basic

• For more information on the related parts, see 160P

	Designation	ØD	L	ØD1	L1	G	Package Weight(kg)	Stock
BT30	BT30-TMD25F-90	14	90	25	68	M6	0.3	●
BT40	BT40-TMD40F-60	22	60	40	30	M10	2.7	●
	BT40-TMD63F-110	36	110	63	83	M16	3.6	●
BT50	BT50-TMD32F-110	18	110	32	72	M8	5.1	●
	BT50-TMD40F-60	22	60	40	22	M10	5	●
	BT50-TMD40F-145	22	145	40	107	M10	5.2	●
	BT50-TMD40F-195	22	195	40	157	M10	5.4	●
	BT50-TMD50F-125	28	125	50	87	M12	6	●
	BT50-TMD63F-140	36	140	63	102	M16	7	●
	BT50-TMD63F-195	36	195	63	157	M16	8	●
	BT50-TMD63F-230	36	230	63	187	M16	8.4	●
	BT50-TMD80F-75	45	75	80	37	M16	9.1	●
	BT50-TMD80F-110	45	110	80	72	M16	9.4	●
	BT50-TMD80F-175	45	175	80	137	M16	9.5	●

(Unit : mm)

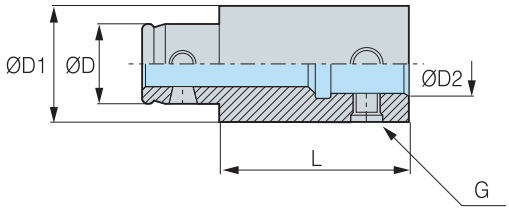
1:1 CHAT

EXT

Extension Bar



C
Coolant System



• ● : Stock
C Internal coolant system is basic

Designation	ØD	L	ØD1	ØD2	G	kg	Package Weight(kg)	Stock
EXT1930F	11	30	19	11	M5	0.1	0.1	●
EXT1950F	11	50	19	11	M5	0.1	0.1	●
EXT2530F	14	30	25	14	M6	0.1	0.1	●
EXT2550F	14	50	25	14	M6	0.2	0.2	●
EXT3235F	18	35	32	18	M8	0.2	0.2	●
EXT3260F	18	60	32	18	M8	0.4	0.4	●
EXT4040F	22	40	40	22	M10	0.4	0.4	●
EXT4090F	22	90	40	22	M10	0.9	0.9	●
EXT5050F	28	50	50	28	M12	0.7	0.7	●
EXT50100F	28	100	50	28	M12	1.4	1.5	●
EXT6360F	36	60	63	36	M16	1.4	1.5	●
EXT63120F	36	120	63	36	M16	2.9	2.9	●
EXT8070F	45	70	80	45	M16	2.5	2.7	●
EXT80120F	45	120	80	45	M16	4.5	4.7	●
EXT9080F	45	80	90	45	M16	3.8	4.0	●
EXT90130F	45	130	90	45	M16	6.4	6.6	●

(Unit : mm)

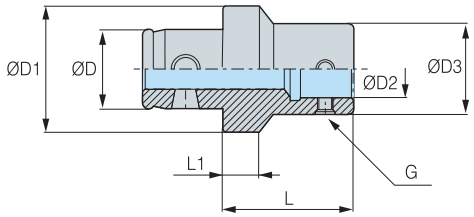
1:1 CHAT

RDC

Reducer Bar



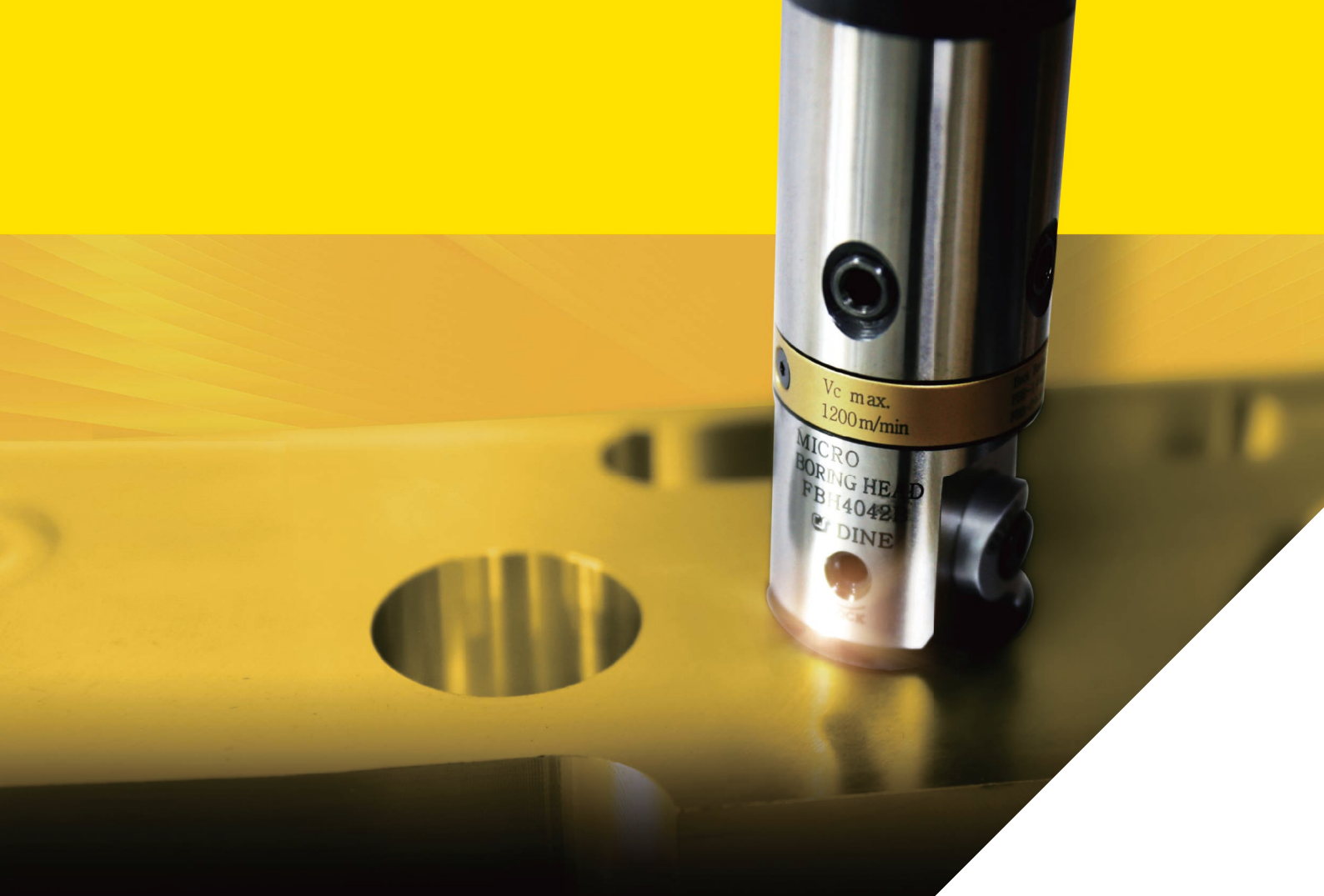
C
Coolant System



• ● : Stock
C Internal coolant system is basic

Designation	ØD	L	ØD1	ØD2	ØD3	L1	G	kg	Package Weight(kg)	Stock
RDC3225F	18	30	32	14	25	9	M6	0.1	0.2	●
RDC4025F	22	30	40	14	25	9	M6	0.3	0.3	●
RDC4032F	22	30	40	18	32	9	M8	0.2	0.2	●
RDC5025F	28	30	50	14	25	9	M6	0.3	0.4	●
RDC5032F	28	40	50	18	32	9	M8	0.3	0.4	●
RDC5040F	28	40	50	22	40	10	M10	0.5	0.6	●
RDC6325F	36	30	63	14	25	9	M6	0.6	0.7	●
RDC6332F	36	40	63	18	32	9	M8	0.6	0.7	●
RDC6340F	36	40	63	22	40	10	M10	0.7	0.8	●
RDC6350F	36	45	63	28	50	10	M12	0.9	1.0	●
RDC8040F	45	40	80	22	40	10	M10	1.2	1.4	●
RDC8050F	45	45	80	28	50	10	M12	1.3	1.5	●
RDC8063F	45	50	80	36	63	13	M16	1.6	1.8	●

(Unit : mm)



Boring Tool

DINE TOTAL TOOLING SOLUTION

FBH/B	164
FBH/D	173
DBCA	178
DBC	188
TBCA	194
TBC	200
FBC	203
SMB	207
KMB	209
SMH	211
BB BITE	215
BSA	216
BH	217
BKA	218
FZ UNIT	221
BCF	223
FF UNIT	225
INSERT	226

1:1 CHAT

FBH/B

FBH Back Boring & Balanced Type



G6.3 G value | C Coolant System | Boring



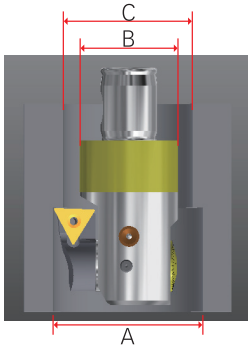
Features

- Improved machining stability relative to conventional goods through the balanced design
- Back boring is available just by changing the location of the bite
- Fine dimension adjustment available through the vernier scale

NAMING

FBH	32	33	B
Fine Boring Head	MD Arbor Size	Boring Range (Min)	Balance Type

Back Boring Range Calculation



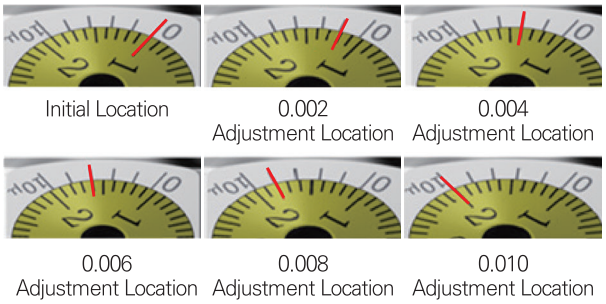
Designation	Min.Diameter for Pass(Ø) 'C'
FBH1920B	Ø24 or above
FBH2526B	Ø30.5 or above
FBH3233B	Ø35 or above
FBH4042B	Ø44 or above
FBH5053B	Ø54 or above
FBH6368B	Ø71.5 or above
FBH6398B	Ø100 or above
FBH8098B	Ø100 or above

A	Max. Range of Back Boring (Ø)	A Max. Value = (2xC)-B
B	Max. FBH Body Size (Ø)	B Max. Value = (2xC)-A
C	Min. Diameter for Pass (Ø)	C Min. Value = (A+B)/2

Vernier Scale Adjustment Method

Fine Adjustment : 2㎛ Boring Range

Can be adjusted at a rate of 2㎛ by using the main scale and vernier scale

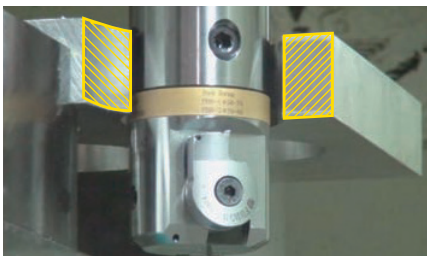


Initial Location | 0.002 Adjustment Location | 0.004 Adjustment Location

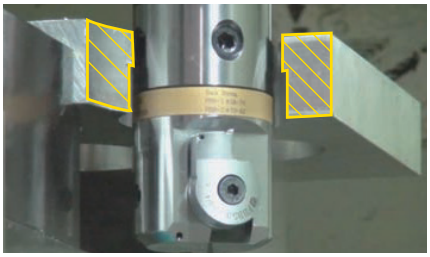
0.006 Adjustment Location | 0.008 Adjustment Location | 0.010 Adjustment Location

Back Boring Machining

Before Machining



After Machining



Convertible for Machining Direction

In case of Boring Machining	In case of Back Boring Machining
	

※ Boring direction can be easily shifted simply by changing the bite direction

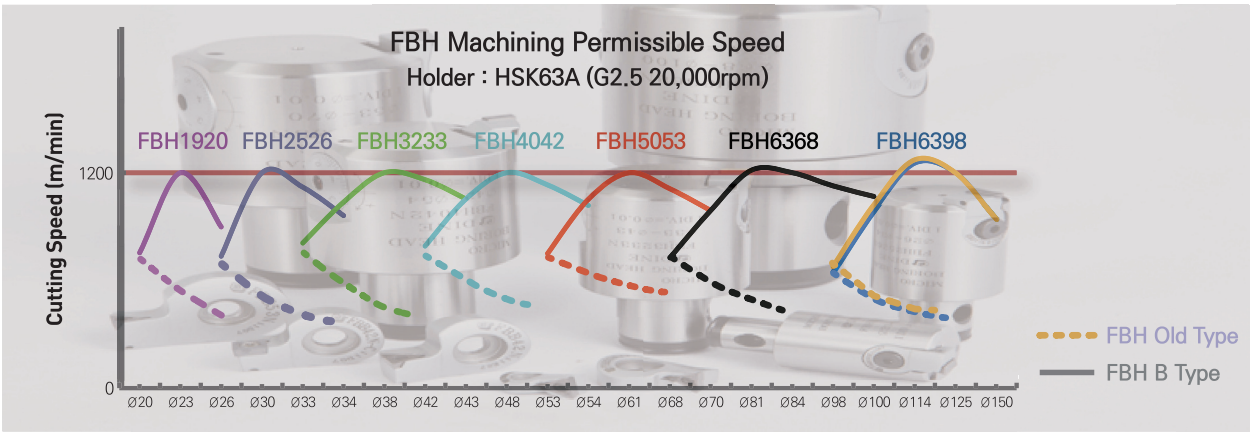
1:1 CHAT

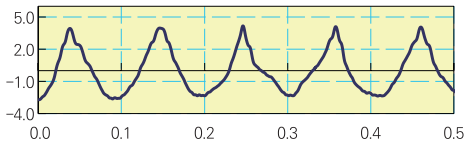
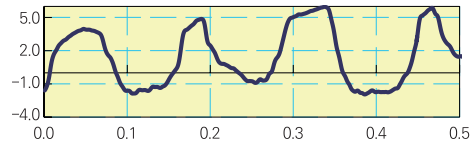
FBH/B

FBH Back Boring & Balanced Type

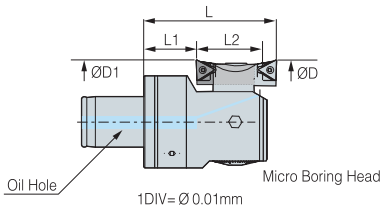


Test Results



Chuck	Designation	FBH2526B	FBH2526N
	V(m/min)	732 (6,861rpm)	
HSK63A-MD25F-60	Difference in surface roughness		
		• Constant and regular cycles are shown on the graph • Indicates stable boring work at high cutting speed	• Irregular cycles shown on the graph • Indicates unstable boring work at high cutting speed

Boring Range



Designation	Boring Range(ØD)			Backboring Range(ØD1)			
	Min.	Max.	L	Min.	Max.	L1	L2
FBH1920B	20(24)	26(30)	35	29	30	13	19
FBH2526B	26(32)	34(40)	41	36	40	15	22
FBH3233B	33(40)	43(50)	41	38(45)	43(50)	13	25
FBH4042B	42(50)	54(62)	50	48(56)	54(62)	15	31
FBH5053B	53(65)	70(82)	58	58(70)	70(82)	16	38
FBH6368B	68(90)	100(122)	81	78(100)	100(122)	27	49
FBH6398B	98(120)	150(172)	101	106(128)	150(172)	47	49
FBH8098B	98(120)	150(172)	101	106(128)	150(172)	47	49

*The value in the ( ) refers to the boring range of FBB bite extension type.

(Unit : mm)

1:1 CHAT

BT-FBH/B

Micro Boring Bar(Balanced Type)



MAS 403-BT	G6.3	C	20	172	
Shank	G value	Coolant System	Min Range	Max Range	Boring

Fig.1

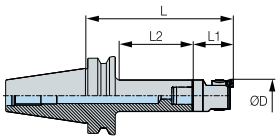


Fig.2

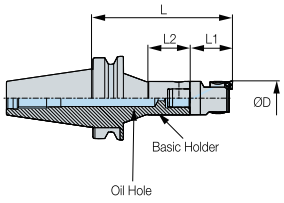
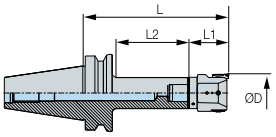
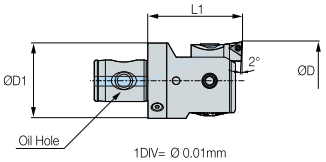


Fig.3



Head



- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 164P
- For more information on MD arbor, see 156P
- For more information on the related parts, see 172P
- For more information on FBB bite, see 177P

	Head Designation	Stock	Bite Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Head Weight (kg)	Head Package Weight(kg)	Fig
BT30	FBH1920B	●	FBB20N-□-□□	●	BT30-MD19F-70	●	20(24)	26(30)	105	35	45	19	0.2	0.2	1
	FBH2526B	●	FBB26N-□-□□	●	BT30-MD25F-90	●	26(32)	34(40)	131	41	63	25	0.2	0.2	1
	FBH3233B	●	FBB33N-□-□□	●	BT30-MD32F-80	●	33(40)	43(50)	121	41	55	32	0.3	0.3	1
	FBH4042B	●	FBB42N-□-□□	●	BT30-MD40F-45	●	42(50)	54(62)	95	50	22	40	0.5	0.5	1
	FBH4042B	●	FBB42N-□-□□	●	BT30-MD40F-60	●	42(50)	54(62)	110	50	36	40	0.5	0.5	1
	FBH4042B	●	FBB42N-□-□□	●	BT30-MD40F-80	●	42(50)	54(62)	130	50	56	40	0.5	0.5	1
	FBH5053B	●	FBB53N-□-□□	●	BT30-MD50F-70	●	53(65)	70(82)	128	58	47	50	0.8	0.9	1
BT40	FBH1920B	●	FBB20N-□-□□	●	BT40-MD19F-70	●	20(24)	26(30)	105	35	40	19	0.2	0.2	1
	FBH2526B	●	FBB26N-□-□□	●	BT40-MD25F-95	●	26(32)	34(40)	136	41	63	25	0.2	0.2	1
	FBH2526B	●	FBB26N-□-□□	●	BT40-MD25F-105R	●	26(32)	34(40)	146	41	40	25	0.2	0.2	2
	FBH3233B	●	FBB33N-□-□□	●	BT40-MD32F-100	●	33(40)	43(50)	141	41	70	32	0.3	0.3	1
	FBH3233B	●	FBB33N-□-□□	●	BT40-MD32F-115R	●	33(40)	43(50)	156	41	45	32	0.3	0.3	2
	FBH4042B	●	FBB42N-□-□□	●	BT40-MD40F-60	●	42(50)	54(62)	110	50	31	40	0.5	0.5	1
	FBH4042B	●	FBB42N-□-□□	●	BT40-MD40F-110R	●	42(50)	54(62)	160	50	60	40	0.5	0.5	2
	FBH4042B	●	FBB42N-□-□□	●	BT40-MD40F-115	●	42(50)	54(62)	165	50	83	40	0.5	0.5	1
	FBH5053B	●	FBB53N-□-□□	●	BT40-MD50F-105	●	53(65)	70(82)	163	58	73	50	0.8	0.9	1
	FBH6368B	●	FBB68N-□-□□	●	BT40-MD63F-64	●	68(90)	100(122)	145	81	37	63	2.1	2.3	3
	FBH6368B	●	FBB68N-□-□□	●	BT40-MD63F-110	●	68(90)	100(122)	191	81	83	63	2.1	2.3	3
	FBH6368B	●	FBB68N-□-□□	●	BT40-MD63F-135	●	68(90)	100(122)	216	81	108	63	2.1	2.3	3
	FBH6398B	●	FBB68N-□-□□	●	BT40-MD63F-64	●	98(120)	150(172)	165	101	37	63	3.6	3.8	3
	FBH6398B	●	FBB68N-□-□□	●	BT40-MD63F-110	●	98(120)	150(172)	211	101	83	63	3.6	3.8	3
	FBH6398B	●	FBB68N-□-□□	●	BT40-MD63F-135	●	98(120)	150(172)	236	101	108	63	3.6	3.8	3
	FBH8098B	●	FBB68N-□-□□	●	BT40-MD80F-100	●	98(120)	150(172)	201	101	73	80	4.8	5.1	3

(Unit : mm)

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.
- FBB bite is largely divided into general-type FBB□□N and extended-type (back boring) FBB□□N-1 and is available as FBB□□N-□-C09, FBB□□N-□-T11 depending on the insert.

Bite	Applicable Insert
FBB□□N, FBB□□N-1	TPGT TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L
FBB□□N-□-C09	CCMT, CCGT09T3□□L
FBB□□N-□-T11	TPGT1103□□L

1:1 CHAT

BT-FBH/B

Micro Boring Bar(Balanced Type)



MAS 403-BT	G6.3	C	20	172	
Shank	G value	Coolant System	Min Range	Max Range	Boring

Fig.1

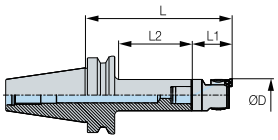


Fig.2

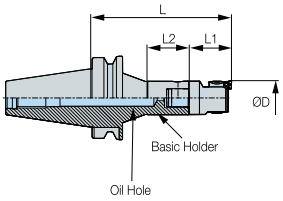
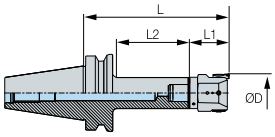
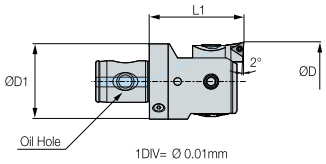


Fig.3



Head



- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 164P
- For more information on MD arbor, see 157P
- For more information on the related parts, see 172P
- For more information on FBB bite, see 177P

	Head Designation	Stock	Bite Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Head Weight (kg)	Head Package Weight(kg)	Fig
BT50	FBH1920B	●	FBB20N-□-□□	●	BT50-MD19F-85	●	20(24)	26(30)	120	35	44	19	0.2	0.2	1
	FBH2526B	●	FBB26N-□-□□	●	BT50-MD25F-105	●	26(32)	34(40)	146	41	62	25	0.2	0.2	1
	FBH2526B	●	FBB26N-□-□□	●	BT50-MD25F-120R	●	26(32)	34(40)	161	41	40	25	0.2	0.2	2
	FBH3233B	●	FBB33N-□-□□	●	BT50-MD32F-110	●	33(40)	43(50)	151	41	67	32	0.3	0.3	1
	FBH3233B	●	FBB33N-□-□□	●	BT50-MD32F-115R	●	33(40)	43(50)	156	41	45	32	0.3	0.3	2
	FBH3233B	●	FBB33N-□-□□	●	BT50-MD32F-235R	●	33(40)	43(50)	276	41	115	32	0.3	0.3	2
	FBH4042B	●	FBB42N-□-□□	●	BT50-MD40F-60	●	42(50)	54(62)	110	50	22	40	0.5	0.5	1
	FBH4042B	●	FBB42N-□-□□	●	BT50-MD40F-195	●	42(50)	54(62)	245	50	152	40	0.5	0.5	1
	FBH4042B	●	FBB42N-□-□□	●	BT50-MD40F-230R	●	42(50)	54(62)	280	50	180	40	0.5	0.5	2
	FBH5053B	●	FBB53N-□-□□	●	BT50-MD50F-125	●	53(65)	70(82)	183	58	82	50	0.8	0.9	1
	FBH5053B	●	FBB53N-□-□□	●	BT50-MD50F-225	●	53(65)	70(82)	283	58	182	50	0.8	0.9	1
	FBH5053B	●	FBB53N-□-□□	●	BT50-MD50F-250R	●	53(65)	70(82)	308	58	81	50	0.8	0.9	2
	FBH6368B	●	FBB68N-□-□□	●	BT50-MD63F-75	●	68(90)	100(122)	156	81	37	63	2.1	2.3	1
	FBH6368B	●	FBB68N-□-□□	●	BT50-MD63F-130	●	68(90)	100(122)	211	81	87	63	2.1	2.3	1
	FBH6368B	●	FBB68N-□-□□	●	BT50-MD63F-195	●	68(90)	100(122)	276	81	152	63	2.1	2.3	1
	FBH6368B	●	FBB68N-□-□□	●	BT50-MD63F-230	●	68(90)	100(122)	311	81	187	63	2.1	2.3	1
	FBH6398B	●	FBB68N-□-□□	●	BT50-MD63F-75	●	98(120)	150(172)	176	101	37	63	3.6	3.8	3
	FBH6398B	●	FBB68N-□-□□	●	BT50-MD63F-130	●	98(120)	150(172)	231	101	87	63	3.6	3.8	3
	FBH6398B	●	FBB68N-□-□□	●	BT50-MD63F-195	●	98(120)	150(172)	296	101	152	63	3.6	3.8	3
	FBH6398B	●	FBB68N-□-□□	●	BT50-MD63F-230	●	98(120)	150(172)	331	101	187	63	3.6	3.8	3
	FBH8098B	●	FBB68N-□-□□	●	BT50-MD80F-75	●	98(120)	150(172)	176	101	36	80	4.8	5.1	3
	FBH8098B	●	FBB68N-□-□□	●	BT50-MD80F-110	●	98(120)	150(172)	211	101	69	80	4.8	5.1	3
	FBH8098B	●	FBB68N-□-□□	●	BT50-MD80F-175	●	98(120)	150(172)	276	101	134	80	4.8	5.1	3

(Unit : mm)

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.
- FBB bite is largely divided into general-type FBB□□N and extended-type (back boring) FBB□□N-1 and is available as FBB□□N-□-C09, FBB□□N-□-T11 depending on the insert.

Bite	Applicable Insert
FBB□□N, FBB□□N-1	TPGT TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L
FBB□□N-□-C09	CCMT, CCGT09T3□□L
FBB□□N-□-T11	TPGT1103□□L

1:1 CHAT

HSK-FBH/B

Micro Boring Bar(Balanced Type)



DIN 69893-1	G6.3	C	20	172	
Shank	G value	Coolant System	Min Range	Max Range	Boring

Fig.1

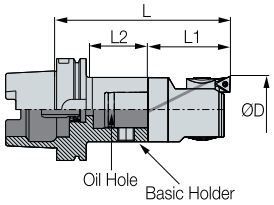
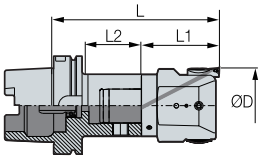
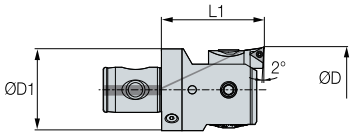


Fig.2



Head



1DIV=Ø0.01mm

- ● : Stock
- C Internal coolant system is optional
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 164P
- For more information on MD arbor, see 158P
- For more information on the related parts, see 172P
- For more information on FBB bite, see 177P

	Head Designation	Stock	Bite Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Head Weight (kg)	Head Package Weight(kg)	Fig.
HSK63A	FBH1920B	●	FBB20N-□-□□	●	HSK63A-MD19F-60	●	20(24)	26(30)	95	35	31	19	0.2	0.2	1
	FBH2526B	●	FBB26N-□-□□	●	HSK63A-MD25F-60	●	26(32)	34(40)	101	41	31	25	0.2	0.2	1
	FBH3233B	●	FBB33N-□-□□	●	HSK63A-MD32F-65	●	33(40)	43(50)	106	41	36	32	0.3	0.3	1
	FBH4042B	●	FBB42N-□-□□	●	HSK63A-MD40F-70	●	42(50)	54(62)	120	50	41	40	0.5	0.5	1
	FBH5053B	●	FBB53N-□-□□	●	HSK63A-MD50F-85	●	53(65)	70(82)	143	58	58	50	0.8	0.9	1
	FBH6368B	●	FBB68N-□-□□	●	HSK63A-MD63F-95	●	68(90)	100(122)	176	81	69	63	2.1	2.3	1
	FBH6398B	●	FBB68N-□-□□	●	HSK63A-MD63F-95	●	98(120)	150(172)	196	101	69	63	3.6	3.8	2

(Unit : mm)

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.
- FBB bite is largely divided into general-type FBB□□N and extended-type (back boring) FBB□□N-1 and is available as FBB□□N-□-C09, FBB□□N-□-T11 depending on the insert.

Bite	Applicable Insert
FBB□□N, FBB□□N-1	TPGT TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L
FBB□□N-□-C09	CCMT, CCGT09T3□□L
FBB□□N-□-T11	TPGT1103□□L

Accessories

SPARE PART

Type	Accessories	
	Coolant Tube for HSK	Wrench
Images		
Designation		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)

1:1 CHAT

SK-FBH/B

Micro Boring Bar(Balanced Type)



DIN69871 -1A/B	G6.3	C	26	172	
Shank	G value	Coolant System	Min Range	Max Range	Boring

Fig.1

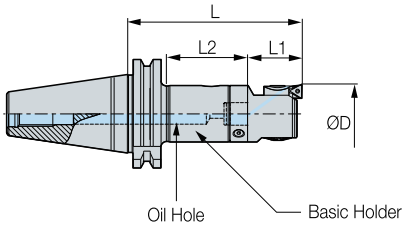


Fig.2

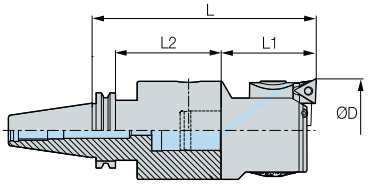
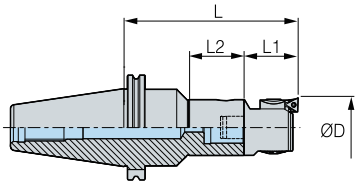
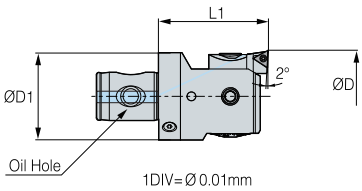


Fig.3



Head



- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 164P
- For more information on MD arbor, see 159P
- For more information on the related parts, see 172P
- For more information on FBB bite, see 177P

	Head Designation	Stock	Bite Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Head Weight (kg)	Head Package Weight(kg)	Fig.
SK40	FBH2526B	●	FBB26N-□-□□	●	SK40-MD25F-80R	●	26(32)	34(40)	121	41	22	25	0.2	0.2	3
	FBH3233B	●	FBB33N-□-□□	●	SK40-MD32F-115R	●	33(40)	43(50)	156	41	36	32	0.3	0.3	3
	FBH4042B	●	FBB42N-□-□□	●	SK40-MD40F-100	●	42(50)	54(62)	150	50	80	40	0.5	0.5	1
	FBH5053B	●	FBB53N-□-□□	●	SK40-MD50F-100	●	53(65)	70(82)	158	58	80	50	0.8	0.9	1
	FBH6368B	●	FBB68N-□-□□	●	SK40-MD63F-70	●	68(90)	100(122)	151	81	50	63	2.1	2.3	2
	FBH6398B	●	FBB68N-□-□□	●	SK40-MD63F-70	●	98(120)	150(172)	171	101	50	63	3.6	3.8	2
SK50	FBH2526B	●	FBB26N-□-□□	●	SK50-MD25F-105R	●	26(32)	34(40)	146	41	22	25	0.2	0.2	3
	FBH3233B	●	FBB33N-□-□□	●	SK50-MD32F-110	●	33(40)	43(50)	151	41	87	32	0.3	0.3	1
	FBH4042B	●	FBB42N-□-□□	●	SK50-MD40F-145	●	42(50)	54(62)	195	50	120	40	0.5	0.5	1
	FBH5053B	●	FBB53N-□-□□	●	SK50-MD50F-240R	●	53(65)	70(82)	298	58	125	50	0.8	0.9	3
	FBH6368B	●	FBB68N-□-□□	●	SK50-MD63F-130	●	68(90)	100(122)	211	81	107	63	2.1	2.3	1
	FBH6398B	●	FBB68N-□-□□	●	SK50-MD63F-130	●	98(120)	150(172)	231	101	107	63	3.6	3.8	1
	FBH8098B	●	FBB68N-□-□□	●	SK50-MD80F-150	●	98(120)	150(172)	251	101	130	80	4.8	5.1	1

(Unit : mm)

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.
- FBB bite is largely divided into general-type FBB□□N and extended-type (back boring) FBB□□N-1 and is available as FBB□□N-□-C09, FBB□□N-□-T11 depending on the insert.

Bite	Applicable Insert
FBB□□N, FBB□□N-1	TPGT TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L
FBB□□N-□-C09	CCMT, CCGT09T3□□L
FBB□□N-□-T11	TPGT1103□□L

1:1 CHAT

S-FBH/B

Micro Boring Bar(Balanced Type)



CARBIDE Shank | STEEL Shank | C Coolant System | 20 Min Range | 43 Max Range | Boring

Head

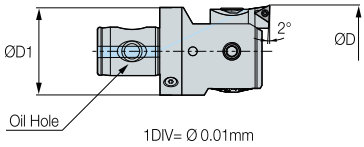
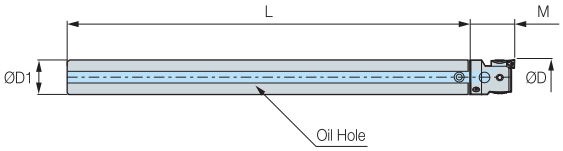


Fig.1



• ● : Stock
C Internal coolant system is basic
※ S□□W : Cemented carbide shank / S□□ : Steel shank

• For more information on product features, see 164P
• For more information on the related parts, see 172P
• For more information on FBB bite, see 177P

	Designation	Boring Range(ØD)		L	ØD1	M	Main Component			kg	Package Weight(kg)	Stock
		Min.	Max.				Shank	Boring Head	Bite			
Carbide Shank	S19W-FBH20B-120	20	26	157	19	35	S19W-MD19F-157	FBH1920B	FBB20N	0.6	0.7	●
	S19W-FBH20B-140	20	26	177	19	35	S19W-MD19F-177	FBH1920B	FBB20N	0.7	0.8	●
	S19W-FBH20B-160	20	26	197	19	35	S19W-MD19F-197	FBH1920B	FBB20N	0.8	0.9	●
	S25W-FBH26B-150	26	34	197	25	41	S25W-MD25F-197.5	FBH2526B	FBB26N	1.4	1.5	●
	S25W-FBH26B-175	26	34	222	25	41	S25W-MD25F-222.5	FBH2526B	FBB26N	1.6	1.7	●
	S25W-FBH26B-200	26	34	247	25	41	S25W-MD25F-247.5	FBH2526B	FBB26N	1.8	1.9	●
	S32W-FBH33B-180	33	43	239	32	41	S32W-MD32F-239	FBH3233B	FBB33N	2.7	2.8	●
	S32W-FBH33B-240	33	43	299	32	41	S32W-MD32F-299	FBH3233B	FBB33N	3.4	3.5	●
Steel Shank	S19-FBH20B-40	20	26	77	19	35	S19-MD19F-77	FBH1920B	FBB20N	0.2	0.3	●
	S19-FBH20B-80	20	26	117	19	35	S19-MD19F-117	FBH1920B	FBB20N	0.2	0.3	●
	S25-FBH26B-50	26	34	97	25	41	S25-MD25F-97.5	FBH2526B	FBB26N	0.4	0.5	●
	S25-FBH26B-100	26	34	147	25	41	S25-MD25F-147.5	FBH2526B	FBB26N	0.6	0.7	●
	S32-FBH33B-90	33	43	149	32	41	S32-MD32F-149	FBH3233B	FBB33N	1.1	1.2	●
	S32-FBH33B-120	33	43	179	32	41	S32-MD32F-179	FBH3233B	FBB33N	1.2	1.3	●

• FBB bite is largely divided into general-type FBB□□N and extended-type (back boring) FBB□□N-1 and is available as FBB□□N-□-C09, FBB□□N-□-T11 depending on the insert.

(Unit : mm)

Bite	Applicable Insert
FBB□□N, FBB□□N-1	TPGT TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L

1:1 CHAT

S-FBH

Small Micro Boring Bar with Carbide/Steel



CARBIDE Shank | STEEL Shank | C Coolant System | 15 Min Range | 22 Max Range | Boring

Head

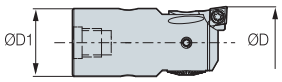
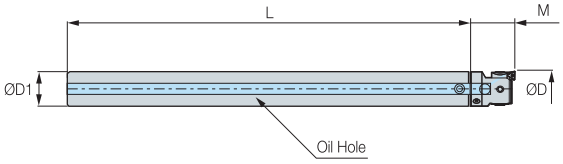


Fig.1



- ● : Stock
- C Internal coolant system is basic
- ※ S□□W : Cemented carbide shank / S□□ : Steel shank

- For more information on product features, see 164P
- For more information on the related parts, see 172P
- For more information on FBB bite, see 177P

	Designation	Boring Range(ØD)		L	ØD1	M	Main Component			kg	Package Weight(kg)	Stock
		Min.	Max.				Shank	Boring Head	Bite			
Carbide Shank	S14W-FBH15-85	15	18	123.25	14	31.75	S14W-M6-123	FBH15	FBB15-C	0.3	0.4	●
	S14W-FBH15-110	15	18	148.25	14	31.75	S14W-M6-148	FBH15	FBB15-C	0.3	0.4	●
	S16W-FBH18-95	18	22	128.25	16	36.75	S16W-M8-128	FBH18	FBB15-C	0.4	0.5	●
	S16W-FBH18-125	18	22	158.25	16	36.75	S16W-M8-158	FBH18	FBB15-C	0.5	0.6	●
Steel Shank	S14-FBH15-40	15	18	78.25	14	31.75	S14-M6-78	FBH15	FBB15-C	0.1	0.2	●
	S16-FBH18-45	18	22	78.25	16	36.75	S16-M8-78	FBH18	FBB15-C	0.1	0.2	●

(Unit : mm)

Bite	Applicable Insert
FBB15-C	CCET0301□□-L

1:1 CHAT

FBH/B SPARE PART

Micro Boring Balanced Type Related Parts



SPARE PART

Main Components		
Type(FBH/B)	Lock Screw	Wrench
		
FBH1920B	BTF0404	LW-2
FBH2526B	BTF0505	LW-2.5
FBH3233B	BTF0606	LW-3
FBH4042B	BTF0808	LW-4
FBH5053B	BTF0812	LW-4
FBH6368B	BTF1016	LW-5
FBH6398B	BTF1010	LW-5
FBH8098B	BTF1016	LW-5

1:1 CHAT

FBH SPARE PART

Micro Boring Related Parts



SPARE PART

Main Components					
Type(FBH)	Lock Screw	FBB	Clamp Screw	Insert Screw	Wrench
					
FBH15	BT0303	FBB15-C	BFTX02505N	BFTX01604N	LW-1.5 / TRX6
FBH18	BT0304	FBB15-C	BFTX02505N	BFTX01604N	LW-1.5 / TRX6

FBH/D NEW

Micro Boring Bar(Damping Type)



G6.3 G value | C Coolant System | Damping | Boring



Features

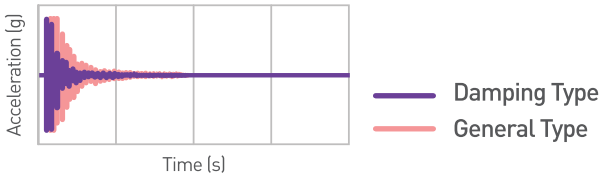
- Stable use on the deep holes is possible through the damping system (Max. 6D)
- Minimum diameter (Ø26)-based 6D processing (Max. insertion depth L=160mm)
- Tool life and the ability to bore difficult materials can be increased by reducing impact due to the damping effect
- Both internal and external coolants are available

NAMING

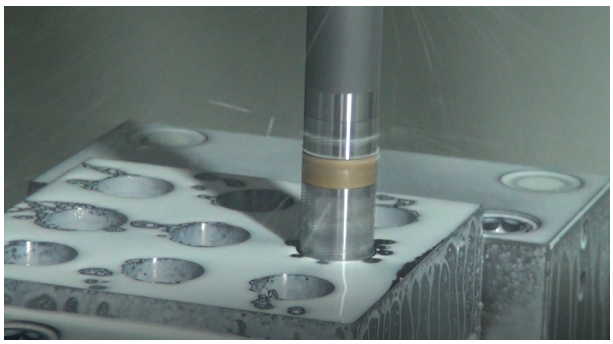
FBH	25	26	D
Fine Boring Head	MD Arbor Size	Boring Range(Min)	Damping

Machining Conditions	
Cutting Speed(m/min)	150~200
Feed Rate(mm/rev)	0.06~0.1
Depth of Cut(mm)	0.1 (One side)

Vibration Waveform Comparison



- A damping mechanism is built into the product to minimize vibration.



Precautions

- Performance may vary depending on conditions, so it is required to perform the work under the recommended conditions as much as possible.
- Inner oil supply Max. 60 bar
- Performance may decrease by arbitrary disassembly or impact.

※ The head and holder are integrated, so they cannot be disassembled.

General Boring Tool

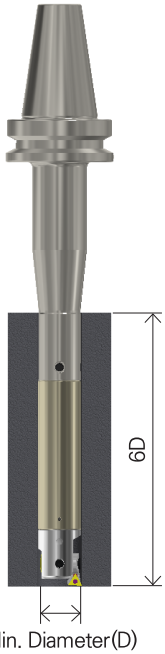


Insert damage or Severe shaking

Damping Boring Tool



Fine machining without vibration



Min. Diameter(D)

1:1 CHAT

BT-FBH/D

NEW

Micro Boring Bar(Damping Type)

MAS 403-BT	G6.3	C	26	40		
Shank	G value	Coolant System	Min Range	Max Range	Damping	Boring

Fig.1

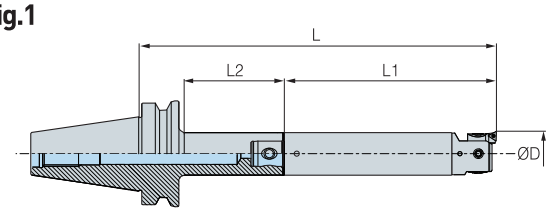
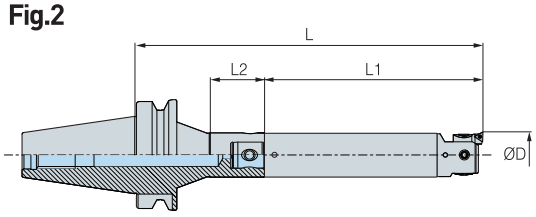
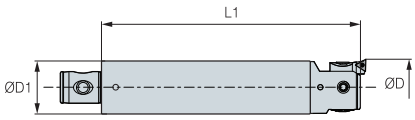


Fig.2



Head



• ● : Stock

C Internal coolant system is basic

※ Red : Main Component Blue : For Separate Purchase

• For more information on product features, see 173P

• For more information on FBB bite, see 177P

	Head Designation	Stock	Bite Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	kg	Package Weight(kg)	Fig
BT40	FBH2526D	●	FBB26N-□-□□	●	BT40-MD25F-95	●	26(32)	34(40)	215	120	63	25	0.5	0.5	1
	FBH2526D	●	FBB26N-□-□□	●	BT40-MD25F-105R	●	26(32)	34(40)	225	120	40	25	0.5	0.5	2
BT50	FBH2526D	●	FBB26N-□-□□	●	BT50-MD25F-105	●	26(32)	34(40)	225	120	62	25	0.5	0.5	1
	FBH2526D	●	FBB26N-□-□□	●	BT50-MD25F-120R	●	26(32)	34(40)	240	120	40	25	0.5	0.5	2
	FBH2526D	●	FBB26N-□-□□	●	BT50-MD25F-165	●	26(32)	34(40)	285	120	122	25	0.5	0.5	1

(Unit : mm)

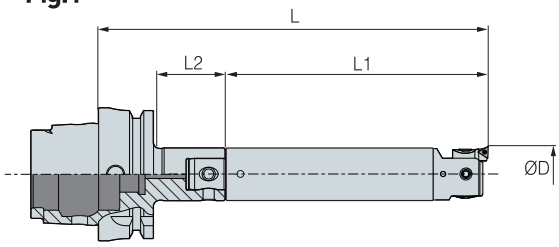
1:1 CHAT

HSK-FBH/D NEW

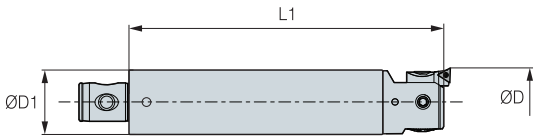
Micro Boring Bar(Damping Type)

DIN 69893-1	G6.3	C	26	40		
Shank	G value	Coolant System	Min Range	Max Range	Damping	Boring

Fig.1



Head



• ● : Stock

C Internal coolant system is optional

※ Red : Main Component Blue : For Separate Purchase

• For more information on product features, see 173P
• For more information on FBB bite, see 177P

HSK63A

Head Designation	Stock	Bite Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	kg	Package Weight(kg)	Fig
FBH2526D	●	FBB26N-□-□□	●	HSK63A-MD25F-60	●	26(32)	34(40)	180	120	31	25	0.5	0.5	1

(Unit : mm)

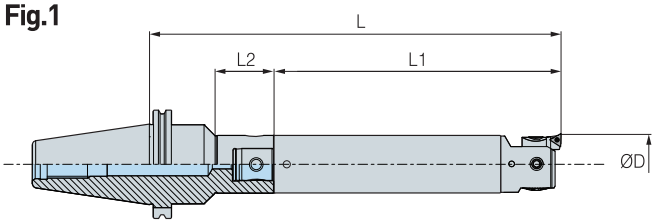
1:1 CHAT

SK-FBH/D NEW

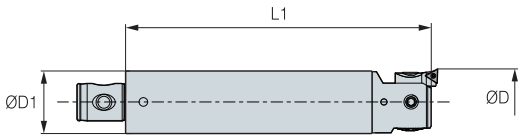
Micro Boring Bar(Damping Type)

DIN 69871-1A/B (Shank) | G6.3 (G value) | C (Coolant System) | 26 (Min Range) | 40 (Max Range) | Damping | Boring

Fig.1



Head



- ● : Stock

C Internal coolant system is basic

※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 173P
- For more information on FBB bite, see 177P

	Head Designation	Stock	Bite Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	kg	Package Weight(kg)	Fig
SK40	FBH2526D	●	FBB26N-□-□□	●	SK40-MD25F-80R	●	26(32)	34(40)	200	120	22	25	0.5	0.5	1
SK50	FBH2526D	●	FBB26N-□-□□	●	SK50-MD25F-105R	●	26(32)	34(40)	225	120	22	25	0.5	0.5	1

(Unit : mm)

1:1 CHAT

FBB BITE

Boring Bite



NAMING

FBB	20	N0	—	1	—	C
FBH Bite	Head No.	New Type		Non : General Type 1 : Expansion Type		Non : General Type C, T : Insert Type □ 0.9, □11 : Insert Size

SPARE PART

Designation	Boring Range (mm)	Insert	Insert Screw	Clamp Bolt
FBB15-C (FBH15)	Ø15~Ø18	CCET0301□□L	BFTX01604N	BFTX02505N
FBB15-C (FBH18)	Ø18~Ø22	CCET0301□□L	BFTX01604N	BFTX02505N
FBB20N	Ø20~Ø26	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0304
FBB20N-C	Ø20~Ø26	CCET0401□□L	FTNA0238	BXC0304
FBB20N-1	Ø24~Ø30	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0304
FBB20N-1-C	Ø24~Ø30	CCET0401□□L	FTNA0238	BXC0304
FBB26N	Ø26~Ø34	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0405
FBB26N-C	Ø26~Ø34	CCET0401□□L	FTNA0238	BXC0405
FBB26N-1	Ø32~Ø40	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0405
FBB26N-1-C	Ø32~Ø40	CCET0401□□L	FTNA0238	BXC0405
FBB33N	Ø33~Ø43	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0506
FBB33N-C	Ø33~Ø43	CCMT0602□□, CCGT0602□□	BFTX02506N	BXC0506
FBB33N-1	Ø41~Ø50	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0506
FBB33N-1-C	Ø41~Ø50	CCMT0602□□, CCGT0602□□L	BFTX02506N	BXC0506
FBB42N	Ø42~Ø54	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0610
FBB42N-C	Ø42~Ø54	CCMT0602□□, CCGT0602□□L	BFTX02506N	BXC0610
FBB42N-11	Ø42~Ø54	TPGT1103□□L	BFTX0307A	BXC0610
FBB42N-1	Ø50~Ø62	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0610
FBB42N-1-C	Ø50~Ø62	CCMT0602□□, CCGT0602□□L	BFTX02506N	BXC0610
FBB42N-1-T11	Ø50~Ø62	TPGT1103□□L	BFTX0307A	BXC0610
FBB53N	Ø53~Ø70	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0610
FBB53N-C	Ø53~Ø70	CCMT0602□□, CCGT0602□□	BFTX02506N	BXC0610
FBB53N-11	Ø53~Ø70	TPGT1103□□L	BFTX0307A	BXC0610
FBB53N-1	Ø65~Ø82	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0610
FBB53N-1-C	Ø65~Ø82	CCMT0602□□, CCGT0602□□L	BFTX02506N	BXC0610
FBB53N-1-C09	Ø65~Ø82	CCMT09T3□□, CCGT09T3□□L	BFTX0407N	BXC0610
FBB53N-1-T11	Ø65~Ø82	TPGT1103□□L	BFTX0307A	BXC0610
FBB68N	Ø68~Ø100 / Ø98~Ø150	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0810
FBB68N-C	Ø68~Ø100 / Ø98~Ø150	CCMT09T3□□, CCGT09T3□□L	BFTX0407N	BXC0810
FBB68N-11	Ø68~Ø100 / Ø98~Ø150	TPGT1103□□L	BFTX0307A	BXC0810
FBB68N-1	Ø90~Ø122 / Ø120~Ø172	TPGT0802□□L, TPGW0802□□	BFTX0204A	BXC0810
FBB68N-1-C09	Ø90~Ø122 / Ø120~Ø172	CCMT09T3□□, CCGT09T3□□L	BFTX0407N	BXC0810
FBB68N-1-T11	Ø90~Ø122 / Ø120~Ø172	TPGT1103□□L	BFTX0307A	BXC0810

(Unit : mm)

1:1 CHAT

DBCA

New Balance Cut Tool



C	28	130	
Coolant System	Min Range	Max Range	Boring



Features

- Bidirectional simultaneous diameter adjustment is available due to the twin control structure
- Machining rigidity is reinforced due to the cartridge assist design
- Broader machining area than the existing products
- Boring range : Ø28–Ø130(mm)

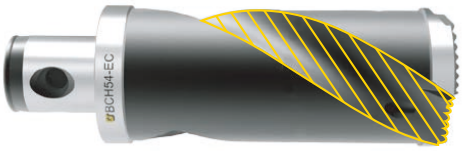
NAMING

DBCA	32	33	S	–	H
New Balance Cut Tool	MD Arbor Size	Min. Boring diameter	Bcc Cartridge Set		H : Helical Type Non : Straight Type

Main Features

Helical Type

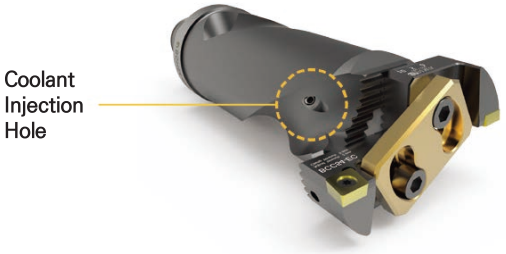
- Improved capacity to discharge chips from clogged and deep holes
- Minimized damage to tools and insert due to chip clogging



Extended Head Length	Deep hole machining implemented
Helical Type	Improved capacity to discharge chips from holes

Boring Area Optimization

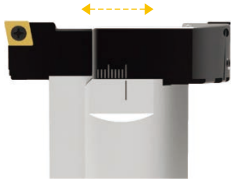
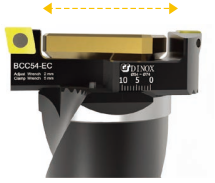
- Max. diameter expanded owing to reinforced rigidity
- Boring range expanded per designation versus conventional boring range of DINE

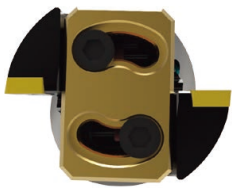
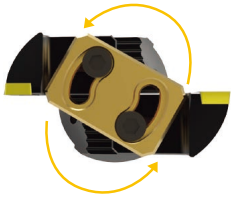


Coolant Hole (Direct Injection to Cutting Edge)	• Improved capacity to discharge chips • Improved capacity of machining

Effect of Improved Rigidity for Cartridge by Cover

Clamps the top of the cartridge stably, minimizing the vibration of tools and improving the roughness of the working surface

Non-covered	Covered
Small Contact Area	Large Contact Area
	

State of MIN Machining Diameter	State of MAX Machining Diameter
	

1:1 CHAT

DBCA

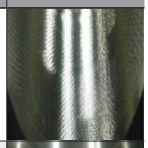
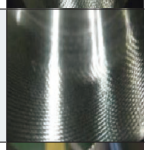
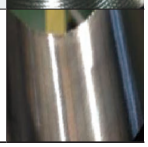
New Balance Cut Tool



Comparison with Competitors

Verifying of less vibration due to improved rigidity and smooth chip discharge

→ Superior performance compared to competitors

Manufacturer	L/D	Surface Roughness (RA)	Special Note	Machined Surface
Company A	5D	3.82	Vibration occurred	
Company B	5D	2.46	Vibration occurred, Chips tangled	
DINE	5D	2.19	Well-machined surface, No chip tangled	

New Machining Range versus Old Machining Range of DINE

DBC



Designation	Boring Range ØD	
	Min.	Max.
DBC2528S	28	35
DBC3235S	35	46
DBC4046S	46	58
DBC5058S	58	74
DBC6347S	74	94
DBC8094S	94	120

DBCA

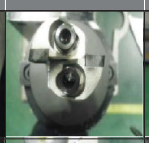
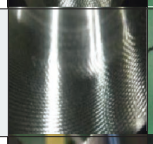
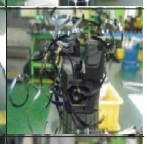
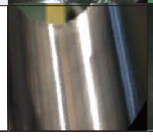
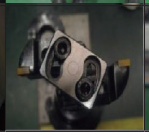
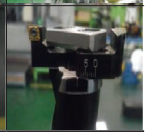


Designation	Boring Range ØD	
	Min.	Max.
DBCA2528S-H	28	38
DBCA3238S-H	38	54
DBCA5054S-H	54	74
DBCA6374S-H	74	100
DBCA80100S-H	100	130

(Unit : mm)

Comparison with Competitors

Machining Conditions	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Material	Item	Depth of Hall (mm)
	200	0.08	2	S45C	Penetration Hall	30

Manufacturer	Insert	Gauge Line (Head+Shank)	Boring Diameter (mm)	L/D	Surface Roughness (RA)	Special Notes	Machined Surface	Tool Top	Tool Side
Competitor A	SCMT09T0304	164	Ø35	4.68	3.82	Vibration occurred			
Competitor B	CCMT080204	180	Ø35	5.14	2.46	Vibration occurred, Chips tangled			
DINE	CCMT060204	175	Ø35	5	2.19	Wellmachined surface, No chip tangled			

1:1 CHAT

BT-DBCA-H (Helical Type)

New Balance Cut Tool(Helical Type)



MAS 403-BT	C	28	130	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

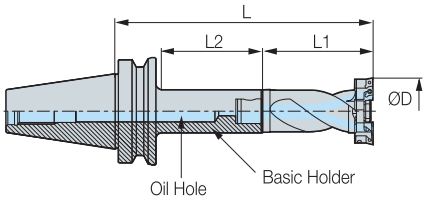


Fig.2

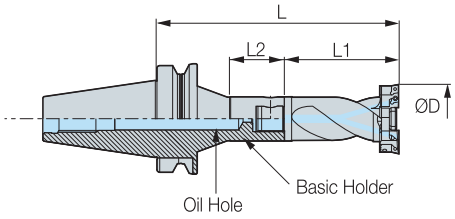
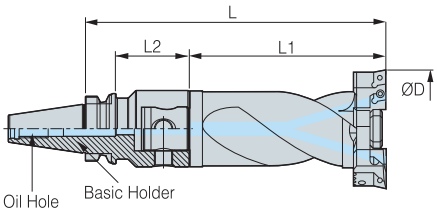
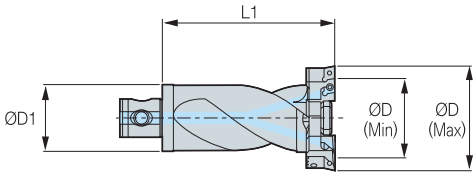


Fig.3



Head



1DIV= Ø 0.01mm

- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 178P
- For more information on MD arbor, see 156P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

	Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight (kg)	Head Package Weight(kg)
BT30	DBCA2528S-H	●	BT30-MD25F-90	●	28	38	193	103	63	25	1	0.3	0.3
	DBCA3238S-H	●	BT30-MD32F-80	●	38	54	190	110	55	32	1	0.5	0.6
	DBCA5054S-H	●	BT30-MD50F-70	●	54	74	215	145	48	50	3	1.8	1.9
BT40	DBCA2528S-H	●	BT40-MD25F-95	●	28	38	198	103	63	25	1	0.3	0.3
	DBCA2528S-H	●	BT40-MD25F-105R	●	28	38	208	103	41	25	2	0.3	0.3
	DBCA3238S-H	●	BT40-MD32F-100	●	38	54	210	110	70	32	1	0.5	0.6
	DBCA3238S-H	●	BT40-MD32F-115R	●	38	54	225	110	46	32	2	0.5	0.6
	DBCA5054S-H	●	BT40-MD50F-105	●	54	74	250	145	73	50	1	1.8	1.9
	DBCA6374S-H	●	BT40-MD63F-64	●	74	100	244	180	37	63	1	3.3	3.5
	DBCA6374S-H	●	BT40-MD63F-110	●	74	100	290	180	83	63	1	3.3	3.5
	DBCA6374S-H	●	BT40-MD63F-135	●	74	100	315	180	108	63	1	3.3	3.5
	DBCA80100S-H	●	BT40-MD80F-100	●	100	130	315	215	73	80	3	7.3	7.6

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page

(Unit : mm)

- DBCA2528S-H : CCMT0602☐☐
- DBCA3238S-H : CCMT0602☐☐
- DBCA5054S-H : CCMT09T3☐☐
- DBCA6374S-H : CCMT1204☐☐
- DBCA80100S-H : CCMT1204☐☐

1:1 CHAT

BT-DBCA-H (Helical Type)

New Balance Cut Tool(Helical Type)



MAS 403-BT	C	28	130	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

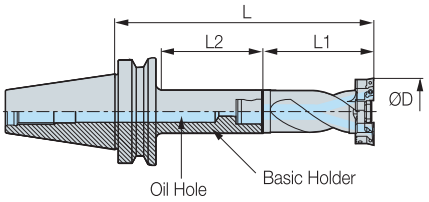
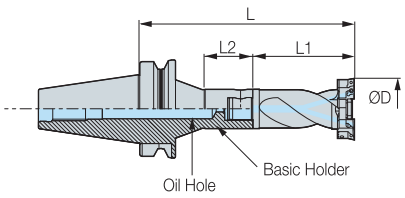
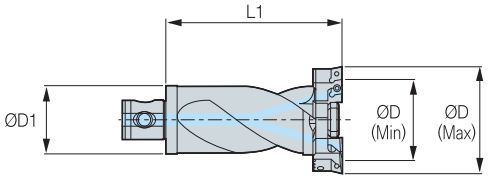


Fig.2



Head



1DIV= Ø 0.01mm

- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 178P
- For more information on MD arbor, see 157P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

	Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight(kg)	Head Package Weight(kg)
BT50	DBCA2528S-H	●	BT50-MD25F-105	●	28	38	208	103	62	25	1	0.3	0.3
	DBCA2528S-H	●	BT50-MD25F-120R	●	28	38	223	103	41	25	2	0.3	0.3
	DBCA3238S-H	●	BT50-MD32F-110	●	38	54	220	110	67	32	1	0.5	0.6
	DBCA3238S-H	●	BT50-MD32F-115R	●	38	54	225	110	46	32	2	0.5	0.6
	DBCA3238S-H	●	BT50-MD32F-235R	●	38	54	345	110	115	32	2	0.5	0.6
	DBCA5054S-H	●	BT50-MD50F-125	●	54	74	270	145	82	50	1	1.8	1.9
	DBCA5054S-H	●	BT50-MD50F-225	●	54	74	370	145	182	50	1	1.8	1.9
	DBCA5054S-H	●	BT50-MD50F-250R	●	54	74	395	145	81	50	2	1.8	1.9
	DBCA6374S-H	●	BT50-MD63F-75	●	74	100	255	180	35	63	1	3.3	3.5
	DBCA6374S-H	●	BT50-MD63F-130	●	74	100	310	180	87	63	1	3.3	3.5
	DBCA6374S-H	●	BT50-MD63F-195	●	74	100	375	180	152	63	1	3.3	3.5
	DBCA6374S-H	●	BT50-MD63F-230	●	74	100	410	180	187	63	1	3.3	3.5
	DBCA80100S-H	●	BT50-MD80F-75	●	100	130	290	215	36	80	1	7.3	7.6
	DBCA80100S-H	●	BT50-MD80F-110	●	100	130	325	215	69	80	1	7.3	7.6
	DBCA80100S-H	●	BT50-MD80F-175	●	100	130	390	215	134	80	1	7.3	7.6

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page

(Unit : mm)

- DBCA2528S-H : CCMT0602☐☐
- DBCA3238S-H : CCMT0602☐☐
- DBCA5054S-H : CCMT09T3☐☐
- DBCA6374S-H : CCMT1204☐☐
- DBCA80100S-H : CCMT1204☐☐

1:1 CHAT

HSK-DBCA-H (Helical Type)

New Balance Cut Tool(Helical Type)



DIN 69893-1	C	28	100	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

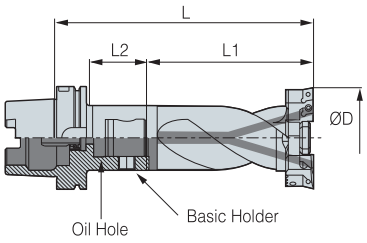
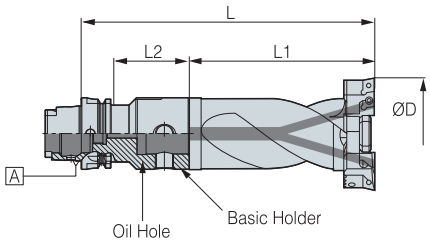
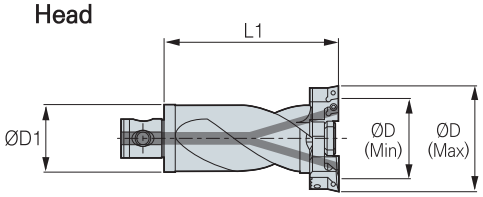


Fig.2



Head



1DIV=Ø 0.01mm

- ● : Stock
- C Internal coolant system is optional
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 178P
- For more information on MD arbor, see 158P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

HSK63A

Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight(kg)	Head Package Weight(kg)
DBCA2528S-H	●	HSK63A-MD25F-60	●	28	38	163	103	31	25	1	0.3	0.3
DBCA3238S-H	●	HSK63A-MD32F-65	●	38	54	175	110	36	32	1	0.5	0.6
DBCA5054S-H	●	HSK63A-MD50F-85	●	54	74	230	145	58	50	1	1.8	1.9
DBCA6374S-H	●	HSK63A-MD63F-95	●	74	100	275	180	69	63	2	3.3	3.5

(Unit : mm)

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

- DBCA2528S-H : CCMT0602□□
- DBCA3238S-H : CCMT0602□□
- DBCA5054S-H : CCMT09T3□□
- DBCA6374S-H : CCMT1204□□
- DBCA80100S-H : CCMT1204□□

Accessories

SPARE PART

Type	Accessories	
	Coolant Tube for HSK	Wrench
Images		
Designation		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)

1:1 CHAT

SK-DBCA-H (Helical Type)

New Balance Cut Tool(Helical Type)



DIN 69871-1A/B (Shank) | C (Coolant System) | 28 (Min Range) | 130 (Max Range) | Boring

Fig.1

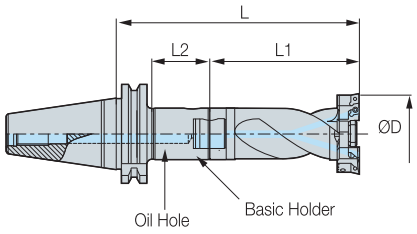


Fig.2

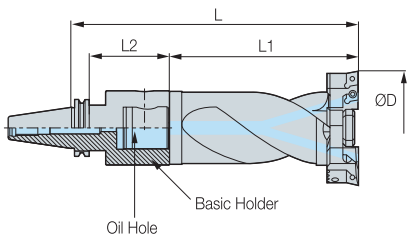
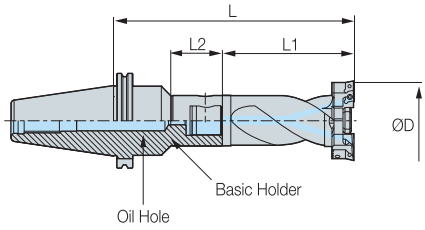
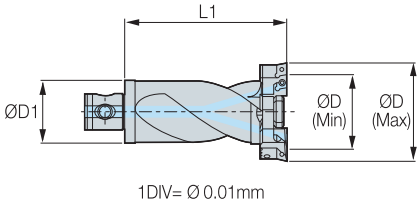


Fig.3



Head



- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 178P
- For more information on MD arbor, see 159P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

	Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight (kg)	Head Package Weight(kg)
SK40	DBCA2528S-H	●	SK40-MD25F-80R	●	28	38	183	103	22	25	3	0.3	0.3
	DBCA3238S-H	●	SK40-MD32F-115R	●	38	54	225	110	36	32	3	0.5	0.6
	DBCA5054S-H	●	SK40-MD50F-75	●	54	74	220	145	55	50	1	1.8	1.9
	DBCA5054S-H	●	SK40-MD50F-100	●	54	74	245	145	80	50	1	1.8	1.9
	DBCA6374S-H	●	SK40-MD63F-70	●	74	100	250	180	50	63	2	3.3	3.5
SK50	DBCA2528S-H	●	SK50-MD25F-80R	●	28	38	183	103	22	25	3	0.3	0.3
	DBCA2528S-H	●	SK50-MD25F-105R	●	28	38	208	103	22	25	3	0.3	0.3
	DBCA3238S-H	●	SK50-MD32F-110	●	38	54	220	110	87	32	1	0.5	0.6
	DBCA3238S-H	●	SK50-MD32F-110R	●	38	54	220	110	36	32	3	0.5	0.6
	DBCA5054S-H	●	SK50-MD50F-125R	●	54	74	270	145	60	50	3	1.8	1.9
	DBCA5054S-H	●	SK50-MD50F-240R	●	54	74	385	145	125	50	3	1.8	1.9
	DBCA6374S-H	●	SK50-MD63F-75	●	74	100	255	180	52	63	1	3.3	3.5
	DBCA6374S-H	●	SK50-MD63F-130	●	74	100	310	180	107	63	1	3.3	3.5
	DBCA6374S-H	●	SK50-MD63F-230R	●	74	100	410	180	149	63	3	3.3	3.5
	DBCA80100S-H	●	SK50-MD80F-95	●	100	130	310	215	75	80	1	7.3	7.6
	DBCA80100S-H	●	SK50-MD80F-150	●	100	130	365	215	129	80	1	7.3	7.6

(Unit : mm)

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

- DBCA2528S-H : CCMT0602□□
- DBCA3238S-H : CCMT0602□□
- DBCA5054S-H : CCMT09T3□□
- DBCA6374S-H : CCMT1204□□
- DBCA80100S-H : CCMT1204□□

1:1 CHAT

BT-DBCA

New Balance Cut Tool(Straight Type)



MAS 403-BT	C	28	130	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

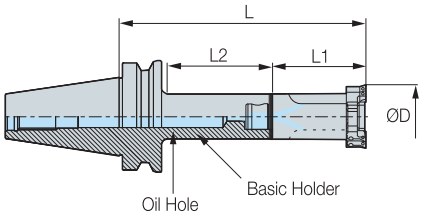


Fig.2

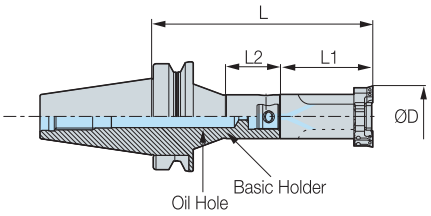
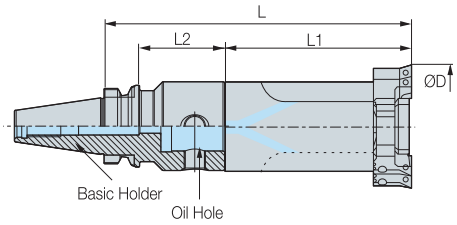
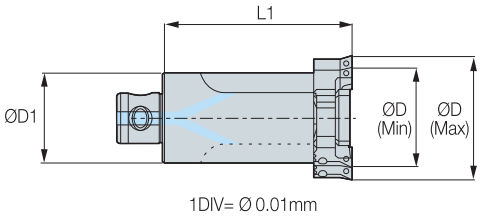


Fig.3



Head



1DIV= Ø 0.01mm

- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 178P
- For more information on MD arbor, see 156P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

	Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight(kg)	Head Package Weight(kg)
BT30	DBCA2528S	●	BT30-MD25F-90	●	28	38	150	60	63	25	1	0.2	0.2
	DBCA3238S	●	BT30-MD32F-80	●	38	54	145	65	55	32	1	0.4	0.4
	DBCA5054S	●	BT30-MD50F-70	●	54	74	150	80	48	50	3	1.1	1.1
BT40	DBCA2528S	●	BT40-MD25F-95	●	28	38	155	60	63	25	1	0.2	0.2
	DBCA2528S	●	BT40-MD25F-105R	●	28	38	165	60	41	25	2	0.2	0.2
	DBCA3238S	●	BT40-MD32F-100	●	38	54	165	65	70	32	1	0.4	0.4
	DBCA3238S	●	BT40-MD32F-115R	●	38	54	180	65	46	32	2	0.4	0.4
	DBCA5054S	●	BT40-MD50F-105	●	54	74	185	80	73	50	1	1.1	1.1
	DBCA6374S	●	BT40-MD63F-64	●	74	100	154	90	37	63	1	1.9	2.1
	DBCA6374S	●	BT40-MD63F-110	●	74	100	200	90	83	63	1	1.9	2.1
	DBCA6374S	●	BT40-MD63F-135	●	74	100	225	90	108	63	1	1.9	2.1
	DBCA80100S	●	BT40-MD80F-100	●	100	130	200	100	73	80	3	3.7	3.9

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

(Unit : mm)

- DBCA2528S : CCMT0602□□
- DBCA3238S : CCMT0602□□
- DBCA5054S : CCMT09T3□□
- DBCA6374S : CCMT1204□□
- DBCA80100S : CCMT1204□□

1:1 CHAT

BT-DBCA

New Balance Cut Tool(Straight Type)



MAS 403-BT	C	28	130	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

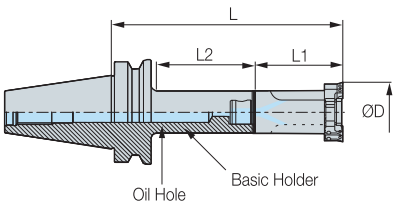
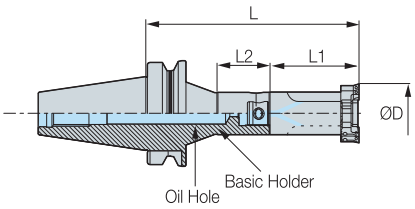
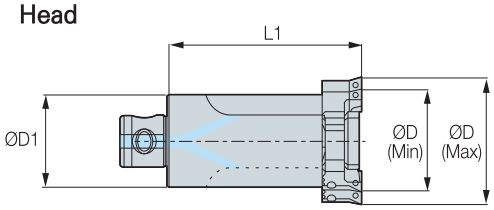


Fig.2



Head



1DIV= Ø 0.01mm

- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 178P
- For more information on MD arbor, see 157P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

BT50

Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight(kg)	Head Package Weight(kg)
DBCA2528S	●	BT50-MD25F-105	●	28	38	165	60	62	25	1	0.2	0.2
DBCA2528S	●	BT50-MD25F-120R	●	28	38	180	60	41	25	2	0.2	0.2
DBCA3238S	●	BT50-MD32F-110	●	38	54	175	65	67	32	1	0.4	0.4
DBCA3238S	●	BT50-MD32F-115R	●	38	54	180	65	46	32	2	0.4	0.4
DBCA3238S	●	BT50-MD32F-235R	●	38	54	300	65	115	32	2	0.4	0.4
DBCA5054S	●	BT50-MD50F-125	●	54	74	205	80	82	50	1	1.1	1.1
DBCA5054S	●	BT50-MD50F-225	●	54	74	305	80	182	50	1	1.1	1.1
DBCA5054S	●	BT50-MD50F-250R	●	54	74	330	80	81	50	2	1.1	1.1
DBCA6374S	●	BT50-MD63F-75	●	74	100	165	90	35	63	1	1.9	2.1
DBCA6374S	●	BT50-MD63F-130	●	74	100	220	90	87	63	1	1.9	2.1
DBCA6374S	●	BT50-MD63F-195	●	74	100	285	90	152	63	1	1.9	2.1
DBCA6374S	●	BT50-MD63F-230	●	74	100	320	90	187	63	1	1.9	2.1
DBCA80100S	●	BT50-MD80F-75	●	100	130	175	100	36	80	1	3.7	3.9
DBCA80100S	●	BT50-MD80F-110	●	100	130	210	100	69	80	1	3.7	3.9
DBCA80100S	●	BT50-MD80F-175	●	100	130	275	100	134	80	1	3.7	3.9

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

(Unit : mm)

- DBCA2528S : CCMT0602□□
- DBCA3238S : CCMT0602□□
- DBCA5054S : CCMT09T3□□
- DBCA6374S : CCMT1204□□
- DBCA80100S : CCMT1204□□

1:1 CHAT

HSK-DBCA

New Balance Cut Tool(Straight Type)



DIN 69893-1	C	28	100	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

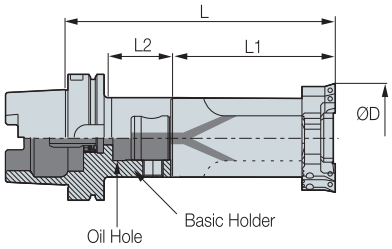
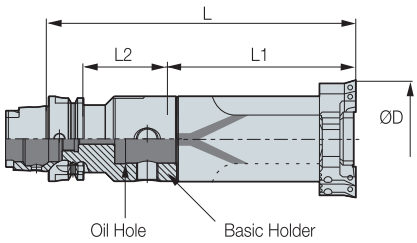
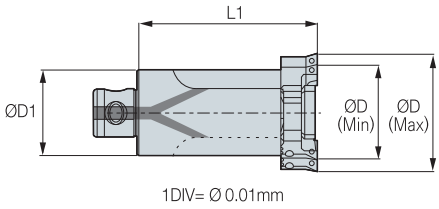


Fig.2



Head



1DIV= Ø 0.01mm

- ● : Stock
- C Internal coolant system is optional
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 178P
- For more information on MD arbor, see 158P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

	Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight(kg)	Head Package Weight(kg)
HSK63A	DBCA2528S	●	HSK63A-MD25F-60	●	28	38	120	60	31	25	1	0.3	0.3
	DBCA3238S	●	HSK63A-MD32F-65	●	38	54	130	65	36	32	1	0.5	0.6
	DBCA5054S	●	HSK63A-MD50F-85	●	54	74	165	80	58	50	1	1.8	1.9
	DBCA6374S	●	HSK63A-MD63F-95	●	74	100	185	90	69	63	2	3.3	3.5

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

(Unit : mm)

- DBCA2528S : CCMT0602☐☐
- DBCA3238S : CCMT0602☐☐
- DBCA5054S : CCMT09T3☐☐
- DBCA6374S : CCMT1204☐☐
- DBCA80100S : CCMT1204☐☐

Accessories

SPARE PART

Type / Images / Designation	Accessories: Coolant Tube for HSK	Accessories: Wrench
		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)

1:1 CHAT

SK-DBCA

New Balance Cut Tool(Straight Type)



DIN 69871-1A/B — Shank
C — Coolant System
28 — Min Range
130 — Max Range
Boring

Fig.1

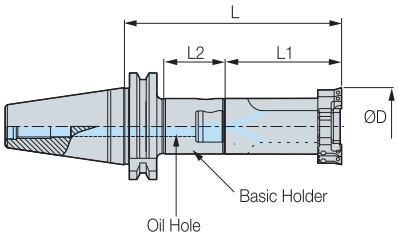


Fig.2

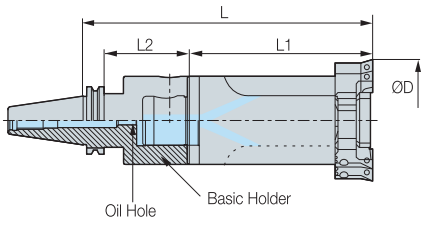
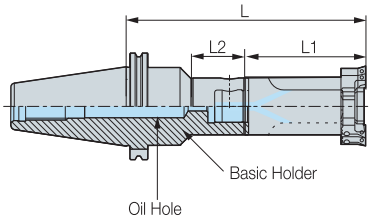
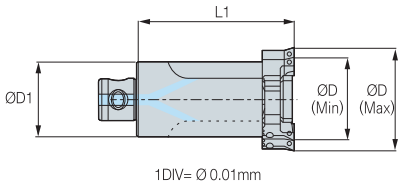


Fig.3



Head



- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on product features, see 178P
- For more information on MD arbor, see 159P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

	Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight (kg)	Head Package Weight(kg)
SK40	DBCA2528S	●	SK40-MD25F-80R	●	28	38	140	60	22	25	3	0.2	0.2
	DBCA3238S	●	SK40-MD32F-115R	●	38	54	180	65	36	32	3	0.4	0.4
	DBCA5054S	●	SK40-MD50F-75	●	54	74	155	80	55	50	1	1.1	1.1
	DBCA5054S	●	SK40-MD50F-100	●	54	74	180	80	80	50	1	1.1	1.1
	DBCA6374S	●	SK40-MD63F-70	●	74	100	160	90	50	63	2	1.9	2.1
SK50	DBCA2528S	●	SK50-MD25F-80R	●	28	38	140	60	22	25	3	0.2	0.2
	DBCA2528S	●	SK50-MD25F-105R	●	28	38	165	60	22	25	3	0.2	0.2
	DBCA3238S	●	SK50-MD32F-110	●	38	54	175	65	87	32	1	0.4	0.4
	DBCA3238S	●	SK50-MD32F-110R	●	38	54	175	65	36	32	3	0.4	0.4
	DBCA5054S	●	SK50-MD50F-125R	●	54	74	205	80	60	50	3	1.1	1.1
	DBCA5054S	●	SK50-MD50F-240R	●	54	74	320	80	125	50	3	1.1	1.1
	DBCA6374S	●	SK50-MD63F-75	●	74	100	165	90	52	63	1	1.9	2.1
	DBCA6374S	●	SK50-MD63F-130	●	74	100	220	90	107	63	1	1.9	2.1
	DBCA6374S	●	SK50-MD63F-230R	●	74	100	320	90	149	63	3	1.9	2.1
	DBCA80100S	●	SK50-MD80F-95	●	100	130	195	100	75	80	1	3.7	3.9
	DBCA80100S	●	SK50-MD80F-150	●	100	130	250	100	129	80	1	3.7	3.9

(Unit : mm)

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

- DBCA2528S : CCMT0602☐☐
- DBCA3238S : CCMT0602☐☐
- DBCA5054S : CCMT09T3☐☐
- DBCA6374S : CCMT1204☐☐
- DBCA80100S : CCMT1204☐☐

1:1 CHAT

BT-DBC

Balance Cut Tool(Rough Boring)



MAS 403-BT	C	28	120	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

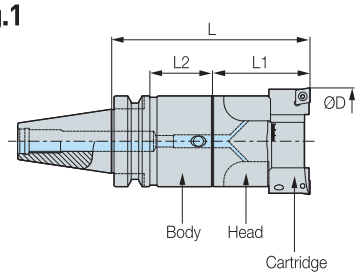


Fig.2

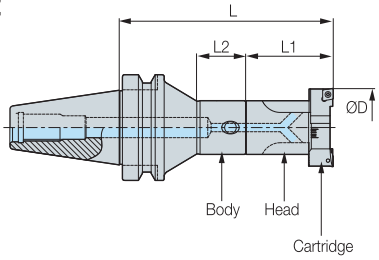
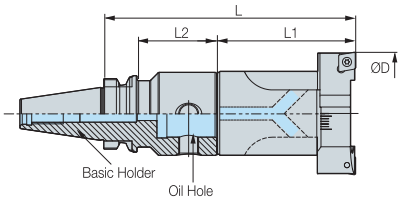
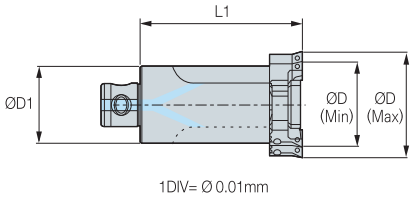


Fig.3



Head



1DIV= Ø 0.01mm

- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 156P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

	Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight(kg)	Head Package Weight(kg)
BT30	DBC2528S	●	BT30-MD25F-90	●	28	35	150	60	63	25	1	0.3	0.3
	DBC3235S	●	BT30-MD32F-80	●	35	46	145	65	55	32	1	0.4	0.4
	DBC4046S	●	BT30-MD40F-45	●	46	58	115	70	22	40	1	0.6	0.7
	DBC4046S	●	BT30-MD40F-60	●	46	58	130	70	36	40	1	0.6	0.7
	DBC4046S	●	BT30-MD40F-80	●	46	58	150	70	56	40	1	0.6	0.7
	DBC5058S	●	BT30-MD50F-70	●	58	74	150	80	48	50	3	1.1	1.2
BT40	DBC2528S	●	BT40-MD25F-95	●	28	35	155	60	63	25	1	0.3	0.3
	DBC2528S	●	BT40-MD25F-105R	●	28	35	165	60	41	25	2	0.3	0.3
	DBC3235S	●	BT40-MD32F-100	●	35	46	165	65	70	32	1	0.4	0.4
	DBC3235S	●	BT40-MD32F-115R	●	35	46	180	65	46	32	2	0.4	0.4
	DBC4046S	●	BT40-MD40F-60	●	46	58	130	70	31	40	1	0.6	0.7
	DBC4046S	●	BT40-MD40F-110R	●	46	58	180	70	60	40	2	0.6	0.7
	DBC4046S	●	BT40-MD40F-115	●	46	58	185	70	83	40	1	0.6	0.7
	DBC5058S	●	BT40-MD50F-105	●	58	74	185	80	73	50	1	1.1	1.2
	DBC6374S	●	BT40-MD63F-64	●	74	94	154	90	37	63	1	2.0	2.2
	DBC6374S	●	BT40-MD63F-110	●	74	94	200	90	83	63	1	2.0	2.2
	DBC6374S	●	BT40-MD63F-135	●	74	94	225	90	108	63	1	2.0	2.2
	DBC8094S	●	BT40-MD80F-100	●	94	120	200	100	73	80	3	3.5	3.7

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

(Unit : mm)

- DBC2528S : CCMT0602☐☐
- DBC3235S : CCMT0602☐☐
- DBC4046S : CCMT09T3☐☐
- DBC5058S : CCMT09T3☐☐
- DBC6374S : CCMT1204☐☐
- DBC8094S : CCMT1204☐☐

1:1 CHAT

BT-DBC

Balance Cut Tool(Rough Boring)



MAS 403-BT Shank | C Coolant System | 28 Min Range | 175 Max Range | Boring

Fig.1

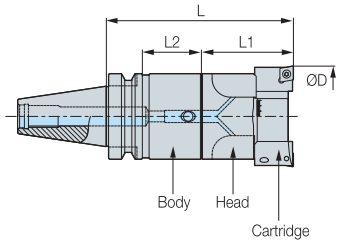
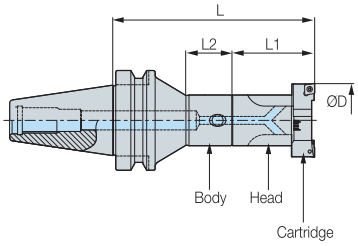
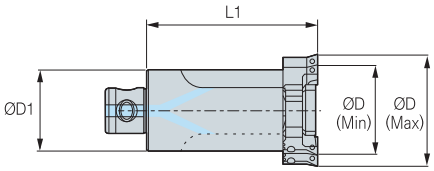


Fig.2



Head



1DIV= Ø 0.01mm

- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 157P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

	Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight(kg)	Head Package Weight(kg)
BT50	DBC2528S	●	BT50-MD25F-105	●	28	35	165	60	62	25	1	0.3	0.3
	DBC2528S	●	BT50-MD25F-120R	●	28	35	180	60	41	25	2	0.3	0.3
	DBC3235S	●	BT50-MD32F-110	●	35	46	175	65	67	32	1	0.4	0.4
	DBC3235S	●	BT50-MD32F-115R	●	35	46	180	65	46	32	2	0.4	0.4
	DBC3235S	●	BT50-MD32F-235R	●	35	46	300	65	115	32	2	0.4	0.4
	DBC4046S	●	BT50-MD40F-60	●	46	58	130	70	21	40	1	0.6	0.7
	DBC4046S	●	BT50-MD40F-195	●	46	58	265	70	152	40	1	0.6	0.7
	DBC4046S	●	BT50-MD40F-230R	●	46	58	300	70	180	40	2	0.6	0.7
	DBC5058S	●	BT50-MD50F-125	●	58	74	205	80	82	50	1	1.1	1.2
	DBC5058S	●	BT50-MD50F-225	●	58	74	305	80	182	50	1	1.1	1.2
	DBC5058S	●	BT50-MD50F-250R	●	58	74	330	80	81	50	2	1.1	1.2
	DBC6374S	●	BT50-MD63F-75	●	74	94	165	90	35	63	1	2.0	2.2
	DBC6374S	●	BT50-MD63F-130	●	74	94	220	90	87	63	1	2.0	2.2
	DBC6374S	●	BT50-MD63F-195	●	74	94	285	90	152	63	1	2.0	2.2
	DBC6374S	●	BT50-MD63F-230	●	74	94	320	90	187	63	1	2.0	2.2
	DBC8094S	●	BT50-MD80F-75	●	94	120	175	100	36	80	1	3.5	3.7
	DBC8094S	●	BT50-MD80F-110	●	94	120	210	100	69	80	1	3.5	3.7
	DBC8094S	●	BT50-MD80F-175	●	94	120	275	100	134	80	1	3.5	3.7
	DBC120S	●	BT50-MD80F-175	●	120	175	275	100	134	80	1	4.1	4.4

(Unit : mm)

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

- DBC2528S : CCMT0602□□
- DBC3235S : CCMT0602□□
- DBC4046S : CCMT09T3□□
- DBC5058S : CCMT09T3□□
- DBC6374S : CCMT1204□□
- DBC8094S : CCMT1204□□

1:1 CHAT

HSK-DBC

Balance Cut Tool(Modular Type)



DIN 69893-1	C	28	94	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

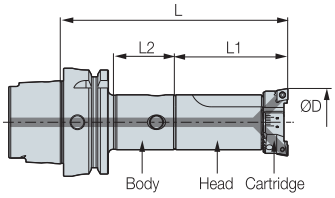
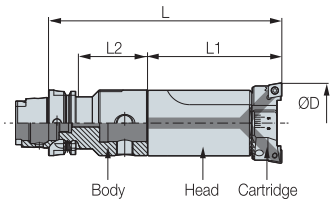
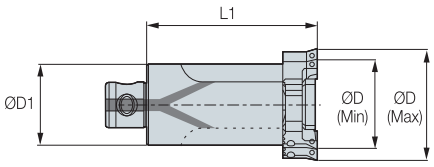


Fig.2



Head



1DIV= Ø 0.01mm

- ● : Stock
- C Internal coolant system is optional
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 158P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

HSK63A

Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD1	Fig.	Head Weight(kg)	Head Package Weight(kg)
DBC2528S	●	HSK63A-MD25F-60	●	28	35	120	60	31	25	1	0.3	0.3
DBC3235S	●	HSK63A-MD32F-65	●	35	46	130	65	36	32	1	0.4	0.4
DBC4046S	●	HSK63A-MD40F-70	●	46	58	140	70	41	40	1	0.6	0.7
DBC5058S	●	HSK63A-MD50F-85	●	58	74	165	80	58	50	1	1.1	1.2
DBC6374S	●	HSK63A-MD63F-95	●	74	94	185	90	69	63	2	2.0	2.2

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

(Unit : mm)

- DBC2528S : CCMT0602☐☐
- DBC3235S : CCMT0602☐☐
- DBC4046S : CCMT09T3☐☐
- DBC5058S : CCMT09T3☐☐
- DBC6374S : CCMT1204☐☐
- DBC8094S : CCMT1204☐☐

Accessories

SPARE PART

Type / Images / Designation	Accessories: Coolant Tube for HSK	Accessories: Wrench
		
HSK63A	HSK63A-CNS	HSK63-WRENCH(C)

1:1 CHAT

SK-DBC

Balance Cut Tool(Modular Type)



DIN 69871-1A/B	C	28	175	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

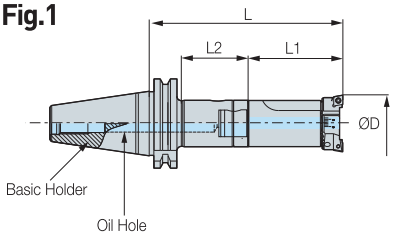


Fig.2

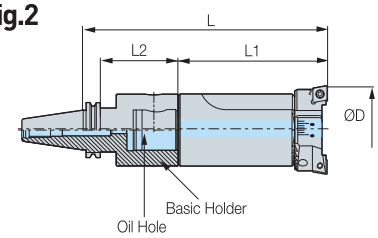
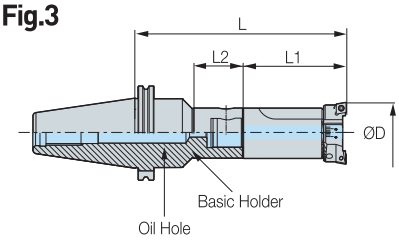
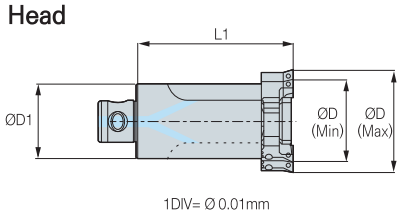


Fig.3



Head



- ● : Stock
- C Internal coolant system is basic
- ※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 159P
- For more information on the related parts, see 192P
- For more information on the applicable insert, see 193P

	Head Designation	Stock	Arbor Designation	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	L2	ØD	ØD1	Fig.	Head Weight(kg)	Head Package Weight(kg)
SK40	DBC2528S	●	SK40-MD25F-80R	●	28	35	140	60	22	14	25	3	0.3	0.3
	DBC3235S	●	SK40-MD32F-115R	●	35	46	180	65	36	18	32	3	0.4	0.4
	DBC4046S	●	SK40-MD40F-60	●	46	58	130	70	40	22	40	1	0.6	0.7
	DBC4046S	●	SK40-MD40F-100	●	46	58	170	70	80	22	40	1	0.6	0.7
	DBC5058S	●	SK40-MD50F-100	●	58	74	180	80	80	28	50	1	1.1	1.2
	DBC6374S	●	SK40-MD63F-70	●	74	94	160	90	50	36	63	2	2.0	2.2
SK50	DBC2528S	●	SK50-MD25F-80R	●	28	35	140	60	22	14	25	3	0.3	0.3
	DBC2528S	●	SK50-MD25F-105R	●	28	35	165	60	22	14	25	3	0.3	0.3
	DBC3235S	●	SK50-MD32F-110	●	35	46	175	65	87	18	32	1	0.4	0.4
	DBC3235S	●	SK50-MD32F-110R	●	35	46	175	65	36	18	32	3	0.4	0.4
	DBC4046S	●	SK50-MD40F-100	●	46	58	170	70	75	22	40	1	0.6	0.7
	DBC4046S	●	SK50-MD40F-145	●	46	58	215	70	120	22	40	1	0.6	0.7
	DBC4046S	●	SK50-MD40F-220R	●	46	58	290	70	83	22	40	3	0.6	0.7
	DBC5058S	●	SK50-MD50F-125R	●	58	74	205	80	60	28	50	3	1.1	1.2
	DBC5058S	●	SK50-MD50F-240R	●	58	74	320	80	125	28	50	3	1.1	1.2
	DBC6374S	●	SK50-MD63F-75	●	74	94	165	90	52	36	63	1	2.0	2.2
	DBC6374S	●	SK50-MD63F-130	●	74	94	220	90	107	36	63	1	2.0	2.2
	DBC6374S	●	SK50-MD63F-230R	●	74	94	320	90	149	36	63	3	2.0	2.2
	DBC8094S	●	SK50-MD80F-95	●	94	120	195	100	75	45	80	1	3.5	3.7
	DBC8094S	●	SK50-MD80F-150	●	94	120	250	100	129	45	80	1	3.5	3.7
	DBC120S	●	SK50-MD80F-150	●	120	175	250	100	129	45	80	1	4.1	4.4

- In the above table, the Arbor designation is an example designation and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

(Unit : mm)

- DBC2528S : CCMT0602□□
- DBC3235S : CCMT0602□□
- DBC4046S : CCMT09T3□□
- DBC5058S : CCMT09T3□□
- DBC6374S : CCMT1204□□
- DBC8094S : CCMT1204□□

1:1 CHAT

DBCA/DBC SPARE PART

Balance Cut Tool Related Parts



Main Components

DBCA-H

SPARE PART

Type	Main Components										
	Head	Cover	Guide Pin	Spring Pin	Wrench Bolt	Wrench	Cartridge	Set Screw	Wrench	Clamp Screw	Torx Wrench
Images / Designation											
DBCA2528S-H	DBCA2528-H	DBCA28-ECC	DBCA28-ECG	SP0308	BX0420	LW-3	BCC28-EC(SET)	BT0308	LW-1.5	BFTX02506N	TRX8
DBCA3238S-H	DBCA3238-H	DBCA38-ECC	DBCA38-ECG	SP0410	BX0525	LW-4	BCC38-EC(SET)	BT0310	LW-1.5	BFTX02506N	TRX8
DBCA5054S-H	DBCA5054-H	DBCA54-ECC	DBCA54-ECG	SP0616	BX0630	LW-5	BCC54-EC(SET)	BT0414	LW-2	BFTX0407N	TRX15
DBCA6374S-H	DBCA6374-H	DBCA74-ECC	DBCA74-ECG	SP0818	BX0635	LW-5	BCC74-EC(SET)	BT0520	LW-2.5	BFTX0511N	TRX20
DBCA80100S-H	DBCA80100-H	DBCA100-ECC	DBCA100-ECG	SP1020	BX0840	LW-6	BCC100-EC (SET)	BT0625	LW-3	BFTX0511N	TRX20

DBCA-S

SPARE PART

Type	Main Components										
	Head	Cover	Guide Pin	Spring Pin	Wrench Bolt	Wrench	Cartridge	Set Screw	Wrench	Clamp Screw	Torx Wrench
Images / Designation											
DBCA2528S	DBCA2528	DBCA28-ECC	DBCA28-ECG	SP0308	BX0420	LW-3	BCC28-EC(SET)	BT0308	LW-1.5	BFTX02506N	TRX8
DBCA3238S	DBCA3238	DBCA38-ECC	DBCA38-ECG	SP0410	BX0525	LW-4	BCC38-EC(SET)	BT0310	LW-1.5	BFTX02506N	TRX8
DBCA5054S	DBCA5054	DBCA54-ECC	DBCA54-ECG	SP0616	BX0630	LW-5	BCC54-EC(SET)	BT0414	LW-2	BFTX0407N	TRX15
DBCA6374S	DBCA6374	DBCA74-ECC	DBCA74-ECG	SP0818	BX0635	LW-5	BCC74-EC(SET)	BT0520	LW-2.5	BFTX0511N	TRX20
DBCA80100S	DBCA80100	DBCA100-ECC	DBCA100-ECG	SP1020	BX0840	LW-6	BCC100-EC (SET)	BT0625	LW-3	BFTX0511N	TRX20

DBC

SPARE PART

Type	Main Components								
	Head	Spring Pin	Wrench Bolt	Wrench	Cartridge	Set Screw	Wrench	Clamp Screw	Torx Wrench
Images / Designation									
DBC2528S	DBC2528	SP0308	BX0416	LW-3	BCC28(SET)	BT0306	LW-1.5	FTKA02565	TRX7
DBC3235S	DBC3235	SP0410	BX0516	LW-4	BCC35(SET)	BT0308	LW-1.5	FTKA02565	TRX7
DBC4046S	DBC4046	SP0516	BX0620	LW-5	BCC46(SET)	BT0408	LW-2	FTNA0408	TRX15
DBC5058S	DBC5058	SP0616	BX0620	LW-5	BCC58(SET)	BT0412	LW-2	FTNA0408	TRX15
DBC6374S	DBC6374	SP0818	BX0830	LW-6	BCC74(SET)	BT0516	LW-2.5	BFTX0511N	TRX20
DBC8094S	DBC8094	SP1020	BX1035	LW-8	BCC94(SET)	BT0620	LW-3	BFTX0511N	TRX20
DBC120S	DBC120N	SP1020	BX0830	LW-6	BCC120(SET)	BT0830	LW-4	BFTX0511N	TRX20

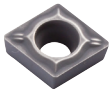
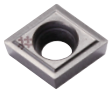
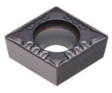
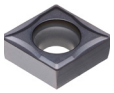
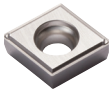
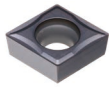
DBCA/DBC Insert

Boring Tool Insert



Accessories

INSERT

Insert	Grade				Workpiece	Cutting	Maker
CCMT0602□□ 	Coated	AC810P	AC820P		Steel	General	Sumitomo
	Coated	AC8015P	AC8020P	AC8025P	Steel		
	Coated	AC630M	AC6020M	AC6030M	Stainless Steel		
	Coated	T1500A			Steel/Stainless Steel	Finishing	
	Coated	NC3215	NC3120		Steel	General	Korloy
	Coated	NC6310	NC6315		Cast Iron		
	Coated	PC9030	NC9115	NC9125	Stainless Steel	Finishing to Midium	
CCGT0602□□ 	Coated	AC5015S	AC5025S		HRSA/Stainless Steel	General	Sumitomo
	Cermet	T1500A	T2500Z		Steel/Stainless Steel	General	
	Coated	PC5300	PC8110	PC8115	Stainless Steel	General	Korloy
	W.C	H01			Aluminum/Copper	Finishing to General	
CCMT09T3□□ 	Coated	AC8015P			Steel	General	Sumitomo
	Coated	AC8025P			Steel		
	Coated	AC4015K			Cast Iron		
	Coated	AC630M	AC6020M	AC6030M	Stainless Steel		
	Coated	T1500A	T2500Z		Steel	Finishing	
	Coated	NC3215	NC3120		Steel	General	Korloy
	Coated	NC6310	NC6315		Cast Iron		
	Coated	PC9030	NC9115	NC9125	Stainless Steel		
CCGT09T3□□ 	Coated	AC5015S			HRSA/Stainless Steel	General	Sumitomo
	Cermet	T1500A			Steel/Stainless Steel	Finishing	
	W.C	H1			Aluminum/Copper	Finishing to General	
	Coated	PC9030	PC8110	PC8115	Stainless Steel	General	Korloy
	W.C	H01			Aluminum/Copper	Finishing to General	
CCMT1204□□ 	Coated	AC8025P			Steel	General	Sumitomo
	Cermet	T1500A			Steel/Stainless Steel	Finishing	
	Coated	NC3215	NC3120		Steel	General	Korloy
	Coated	NC6310	NC6315		Cast Iron		
	Coated	PC9030	PC5300	PC5400	Stainless Steel		
CCGT1204□□ 	W.C	H01			Aluminum/Copper	Finishing to General	Korloy

• There are a range of grades and chip breakers to choose from according to usage.
• The cartridge for CNMG1204□□ is different from the cartridge for CCMT1204□□ in terms of designation.

1:1 CHAT

TBCA

Wide Range Diameter Boring System



C	AL	130	615	
Coolant System	Material	Min Range	Max Range	Boring



Features

- Minimizes the deformation during machining due to the aluminum bridge made of aerospace materials
- Various large diameter boring applicable (Inner diameter/Outer diameter)
- When the cartridge is replaced, fine boring is available
- Outer diameter boring range : Ø0~Ø315mm
- Inner diameter boring range : Ø130~Ø615mm

NAMING

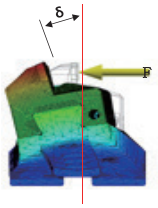
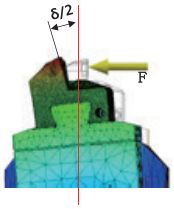
Body		
BT50	FMC40	50
Spindle	Facemill Arbor	Length

Head Set		
TBC	130	A
Balance Cut Tool	Minimum Boring Range	Advance

Main Features

Reinforced Rigidity

50% less moment strain
(versus the conventional product of DINE)

TBC460 (Old Type)	TBC460A (New Type)
	

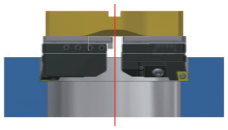
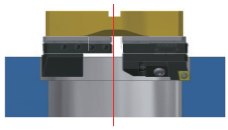
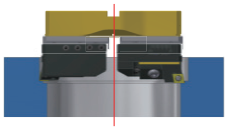
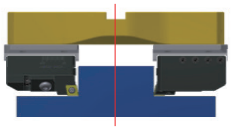
Light Weight Design (Head Set)

BCC(Cartridge)+DBR(Rail)+DBB(Bridge)



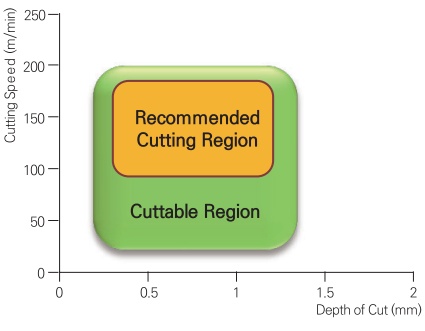
TBC130A	TBC175A	TBC220A	TBC265A
4.2Kg	5.6Kg	6.6Kg	7.5Kg
TBC310A	**TBC385A**	**TBC460A**	**TBC535A**
9.6Kg	11.7Kg	14.1Kg	16.5Kg

Machining Method

Twin Edge Boring	Single Edge Boring	Step Boring	Outside Boring
			

Performance Test

Products	Workpiece		Boring Diameter (Depth of Cut)	Results
	Product Name	Material	mm	Machining
Conventional Tool of DINE	Housing	Cast Iron	Ø465 (Rd=7)	• Vibration occurred • Insert damaged in the machining • Scratched surface of workpieces
TBC460A Applicable Insert CNMG19	Housing	QT400	Ø508~527 (Rd=10)	• No chattering • No vibration found • Goal of accuracy achieved • Normal chip discharged



1:1 CHAT

TBCA

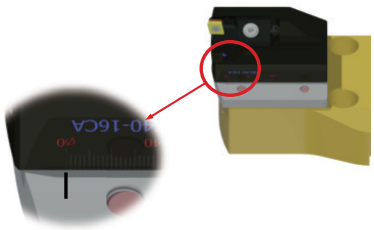
Wide Range Diameter Boring System



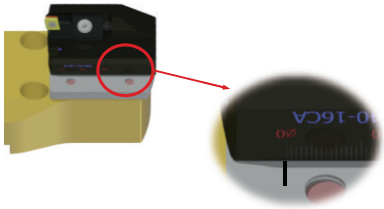
Convenience

- Inner boring and outer boring can be performed by easily changing the cartridge direction
- With the scale marking on the rail, the boring diameter can be set easily

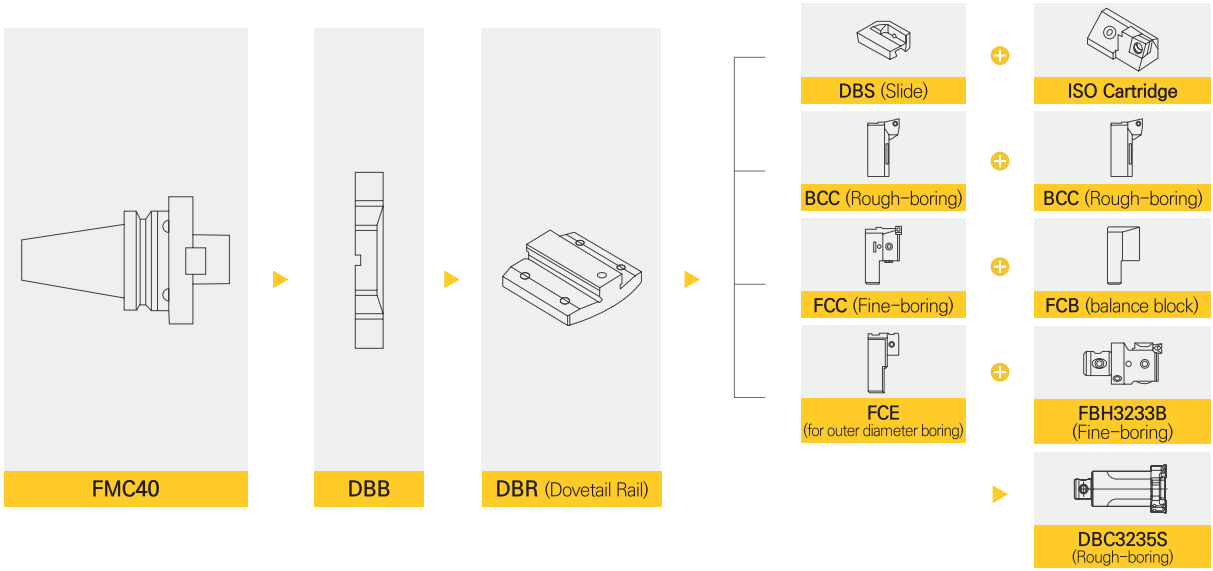
Inner Boring



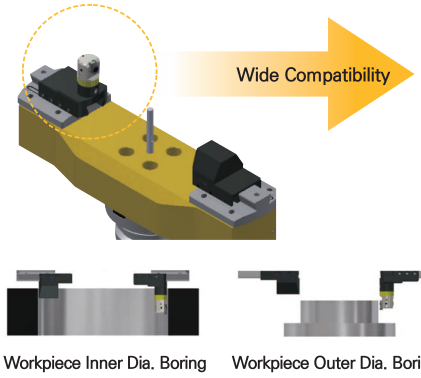
Outer Boring



Boring System Map



Wide Compatibility



Images		List of Clamping Parts	Cutting Type
Outer Dia. Boring		FBH3233B+FCE310+FCB310	Fine Boring
		DBC3235S+FCE310+FCB310	Rough Boring
Inner Dia. Boring		DBS□□-□□CA+ISO Cartridge L -type	Rough Boring
		FCC310 + FCB310	Fine Boring
		BCC1354	Rough Boring

※ Diameter setting is possible using pins.
※ The pin is a separate purchase product.

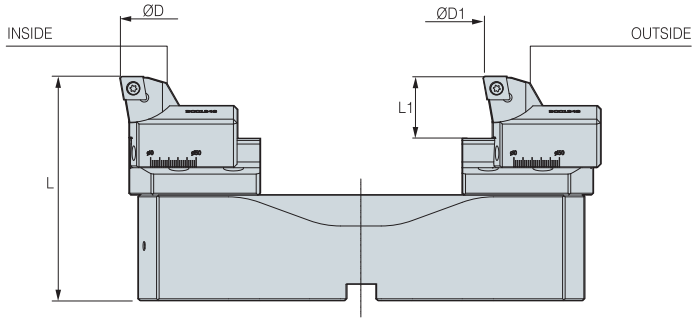
1:1 CHAT

TBCA

Wide Range Diameter Boring System



MAS 403-BT	C	AL	130	615	
Shank	Coolant System	Material	Min Range	Max Range	Boring

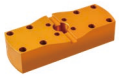


C Internal coolant system is optional
※ FMC arbor is sold separately
※ Red : Main Component

• For more information on product features, see 194P
• For more information on FMC arbor, see 148P

Twin Edge Boring for Roughing							
TBCA Head Set (Bridge+Rail+BBC Cartridge)	L	Boring Range				L1	kg
		ØD (Inside)		ØD1 (Outside)			
		Min.	Max.	Min.	Max.		
TBC130A [DBB130+DBR130+BCC1348(SET)]	108	130	180	0	34	34	4.2
TBC175A [DBB175+DBR175+BCC1348(SET)]	113	175	225	25	75	34	5.6
TBC220A [DBB220+DBR07015+BCC1348(SET)]	118	220	270	15	65	34	6.6
TBC265A [DBB265+DBR07015+BCC1348(SET)]	123	265	315	61	111	34	7.5
TBC310A [DBB310+DBR10015+BCC1354(SET)]	128	310	390	10	90	34	9.6
TBC385A [DBB385+DBR10015+BCC1354(SET)]	133	385	465	85	165	34	11.7
TBC460A [DBB460+DBR10015+BCC1354(SET)]	138	460	540	160	240	34	14.1
TBC535A [DBB535+DBR10015+BCC1354(SET)]	143	535	615	235	315	34	16.5

(Unit : mm)

Main Components				Accessories	
Head Set	Bridge	Rail	Cartridge	Arbor	Pin
					
TBC130A	DBB130	DBR130	BCC1348(SET)	BT50-FMC40-50	PIN1080
TBC175A	DBB175	DBR175	BCC1348(SET)	BT50-FMC40-50	PIN1080
TBC220A	DBB220	DBR07015	BCC1348(SET)	BT50-FMC40-50	PIN1080
TBC265A	DBB265	DBR07015	BCC1348(SET)	BT50-FMC40-50	PIN1080
TBC310A	DBB310	DBR10015	BCC1354(SET)	BT50-FMC40-50	PIN1080
TBC385A	DBB385	DBR10015	BCC1354(SET)	BT50-FMC40-50	PIN1080
TBC460A	DBB460	DBR10015	BCC1354(SET)	BT50-FMC40-50	PIN1080
TBC535A	DBB535	DBR10015	BCC1354(SET)	BT50-FMC40-50	PIN1080

※ Inserts are purchased separately.

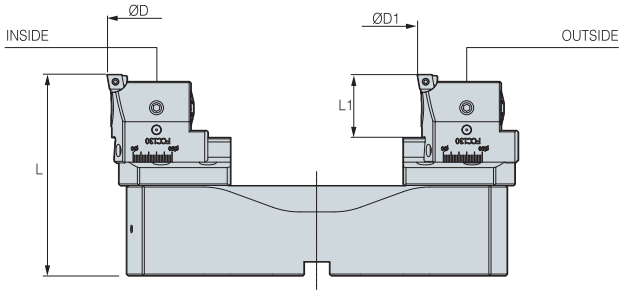
1:1 CHAT

TBCA (with FCC)

Wide Range Diameter Boring System



MAS 403-BT	C	AL	130	615	
Shank	Coolant System	Material	Min Range	Max Range	Boring



C Internal coolant system is optional

※ The FMC Arbor are sold individually

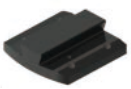
※ Red : Main Component Blue : For Separate Purchase

• For more information on product features, see 194P
• For more information on FMC arbor, see 148P

Single Edge Boring for Finishing							
TBCA Head Set (Bridge+Rail+Goods for separate purchase)	L	Boring Range				L1	kg
		ØD (Inside)		ØD1 (Outside)			
		Min.	Max.	Min.	Max.		
TBC130A (DBB130+DBR130+FCC130+FCB130+FBB130-□○○)	115	130	180	0	34	41	4.4
TBC175A (DBB175+DBR175+FCC130+FCB130+FBB130-□○○)	120	175	225	25	75	41	5.8
TBC220A (DBB220+DBR07015+FCC130+FCB130+FBB130-□○○)	125	220	270	15	65	41	6.9
TBC265A (DBB265+DBR07015+FCC130+FCB130+FBB130-□○○)	130	265	315	61	111	41	7.9
TBC310A (DBB310+DBR10015+FCC310+FCB310+FBB130-□○○)	135	310	390	10	90	41	10
TBC385A (DBB385+DBR10015+FCC310+FCB310+FBB130-□○○)	140	385	465	85	165	41	12.1
TBC460A (DBB460+DBR10015+FCC310+FCB310+FBB130-□○○)	145	460	540	160	240	41	14.7
TBC535A (DBB535+DBR10015+FCC310+FCB310+FBB130-□○○)	150	535	615	235	315	41	16.9

※ The drawings are for understanding the internal/external diameter processing and may differ from the actual product.

(Unit : mm)

Main Components			Accessories				
Head Set	Bridge	Rail	Cartridge	Bite	Balance Block	Arbor	Pin
							
TBC130A	DBB130	DBR130	FCC130	FBB130-□○○	FCB130	BT50-FMC40-50	PIN1080
TBC175A	DBB175	DBR175	FCC130	FBB130-□○○	FCB130	BT50-FMC40-50	PIN1080
TBC220A	DBB220	DBR07015	FCC130	FBB130-□○○	FCB130	BT50-FMC40-50	PIN1080
TBC265A	DBB265	DBR07015	FCC130	FBB130-□○○	FCB130	BT50-FMC40-50	PIN1080
TBC310A	DBB310	DBR10015	FCC310	FBB130-□○○	FCB310	BT50-FMC40-50	PIN1080
TBC385A	DBB385	DBR10015	FCC310	FBB130-□○○	FCB310	BT50-FMC40-50	PIN1080
TBC460A	DBB460	DBR10015	FCC310	FBB130-□○○	FCB310	BT50-FMC40-50	PIN1080
TBC535A	DBB535	DBR10015	FCC310	FBB130-□○○	FCB310	BT50-FMC40-50	PIN1080

※ Inserts are purchased separately.

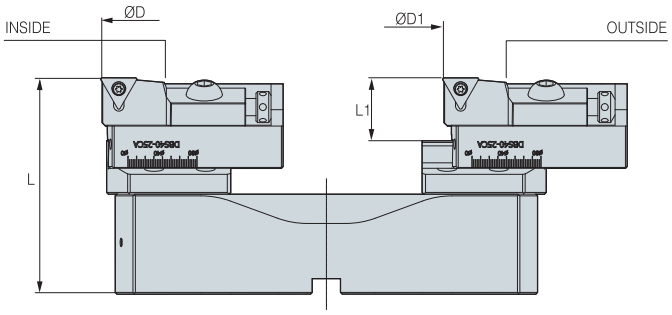
1:1 CHAT

TBCA (with ISO Cartridge)

Wide Range Diameter Boring System



MAS 403-BT	C	AL	175	615	
Shank	Coolant System	Material	Min Range	Max Range	Boring



C Internal coolant system is optional

※ Red : Main Component Blue : For Separate Purchase

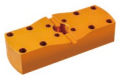
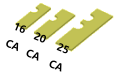
※ The FMC Arbor are sold individually

• For more information on product features, see 194P

• For more information on FMC arbor, see 148P

Step Boring for Roughing						L1	Package Weight(kg)
TBCA Head Set (Bridge+Rail+Goods for separate purchase)	L	Boring Range					
		ØD (Inside)		ØD1 (Outside)			
		Min.	Max.	Min.	Max.		
TBC175A (DBB175+DBR175+DBS25-□□CA+ISO CARTRIDGE L-Type)	113	175	225	25	75	34	5.6
TBC220A (DBB220+DBR07015+DBS25-□□CA+ISO CARTRIDGE L-Type)	118	220	270	15	65	34	6.7
TBC265A (DBB265+DBR07015+DBS25-□□CA+ISO CARTRIDGE L-Type)	123	265	315	61	111	34	7.7
TBC310A (DBB310+DBR10015+DBS40-□□CA+ISO CARTRIDGE L-Type)	128	310	390	10	90	34	9.8
TBC385A (DBB385+DBR10015+DBS40-□□CA+ISO CARTRIDGE L-Type)	133	385	465	85	165	34	11.9
TBC460A (DBB460+DBR10015+DBS40-□□CA+ISO CARTRIDGE L-Type)	138	460	540	160	240	34	14.3
TBC535A (DBB535+DBR10015+DBS70-□□CA+ISO CARTRIDGE L-Type)	143	535	615	235	315	34	16.7

(Unit : mm)

Main Components			Accessories				
Head Set	Bridge	Rail	Arbor	Slide	Cartridge	Plate	Pin
							
TBC175A	DBB175	DBR175	BT50-FMC40-50	DBS25-16CA DBS25-20CA DBS25-25CA	ISO Cartridge	ISO Cartridge Plates	PIN1080
TBC220A	DBB220	DBR07015					
TBC265A	DBB265	DBR07015					
TBC310A	DBB310	DBR10015		DBS40-16CA DBS40-20CA DBS70-25CA			
TBC385A	DBB385	DBR10015					
TBC460A	DBB460	DBR10015					
TBC535A	DBB535	DBR10015					

※ Inserts are purchased separately.

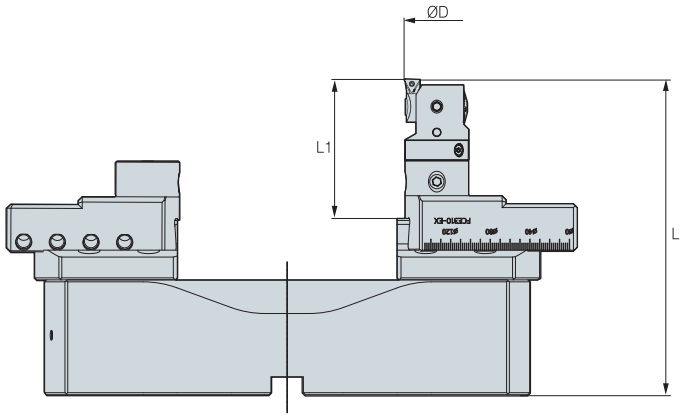
1:1 CHAT

TBCA (FBH)

Wide Range Diameter Boring System



MAS 403-BT	C	AL	12	543	
Shank	Coolant System	Material	Min Range	Max Range	Boring



C Internal coolant system is optional

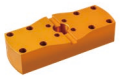
※ Red : Main Component Blue : For Separate Purchase

※ The FMC Arbor are sold individually

• For more information on product features, see 194P
• For more information on FMC arbor, see 148P

Single Edge Boring for Finishing					
TBCA Head Set (Bridge+Rail+Goods for separate purchase)	L	Boring Range ØD (Outside)		L1	Package Weight(kg)
		Min.	Max.		
TBC175A (DBB175+DBR175+FCB130+FCE130+FBH3233B+FBB33N)	150	12	82	71	5.8
TBC220A (DBB220+DBR07015+FCB130+FCE130+FBH3233B+FBB33N)	155	54	134	71	6.9
TBC265A (DBB265+DBR07015+FCB130+FCE130+FBH3233B+FBB33N)	160	100	180	71	7.9
TBC310A (DBB310+DBR10015+FCB310+FCE310+FBH3233B+FBB33N)	165	26	172	71	10.1
TBC385A (DBB385+DBR10015+FCB310+FCE310+FBH3233B+FBB33N)	170	101	247	71	12.1
TBC460A (DBB460+DBR10015+FCB310+FCE310+FBH3233B+FBB33N)	175	176	322	71	14.7
TBC535A (DBB535+DBR10015+FCB310+FCE310+FBH3233B+FBB33N)	180	397	543	71	16.9

(Unit : mm)

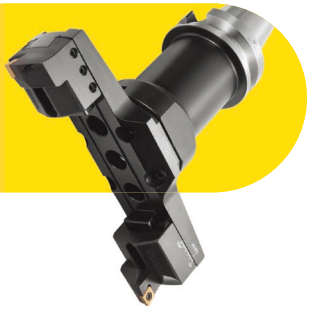
Main Components			Accessories				
Head Set	Bridge	Rail	Arbor	Slide	Balance Block	Head	Pin
							
TBC175A	DBB175	DBR175	BT50-FMC40-50	FCE130	FCB130	FBH3233B	PIN1080
TBC220A	DBB220	DBR07015					
TBC265A	DBB265	DBR07015					
TBC310A	DBB310	DBR10015		FCE310	FCB310		
TBC385A	DBB385	DBR10015					
TBC460A	DBB460	DBR10015					
TBC535A	DBB535	DBR10015					

※ Inserts are purchased separately.

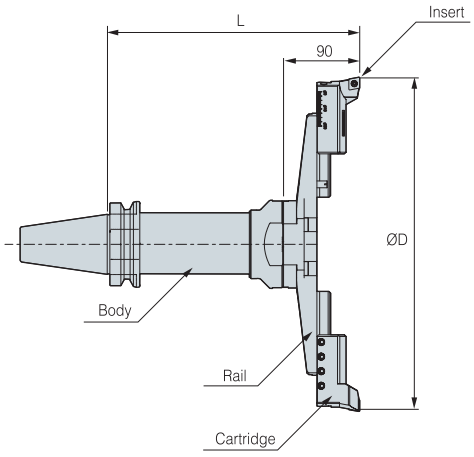
1:1 CHAT

BT-TBC

Balance Cut Tool for Rough Boring



MAS 403-BT	C	130	540	
Shank	Coolant System	Min Range	Max Range	Boring



C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

※ The FMC Arbor are sold individually

• For more information on the related parts, see 202P

• For more information on FMD arbor, see 206P

• For more information on the applicable insert, see 226P

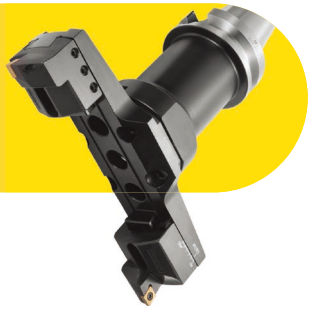
	FMD Designation (Separate Order)	Holder Weight (kg)	Rough Boring (TBC)				
			TBC Head Set (Rail+Cartridge)	L	Boring Range(ØD)		Head Weight (kg)
					Min.	Max.	
BT50	BT50-FMD50-85	5.9	TBC130S [TBR130+BCC1348(SET)]	175	130	180	3.2
	BT50-FMD50-155	7.9	TBC130S [TBR130+BCC1348(SET)]	245	130	180	3.2
	BT50-FMD50-205	9.7	TBC130S [TBR130+BCC1348(SET)]	295	130	180	3.2
	BT50-FMD50-255	13.4	TBC130S [TBR130+BCC1348(SET)]	345	130	180	3.2
	BT50-FMD50-85	5.9	TBC175S [TBR175+BCC1348(SET)]	175	175	225	3.6
	BT50-FMD50-155	7.9	TBC175S [TBR175+BCC1348(SET)]	245	175	225	3.6
	BT50-FMD50-205	9.7	TBC175S [TBR175+BCC1348(SET)]	295	175	225	3.6
	BT50-FMD50-255	13.4	TBC175S [TBR175+BCC1348(SET)]	345	175	225	3.6
	BT50-FMD50-85	5.9	TBC220S [TBR220+BCC1348(SET)]	175	220	270	4
	BT50-FMD50-155	7.9	TBC220S [TBR220+BCC1348(SET)]	245	220	270	4
	BT50-FMD50-205	9.7	TBC220S [TBR220+BCC1348(SET)]	295	220	270	4
	BT50-FMD50-255	13.4	TBC220S [TBR220+BCC1348(SET)]	345	220	270	4
	BT50-FMD50-85	5.9	TBC265S [TBR265+BCC1348(SET)]	175	265	315	4.2
	BT50-FMD50-155	7.9	TBC265S [TBR265+BCC1348(SET)]	245	265	315	4.2
	BT50-FMD50-205	9.7	TBC265S [TBR265+BCC1348(SET)]	295	265	315	4.2
	BT50-FMD50-255	13.4	TBC265S [TBR265+BCC1348(SET)]	345	265	315	4.2
	BT50-FMD50-85	5.9	TBC310S [TBR310+BCC1354(SET)]	175	310	390	5.2
	BT50-FMD50-155	7.9	TBC310S [TBR310+BCC1354(SET)]	245	310	390	5.2
	BT50-FMD50-205	9.7	TBC310S [TBR310+BCC1354(SET)]	295	310	390	5.2
	BT50-FMD50-255	13.4	TBC310S [TBR310+BCC1354(SET)]	345	310	390	5.2
	BT50-FMD50-85	5.9	TBC385S [TBR385+BCC1354(SET)]	175	385	465	5.5
	BT50-FMD50-155	7.9	TBC385S [TBR385+BCC1354(SET)]	245	385	465	5.5
	BT50-FMD50-205	9.7	TBC385S [TBR385+BCC1354(SET)]	295	385	465	5.5
	BT50-FMD50-255	13.4	TBC385S [TBR385+BCC1354(SET)]	345	385	465	5.5
	BT50-FMD50-85	5.9	TBC460S [TBR460+BCC1354(SET)]	175	460	540	12.5
	BT50-FMD50-155	7.9	TBC460S [TBR460+BCC1354(SET)]	245	460	540	12.5
	BT50-FMD50-205	9.7	TBC460S [TBR460+BCC1354(SET)]	295	460	540	12.5
	BT50-FMD50-255	13.4	TBC460S [TBR460+BCC1354(SET)]	345	460	540	12.5

(Unit : mm)

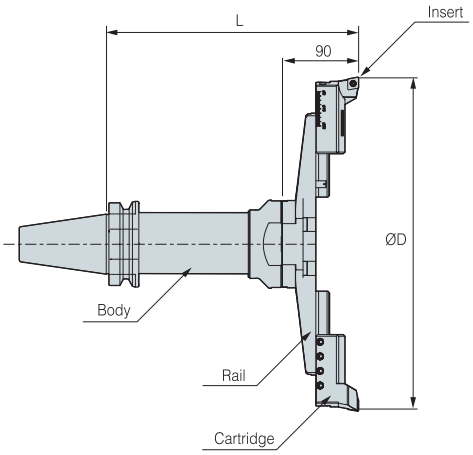
1:1 CHAT

SK-TBC

Balance Cut Tool for Rough Boring



DIN69871 -1A/B — Shank
C — Coolant System
130 — Min Range
540 — Max Range
Boring



C This product does not support the internal coolant system
※ Red : Main Component Blue : For Separate Purchase
※ The FMC Arbor are sold individually

• For more information on the related parts, see 202P
• For more information on FMD arbor, see 206P
• For more information on the applicable insert, see 226P

SK50

FMD Designation (Separate Order)	Holder Weight (kg)	Rough Boring (TBC)				
		TBC Head Set (Rail+Cartridge)	L	Boring Range(ØD)		Head Weight (kg)
				Min.	Max.	
SK50-FMD50-155	7.9	TBC130S [TBR130+BCC1348(SET)]	245	130	180	3.2
SK50-FMD50-255	13.4	TBC130S [TBR130+BCC1348(SET)]	345	130	180	3.2
SK50-FMD50-155	7.9	TBC175S [TBR175+BCC1348(SET)]	245	175	225	3.6
SK50-FMD50-255	13.4	TBC175S [TBR175+BCC1348(SET)]	345	175	225	3.6
SK50-FMD50-155	7.9	TBC220S [TBR220+BCC1348(SET)]	245	220	270	4
SK50-FMD50-255	13.4	TBC220S [TBR220+BCC1348(SET)]	345	220	270	4
SK50-FMD50-155	7.9	TBC265S [TBR265+BCC1348(SET)]	245	265	315	4.2
SK50-FMD50-255	13.4	TBC265S [TBR265+BCC1348(SET)]	345	265	315	4.2
SK50-FMD50-155	7.9	TBC310S [TBR310+BCC1354(SET)]	245	310	390	5.2
SK50-FMD50-255	13.4	TBC310S [TBR310+BCC1354(SET)]	345	310	390	5.2
SK50-FMD50-155	7.9	TBC385S [TBR385+BCC1354(SET)]	245	385	465	5.5
SK50-FMD50-255	13.4	TBC385S [TBR385+BCC1354(SET)]	345	385	465	5.5
SK50-FMD50-155	7.9	TBC460S [TBR460+BCC1354(SET)]	245	460	540	12.5
SK50-FMD50-255	13.4	TBC460S [TBR460+BCC1354(SET)]	345	460	540	12.5

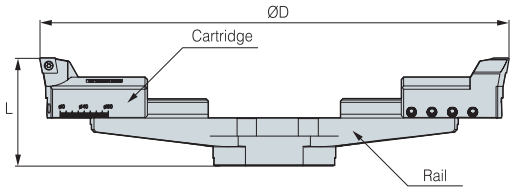
(Unit : mm)

1:1 CHAT

TBC HEAD SET

Balance Cut Tool for Rough Boring





※ If CNMG1204□□ insert is used, BCN1348, BCN1354 cartridges can be ordered

TBC HEAD SET

Head Set (Main Component)			Boring Range(ØD)		L	kg	Accessories
Designation	Rail	Cartridge	Min.	Max.			Insert
TBC130S	TBR130	BCC1348(SET)	130	180	90	3.5	CCMT1204□□
TBC175S	TBR175	BCC1348(SET)	175	225	90	3.9	CCMT1204□□
TBC220S	TBR220	BCC1348(SET)	220	270	90	4.3	CCMT1204□□
TBC265S	TBR265	BCC1348(SET)	265	315	90	4.5	CCMT1204□□
TBC310S	TBR310	BCC1354(SET)	310	390	90	5.5	CCMT1204□□
TBC385S	TBR385	BCC1354(SET)	385	465	90	5.8	CCMT1204□□
TBC460S	TBR460	BCC1354(SET)	460	540	90	12.8	CCMT1204□□

(Unit : mm)

1:1 CHAT

TBC SPARE PART

Balance Cut Tool for Rough Boring Related Parts



SPARE PART

Type	Main Components						
	Rail	Cartridge	Clamp Bolt		Hexagonal Wrench	Clamp Screw	Torx Wrench
Images / Head Set							
TBC130S	TBR130	BCC1348(SET)	BX0820	BT0645 BTF0814	LW-3 LW-4 LW-6	BFTX0511N	TRX20
TBC175S	TBR175		BX0820	BT0645 BTF0814		BFTX0511N	TRX20
TBC220S	TBR220		BX0820	BT0645 BTF0814		BFTX0511N	TRX20
TBC265S	TBR265		BX0820	BT0645 BTF0814		BFTX0511N	TRX20
TBC310S	TBR310	BCC1354(SET)	BX0820	BT0660 BTF0814		BFTX0511N	TRX20
TBC385S	TBR385		BX0820	BT0660 BTF0814		BFTX0511N	TRX20
TBC460S	TBR460		BX0820	BT0660 BTF0814		BFTX0511N	TRX20

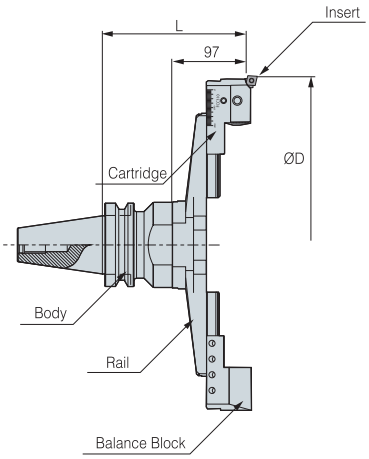
1:1 CHAT

BT-FBC

Balance Cut Tool for Fine Boring



MAS 403-BT Shank | C Coolant System | 130 Min Range | 540 Max Range | Boring



C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

※ The FMC Arbor are sold individually

※ If BB130-C12bite is used, the minimum boring diameterincreases by Ø6.7 mm

• For more information on the related parts, see 205P
• For more information on FMD arbor, see 206P
• For more information on FBB bite, see 206P

	FMD Arbor (Individual Order)	Holder Weight (kg)	Fine Boring(FBC)				
			FBC Head Set (Rail+Cartridge+Balance Block)	L	kg	Boring Range(ØD)	
						Min.	Max.
BT50	BT50-FMD50-85	5.9	FBC130S (TBR130+FCC130+FCB130)	182	3.7	130	180
	BT50-FMD50-155	7.9	FBC130S (TBR130+FCC130+FCB130)	252	3.7	130	180
	BT50-FMD50-205	9.7	FBC130S (TBR130+FCC130+FCB130)	302	3.7	130	180
	BT50-FMD50-255	13.4	FBC130S (TBR130+FCC130+FCB130)	352	3.7	130	180
	BT50-FMD50-85	5.9	FBC175S (TBR175+FCC130+FCB130)	182	4.1	175	225
	BT50-FMD50-155	7.9	FBC175S (TBR175+FCC130+FCB130)	252	4.1	175	225
	BT50-FMD50-205	9.7	FBC175S (TBR175+FCC130+FCB130)	302	4.1	175	225
	BT50-FMD50-255	13.4	FBC175S (TBR175+FCC130+FCB130)	352	4.1	175	225
	BT50-FMD50-85	5.9	FBC220S (TBR220+FCC130+FCB130)	182	4.5	220	270
	BT50-FMD50-155	7.9	FBC220S (TBR220+FCC130+FCB130)	252	4.5	220	270
	BT50-FMD50-205	9.7	FBC220S (TBR220+FCC130+FCB130)	302	4.5	220	270
	BT50-FMD50-255	13.4	FBC220S (TBR220+FCC130+FCB130)	352	4.5	220	270
	BT50-FMD50-85	5.9	FBC265S (TBR265+FCC130+FCB130)	182	4.7	265	315
	BT50-FMD50-155	7.9	FBC265S (TBR265+FCC130+FCB130)	252	4.7	265	315
	BT50-FMD50-205	9.7	FBC265S (TBR265+FCC130+FCB130)	302	4.7	265	315
	BT50-FMD50-255	13.4	FBC265S (TBR265+FCC130+FCB130)	352	4.7	265	315
	BT50-FMD50-85	5.9	FBC310S (TBR310+FCC310+FCB310)	182	5.5	310	390
	BT50-FMD50-155	7.9	FBC310S (TBR310+FCC310+FCB310)	252	5.5	310	390
	BT50-FMD50-205	9.7	FBC310S (TBR310+FCC310+FCB310)	302	5.5	310	390
	BT50-FMD50-255	13.4	FBC310S (TBR310+FCC310+FCB310)	352	5.5	310	390
	BT50-FMD50-85	5.9	FBC385S (TBR385+FCC310+FCB310)	182	5.8	385	465
	BT50-FMD50-155	7.9	FBC385S (TBR385+FCC310+FCB310)	252	5.8	385	465
	BT50-FMD50-205	9.7	FBC385S (TBR385+FCC310+FCB310)	302	5.8	385	465
	BT50-FMD50-255	13.4	FBC385S (TBR385+FCC310+FCB310)	352	5.8	385	465
	BT50-FMD50-85	5.9	FBC460S (TBR460+FCC310+FCB310)	182	12.8	460	540
	BT50-FMD50-155	7.9	FBC460S (TBR460+FCC310+FCB310)	252	12.8	460	540
	BT50-FMD50-205	9.7	FBC460S (TBR460+FCC310+FCB310)	302	12.8	460	540
	BT50-FMD50-255	13.4	FBC460S (TBR460+FCC310+FCB310)	352	12.8	460	540

※ Bite (insert)
FBB130-CC09 (CCMT09T3□□, CCGT09T3□□) / FBB130-C12 (CCMT1204□□) /
FBB130-T11 (TPMT1103□□, TPGT1103□□L)

(Unit : mm)

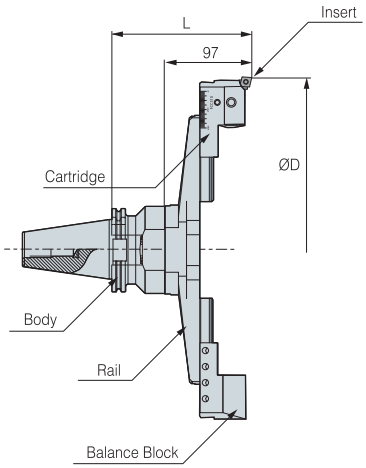
1:1 CHAT

SK-FBC

Balance Cut Tool for Fine Boring



DIN69871 -1A/B	C	130	540	
Shank	Coolant System	Min Range	Max Range	Boring



C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

※ The FMD Arbor are sold individually

※ If BB130-C12bite is used, the minimum boring diameter increases by Ø6.7 mm

• For more information on the related parts, see 205P

• For more information on FMD arbor, see 206P

• For more information on FBB bite, see 206P

SK50

FMD Arbor (Individual Order)	Holder Weight (kg)	Fine Boring(FBC)				
		FBC Head Set (Rail+Cartridge+Balance Block)	L	kg	Boring Range(ØD)	
					Min.	Max.
SK50-FMD50-155	8	FBC130S (TBR130+FCC130+FCB130)	252	3.8	130	180
SK50-FMD50-255	11.2	FBC130S (TBR130+FCC130+FCB130)	352	3.8	130	180
SK50-FMD50-155	8	FBC175S (TBR175+FCC130+FCB130)	252	4.1	175	225
SK50-FMD50-255	11.2	FBC175S (TBR175+FCC130+FCB130)	352	4.1	175	225
SK50-FMD50-155	8	FBC220S (TBR220+FCC130+FCB130)	252	4.5	220	270
SK50-FMD50-255	11.2	FBC220S (TBR220+FCC130+FCB130)	352	4.5	220	270
SK50-FMD50-155	8	FBC265S (TBR265+FCC130+FCB130)	252	4.7	265	315
SK50-FMD50-255	11.2	FBC265S (TBR265+FCC130+FCB130)	352	4.7	265	315
SK50-FMD50-155	8	FBC310S (TBR310+FCC310+FCB310)	252	5.5	310	390
SK50-FMD50-255	11.2	FBC310S (TBR310+FCC310+FCB310)	352	5.5	310	390
SK50-FMD50-155	8	FBC385S (TBR385+FCC310+FCB310)	252	5.8	385	465
SK50-FMD50-255	11.2	FBC385S (TBR385+FCC310+FCB310)	352	5.8	385	465
SK50-FMD50-155	8	FBC460S (TBR460+FCC310+FCB310)	252	12.8	460	540
SK50-FMD50-255	11.2	FBC460S (TBR460+FCC310+FCB310)	352	12.8	460	540

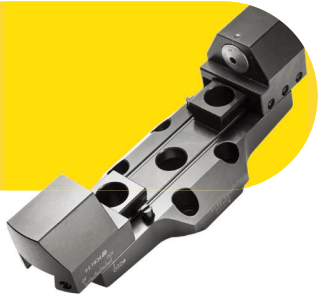
※ Bite (insert)
FBB130-CC09 (CCMT09T3, CCGT09T3) / FBB130-C12 (CCMT1204) /
FBB130-T11 (TPMT1103, TPGT1103L)

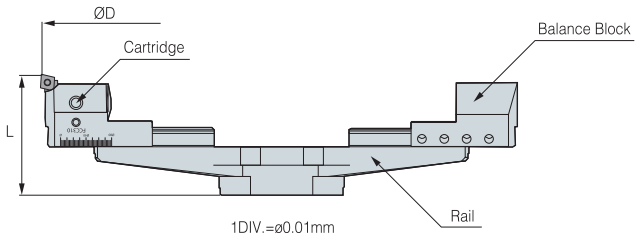
(Unit : mm)

1:1 CHAT

FBC HEAD SET

Balance Cut Tool for Fine Boring





FBC HEAD SET

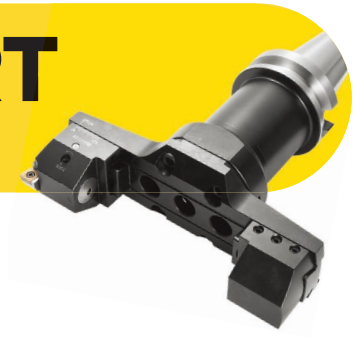
Head Set (Main Component)				Boring Range(ØD)		L	Package Weight(kg)	Accessories
Designation	Rail	Cartridge	Balance Block	Min.	Max.			Bite
FBC130S	TBR130	FCC130	FCB130	130	180	97	3.8	FBB130-C09 FBB130-C12 FBB130-T11
FBC175S	TBR175	FCC130	FCB130	175	225	97	4.1	
FBC220S	TBR220	FCC130	FCB130	220	270	97	4.5	
FBC265S	TBR265	FCC130	FCB130	265	315	97	4.6	
FBC310S	TBR310	FCC310	FCB310	310	390	97	5.5	
FBC385S	TBR385	FCC310	FCB310	385	465	97	5.8	
FBC460S	TBR460	FCC310	FCB310	460	540	97	12.8	

(Unit : mm)

1:1 CHAT

FBC SPARE PART

Balance Cut Tool for Fine Boring Related Parts



SPARE PART

Type	Main Components						Accessories
	Rail	Cartridge	Balance Block	Clamp Bolt		Hexagonal Wrench	Bite
Images / Head Set							
FBC130S	TBR130	FCC130	FCB130	BTF0810 BTF0814	BT0645	LW-3 LW-4	FBB130-C09 FBB130-C12 FBB130-T11
FBC175S	TBR175						
FBC220S	TBR220						
FBC265S	TBR265						
FBC310S	TBR310	FCC310	FCB310		BT0660		
FBC385S	TBR385						
FBC460S	TBR460						

1:1 CHAT

FBB BITE

Balance Cut Tool for Fine Boring





	Designation	Insert	Insert Screw	Clamp Bolt
FBB	FBB130-C09	CCMT09T3□□, CCGT09T3□□	BFTX0409N	BH0608
	FBB130-C12	CCMT1204□□	BFTX0511N	BH0608
	FBB130-T11	TPMT1103□□, TPGT1103□□	BFTX0307A	BH0608

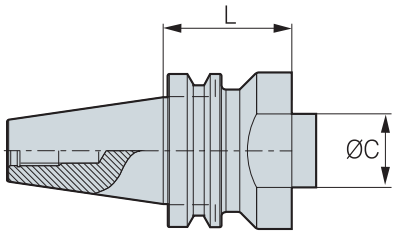
(Unit : mm)

1:1 CHAT

BT/SK-FMD

Arbor(Basic Holder)





• ● : Stock

	Designation	L	ØC	kg	Stock
BT50	BT50-FMD50-85	85	50	5.9	●
	BT50-FMD50-155	155	50	7.9	●
	BT50-FMD50-205	205	50	9.7	●
	BT50-FMD50-255	255	50	13.4	●
SK50	SK50-FMD50-155	155	50	8	●
	SK50-FMD50-255	255	50	11.2	●

(Unit : mm)

1:1 CHAT

BT-SMB

Small Micro Boring Bar



MAS 403-BT	C	8	38	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

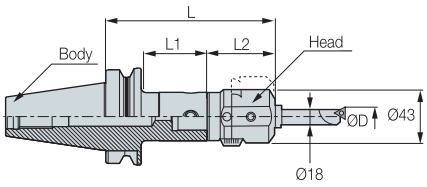
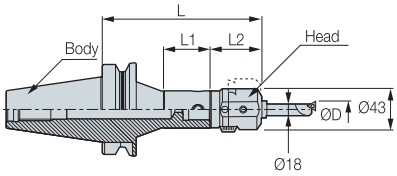
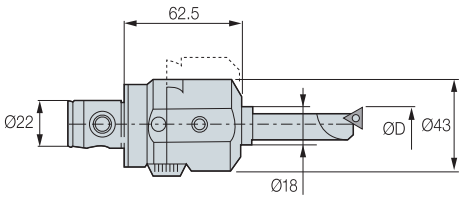


Fig.2



Head



1DIV = ø0.02mm

- ● : Stock
- Adjustment Range : 10mm

C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 156P
- For more information on the related parts, see 214P

	Head Designation	Stock	Body Designation	Stock	BB Bite	Boring Range(ØD)	L	L1	L2	Fig.	Head Weight (kg)
BT30	SMB4022	●	BT30-MD40F-45	●	BB18-□(S)	Ø8~Ø38	108	22	62.5	1	0.6
	SMB4022	●	BT30-MD40F-60	●	BB18-□(S)	Ø8~Ø38	123	36	62.5	1	0.6
	SMB4022	●	BT30-MD40F-80	●	BB18-□(S)	Ø8~Ø38	143	56	62.5	1	0.6
BT40	SMB4022	●	BT40-MD40F-60	●	BB18-□(S)	Ø8~Ø38	123	31	62.5	1	0.6
	SMB4022	●	BT40-MD40F-110R	●	BB18-□(S)	Ø8~Ø38	173	60	62.5	2	0.6
	SMB4022	●	BT40-MD40F-115	●	BB18-□(S)	Ø8~Ø38	178	83	62.5	1	0.6
BT50	SMB4022	●	BT50-MD40F-60	●	BB18-□(S)	Ø8~Ø38	123	22	62.5	1	0.6
	SMB4022	●	BT50-MD40F-195	●	BB18-□(S)	Ø8~Ø38	258	152	62.5	1	0.6
	SMB4022	●	BT50-MD40F-230R	●	BB18-□(S)	Ø8~Ø38	293	180	62.5	2	0.6

(Unit : mm)

BB Bite (for SMB)	Designation	Boring Range(ØD) Min.	Boring Range(ØD) Max.	Insert	Screw	kg
	BB18-7(S)	8	28	TBGT0601□□L	BFTX0204A	0.1
	BB18-9(S)	10	30	TPGT0802□□L	BFTX0204A	0.1
	BB18-11(S)	12	32	TPGT1103□□L	BFTX0307A	0.1
	BB18-13(S)	14	34	TPGT1103□□L	BFTX0307A	0.1
	BB18-15(S)	16	36	TPGT1103□□L	BFTX0307A	0.2
	BB18-17(S)	18	38	TPGT1103□□L	BFTX0307A	0.2

(Unit : mm)

1:1 CHAT

HSK/SK-SMB

Small Micro Boring Bar



DIN 69893-1	DIN69871 -1A/B	C	8	38	
Shank	Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

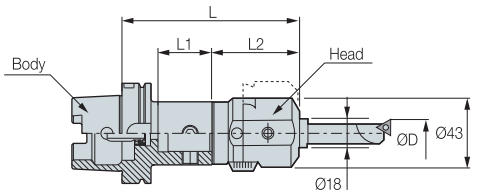


Fig.2

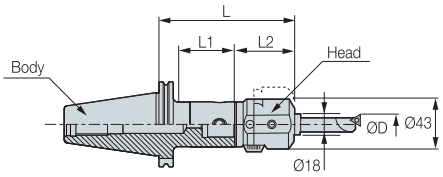
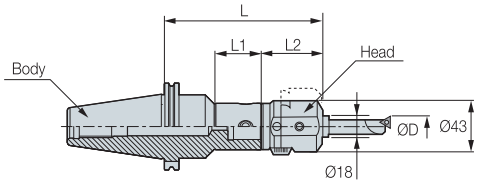
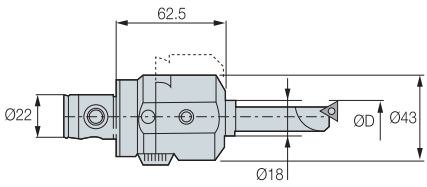


Fig.3



Head



1DIV = ø0.02mm

- ● : Stock
- Adjustment Range : 10mm

C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 158P
- For more information on the related parts, see 214P

	Head Designation	Stock	Body Designation	Stock	BB Bite	Boring Range(ØD)	L	L1	L2	Fig.	Head Weight (kg)
HSK63A	SMB4022	●	HSK63A-MD40F-70	●	BB18-□(S)	Ø8~Ø38	133	41	62.5	1	0.6
SK40	SMB4022	●	SK40-MD40F-60	●	BB18-□(S)	Ø8~Ø38	123	40	62.5	2	0.6
	SMB4022	●	SK40-MD40F-100	●	BB18-□(S)	Ø8~Ø38	163	79	62.5	2	0.6
SK50	SMB4022	●	SK50-MD40F-145	●	BB18-□(S)	Ø8~Ø38	208	120	62.5	2	0.6
	SMB4022	●	SK50-MD40F-220R	●	BB18-□(S)	Ø8~Ø38	283	83	62.5	3	0.6

(Unit : mm)

BB Bite(forSMB)	Designation	Boring Range(ØD) Min.	Boring Range(ØD) Max.	Insert	Screw	kg
	BB18-7(S)	8	28	TBGT0601□□L	BFTX0204A	0.1
	BB18-9(S)	10	30	TPGT0802□□L	BFTX0204A	0.1
	BB18-11(S)	12	32	TPGT1103□□L	BFTX0307A	0.1
	BB18-13(S)	14	34	TPGT1103□□L	BFTX0307A	0.1
	BB18-15(S)	16	36	TPGT1103□□L	BFTX0307A	0.2
	BB18-17(S)	18	38	TPGT1103□□L	BFTX0307A	0.2

(Unit : mm)

1:1 CHAT

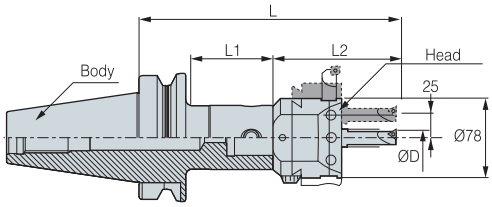
BT-KMB

Micro Boring

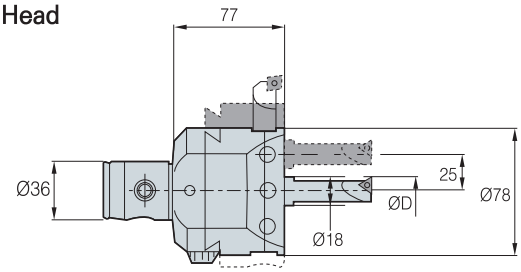


MAS 403-BT Shank | C Coolant System | 8 Min Range | 165 Max Range | Boring

Fig.1



Head



1DIV = ø0.02mm

- ● : Stock
- Adjustment range : 17mm

C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 156P
- For more information on the related parts, see 214P

	Head Designation	Stock	Body Designation	Stock	BB Bite	Boring Range(ØD)			L	L1	L2	Fig.	Head Weight(kg)
						Center Hole	Eccentric Hole	Side Hole					
BT40	KMB6336	●	BT40-MD63F-64	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	141	37	77	1	2.2
	KMB6336	●	BT40-MD63F-110	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	187	83	77	1	2.2
	KMB6336	●	BT40-MD63F-135	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	212	108	77	1	2.2
BT50	KMB6336	●	BT50-MD63F-75	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	152	35	77	1	2.2
	KMB6336	●	BT50-MD63F-130	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	207	87	77	1	2.2
	KMB6336	●	BT50-MD63F-195	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	272	152	77	1	2.2

(Unit : mm)

BB Bite(For KMB)	Designation	Boring Range(ØD)				Insert	Screw	kg
		Center		Eccentric				
	BB18-7(S)	8	42	43	91	TBGT0601□□L	BFTX0204A	0.1
	BB18-9(S)	10	44	45	93	TPGT0802□□L	BFTX0204A	0.1
	BB18-11(S)	12	46	47	95	TPGT1103□□L	BFTX0307A	0.1
	BB18-13(S)	14	48	49	97	TPGT1103□□L	BFTX0307A	0.1
	BB18-15(S)	16	50	51	99	TPGT1103□□L	BFTX0307A	0.2
	BB18-17(S)	18	52	53	101	TPGT1103□□L	BFTX0307A	0.2

(Unit : mm)

1:1 CHAT

HSK/SK-KMB

Micro Boring



DIN 69893-1	DIN69871 -1A/B	C	8	165	
Shank	Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

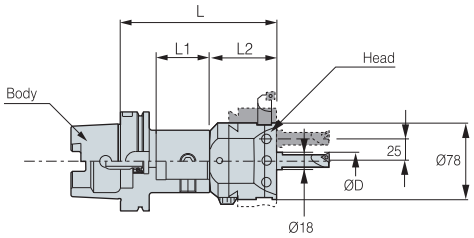


Fig.2

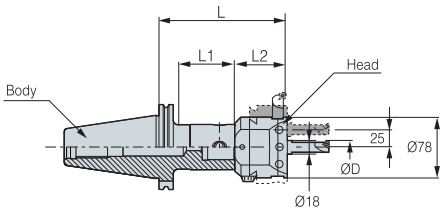
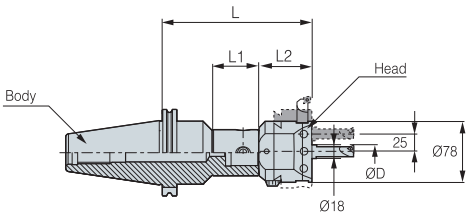
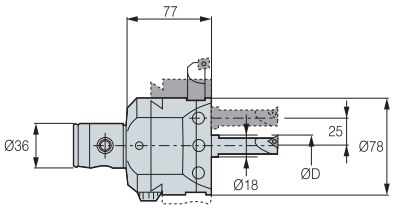


Fig.3



Head



1DIV = ø0.02mm

- ● : Stock
- Adjustment Range : 17mm

C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 158P
- For more information on the related parts, see 214P

	Head Designation	Stock	Body Designation	Stock	BB Bite	Boring Range(ØD)			L	L1	L2	Fig.	Head Weight (kg)
						Center Hole	Eccentric Hole	Side Hole					
HSK63A	KMB6336	●	HSK63A-MD63F-95	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	172	69	77	1	2.2
SK40	KMB6336	●	SK40-MD63F-70	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	147	51	77	2	2.2
SK50	KMB6336	●	SK50-MD63F-130	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	207	108	77	2	2.2
	KMB6336	●	SK50-MD63F-230R	●	BB18-□(S)	Ø8~Ø52	Ø43~Ø101	MAXØ165	307	149	77	3	2.2

(Unit : mm)

BB Bite(forKMB)	Designation	Boring Range(ØD)				Insert	Screw	kg
		Center		Eccentric				
	BB18-7(S)	8	42	43	91	TBGT0601□□L	BFTX0204A	0.1
	BB18-9(S)	10	44	45	93	TPGT0802□□L	BFTX0204A	0.1
	BB18-11(S)	12	46	47	95	TPGT1103□□L	BFTX0307A	0.1
	BB18-13(S)	14	48	49	97	TPGT1103□□L	BFTX0307A	0.1
	BB18-15(S)	16	50	51	99	TPGT1103□□L	BFTX0307A	0.2
	BB18-17(S)	18	52	53	101	TPGT1103□□L	BFTX0307A	0.2

(Unit : mm)

1:1 CHAT

BT-SMH

Small Micro Boring Bar



MAS 403-BT	C	6	34	
Shank	Coolant System	Min Range	Max Range	Boring

Fig.1

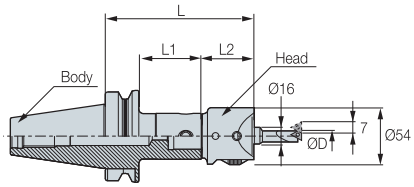
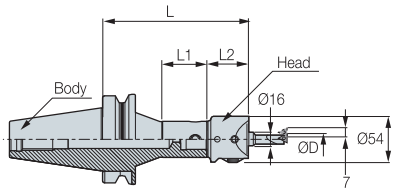
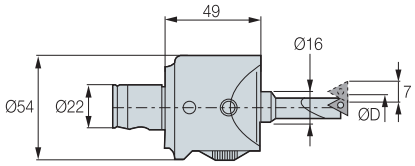


Fig.2



Head



※1DIV = ø0.01mm

- ● : Stock
- Adjustment range : 7mm

C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 156P
- For more information on the related parts, see 214P

	Head Designation	Stock	Body Designation	Stock	BB Bite	Boring Range(ØD)	L	L1	L2	Fig.	Head Weight (kg)
BT30	SMH4022	●	BT30-MD40F-45	●	BB16-□(S)	Ø6~Ø34	94	22	49	1	0.6
	SMH4022	●	BT30-MD40F-60	●	BB16-□(S)	Ø6~Ø34	109	36	49	1	0.6
	SMH4022	●	BT30-MD40F-80	●	BB16-□(S)	Ø6~Ø34	129	56	49	1	0.6
BT40	SMH4022	●	BT40-MD40F-60	●	BB16-□(S)	Ø6~Ø34	109	31	49	1	0.6
	SMH4022	●	BT40-MD40F-100R	●	BB16-□(S)	Ø6~Ø34	149	60	49	2	0.6
	SMH4022	●	BT40-MD40F-115	●	BB16-□(S)	Ø6~Ø34	164	83	49	1	0.6
BT50	SMH4022	●	BT50-MD40F-60	●	BB16-□(S)	Ø6~Ø34	109	22	49	1	0.6
	SMH4022	●	BT50-MD40F-195	●	BB16-□(S)	Ø6~Ø34	244	152	49	1	0.6
	SMH4022	●	BT50-MD40F-230R	●	BB16-□(S)	Ø6~Ø34	279	180	49	2	0.6

(Unit : mm)

BB Bite(For SMH)	Designation	Boring Range(ØD) Min.	Boring Range(ØD) Max.	Insert	Screw	Wrench
	BB16-5(S)	6	20	WBGT0601□□L	BFTX0203A	TRX06
	BB16-7(S)	8	22	TBGT0601□□L	BFTX0204A	TRX06
	BB16-9(S)	10	24	TPGT0802□□L	BFTX0204A	TRX06
	BB16-11(S)	12	26	TPGT1103□□L	BFTX0307A	TRX10
	BB16-15(S)	16	30	TPGT1103□□L	BFTX0307A	TRX10
	BB16-19(S)	20	34	TPGT1604□□L	BFTX0410A	TRX15

(Unit : mm)

1:1 CHAT

HSK/SK-SMH

Small Micro Boring Bar



DIN 69893-1 Shank | DIN69871 -1A/B Shank | C Coolant System | 6 Min Range | 34 Max Range | Boring

Fig.1

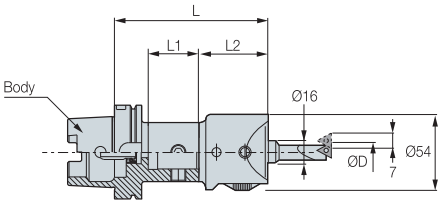


Fig.2

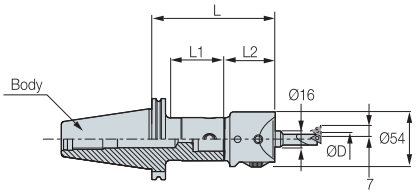
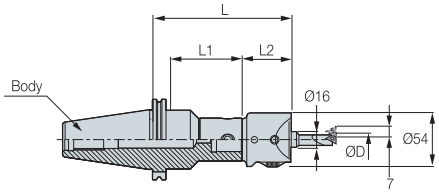
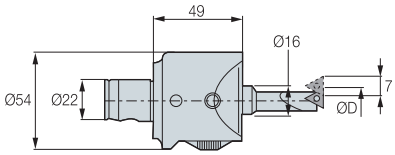


Fig.3



Head



※1DIV = ø0.01mm

- ● : Stock
- Adjustment Range : 7mm

C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

- For more information on MD arbor, see 158P
- For more information on the related parts, see 214P

	Head Designation	Stock	Body Designation	Stock	BB Bite	Boring Range(ØD)	L	L1	L2	Fig.	Head Weight (kg)
HSK63A	SMH4022	●	HSK63A-MD40F-70	●	BB16-(S)	Ø6~Ø34	119	41	49	1	0.6
SK40	SMH4022	●	SK40-MD40F-60	●	BB16-(S)	Ø6~Ø34	109	40	49	2	0.6
	SMH4022	●	SK40-MD40F-100	●	BB16-(S)	Ø6~Ø34	149	79	49	2	0.6
SK50	SMH4022	●	SK50-MD40F-145	●	BB16-(S)	Ø6~Ø34	194	120	49	2	0.6
	SMH4022	●	SK50-MD40F-220R	●	BB16-(S)	Ø6~Ø34	269	83	49	3	0.6

(Unit : mm)

BB Bite(For SMH)	Designation	Boring Range(ØD) Min.	Boring Range(ØD) Max.	Insert	Screw	Wrench
	BB16-5(S)	6	20	WBGT0601□□L	BFTX0203A	TRX06
	BB16-7(S)	8	22	TBGT0601□□L	BFTX0204A	TRX06
	BB16-9(S)	10	24	TPGT0802□□L	BFTX0204A	TRX06
	BB16-11(S)	12	26	TPGT1103□□L	BFTX0307A	TRX10
	BB16-15(S)	16	30	TPGT1103□□L	BFTX0307A	TRX10
	BB16-19(S)	20	34	TPGT1604□□L	BFTX0410A	TRX15

(Unit : mm)

1:1 CHAT

SMH SET

Small Micro Boring Set



SMH (SET1)



SMH (SET2)



SMH (SET4)



Set Number

Type	Designation	SMH (SET1)	SMH (SET2)	SMH (SET4)	Applicable Insert
Boring Head	SMH4022	1	1	1	
Body	BT40-MD40F-60	1			
Body	BT50-MD40F-60		1		
BB Bite(Steel)	BB16-0624(S)	1	1	1	WBGT060102L
BB Bite(Steel)	BB16-0832(S)	1	1	1	WBGT060102L
BB Bite(Steel)	BB16-1040(S)	1	1	1	TPGT080202L
BB Bite(Steel)	BB16-1253(S)	1	1	1	TPGT080202L
BB Bite(Steel)	BB16-1668(S)	1	1	1	TPGT110304L
BB Bite(Steel)	BB16-2083(S)	1	1	1	TPGT110304L
BB Bite(Steel)	BB16-2590(S)	1	1	1	TPGT110304L
BB Bite(Steel)	BB16-3090(S)	1	1	1	TPGT110304L
Screw	BFTX0203A	2	2	2	
Screw	BFTX0204A	2	2	2	
Screw	BFTX0307A	2	2	2	
Wrench	LW-3	1	1	1	
Wrench	LW-5	1	1	1	
Wrench	TRX06	1	1	1	
Wrench	TRX10	1	1	1	

※ The applied insert is based on Sumitomo products.

1:1 CHAT

SMB SPARE PART

Small Micro Boring Bar Related Parts



• The taper screw is built in the arbor by default.

• For more information on MD arbor, see 156P

SPARE PART

Type	Main Components			Accessories	
	Boring Head	Taper Screw	Wrench	Boring Bite	MD Arbor
Images					
Designation					
SMB	SMB4022	BTT1013F	LW-2.5	BB18	MD40F

1:1 CHAT

KMB SPARE PART

Micro Boring Related Parts



• The taper screw is built in the arbor by default

• For more information on MD arbor, see 156P

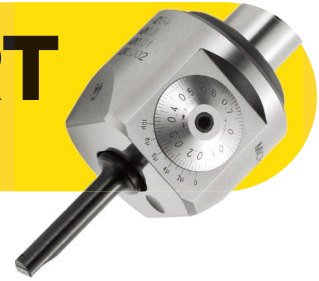
SPARE PART

Type	Main Components			Accessories	
	Boring Head	Taper Screw	Wrench	Boring Bite	MD Arbor
Images					
Designation					
KMB	KMB6336	BTT1620F	LW-4.0	BB18	MD63F

1:1 CHAT

SMH SPARE PART

Micro Boring Related Parts



• The taper screw is built in the arbor by default

• For more information on MD arbor, see 156P

SPARE PART

Type	Main Components			Accessories	
	Boring Head	Taper Screw	Wrench	Boring Bite	MD Arbor
Images					
Designation					
SMH	SMH4022	BTT1013F	LW-3.0	BB16	MD40F

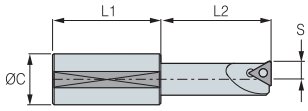
1:1 CHAT

BB BITE

BB Bite(for SMB, SMH, KMB)



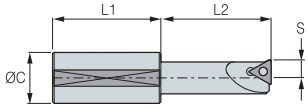
Boring Bite : BB Type(for SMB)



Designation	Boring Range (Center)		S	ØC	L1	L2	Insert	Insert Screw
	Min.	Max.						
BB18 - 7(S)	8	28	3.5	18	30	30	TBGT0601□□L	BFTX0204A
BB18 - 9(S)	10	30	4.5	18	30	40	TPGT0802□□L	BFTX0204A
BB18 - 11(S)	12	32	5.5	18	30	45	TPGT1103□□L	BFTX0307A
BB18 - 13(S)	14	34	6.5	18	40	45	TPGT1103□□L	BFTX0307A
BB18 - 15(S)	16	36	7.5	18	40	50	TPGT1103□□L	BFTX0307A
BB18 - 17(S)	18	38	8.5	18	40	50	TPGT1103□□L	BFTX0307A

(Unit : mm)

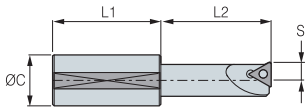
Boring Bite : BB Type(for SMH)



Designation	Boring Range (Center)		S	ØC	L1	L2	Insert	Insert Screw	Wrench
	Min.	Max.							
BB16 - 5(S)	6	20	2.75	16	34	20	WBGT0601□□L	BFTX0203A	TRX06
BB16 - 7(S)	8	22	3.5	16	34	30	TBGT0601□□L	BFTX0204A	TRX06
BB16 - 9(S)	10	24	4.5	16	34	40	TPGT0802□□L	BFTX0204A	TRX06
BB16 - 11(S)	12	26	5.5	16	34	45	TPGT1103□□L	BFTX0307A	TRX10
BB16 - 15(S)	16	30	7.5	16	34	50	TPGT1103□□L	BFTX0307A	TRX10
BB16 - 19(S)	20	34	9.5	16	60	34	TPGT1604□□L	BFTX0410A	TRX15

(Unit : mm)

Boring Bite : BB Type(for KMB)



Designation	Boring Range(Center)				S	ØC	L1	L2	Insert	Insert Screw
	Center		Eccentric							
BB18 - 7(S)	8	42	43	91	3.5	18	30	30	TBGT0601□□L	BFTX0204A
BB18 - 9(S)	10	44	45	93	4.5	18	30	40	TPGT0802□□L	BFTX0204A
BB18 - 11(S)	12	46	47	95	5.5	18	30	45	TPGT1103□□L	BFTX0307A
BB18 - 13(S)	14	48	49	97	6.5	18	40	45	TPGT1103□□L	BFTX0307A
BB18 - 15(S)	16	50	51	99	7.5	18	40	50	TPGT1103□□L	BFTX0307A
BB18 - 17(S)	18	52	53	101	8.5	18	40	50	TPGT1103□□L	BFTX0307A

(Unit : mm)

Standard Boring Bite (Insert Type)

Maker	Designation	Purpose of Use	Shank Size	Insert
SUMITOMO	BBPT (WBPT : Carbide Shank)	For Through Hole Boring	Ø8,10,12,16	TP□T0802□□L, TP□T1103□□L
	BBPW (WBPW : Carbide Shank)		Ø5.5,8,10	WB□T0601□□L WB□T0601□□L, WB□T0802□□L
	S-SCLCR	For Stop and Through Hole Boring	Ø8,10,12,16	CC□T0602□□, CC□T0602□□
	C-SCLCR : Carbide Shank			CC□T09T3□□, CC□T09T3□□
KORLOY	S-STFPR (C-STFPR : Carbide Shank)	For Through Hole Boring	Ø12,16	TP□T1103□□L
	S-STUPR		Ø8	TP□□0802□□L
	S-SWUBR (E-SWUBR : Carbide Shank)		Ø5.5,8,10	WB□T0201□□L, WB□TS302□□L
	S-SCLCR (C-SCLCR : Carbide Shank)	For Stop and Through Hole Boring	Ø10,12,16	CC□T0301□□, CC□T0401□□
	S-SCLPR (C-SCLPR : Carbide Shank)		Ø8,10,12,16	CP□T0802□□, CP□T0903□□

(Unit : mm)

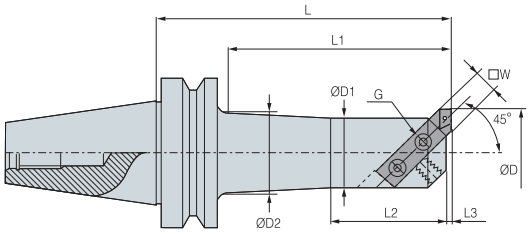
1:1 CHAT

BT-BSA

Square Boing Bar



MAS 403-BT Shank | C Coolant System | 25 Min Range | 160 Max Range | Boring



- ● : To be switched to NP order after stock depletion
- ● : Stock

C This product does not support the internal coolant system

• For more information on BB bite, see 217P

	Designation	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	ØD1	L1	L2	L3	ØD2	W	G	Package Weight(kg)	Stock
BT50	BT50-BSA25-135	25	38	135	20	91	35	1	22	8	M6	4.2	●
	BT50-BSA30-165	30	42	165	24	120	40	1.6	26	8	M6	4.5	●
	BT50-BSA38-180	38	52	180	30	134	50	2.6	33	10	M8	4.9	●
	BT50-BSA42-210	42	56	210	34	167	50	2.6	37	10	M8	5.3	●
	BT50-BSA50-180	50	65	180	40	134	65	3	46	13	M10	5.5	●
	BT50-BSA50-240	50	65	240	40	197	65	3	44	13	M10	6.2	●
	BT50-BSA62-195	62	90	195	50	150	80	2	56	16	M10	6.3	●
	BT50-BSA62-270	62	90	270	50	225	80	2	56	16	M10	7.8	●
	BT50-BSA72-195	72	110	195	60	149	95	2.4	66	19	M12	7.2	●
	BT50-BSA72-285	72	110	285	60	239	95	2.4	66	19	M12	9.5	●
	BT50-BSA90-210	90	125	210	75	167	110	4	80	19	M12	9.5	●
	BT50-BSA105-195	105	160	195	90	154	130	3	-	25	M12	10.7	●

(Unit : mm)

1:1 CHAT

BSA SPARE PART

Boring Bar Related Parts

Main Components

SPARE PART

Type	Main Components
Images	
Designation	Set Screw
BSA25	BTF0606
BSA30	BTF0606
BSA38	BTF0808
BSA42	BTF0810
BSA50	BTF1012
BSA62	BTF1016
BSA72	BTF1216
BSA90	BTF1220
BSA105	BTF1225

Accessories

SPARE PART

Type	Accessories	
	Bite	Wrench
Images		
Designation		
BSA25	BH408	LW-3
BSA30	BH408	LW-3
BSA38	BH410	LW-4
BSA42	BH410	LW-4
BSA50	BH413	LW-5
BSA62	BH416	LW-5
BSA72	BH419	LW-6
BSA90	BH419	LW-6
BSA105	BH425	LW-6

1:1 CHAT

BH

Square Boring Bite for BSA



Boring

Fig.1

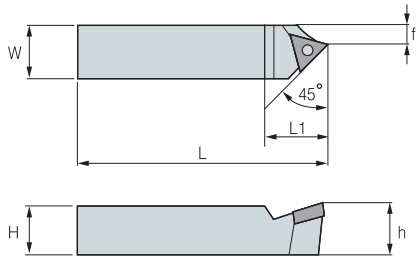
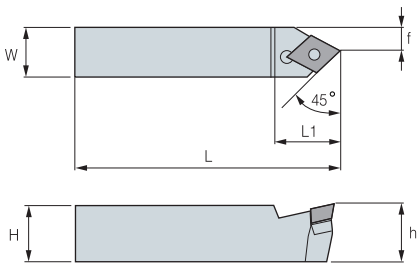


Fig.2



• ● : Stock

BH

Designation	Fig.	W=H	h	L	L1	f	Usable Insert	Insert Screw	Insert Wrench	Stock
BH408	1	8	7.8	40	9	3.2	TPGT0802□□L	BFTX0204A	TRX06	●
BH410	2	10	9.8	50	10	4.2	CPMT0602□□	BFTX02506N	TRX08	●
BH413	2	13	12.8	60	14	6.2	CPMT0803□□	BFTX0307N	TRX10	●
BH416	2	16	15.8	80	18	7.3	CPMT0903□□	BFTX0407A	TRX15	●
BH419	2	19	18.8	95	22	10.3	CPMH1204□□	BFN0511T	TRX20	●
BH425	2	25	24.8	125	26	14.2	CPMH1604□□	BFX0611R	LW-3.0	●

(Unit : mm)

Insert for Square Boring Bite

Maker	Insert	Grade	Workpiece	Machining
KORLOY	CCGT0602□□-AK	H01	Aluminum	Fine Boring
	CCGT09T3□□-AK			
	CCGT1204□□-AK			

Maker	Insert	Grade	Workpiece	Machining
SUMITOMO	TPGT0802□□	Cermet : T1500A	Steel, Cast Iron, Stainless Steel	Fine Boring
	CPMT0602□□	Coating : AC6030M	Steel	Rough Boring
	CPMT0803□□	Coating : AC6030M	Steel	Rough Boring
	CPMT0903□□	Coating : AC8015P	Steel, Alloy Steel, Cast Iron	Rough Boring
		Coating : AC6030M	Stainless Steel	Rough Boring
		Coating : T3000Z	Steel, Cast Iron, Stainless Steel	Rough Boring–Fine Boring
	CPMH1204□□	Coating : AC6030M	Steel, Stainless Steel	Rough Boring
	CPMH1604□□	Coating : AC6030M	Steel, Stainless Steel	Rough Boring

(Unit : mm)

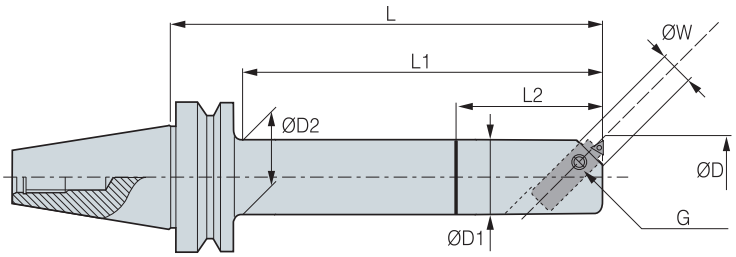
1:1 CHAT

BT-BKA

FZ Micro Boring Bar



MAS 403-BT Shank | C Coolant System | Boring



- ● : To be switched to NP order after stock depletion
- ● : Stock

C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

※ The boring unit is an item for separate purchase.

※ For more information on the boring range and insert used, see the FZ unit table.

• For more information on the related parts, see 220P

• For more information on the FZ unit, see 221P

	Designation	Stock	FZ Unit	Stock	L	L1	L2	ØD1	ØD2	ØW	G	kg	Package Weight(kg)
BT30	BT30-BKA28-150	●	FZ10-□□-3[S]	●	150	123	-	25	-	10	M6	0.9	1
	BT30-BKA36-150	●	FZ12-□□-3[S]	●	150	125	-	32	-	12	M8	1.2	1.3
	BT30-BKA45-150	●	FZ16-□□-3[S]	●	150	128	-	40	-	16	M10	1.6	1.7
BT40	BT40-BKA23-150	●	FZ8-□□-3[S]	●	150	95	40	20	22	8	M6	1.6	1.9
	BT40-BKA23-225		FZ8-□□-3[S]	●	225	95	40	20	22	8	M6	2.8	3.1
	BT40-BKA28-165	●	FZ10-□□-3[S]	●	165	122	50	25	26	10	M6	1.5	1.7
	BT40-BKA28-225	●	FZ10-□□-3[S]	●	225	125	50	25	26	10	M6	2.6	2.9
	BT40-BKA36-165	●	FZ12-□□-3[S]	●	165	133	60	32	35	12	M8	1.9	2.1
	BT40-BKA36-225	●	FZ12-□□-3[S]	●	225	193	60	32	35	12	M8	2.8	3.1
	BT40-BKA45-165	●	FZ16-□□-3[S]	●	165	133	70	40	44	16	M10	2.3	2.6
	BT40-BKA45-225	●	FZ16-□□-3[S]	●	225	208	70	40	44	16	M10	3	3.2
	BT40-BKA56-165	●	FZ20-□□-3[S]	●	165	-	70	50	54	20	M12	3	3.2
	BT40-BKA56-240	●	FZ20-□□-3[S]	●	240	-	70	50	54	20	M12	4.2	4.5
	BT40-BKA72-165	●	FZ25-□□-3[S]	●	165	-	-	63	-	25	M16	4	4.2
	BT40-BKA72-240	●	FZ25-□□-3[S]	●	240	-	-	63	-	25	M16	5.7	5.9
	BT40-BKA90-165	●	FZ32-□□-3[S]	●	165	-	100	80	-	32	M20	4.9	5.2
	BT40-BKA90-240		FZ32-□□-3[S]	●	240	-	100	80	-	32	M20	6.8	7

(Unit : mm)

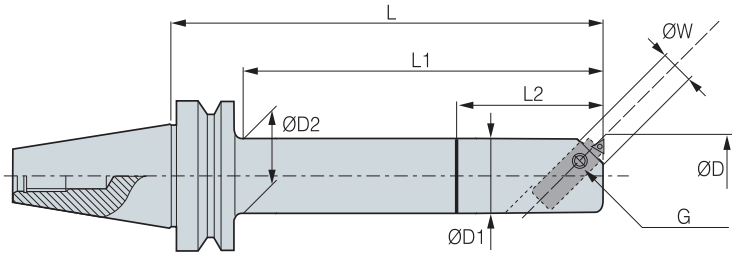
1:1 CHAT

BT-BKA

FZ Micro Boring Bar



MAS 403-BT Shank | C Coolant System | Boring



- ● : Stock

C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

※ The boring unit is an item for separate purchase.

※ For more information on the boring range and insert used, see the FZ unit table.

- For more information on the related parts, see 220P
- For more information on the FZ unit, see 221P

BT50

Designation	Stock	FZ unit	Stock	L	L1	L2	ØD1	ØD2	ØW	G	kg	Package Weight(kg)
BT50-BKA23-150		FZ8-□□-3[S]	●	150	95	40	20	22	8	M6	4.2	4.6
BT50-BKA23-225		FZ8-□□-3[S]	●	225	95	40	20	22	8	M6	5.3	5.7
BT50-BKA28-165	●	FZ10-□□-3[S]	●	165	122	50	25	26	10	M6	4.1	4.5
BT50-BKA28-225	●	FZ10-□□-3[S]	●	225	122	50	25	26	10	M6	5.1	5.5
BT50-BKA36-165	●	FZ12-□□-3[S]	●	165	122	60	32	35	12	M8	4.4	4.8
BT50-BKA36-225	●	FZ12-□□-3[S]	●	225	182	60	32	35	12	M8	4.9	5.3
BT50-BKA45-165	●	FZ16-□□-3[S]	●	165	122	70	40	44	16	M10	4.8	5.2
BT50-BKA45-225	●	FZ16-□□-3[S]	●	225	182	70	40	44	16	M10	5.5	5.9
BT50-BKA56-165	●	FZ20-□□-3[S]	●	165	122	70	50	54	20	M12	5.5	5.9
BT50-BKA56-240	●	FZ20-□□-3[S]	●	240	197	70	50	54	20	M12	6.7	7.1
BT50-BKA72-165	●	FZ25-□□-3[S]	●	165	122	80	63	68	25	M16	6.5	6.9
BT50-BKA72-240	●	FZ25-□□-3[S]	●	240	197	80	63	68	25	M16	8.5	8.9
BT50-BKA90-165	●	FZ32-□□-3[S]	●	165	122	90	80	-	32	M20	7.9	8.3
BT50-BKA90-240	●	FZ32-□□-3[S]	●	240	197	-	80	-	32	M20	10.9	11.3
BT50-BKA110-270	●	FZ32-□□-3[S]	●	270	-	-	100	-	32	M20	14.8	15.2

(Unit : mm)

1:1 CHAT

BKA SPARE PART

FZ Micro Boring Bar Related Parts

Main Components

SPARE PART

Type	Main Components
	Set Screw
Images / Designation	
BKA23	BTF0606
BKA28	BTF0606
BKA36	BTF0808
BKA45	BTF1010
BKA56	BTF1212
BKA72	BTF1616
BKA90	BTF2020
BKA110	BTF2020

Accessories

SPARE PART

Type	Accessories		
	Unit		Wrench
Images / Designation			
BKA23	FZ8-23-3(P10.K10)		LW-3
BKA28	FZ10-28-3(S)	FZ10-32-3(S)	LW-3
BKA36	FZ12-36-3(S)	FZ12-40-3(S)	LW-4
BKA45	FZ16-45-3(S)	FZ16-50-3(S)	LW-5
BKA56	FZ20-56-3(S)	FZ20-64-3(S)	LW-4
BKA72	FZ25-72-3(S)	FZ25-80-3(S)	LW-8
BKA90	FZ32-90-3(S)	FZ32-100-3(S)	LW-10
BKA110	FZ32-110-3(S)	FZ32-125-3(S)	LW-10

1:1 CHAT

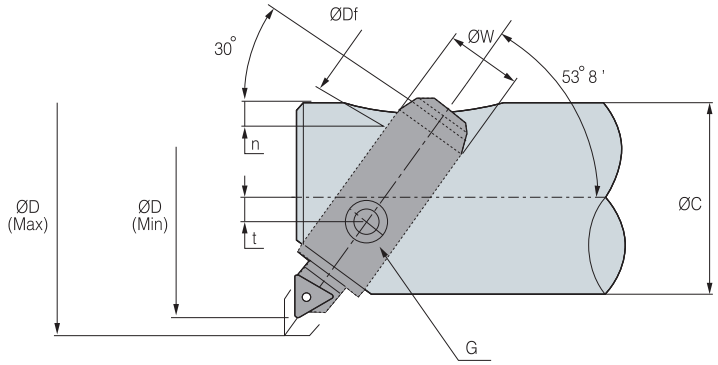
FZ UNIT

FZ Unit Inclined Mounting Type



C Coolant System

Boring



C This product does not support the internal coolant system

※ In case of one gradation adjustment, Ø0.02mm

• For more information on the applicable insert, see 222P
• For more information on the related parts, see 222P

	Designation	Boring Range (ØD) Min.	Boring Range (ØD) Max.	Insert Holder (ISO)	Insert (ISO)	ØC	n	ØDf	t	G	ØW	kg	Package Weight(kg)
FZ8	FZ8-23-3(P10,K10)	23	29(32)	8Z3 (Brazed Tip)	-	20	3	8	1.5	M6	8	0.04	0.04
	FZ8-26-3(P10,K10)	26	32(34)	8Z3 (Brazed Tip)	-	20	3	8	1.5	M6	8	0.04	0.04
FZ10	FZ10-28-3(S)	28	34(38)	U10Z3S	TBGT0601□□L	25	3.5	8	2	M6	10	0.1	0.1
	FZ10-32-3(S)	32	38(44)	U10Z3S	TBGT0601□□L	25	3.5	8	2	M6	10	0.1	0.1
FZ12	FZ12-36-3(S)	36	44(48)	U12Z3S	TBGT0601□□L	32	4	10	2.5	M8	12	0.1	0.1
	FZ12-40-3(S)	40	48(55)	U12Z3S	TBGT0601□□L	32	4	10	2.5	M8	12	0.1	0.1
FZ16	FZ16-45-3(S)	45	54(60)	U16Z3S	TBGT0802□□L	40	6.5	12	3	M10	16	0.1	0.0
	FZ16-50-3(S)	50	59(68)	U16Z3S	TBGT0802□□L	40	6.5	12	3	M10	16	0.1	0.1
FZ20	FZ20-56-3(S)	56	68(78)	U20Z3S	TBGT0802□□L	50	7	16	5	M12	20	0.2	0.2
	FZ20-64-3(S)	64	76(90)	U20Z3S	TBGT0802□□L	50	7	16	5	M12	20	0.2	0.2
FZ25	FZ25-72-3(S)	72	88(100)	U25Z3S	TPGT1103□□L	63	8	20	4	M16	25	0.3	0.3
	FZ25-80-3(S)	80	96(114)	U25Z3S	TPGT1103□□L	63	8	20	4	M16	25	0.3	0.3
FZ32	FZ32-90-3(S)	90	114(126)	U32Z3S	TPGT1103□□L	80	10	25	6	M20	32	0.6	0.6
	FZ32-100-3(S)	100	124(140)	U32Z3S	TPGT1103□□L	80	10	25	6	M20	32	0.6	0.6
	FZ32-110-3(S)	110	134(150)	U32Z3S	TPGT1103□□L	100	10	25	12	M20	32	0.7	0.7
	FZ32-125-3(S)	125	149(175)	U32Z3S	TPGT1103□□L	100	10	25	12	M20	32	0.8	0.8

(Unit : mm)

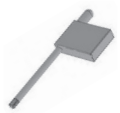
1:1 CHAT

FZ UNIT SPARE PART

FZ Unit Related Parts



SPARE PART

Type	Main Components					Accessories
	Housing Set	Spindle	Insert Screw	Torx Wrench	L-Wrench	Wrench
Images / Designation						
FZ8-23, 26-3, P10	8-23, 26-3	8Z3(P10)	-	-	LW-1.5	R0/N0
FZ8-23, 26-3, K10	8-23, 26-3	8Z3(K10)	-	-	LW-1.5	R0/N0
FZ10-28, 32-3(S)	10-28, 32-3	U10Z3-TB06	BFTX0204A	TRX6	LW-2.0	R2/N1
FZ12-36, 40-3(S)	12-36, 40-3	U12Z3-TB06	BFTX0204A	TRX6	LW-2.5	R2A/N2
FZ16-45, 50-3(S)	16-45, 50-3	U16Z3-TP08	BFTX0204A	TRX6	LW-3.0	N3
FZ20-56, 64-3(S)	20-56, 64-3	U20Z3-TP08	BFTX0204A	TRX6	LW-4.0	R4/N4
FZ25-72, 80-3(S)	25-72, 80-3	U25Z3-TP11	BFTX0307A	TRX10	LW-4.0	ZV25
FZ32-90, 100, 110, 125-3(S)	32-90, 100-3	U32Z3-TP11	BFTX0307A	TRX10	LW-5.0	R5/N5

1:1 CHAT

INSERT

FZ Unit, FF Unit

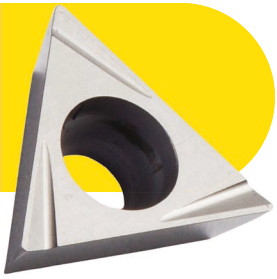


Fig.1
Chip Breaker Type

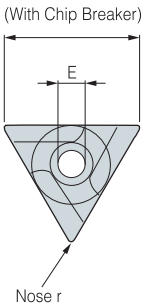
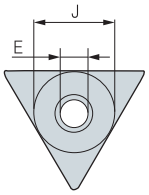
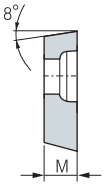


Fig.2





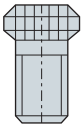

Insert Screw

Fig.	Insert Material Type	Workpiece
1	K10(W.C)	Cast Iron, Aluminum
1	P10(W.C)	Steel, Stainless Steel
1	CN1000 or CN2000(Cermet)	Steel
2	K10(W.C)	Exclusive for Cast Iron

Insert	Fig.	J	r	M	E	Insert Screw	Wrench
TBGT0601□□L	1	3.97	0.2	1.59	2.2	BFTX0204A	TRX6
TPGT0802□□L	1	4.76	0.2	2.38	2.4	BFTX0204A	TRX6
TPGT1103□□L	1	6.35	0.4	3.18	2.8	BFTX0307A	TRX10

(Unit : mm)

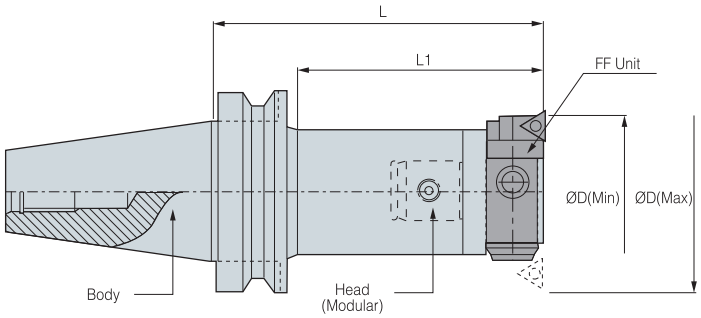
1:1 CHAT

BT-BCF

Micro Boring Bar



MAS 403-BT — Shank
C — Coolant System
29.5 — Min Range
141 — Max Range
Boring



- ● : Stock

C This product does not support the internal coolant system

※ Red : Main Component Blue : For Separate Purchase

※ The bodies, boring units, and head sets aer sold individually

※ Right-angled type micro boring bar

• For more information on FF boring unit, see 225P
• For more information on the related parts, see 225P
• For more information on the applicable insert, see 226P

	Body Designation	Head Designation	Stock	Boring Unit	Stock	Boring Range(ØD) Min.	Boring Range(ØD) Max.	L	L1	Head Package Weight(kg)	Body
BT30	BT30-MD25F-90	BCF2530	●	FF10-30[S]	●	29.5	42	140	113	0.3	0.6
	BT30-MD32F-80	BCF3239	●	FF12-39[S]	●	39	50	140	115	0.4	0.7
	BT30-MD40F-80	BCF4047	●	FF16-47[S]	●	47	66	140	116	0.6	0.9
	BT30-MD50F-70	BCF5058	●	FF20-58[S]	●	58	83	140	117	1	0.9
BT40	BT40-MD25F-95	BCF2530	●	FF10-30[S]	●	29.5	42	145	113	0.3	1.1
	BT40-MD32F-100	BCF3239	●	FF12-39[S]	●	39	50	160	130	0.4	1.1
	BT40-MD40F-115	BCF4047	●	FF16-47[S]	●	47	66	175	143	0.6	1.6
	BT40-MD50F-105	BCF5058	●	FF20-58[S]	●	58	83	175	143	1	1.8
	BT40-MD63F-110	BCF6379	●	FF25-79[S]	●	79	108	180	152	1.7	2.4
	BT40-MD80F-100	BCF100	●	FF32-100[S]	●	100	141	200	172	3.8	2.9
BT50	BT50-MD25F-105	BCF2530	●	FF10-30[S]	●	29.5	42	155	112	0.3	4.1
	BT50-MD32F-110	BCF3239	●	FF12-39[S]	●	39	50	170	127	0.4	4.3
	BT50-MD40F-195	BCF4047	●	FF16-47[S]	●	47	66	255	212	0.6	5.2
	BT50-MD50F-225	BCF5058	●	FF20-58[S]	●	58	83	295	252	1	6.4
	BT50-MD63F-195	BCF6379	●	FF25-79[S]	●	79	108	265	222	1.6	7.2
	BT50-MD80F-175	BCF100	●	FF32-100[S]	●	100	141	275	234	3.8	8.4

(Unit : mm)

Boring Unit (Insert)

- FF10-30(S) / FF12-39(S) (TBGT0601L)
- FF16-47(S) / FF20-58(S) (TPGT0802L)
- FF25-79(S) / FF32-100(S) (TPGT1103L)

1:1 CHAT

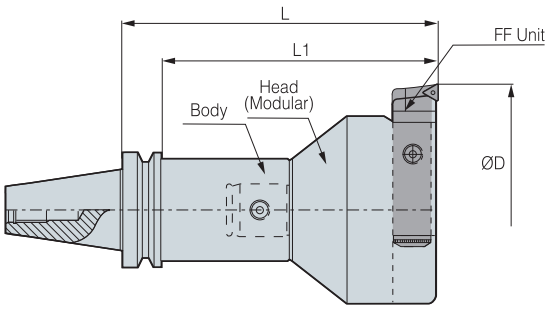
BT-BCF

Micro Boring Bar



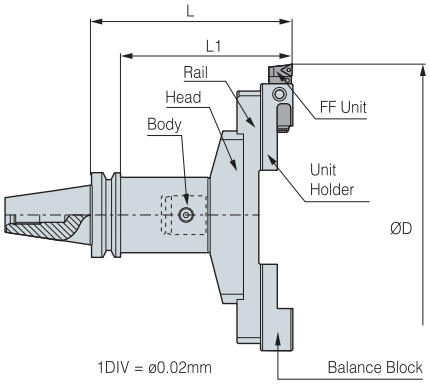
MAS 403-BT Shank | C Coolant System | 138 Min Range | 450 Max Range | Boring

Fig.1



1DIV = ø0.02mm

Fig.2



1DIV = ø0.02mm Balance Block

- ○ : To be discontinued after inventory depletion
- ● : Stock

C This product does not support the internal coolant system

※ Red : Main component Blue : For separate purchase

※ The bodies, boring units, and head sets aer sold individually

※ Modular type micro boring bar

- For more information on FF boring unit, see 225P
- For more information on the related parts, see 225P
- For more information on the applicable insert, see 226P

BT50

Body Designation	Head Designation	Stock	Boring Unit	Stock	Boring Range (ØD) Min.	Boring Range (ØD) Max.	L	L1	Fig.	Package Weight(kg)
BT50-MD90F-75	BCF138	○	FF32-138(S)	●	138	159	175	136.5	1	8
BT50-MD90F-145	BCF138	○	FF32-138(S)	●	138	159	245	204	1	9
BT50-MD90F-75	BCF150	○	FF32-138(S)	●	150	171	175	136.5	1	9.6
BT50-MD90F-145	BCF150	○	FF32-138(S)	●	150	171	245	204	1	12.4
BT50-MD90F-195	BCF150	○	FF32-138(S)	●	150	171	295	254	1	15.4
BT50-MD90F-75	BCF170	○	FF32-138(S)	●	170	191	175	136.5	1	9.8
BT50-MD90F-145	BCF170	○	FF32-138(S)	●	170	191	245	204	1	12.6
BT50-MD90F-195	BCF170	○	FF32-138(S)	●	170	191	295	254	1	15.8
BT50-MD90F-75	BCF190	○	FF32-138(S)	●	190	211	175	136.5	1	10.2
BT50-MD90F-145	BCF190	○	FF32-138(S)	●	190	211	245	204	1	13
BT50-MD90F-195	BCF190	○	FF32-138(S)	●	190	211	295	254	1	16.1
BT50-MD90F-75	BCF210	○	FF32-138(S)	●	210	231	175	136.5	1	10.5
BT50-MD90F-145	BCF210	○	FF32-138(S)	●	210	231	245	204	1	13.4
BT50-MD90F-195	BCF210	○	FF32-138(S)	●	210	231	295	254	1	16.5
BT50-MD90F-75	BCF230	○	FF32-138(S)	●	230	251	175	136.5	1	13.1
BT50-MD90F-145	BCF230	○	FF32-138(S)	●	230	251	245	204	1	15.6
BT50-MD90F-195	BCF230	○	FF32-138(S)	●	230	251	295	254	1	18.2
BT50-MD90F-75	BCF350FS	○	FF25-79(S)	●	350	450	182	143.5	2	16.4
BT50-MD90F-145	BCF350FS	○	FF25-79(S)	●	350	450	252	211	2	19
BT50-MD90F-195	BCF350FS	○	FF25-79(S)	●	350	450	302	261	2	20.8

※ Boring unit (Insert)

- FF25-79(S) / FF32-138(S) (TPGT1103L)

(Unit : mm)

1:1 CHAT

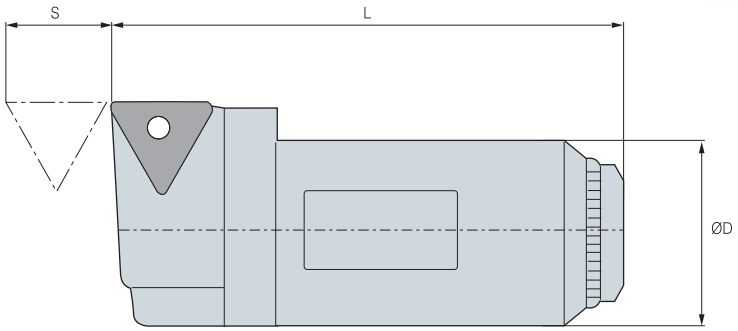
FF

FF Unit



C Coolant System

Boring



C This product does not support the internal coolant system

FF Unit

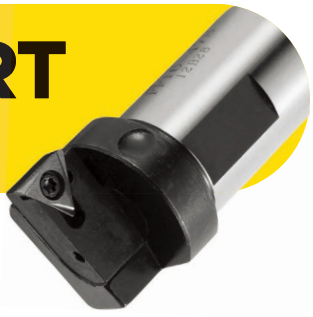
Designation	ØD	L	S	Usable Insert
FF10-30(S)	10	28.5	3.5	TBGT0601□□L
FF12-39(S)	12	37.5	3.5	TBGT0601□□L
FF16-47(S)	16	45	5	TPGT0802□□L
FF20-58(S)	20	56	7	TPGT0802□□L
FF25-79(S)	25	77.5	8	TPGT1103□□L
FF32-100(S)	32	97	11	TPGT1103□□L
FF32-138(S)	32	131	11	TPGT1103□□L

(Unit : mm)

1:1 CHAT

FF UNIT SPARE PART

FF Unit Related Parts



SPARE PART

Type / Images / Designation	Main Components		
	Clamp Screw	Torx Wrench	Wrench
			
FF10-30(S)	BFTX0204A	TRX06	LW-2
FF12-39(S)	BFTX0204A	TRX06	LW-2.5
FF16-47(S)	BFTX0204A	TRX06	LW-3
FF20-58(S)	BFTX0204A	TRX06	LW-4
FF25-79(S)	BFTX0307A	TRX10	LW-4
FF32-100(S)	BFTX0307A	TRX10	LW-5

1:1 CHAT

INSERT

Boring Insert

Insert	Applicable Products (Boring Head)
CCET0301□□L	FBB15C(FBH15,FBH18)
CCET0401□□L	FBB20N-C, FBB20N-1-C(FBH1920B) FBB26N-C, FBB26N-1-C(FBH2526B)
CCMT0602□□L	BCC28(DBC2528S),BCC35(DBC3235S) FBB33N-C, FBB33N-1-C(FBH3233B), FBH42N-C FBH42N-1-C(FBH4042B), FBH53N-1-C(FBH5053B)
CCGT0602□□L	
CPMT0602□□L	BH410(BSA38,BSA42)
CPMT0803□□L	BH413(BSA50)
CCMT09T3□□L	BCC46(DBC4046S),BCC58(DBC5058S) FBB53N-C, FBH53N-1-C09(FBH5053B), FBB68N-C, FBB68N-C09, FBB68N-1-C09(FBH6368B, FBH6398B, FBH8098B) FBB130-C09(FBC130,FBC175,FBC220,FBC265,FBC310,FBC385,FBC460)
CCGT09T3□□L	
CPMT0903□□	BH416(BSA62)
CCMT1204□□L	BCC74(DBC6374S),BCC94(DBC8094),BCC120(DBC120S) BCC1348(TBC130,TBC175,TBC220,TBC265) BCC1354(TBC310,TBC385,TBC460) FBB130-C12(FBC130,FBC175,FBC220,FBC265,FBC310,FBC385,FBC460)
CCGT1204□□L	
CPMH1204□□L	BH419(BSA72,BSA90)
WBGT0601□□L	BB16-5(S)(SMH4022)
TBGT0601□□L	BB16-7(S), BB18-7(S)(KMB6336,SMB4022) FZ10-28-3(S),FZ10-32-3(S)(BSA30) FZ12-36-3(S),FZ12-40-3(S)(BSA38) FF10-30(S)(BCF2530),FF12-39(S)(BCF3239)
TPGT0802□□L	BB16-9(S)(SMH4022),BB18-9(S)(KMB6336,SMB4022) BH408(BSA25, BSA28) FBB20N,FBB20N-1(FBH1920B) FBB26N,FBB26N-1(FBH2526B) FBB33N,FBB33N-1(FBH3233B) FBB42N, FBB42N-1(FBH4042B) FZ16-45-3(S),FZ16-50-3(S)(BSA42) FZ20-56-3(S),FZ20-64-3(S)(BSA50) FF16-47(S)(BCF4047), FF20-58(S)(BCF5058)
TPGW0802□□	
TPGT1103□□L	FBB42N-T11,FBB42N-1-T11(FBH4042B), FBB53N-11, FBB53N-1-T11(FBH5053B) FBB68N-11,FBB68N-1-T11(FBH6368B, FBH6398B, FBH8098B) FBB130-T11(FBC130,FBC175,FBC220,FBC265, FBC310,FBC385,FBC460) BB16-11(S),15(S),19(S)(SMH4022) BB18-11(S),13(S),15(S),17(S)(KMB6336,SMB4022) FZ25-72-3(S),FZ25-80-3(S)(BSA62) FZ32-90-3(S), FZ32-100-3(S)(BSA72) FZ32-110-3(S),FZ32-125-3(S)(BSA90)FF25-79(S)(BCF6379,BCF250FS,BCF350FS) FF32-100(S)(BCF100) FF32-138(S)(BCF138,BCF170,BCF190,BCF210,BCF230)
TPGT1604□□L	BB16-19(S)(SMH4022)
CPMH1604□□L	BH425(BSA105)



Angular Head

DINE TOTAL TOOLING SOLUTION

ANGULAR HEAD	228
KAH	230
KHU	232
KAG	234
HRAG	236
MAH	238
KAC	240
SAH	242
POSITIONING BLOCK	244
ATM	246
ATU	250

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ANGULAR HEAD

Angular Head



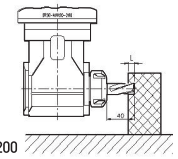
KAH 90° Angle Type

Milling Drilling Inner Side Machining

Due to the horizontal rotation by 360°,machining can be conducted at various locations.

Efficient side surface machining can be performed due to the fixed tilt angle of 90°.

• HSK and SK types are customizable.



BT50-KAH20-200



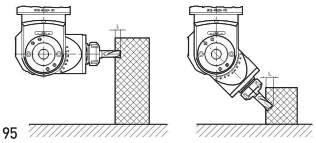
KHU 0–90° Tilting Type

Milling Drilling Corner Rounding Copy Machining Inclined Machining

Due to the horizontal rotation by 360°, machining can be conducted at various locations.

Due to tilt angle of 0–90°, machining can be conducted at various angles.

• HSK and SK types are customizable.



BT50-KHU20-195



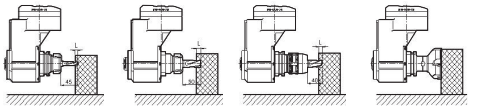
KAG Attachment Type

Milling Drilling Face Cutting Side Cutting

Wide horizontal machining angle range from 0° to 360°.

• Compatible with various tools for BT40 and BT30

• HSK and SK types are customizable



BT40-SDC20P-70 (Ø12 E/M) | BT40-SDC20P-70 (Ø12 E/M) | BT40-NPM20-85 (Ø12 E/M) | BT40-FMA25.4-45 (Ø80 Shoulder Mill)



HRAG Attachment Type (Rigid Reinforced Type)

Milling Drilling Face Cutting Side Cutting

HRAG that improves the rigidity of the attachment–type bracket by 200%.

• Provides stable operation of the face mill cutter

• Improves the rigidity of the KAG type

• HSK and SK types are customizable.



MAH 0–90° Tilting Type (Rigid Reinforced Type)

Milling Drilling

Corner Rounding Copy Machining Inclined Machining

MAH that supports mold machining by improving the performance of the current universal–type product.

• Stable machining of large–sized mold

• Supports ball endmill 32mm in diameter (D)

• Improves the rigidity of the KHU type



KAC 45° Angle Type

Slope Machining Milling Drilling Corner Rounding

Due to horizontal rotation by 360°,machining can be conducted at various locations. Tilt angle of 45° fixed.

• HSK and SK types are customizable.

1:1 CHAT

ANGULAR HEAD

Angular Head



Slope Machining


Flank Machining


Inner Side Machining


Free Angle



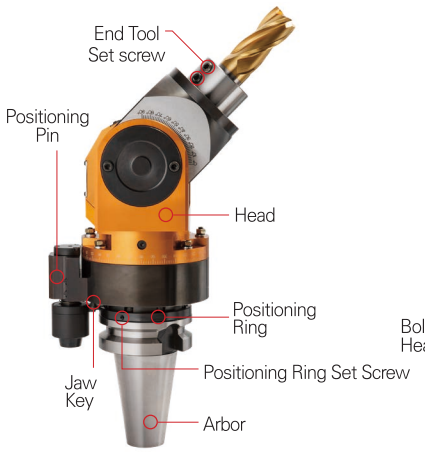
Features

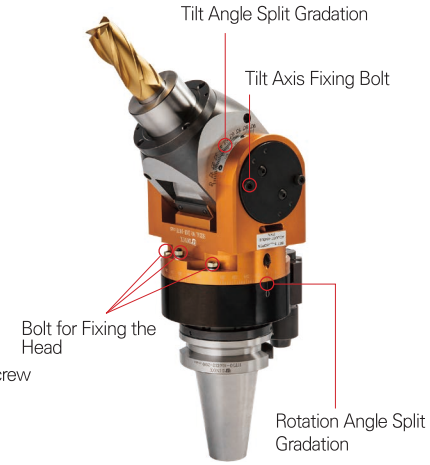
- Aerospace aluminum body is applied to optimize weight/rigidity (excluding SAH)
- When machining multiple surfaces, the movement of subject is minimized to reduce the setup time.

NAMING

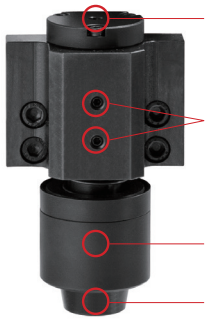
BT50	–	KHU	10	–	195
Spindle		Angular Head	Tool Dia.		Length

Name of Each Part





Positioning Pin Structure



Components


Standard type

Positioning Block




Angular Head


Accessories
(Spanner, Wrench)

1:1 CHAT

BT-KAH

90˚ Angle Type



MAS 403-BT	C	3,000	ER			
Shank	Coolant System	Max RPM	ER Collet	Milling	Drilling	Inner Side Machining

Features



Adjustable angle-type angular head that enables flexible machining

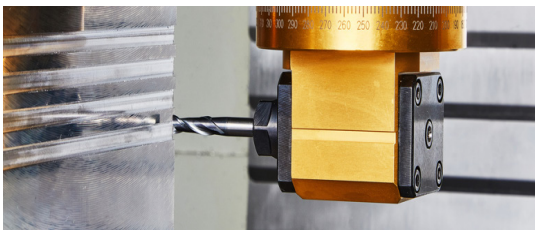
- Adjusting angle up to 360˚
- HSK and SK types are customizable
- ATC (automatic tool change) available
- Tool rotates in the opposite direction to that of spindle.

BT-30 KAH Features

- A small angular head for small equipment (BT30)
- Light weight of 2.6 KG for easy installation
- Available multi-surface processing
- Its processing angle can be freely adjusted by 360˚on both sides
- ER11 size collet appllied

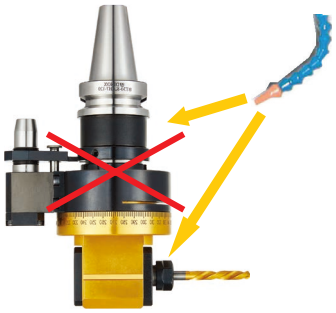
BT-KAH Structure

- Uses spiral bevel gear (with axial angle of 90˚)
- Reduced vibration and noise
- Small backlash
- Thanks to the use of a 1:1 gear ratio, can use without complex calculations
- Reverse-rotation direction compared to spindle (CW:CCW)



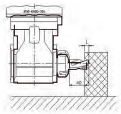
Precautions

- Do not inject cutting oil direct to the Angular Head body.



Machining Example

Model : BT50-KAH20-200

Cutting Tool	Workpiece	Depth of Cut(mm)	RPM	Feed(mm/min)	Feed(mm/rev)	BT50-KAH20-200
Ø16-2 Flute Endmill(HSS), Over Length-40mm	S45C	3	700	98	0.14	
	S45C	4	500	60	0.12	
	Al	7	900	72	0.08	
	Al	4	1800	144	0.08	

SPARE PART	Designation	Main Components			Accessories
		Nut	Spanner	Positioning Block	GERC Collet
	KAH7	R11-AH	S-17		GERC11-ØD
	KHU10	R16-AH(M20)	S-25		GERC16-ØD
	KAH13	RU20-AH	35-38		GERC20-ØD
	KHU20	RU32-AH	48-52		GERC32-ØD

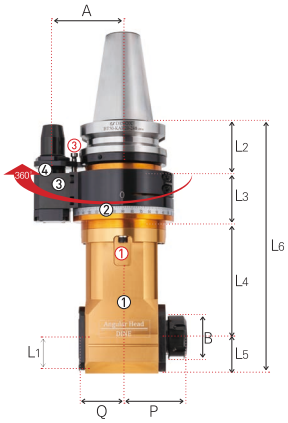
1:1 CHAT

BT-KAH

90˚ Angle Type



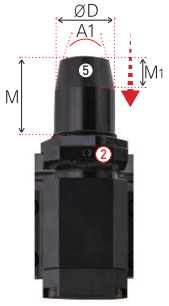
MAS 403-BT Shank | C Coolant System | 3,000 Max RPM | ER Collet | Milling | Drilling | Inner Side Machining







Positioning Pin



Shank	M(mm)	M1(mm)	A1(deg.)	ØD(mm)
BT30	Max.: 23 / Min.: 17	8	20	15
BT40	Max.: 32 / Min.: 26	10	20	19.6
BT50	Max.: 35 / Min.: 29	15	20	28

NO	Name
①	Head
②	Rotation Angle Split-gradation (Freely Adjustable for 360˚)
③	Position Fix Pin Block
④	Jaw Key
⑤	Height Adjusting Wrench Hole

NO	Name	Designation	Shank
①	Head Angle Fix Bolt	BX0618	BT40,BT50
②	Set Screw	BTF0404	BT40,BT50
③	Position Pin Height Fix Bolt	SBX0630	BT40,BT50

• ● : Stock
C This product does not support the internal coolant system

• For more information on the applicable collet, see 94P
• For positioning block, see 244P

	Designation	ØD	L	L1	L2	L3	L4	L5	L6	B	A	P	Q	G	G1	Gear Ratio	Max	Collet	kg	Stock
BT30	BT30-KAH7-120	1.0~7.0	120	20	56	39	25	20	140	19	55	37	24.5	40	72	1:1	5,000	GERC11	2.6	
BT40	BT40-KAH7-170	1.0~7.0	170	20	44	71	55	20	190	19	65	37	24.5	40	96	1:1	5,000	GERC11	5.8	
	BT40-KAH10-195	1.0~10.0	195	25	44	71	80	25	220	28	65	46	32	58	96	1:1	5,000	GERC16	6.2	
	BT40-KAH13-165	1.0~13.0	165	28	44	71	50	28	193	35	65	53	35	60	96	1:1	5,000	GERC20	6.0	
	BT40-KAH20-180	2.0~20.0	180	38	44	71	65	38	218	50	65	71	49	76	96	1:1	3,500	GERC32	7.5	
BT50	BT50-KAH07-220	1.0~7.0	220	20	57	54	109	20	240	19	80	37	24.5	40	96	1:1	3,500	GERC11	10.7	
	BT50-KAH10-215	1.0~10.0	215	25	57	54	104	25	240	28	80	46	32	58	96	1:1	3,500	GERC16	11.0	
	BT50-KAH10-260	1.0~10.0	260	25	57	54	149	25	285	28	80	46	32	58	96	1:1	3,500	GERC16	11.4	
	BT50-KAH13-260	1.0~13.0	260	28	57	54	149	28	288	35	80	53	35	60	96	1:1	3,500	GERC20	12.0	
	BT50-KAH20-200	2.0~20.0	200	38	57	54	89	38	238	50	80	71	49	76	96	1:1	3,500	GERC32	11.6	
	BT50-KAH20-240	2.0~20.0	240	38	57	54	129	38	278	20	80	71	49	76	96	1:1	3,500	GERC32	13.5	

(Unit : mm)

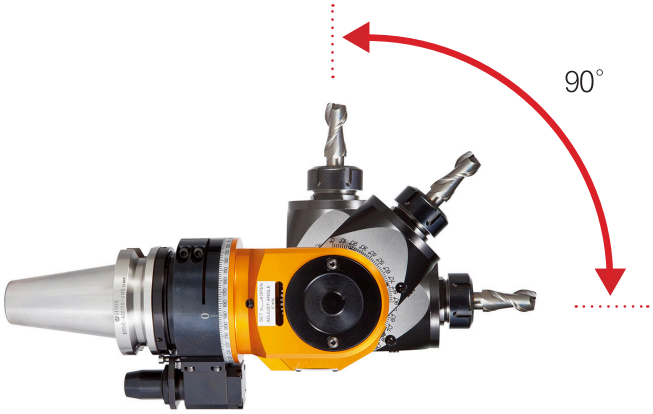
1:1 CHAT

BT-KHU

0-90° Tilting Type



MAS 403-BT	C	6,000	ER					
Shank	Coolant System	Max RPM	ER Collet	Milling	Drilling	Corner Rounding	Copy Machining	Inclined Machining



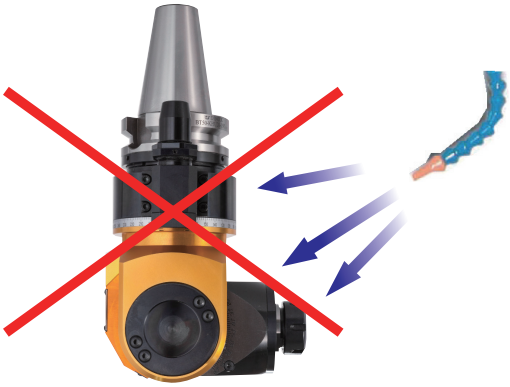
KHU Features

Adjustable angle-type angular head that enables flexible machining

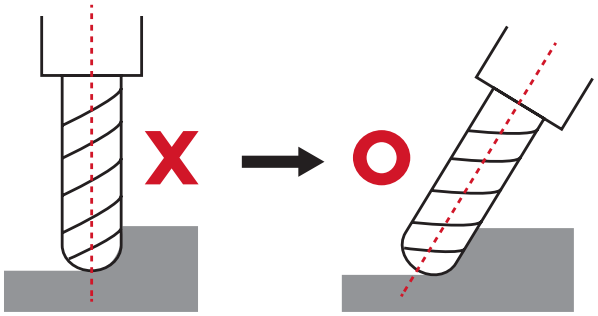
- Wide vertical (0˚~90˚) and horizontal (0˚~360˚) machining angle range
- HSK and SK types are customizable

Precautions

- Do not inject cutting oil direct to the Angular Head body.



Wear of the ball endmill blade and defective surface roughness of the workpiece can occur, so please slope the edge of the ball endmill when machining



Machining Example

Model : BT50-KHU20-195

Cutting Tool	Workpiece	Depth of Cut(mm)	RPM	Feed(mm/min)	Feed(mm/rev)	Cutting Angle
Ø16-2 Flute Endmill(HSS), Over Length-40mm	S45C	2	600	48	0.08	90˚
	AL	3	1200	168	0.14	90˚
	S45C	3	600	48	0.08	45˚
	AL	5	1200	144	0.12	45˚

SPARE PART

Designation	Main Components		Accessories
	Nut	Spanner	GERC Collet
KHU10	R16-AH	S-25	GERC16-ØD
KHU20	RU32-AH	48-52	GERC32-ØD

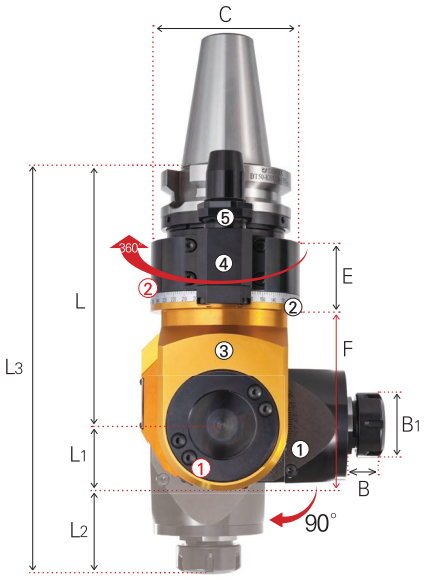
1:1 CHAT

BT-KHU

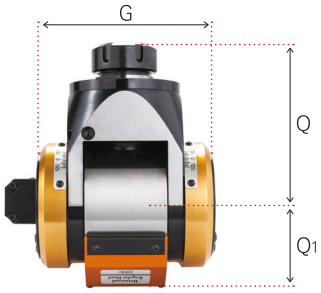
0-90° Tilting Type



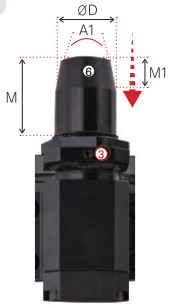
MAS 403-BT Shank | C Coolant System | 6,000 Max RPM | ER Collet | Milling | Drilling | Corner Rounding | Copy Machining | Inclined Machining







Positioning Pin



Shank	M(mm)	M1(mm)	A1(deg.)	ØD(mm)
BT40	Max.: 32 / Min.: 26	10	20	19.6
BT50	Max.: 35 / Min.: 29	15	20	28

NO	Name
①	Tilt Angle Split Gradation (0 – 90°)
②	Rotation Angle Split Gradation (360°)
③	Head
④	Position Fix Pin Block
⑤	Jaw Key
⑥	Height Adjusting Wrench Hole

NO	Name	Designation	Shank
①	Tilt Axis Fixing Bolt	BH0630	
②	Bracket Angle Fixing Bolt	BX0525	BT40
		BX0412	
		BX0630	BT50
③	Set Screw	BTF0404	
④	Fixing Bolt	SBX0630	

• ● : Stock
C This product does not support the internal coolant system

• For more information on the applicable collet, see 94P
• For more information on positioning block, see 244P

	Designation	ØD	B	B1	C	E	F	C2	L	L1	L2	L3	ØD	A	G	Q	Q1	Gear Ratio	Rotation Direction versus Spindle	Max	Collet	kg	Package Weight (kg)	Stock
BT40	BT40-KHU10-160	1.0~10.0	22	28	96	51	98	96	160	33	54	247	58	65	90	87	40	1:2	Normal rotation	6,000	GERC16	8.3	15.2	●
BT50	BT50-KHU10-180	1.0~10.0	22	28	114	53	103	114	180	33	54	267	84	80	90	87	40	1:2	Normal rotation	6,000	GERC16	11.5	23.9	●
	BT50-KHU20-195	2.0~20.0	29	50	114	53	132	114	195	47	73	315	84	80	124	120	63	1:1	Normal rotation	3,000	GERC32	17.9	30.3	●

(Unit : mm)

1:1 CHAT

BT-KAG

Attachment Type



MAS 403-BT	C	4,000	Milling	Drilling	Face Cutting	Side Cutting
Shank	Coolant System	Max RPM				

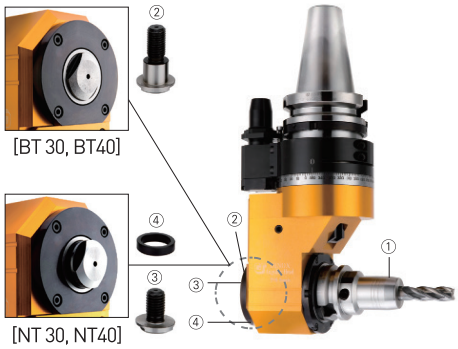
Features of KAG

- Horizontal machining angle range from 0° to 360°
- Compatible with various tools such as BT40 and BT30
- HSK and SK types are customizable
- Coolant types are to be ordered separately



How to Tighten the Tool

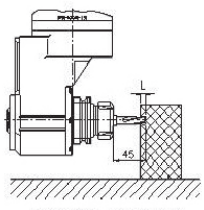
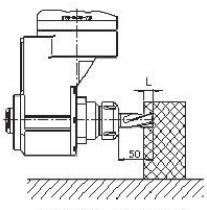
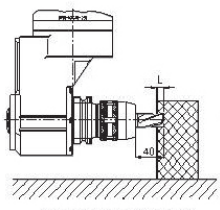
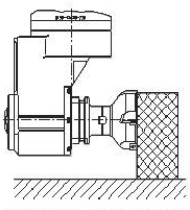
1. Insert the tool ① into the angular head spindle.
2. Tightly secure the tool ① using the fixing bolt ②. (BT type)
3. Tighten the tool ① by putting the ring ④ on the bolt ③. (NT type)



Machining Example

Model : BT50-KAG40-230

Cutting Tool	Workpiece	Depth of Cut(mm)	RPM	Feed(mm/min)	Feed(mm/rev)
BT40-SDC20-60 Ø12-2 Flute Endmill (HSS)	S45C	3	400	72	0.18
	S45C	3	200	36	0.18
NT40-SDC20-60 Ø20-2 Flute Endmill (HSS)	S45C	4	500	50	0.10
	AL	10	1,000	100	0.10
BT40-NPM20-85 Ø20-2 Flute Endmill (HSS) Over Hang 40mm	S45C	3	400	72	0.18
	S45C	3	400	36	0.09
	AL	5	400	72	0.18
	AL	5	480	86	0.18
	AL	10	400	72	0.18
	AL	10	320	58	0.18
BT40-FMA25.4-45 Ø80 Shoulder Mill (5 Flute-50L)	S45C	2	400	120	0.30
	S45C	1	200	60	0.30
	AL	2	600	150	0.25
	AL	1	600	150	0.25

BT40-SDC20-60 (Ø12 E/M)	NT40-SDC20-60 (Ø20 E/M)	BT40-NPM20-85 (Ø20 E/M)	BT40-FMA25.4-45 (Ø80 Shoulder Mill)
			

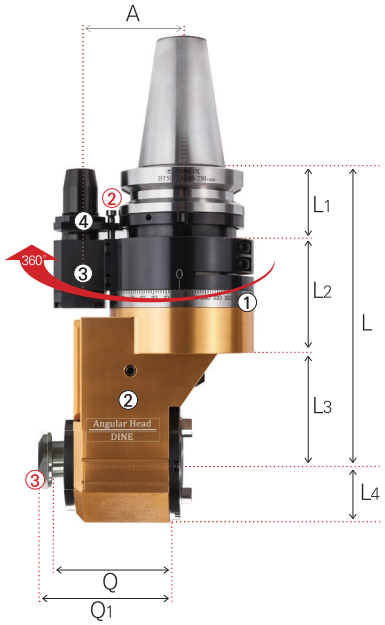
1:1 CHAT

BT-KAG

Attachment Type



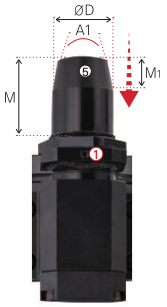
MAS 403-BT Shank | C Coolant System | 4,000 Max RPM | Milling | Drilling | Face Cutting | Side Cutting







Positioning Pin



Shank	M(mm)	M1(mm)	A1(deg.)	ØD(mm)
BT40	Max.: 32 / Min.: 26	10	20	19.6
BT50	Max.: 35 / Min.: 29	15	20	28

NO	Name
①	Rotation Angle Split Gradation (360°)
②	Head
③	Position Fix Pin Block
④	Jaw Key
⑤	Height Adjusting Wrench Hole

NO	Name	Designation
①	Set Screw	BTF0404
②	Fixing Bolt	SBX0630
③	BT / NT Bolt	

• ● : Stock

C This product does not support the internal coolant system

• For more information on positioning block, see 244P

	Designation	L	L1	L2	L3	L4	Q	Q1	A	C	G	Gear Ratio	Rotation Direction versus Spindle	Max	Holder Shank Mounted	kg	Package Weight (Kg)	Stock
BT40	BT40-KAG30-195	195	44	86	65	37.5	66	70	65	96	75	1:1	Normal Rotation	4,000	BT/NT30	7.2	14.0	●
BT50	BT50-KAG40-230	230	57	88	85	46.5	89	94	80	114	93	1:1	Normal Rotation	3,000	BT/NT40	15.7	28.1	●

(Unit : mm)

1:1 CHAT

BT-HRAG

Attachment Type (Rigid Reinforced Type)



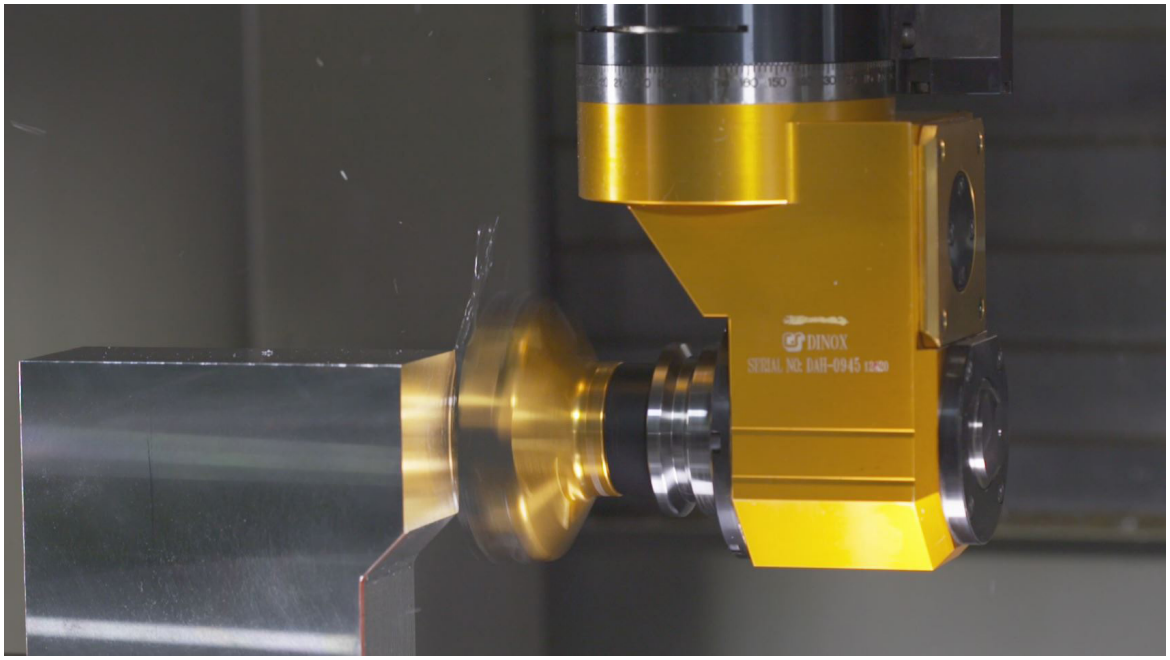
MAS 403-BT	C	3,000	Milling	Drilling	Face Cutting	Side Cutting
Shank	Coolant System	Max RPM				

Features of HRAG

HRAG that improves the rigidity of the attachment-type bracket by 200%

- Provides stable operation of the face mill cutter
- Enhances compatibility with the machining device due to easy bracket disassembly/assembly even on the BT50 shank
- Improves product life cycle





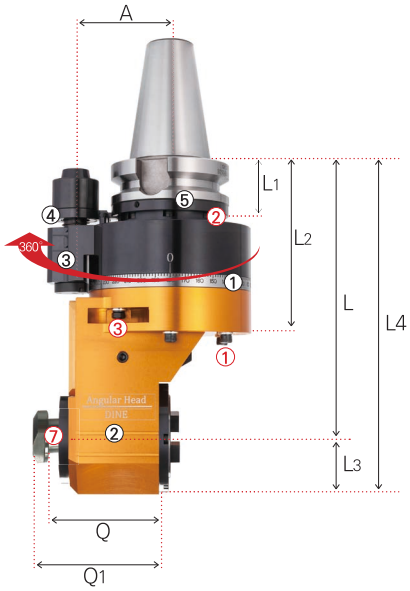
1:1 CHAT

BT-HRAG

Attachment Type (Rigid Reinforced Type)



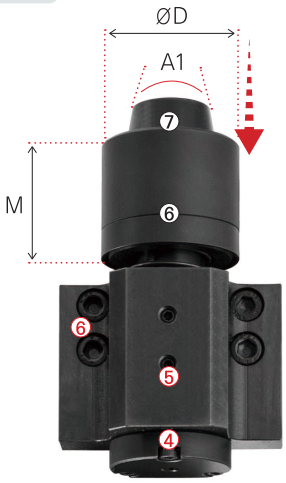
MAS 403-BT	C	3,000	Milling	Drilling	Face Cutting	Side Cutting
Shank	Coolant System	Max RPM				







Positioning pin



Shank	M(mm)	A1(deg.)	ØD(mm)
BT50	56.5	20	40

NO	Name
①	Rotation Angle Split Gradation (360°)
②	Head
③	Position Pin Block
④	Jaw Key
⑤	Positioning Ring
⑥	Positioning Cover
⑦	Positioning Pin

NO	Name	Designation
①	Head Angle Fix Bolt	BX0660
②	Positioning Ring Set Screw	MSST5-12
③	Head Angle Fix Bolt	BT0648
④	Positioning Pin Height Adjustment Screw	BT0516
⑤	Positioning Pin Set Screw	BT0512
⑥	Body Position Block Set Screw	BX0620
⑦	BT / NT Bolt	

• ● : Stock

C This product does not support the internal coolant system

• For more information on positioning block, see 244P

	Designation	L	L1	L2	L3	L4	Q	Q1	A	G	G1	Max	Mounting Tool Shank	kg	Stock
BT50	BT50-HRAG40-230	230	56.5	145	47	277	89	101	80	93	136	3,000	BT/NT 40	18.2	●

(Unit : mm)

1:1 CHAT

BT-MAH

0-90° Tilting Type (Rigid Reinforced Type)



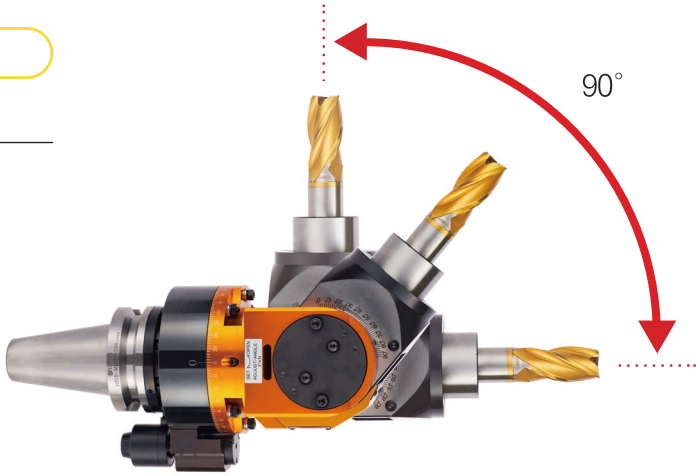
MAS 403-BT	C	3,000					
Shank	Coolant System	Max RPM	Milling	Drilling	Corner Rounding	Copy Machining	Inclined Machining

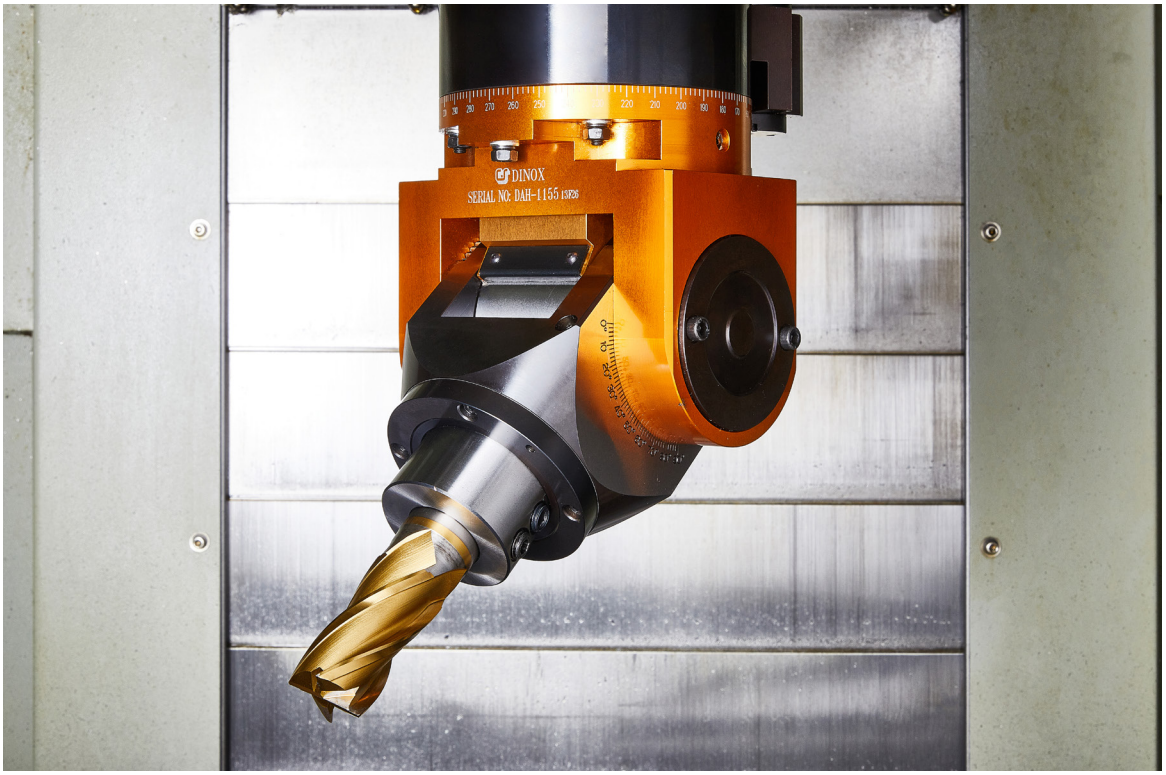
Features of Rigidity Reinforced Type

MAH for Mold Machining

MAH ideal for mold machining by improving the performance of conventional universal type products

- Stability on large mold machining
- Tool diameter (D) 32mm ball end mill usable





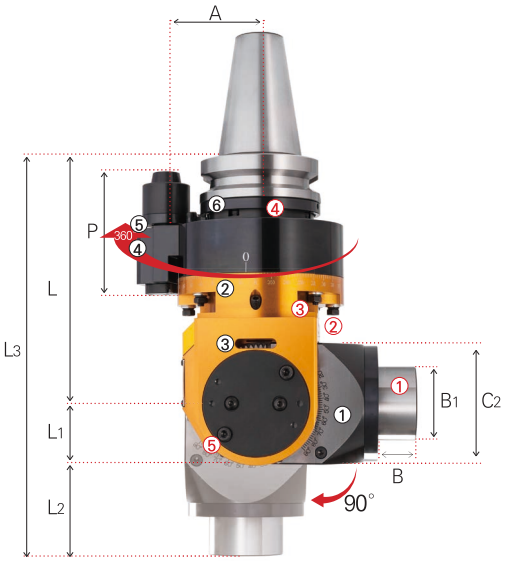
1:1 CHAT

BT-MAH

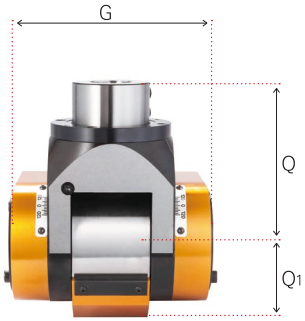
0-90° Tilting Type (Rigid Reinforced Type)



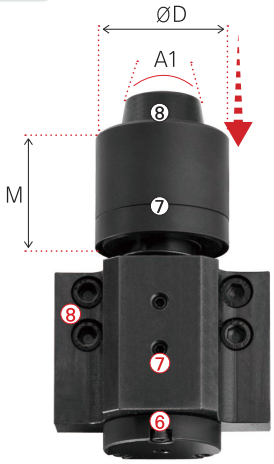
MAS 403-BT Shank | C Coolant System | 3,000 Max RPM | Milling | Drilling | Corner Rounding | Copy Machining | Inclined Machining







Positioning Pin



Shank	M(mm)	A1(deg.)	ØD(mm)
BT50	56.5	20	40

NO	Name
①	Tilt Angle Split Gradation (0 – 90°)
②	Rotation Angle Split Gradation (360° Adjustable)
③	Head
④	Positioning Pin Part
⑤	Jaw Key
⑥	Positioning Ring
⑦	Positioning Cover
⑧	Positioning Pin

NO	Name	Designation
①	Tool Tightening Screw	BT1216
②	Head Fixing Bolt	BT645
③	Head Fixing Bolt	BT640
④	Positioning Ring Set Screw	MSST5-12
⑤	Tilt Axis Fixing Bolt	BH0616
⑥	Positioning Pin Height Adjustment Screw	BT0516
⑦	Positioning Pin Set Screw	BT0512
⑧	Position Block Fixing Bolt	BX0516

• ● : Stock

C This product does not support the internal coolant system

• For more information on positioning block, see 244P

	Designation	ØD	L	L1	L2	L3	C	C1	G	C2	Q	Q1	B	B1	P	A	Max	Tool Mounting	kg	Package Weight (kg)	Stock
BT50	BT50-MAH32-200	32	200	47	78	325	136	95	54	95	125	63	31	60	95	80	3,000	SIDE LOCK	19.6	32.0	●

(Unit : mm)

1:1 CHAT

BT-KAC

45° Angle Type



MAS 403-BT	C	5,000	ER				
Shank	Coolant System	Max RPM	ER Collet	Slope Machining	Milling	Drilling	Corner Rounding



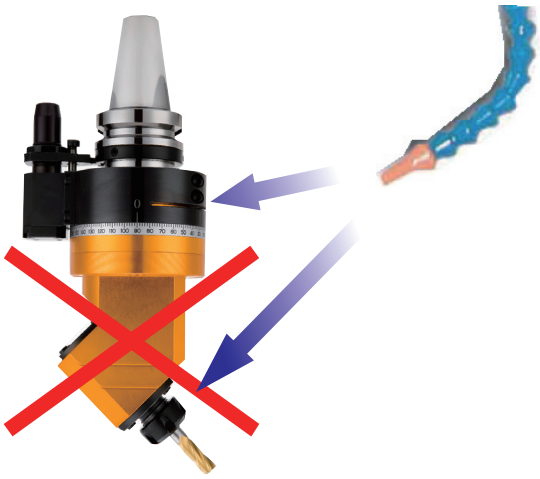
Features of KAC

Fixed angle type angular head that enables flexible machining

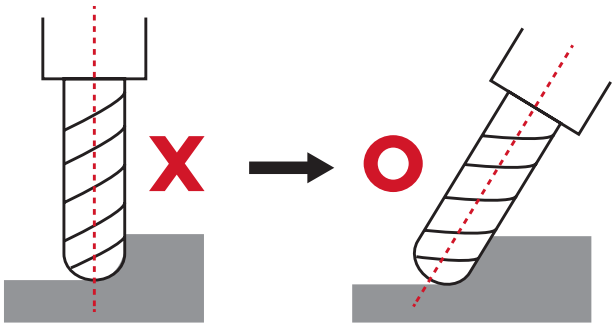
- Adjusting angle up to 360°
- 45-degree fixed type angular head
- For BT40 types, please contact us separately

Precautions

- Do not inject cutting oil direct to the Angular Head body.



Be sure to give a slope to the cutting edge of a ball end mill when machining it as the ball end mill edge is worn out and the surface roughness of the workpiece becomes defective.



※ To order nuts, please contact us in advance.

SPARE PART

Designation	Main Components		Accessories
	Nut	Spanner	GERC Collet
KAC10	R16-AH (M20)	S-25	GERC16-ØD
KAC10	RU20-AH	35-38	GERC20-ØD
KAC20	RU32-AH	48-52	GERC32-ØD

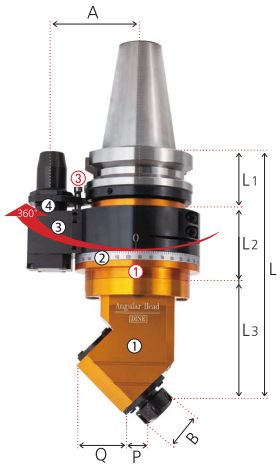
1:1 CHAT

BT-KAC

45° Angle Type



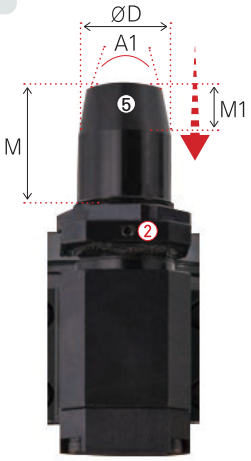
MAS 403-BT Shank | C Coolant System | 5,000 Max RPM | ER Collet | Slope Machining | Milling | Drilling | Corner Rounding







Positioning Pin



Shank	M(mm)	M1(mm)	A1(deg.)	ØD(mm)
BT40	Max.: 32 / Min.: 26	10	20	19.6
BT50	Max.: 35 / Min.: 29	15	20	28

NO	Name
①	Head
②	Rotation Angle Split Gradation (360°)
③	Positioning Pin Part
④	Jaw Key
⑤	Height Adjusting Wrench Hole

NO	Name	Designation	Shank
①	Head Angle Fix Bolt	BX0618	BT40,BT50
②	Set Screw	BTF0404	BT40,BT50
③	Fixing Bolt	SBX0630	BT40,BT50

• ● : Stock
C This product does not support the internal coolant system

• For more information on the applicable collet, see 94P.
• For more information on positioning block, see 244P.

	Designation	ØD	L	L1	L2	L3	B	G	G1	P	Q	A	Max	Collet	kg	Stock
BT50	BT50-KAC10-240	1.0~10.0	240	57	54	129	28	60	96	25	54	80	5,000	GERC16	9.7	●
	BT50-KAC13-240	1.0~13.0	240	57	54	129	28	60	96	25	54	80	5,000	GERC20	10.7	●
	BT50-KAC20-250	2.0~20.0	250	57	54	139	50	72	96	30	60	80	3,500	GERC32	11.7	●

(Unit : mm)

1:1 CHAT

BT-SAH

Slim Type



MAS 403-BT	3,500				
Shank	Max RPM	Milling	Drilling	Flank Machining	Inner Side Machining



Features

- Angular head for narrow inside machining (min. inner diameter of workpiece : Ø40, min. machining width : 32mm)
- MAX 3,500RPM, Spindle : applied rotation ratio = 1:1.37
- Cutting range : Ø3, Ø4, Ø6mm

NAMING

B50	–	SAH	6	–	277
Spindle		Slim Angular Head	Tool Dia.		Length

Machining Features

Min. Ø40mm Hole (Except Tool Projection)	Min.32mm Crack (Except Tool Projection)
	

Clamping Force

	Measurement	Measured Value (N-m)			
Clamp Torque	2	2.5	3	3.5	4
Clamping Force	Not measurable	5.5	6.5	7	7

※ The moderate clamp torque of collet is 3.5N-m.

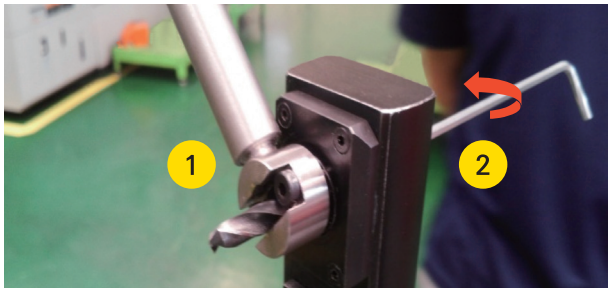
Exclusive Collet



• ● : Stock

Designation	Clamping Range	Stock
SAH6-C3	3	●
SAH6-C4	4	●
SAH-C6	6	●

How to Clamp



1. Insert the tool with SAH collet
2. Insert the coupled collet into SAH and fix it with a clamping jig
3. Clamping nut using a wrench

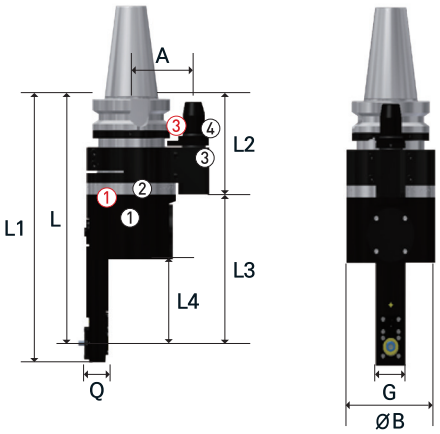
1:1 CHAT

BT-SAH

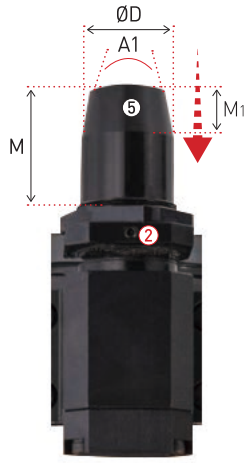
Slim Type



MAS 403-BT Shank | 3,500 Max RPM | Milling | Drilling | Flank Machining | Inner Side Machining



Positioning Pin



Shank	M(mm)	M1(mm)	A1(deg.)	ØD(mm)
BT50	Max.: 35 Min.: 29	15	20	28

NO	Name
①	Head
②	Rotation Angle Split Gradation (360°)
③	Positioning Pin Part
④	Jaw Key
⑤	Height Adjusting Wrench Hole

NO	Name	Designation	Shank
①	Head Fixing Bolt	BX0618	BT40,BT50
②	Set Screw	BT0404	BT40,BT50
③	Fixing Bolt	BX0630	BT40,BT50

• ● : Stock

• For more information on positioning block, see 244P

	Designation	L	L1	L2	L3	L4	A	Q	G	ØB	Rotation Ratio (IN:OUT)	Rotation Direction	Max	Weight (kg)	Stock
BT50	BT50-SAH6-277	277	298	110	167	93.5	80(110)	31.5	40	76	1:1.37	CW:CW	3,500	15.2	●

(Unit : mm)

1:1 CHAT

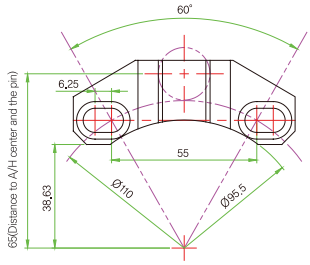
POSITIONING BLOCK

Positioning Block (For BT40)

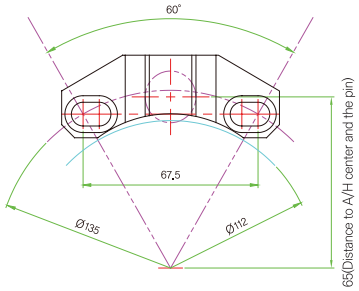
How to install the positioning block on the machine

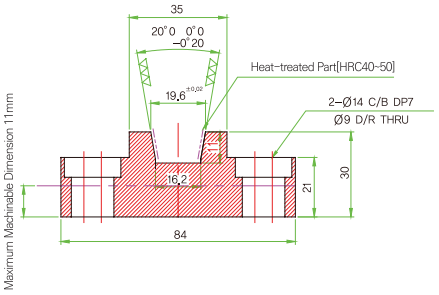
For BT40 Customer Standard Type – Group A (60° Standard Type)

- In case Min. PCD=110mm
- Spindle diameter less than Ø94 available
- Keep the minimum distance 55mm between bolts



- In case Max. PCD=135mm
- Spindle diameter less than Ø112 available
- Keep the minimum distance 67.5mm between bolts



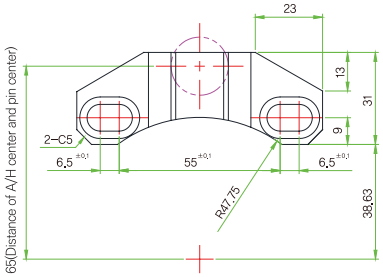


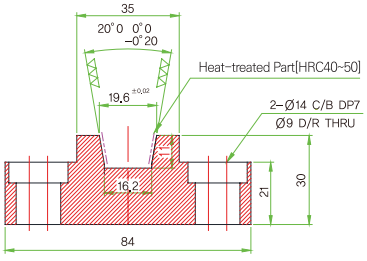
Semi-finishing : Requires Block Height Machining

- The customer must machine the bottom of the block in person to use for use after determining the block height

※ Minimum block height : 19mm (based on the upper side)

- Only the taper part to be heat-treated
- Based on M8 in the case of less than M6, washer supplied





- DINE Inc, provides the positioning block type as default. (Excluding BT30 Angular Head)

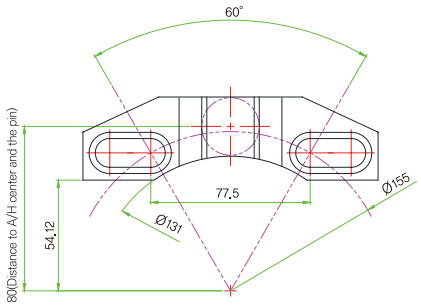
POSITIONING BLOCK

Positioning Block (For BT50)

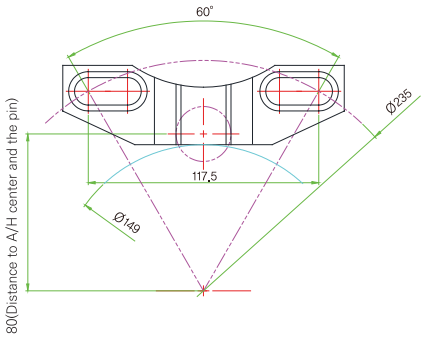
How to install the positioning block on the machine

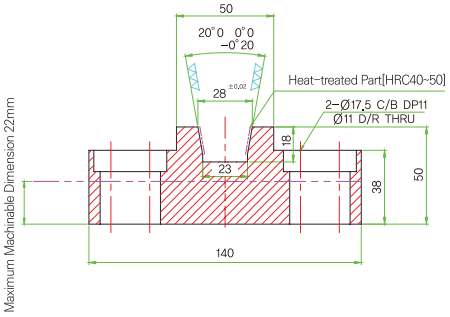
For BT50 Customer Standard Type – Group A (60° Standard Type)

- In case Min. PCD = 155
- Spindle diameter less than Ø130 available
- Keep the minimum distance 77.5mm between bolts



- In case Max. PCD = 235
- Spindle diameter less than Ø148 available
- Keep the minimum distance 117.5mm between bolts

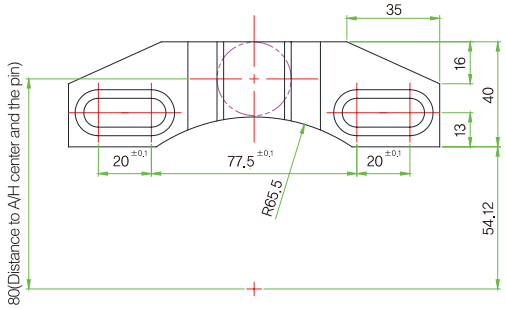


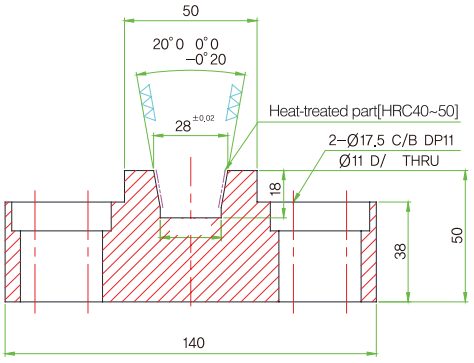


- Semi-finishing : Requires block height machining
- The customer should machine the bottom of the block him/herself for use after determining the block height to prevent interference

※ Minimum block height : 28mm (based on the upper side)

- Only the taper part to be heat-treated
- Based on M10 in the case of less than M8, washer supplied





- DINE Inc, provides the positioning block type as default. (Excluding BT30 Angular Head)

1:1 CHAT

ATM NEW

Air Turbine Machine



50,000	5㎛	C	1mm ~6mm	General-2Bar	ATC-2.5Bar	0.47	HC
Max RPM	Run-out (Based on spindle)	Coolant System	Collet Size	Air Pressure (of regulator)	Air Pressure (of regulator)	Power(HP)	HC Collet



Features

- High-speed turbine rotation structure using compressed air (max. 50,000rpm)
- The conventional MCT can be compatible just by supplying high-pressure compressed air
- High-speed/precision machining is available regardless of the machine's age
- Continuous machining is possible for a long time due to rapid heat discharge

NAMING

B50	–	ATM	6	–	228	(ATC)
Spindle		Air Turbine Machine	Tool Dia.		Length	ATC : Auto Tool Change Type NON : General

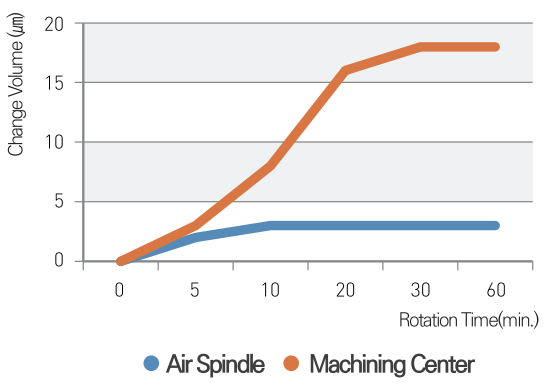
What is ATM?

The air spindle is able to rotate at a high-speed (50,000 RPM) using compressed air, and realize performance the same as that of a high-speed processor even in a standard (conventional) machining center.

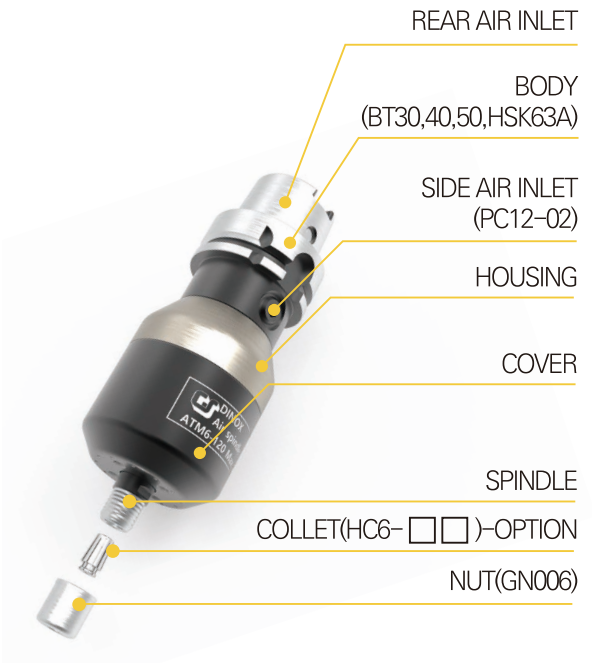
Thermal Deformation Protection

- It prevents an increase in temperature of the spindle using an air blade rotation method
- Prevents the deformation of the Z-axis by thermal deformation of the spindle

Z-axis Change with Rotation Time



Part Name



1:1 CHAT

ATM NEW

Air Turbine Machine



General Type



How to Use

- Use in an equipment able to spray air on the main axis
- Able to perform ATC as there is no external air hose to be connected

Precautions

- When spraying the air on the main axis, be careful about introduction of foreign



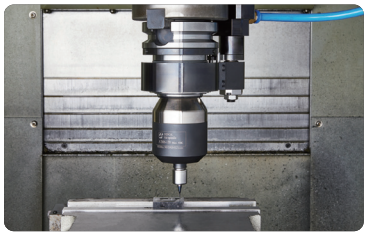
How to Use

- Connect an external air hose
- Connect it directly to the regulator and minimize the introduction of foreign substances

Precautions

- Must separate the hose from the product in case of ATC
- Be careful when the main axis rotates

Auto Tool Change Type

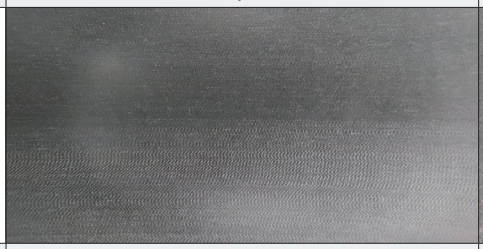
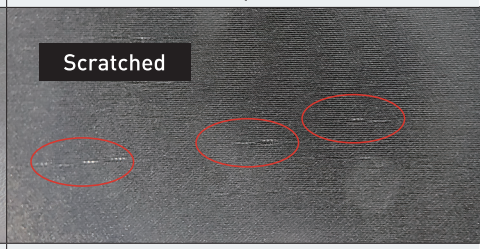


How to Use

- It is able to perform ATC and equipment rotation even on equipment with no air main
- The air is supplied on the Positioning Block, so ATC and equipment spindle rotation is possible
- The main axis can rotate at a low-speed, and the tool length can be corrected

Processing Test

Air spindle has a shank and a body in a prefabricated shape, so the shank (BT30, BT40, BT50, HSK63A) can be easily adapted to different types of equipment.

Equipment	Air Spindle 〈HSK63A-ATM6-170〉	Machining Center 〈Hydraulic Chuck〉
Materials	SCM440 (HrC 40)	SCM440 (HrC 40)
RPM	50,000	20,000
Cycle Time	146minutes	276min.
Axial-directional Displacement	5㎛	21㎛
Surface Roughness		
Note	Improved processing speed and surface roughness	Lowered surface roughness and tool life

1:1 CHAT

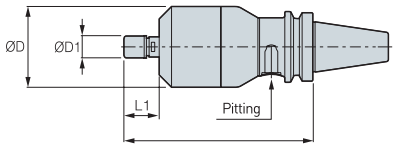
BT-ATM

NEW

Air Turbine Machine

50,000	5㎛	C	1mm ~6mm	General-2Bar	ATC-2.5Bar	0.47	HC
Max RPM	Run-out (Based on spindle)	Coolant System	Collet Size	Air Pressure (of regulator)	Air Pressure (of regulator)	Power(HP)	HC Collet

General Type (Air Spindle)



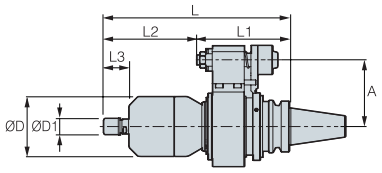
• For more information on product features, see 246P
• For more information on the related parts, see 250P
• For more information on the applicable collet, see 118P

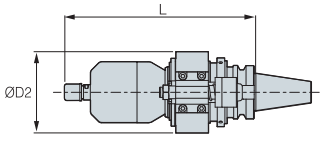
C This product does not support the internal coolant system

	Designation	ØD	ØD1	L	L1	RPM (Based on 2 Bar of Regulator)	Pitting	Stock
BT30	BT30-ATM6-176	72	19.5	176	31.5	MAX 50,000	PC12-02	
BT40	BT40-ATM6-171	72	19.5	171	31.5	MAX 50,000	PC12-02	
BT50	BT50-ATM6-182	72	19.5	182	31.5	MAX 50,000	PC12-02	

(Unit : mm)

ATC Type





• For more information on product features, see 246P
• For more information on the related parts, see 250P
• For more information on the applicable collet, see 118P

C This product does not support the internal coolant system

	Designation	ØD	ØD1	ØD2	L	L1	L2	L3	A	RPM (Based on 2 Bar of Regulator)	Stock
BT40	BT40-ATM6-227(ATC)	72	19.5	96	227	114	113	32	80	MAX.50,000	
BT50	BT50-ATM6-228(ATC)	72	19.5	96	228	115	113	32	80	MAX.50,000	

(Unit : mm)

1:1 CHAT

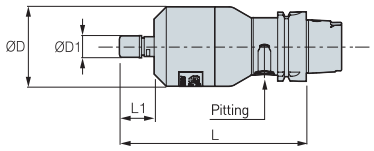
HSK-ATM

NEW

Air Turbine Machine

50,000	5μm	C	1mm ~6mm	General-2Bar	ATC-2.5Bar	0.47	HC
Max RPM	Run-out (Based on spindle)	Coolant System	Collet Size	Air Pressure (of regulator)	Air Pressure (of regulator)	Power(HP)	HC Collet

Air Spindle General Type



• For more information on product features, see 246P
• For more information on the related parts, see 250P
• For more information on the applicable collet, see 118P

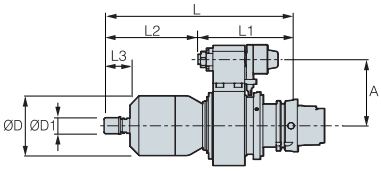
C This product does not support the internal coolant system

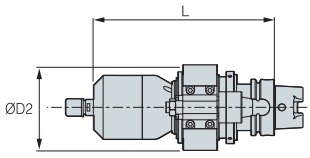
HSK63A

Designation	ØD	ØD1	L	L1	RPM (Based on 2 Bar of Regulator)	Pitting	Stock
HSK63A-ATM6-170	72	19.5	170	31.5	MAX 50,000	PC12-02	

(Unit : mm)

Air Spindle ATC Type





• For more information on product features, see 246P
• For more information on the related parts, see 250P
• For more information on the applicable collet, see 118P

C This product does not support the internal coolant system

HSK63A

Designation	ØD	ØD1	ØD2	L	L1	L2	L3	A	RPM (Based on 2 Bar of Regulator)	Stock
HSK63A-ATM6-235(ATC)	72	19.5	96	235	122	113	32	80	Max.50,000	

(Unit : mm)

1:1 CHAT

ATU NEW

Angle Adjustment Air Spindle_(Universal Type)



50,000	5㎛	C	1mm ~6mm	3Bar	0.47	HC
Max RPM	Run-out (Based on spindle)	Coolant System	Collet Size	Air Pressure (of regulator)	Power(HP)	HC Collet

Features

- Air spindle applicable to multi-axis machining by adjusting the angle
- Air injection method can be selected (positioning pin or equipment main axis)
- ATC device available

NAMING

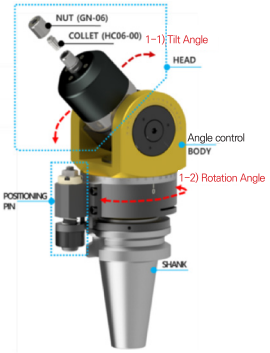
B50	—	ATU	6	—	155
Spindle		Air Turbine Universal	Tool Dia.		Length

Product Structure and Characteristics

1) Angle Control

1-1) Tilt Angle: -90° ~ +90°

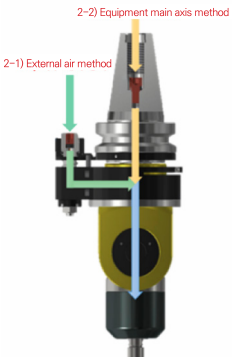
1-2) Rotation Angle: 0° ~ 360°



2) Air Injection Method

2-1) External air method

2-2) Equipment main axis method



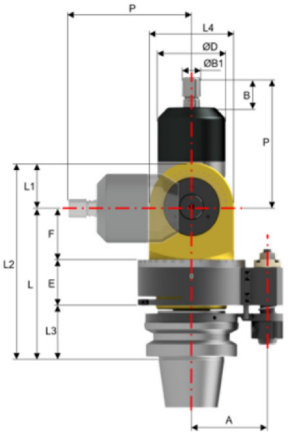
BT50

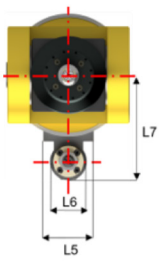
Designation	L	L1	L2	L3	L4	L5	L6	L7
BT50-ATU6-155	155	45	200	55	90	48	35	97

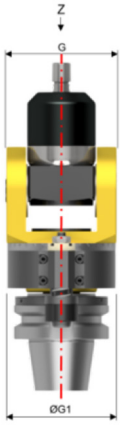
E	F	P	A	B	G	ØB1	ØG1	ØD	MAX.	Proper Air Pressure
46.5	53.5	131.5	80	30.5	116	19.5	114	90	50,000	Around 3 bar

1. When using it, never rotate the main axis.
2. Proper air pressure is based on the Max. RPM and a maximum of 50,000 RPM are available for both external air and main spindle method at approximately 3 bar of pressure.
3. ATC available.
4. When using the ATC, a positioning block is required.

※ Positioning block is customizable.







ATM(U) SPARE PART

Air Spindle Related Parts

Spare Part



(ATM)



(ATU)

SPARE PART

Main Components					
Images					
Components	Air Spindle	Air Regulator	PC12-03	Spanner	Nut
Quantity	1	1	2	1	1

Item	Air Spindle					
	ATM(U)6 (BT30, 40, 50, HSK63A)				ATM	ATU
	No	Classification	Name	Designation	Quantity	Quantity
Components	1	Basic Specifications	ATM(U)6	□□□-ATM(U)6-□□□	1	1
	2		Nut	GN-06	1	1
	3		Regulator	TPC PP3-03BG	1	1
	4		Fitting	PC12-02	1	-
	5			PC12-03	2	2
	6		Spanner	GSK6-SPANNER	1	1
	7			S16 SPANNER	1	1
	8			S17 SPANNER	-	1
	9		Wrench	LW-1.5	-	1
	10			LW-2.5	-	1
	11			LW-3.0	-	1
	12			LW-6.0	-	1

Accessories

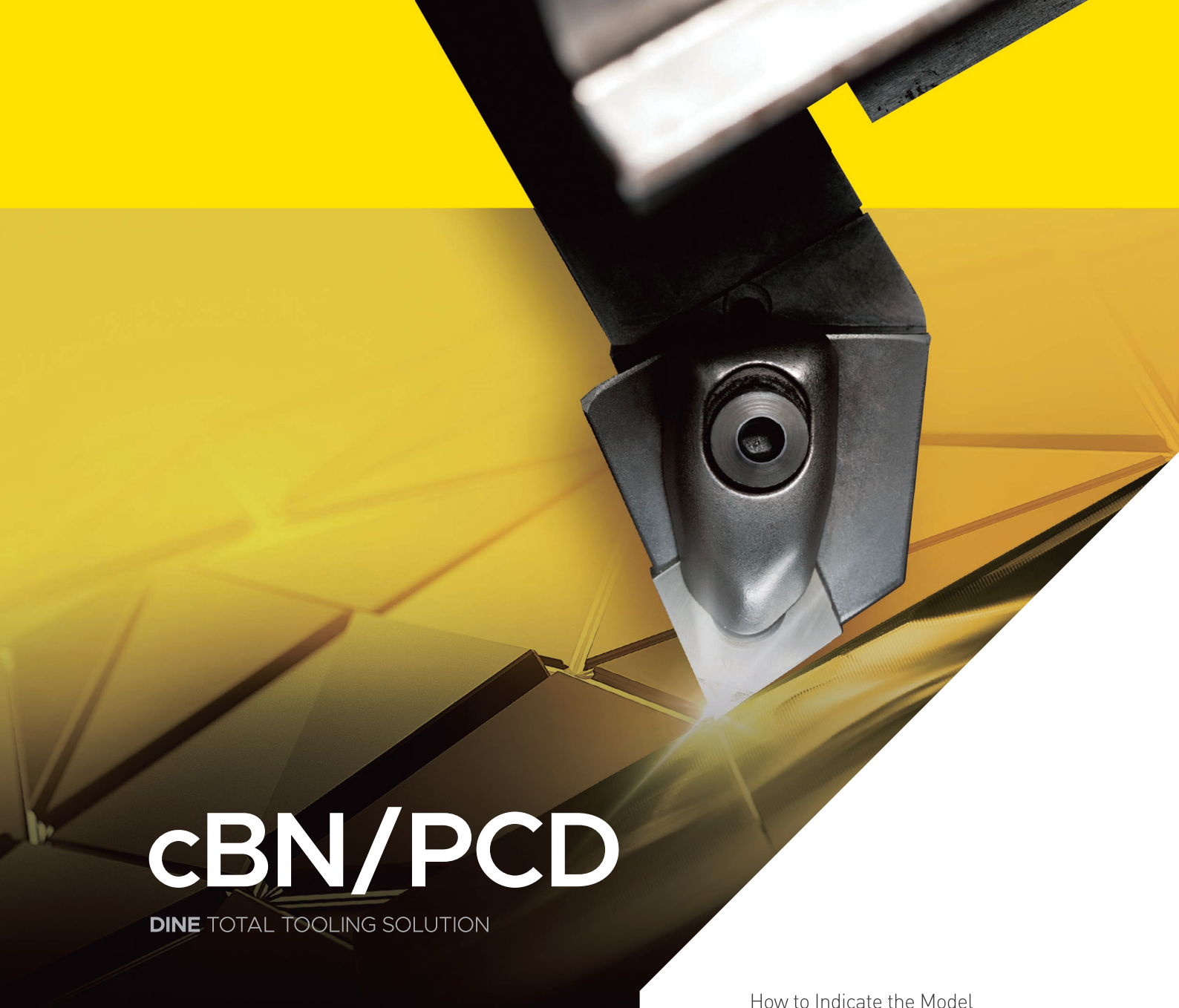
SPARE PART

Designation	Image	Out Dia.	L	Max. Tool Dia.	Distance	Positioning Block
HC6ØD(P)		10.5	25	6	1	

1:1 CHAT

MEMO

DINOX NC TOTAL TOOLING SYSTEM



cBN/PCD

DINE TOTAL TOOLING SOLUTION

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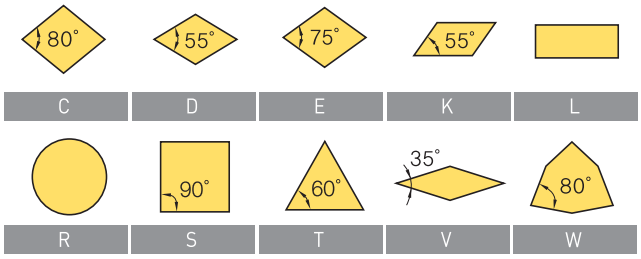
1:1 CHAT

How to indicate the model No. of insert(ISO)

C	N	G	M
1	2	3	4
Insert Shape	Major Clearance Angle	Tolerance	Cross-sectional Shape

1 Insert Shape

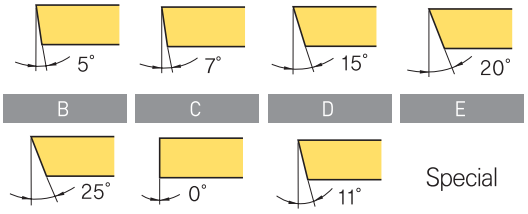
C N G M 12 04 08 - GA



C	D	E	K	L
R	S	T	V	W

2 Major Clearance Angle

C N G M 12 04 08 - GA

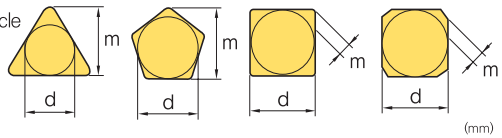


B	C	D	E
F	N	P	O

3 Tolerance

C N G M 12 04 08 - GA

d: Diameter of inscribed circle
t: Insert's Thickness
m: Refer to the figure



(mm)

Class	d	m	t
A	±0.025	±0.005	±0.025
C	±0.025	±0.013	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
J*	±0.05 ~ ±0.15	±0.005	±0.025
K*	±0.05 ~ ±0.15	±0.013	±0.025
L*	±0.05 ~ ±0.15	±0.025	±0.025
M*	±0.05 ~ ±0.15	±0.08 ~ ±0.20	±0.13
N*	±0.05 ~ ±0.15	±0.08 ~ ±0.18	±0.025
U*	±0.08 ~ ±0.25	±0.13 ~ ±0.38	±0.13

* Side is the one of the sintered parts

Tolerance Definition of C, H, R, T, and W Types of Inscribed Circle (Exceptions)

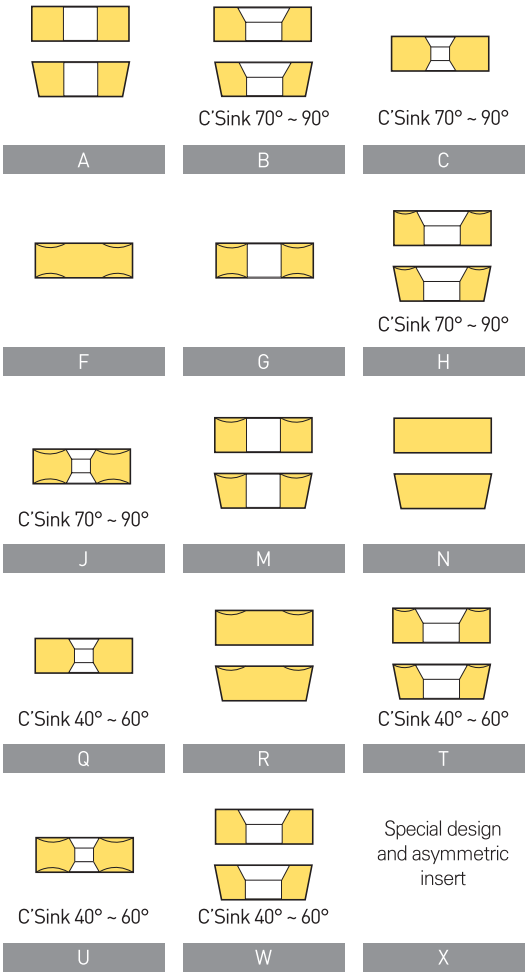
d	Tolerance of d		Tolerance of m	
	J, K, L, M, N	U	M, N	U
6.35	±0.05	±0.08	±0.08	±0.13
9.525	±0.05	±0.08	±0.08	±0.13
12.7	±0.08	±0.13	±0.13	±0.20
15.875	±0.10	±0.18	±0.15	±0.27
19.05	±0.10	±0.18	±0.15	±0.27
25.4	±0.13	±0.25	±0.18	±0.38

Tolerance Definition of D-type Inscribed Circle (Exceptions)

d	Tolerance of d	Tolerance of m
6.35	±0.05	±0.11
9.525	±0.05	±0.11
12.7	±0.08	±0.15
15.875	±0.10	±0.18
19.05	±0.10	±0.18

4 Cross-sectional Shape

C N G M 12 04 08 - GA



A	B	C
F	G	H
J	M	N
Q	R	T
U	W	X

1:1 CHAT

How to indicate the model No. of insert(ISO)

12	04	08	GA
5	6	7	8
Inscribed Circle Diameter	Cutting Edge Height	Nose "r" Size	Chip Breaker

5 Inscribed Circle Diameter

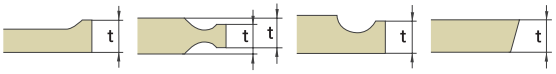
C N G M **12** 04 08 - GA

( ) small symbol

Symbols							Inch	IC
C	d	S	T	R	V	W		
3	4	3	6	3	-	2	1.2(5)	3.97
4	5	4	8	4	8	S3	1.5(6)	4.76
5	6	5	9	5	9	3	1.8(7)	5.56
-	-	-	-	6	-	-	-	6.00
6	7	6	11	6	11	4	2	6.35
8	9	7	13	7	13	5	2.5	7.94
-	-	-	-	8	-	-	-	8.00
9	11	9	16	9	16	6	3	9.53
-	-	-	-	10	-	-	-	10.00
11	13	11	19	11	19	7	3.5	11.11
-	-	-	-	12	-	-	-	12.00
12	15	12	22	12	22	8	4	12.70
14	17	14	24	14	24	9	4.5	14.29
16	19	15	27	15	27	10	5	15.88
-	-	-	-	16	-	-	-	16.00
17	21	17	30	17	30	11	5.5	17.46
19	23	19	33	19	33	13	6	19.05
-	-	-	-	20	-	-		20.00
22	27	22	38	22	38	15	7	22.23
-	-	-	-	25	-	-		25.00
25	31	25	44	25	44	17	8	25.40
32	38	31	54	31	54	21	10	31.75
-	-	-	-	32	-	-	-	32.00

6 Cutting Edge Height

C N G M 12 **04** 08 - GA



Symbol		Nose "r"	
Metric	Inch	M, N	Inch
1	1(2)	1.59	1/16
T0	1.125	1.79	9/128
T1	1.2	1.98	5/64
2	1.5(3)	2.38	3/32
T2	1.75	2.78	7/64
3	2	3.18	1/8
T3	2.5	3.97	5/32
4	3	4.76	3/16
5	3.5	5.56	7/32
6	4	6.35	1/4
7	5	7.94	5/16
9	6	9.52	3/8
11	7	11.11	7/16
12	8	12.70	1/2

( ) small symbol

7 Nose "r" Size

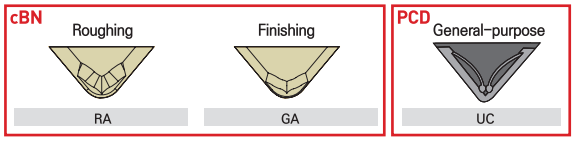
C N G M 12 04 **08** - GA



Symbol		Nose "r"	
Metric	Inch	M, N	Inch
1	0	0.1	0.004
2	0.5	0.2	0.008
4	1	0.4	1/64
8	2	0.8	1/32
12	3	1.2	3/64
16	4	1.6	January 16th
20	5	2	5/64
24	6	2.4	3/32
28	7	2.8	7/64
32	8	3.2	1/8
00	-	Circular Insert (Inch Type)	
M0	-	Circular Insert (Metric Type)	

8 Chip Breaker

C N G M 12 04 08 - **GA**



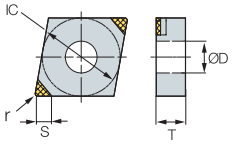
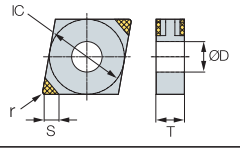
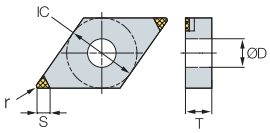
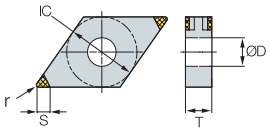
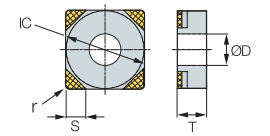
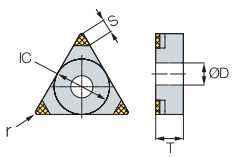
1:1 CHAT

cBN Spec

cBN Multi-corner Type (Negative/Positive)

※T-2NU-□□□□△△△△△△ designation package unit is 10EA.

• ● : Stock

Drawing	Designation	Grade											W (Weight)	mm				
		DNC100	DNC250	DNC300	DNC350	DNC400	DB1000	DB2000	DBN250	DBN350	DBN700A	DBNX20		S (Cutting Edge Length)	IC (Inscribed Circle)	T (Thickness)	r (Nose)	ØD (Hole Diameter)
	2NU-CNGA120404	●	●	●	●	-	●	-	-	-	●	-	9.9	2.7	12.7	4.76	0.4	5.16
	2NU-CNGA120404F	-	●	-	●	-	-	-	-	-	-	-	9.9	2.7	12.7	4.76	0.4	5.16
	2NU-CNGA120404T	-	●	-	●	-	●	-	-	-	-	-	9.9	2.7	12.7	4.76	0.4	5.16
	2NU-CNGA120404W	-	●	-	-	-	-	-	-	-	-	-	9.9	2.7	12.7	4.76	0.4	5.16
	2NU-CNGA120404WF	-	●	-	-	-	-	-	-	-	-	-	9.9	2.7	12.7	4.76	0.4	5.16
	2NU-CNGA120408	●	●	●	●	-	●	●	-	-	●	-	9.9	2.6	12.7	4.76	0.8	5.16
	2NU-CNGA120408F	-	●	-	●	-			-	-	-	-	9.9	2.6	12.7	4.76	0.8	5.16
	2NU-CNGA120408T	-	●	-	●	-	●		-	-	-	-	9.9	2.6	12.7	4.76	0.8	5.16
	2NU-CNGA120408W	-	●	-	●	-	●		-	-	●	-	9.9	2.6	12.7	4.76	0.8	5.16
	2NU-CNGA120408WF	-	-	-	-	-	-	●	-	-	-	-	9.9	2.6	12.7	4.76	0.8	5.16
	2NU-CNGA120412	●	●	●	●	-	-	-	-	-	-	-	9.9	2.6	12.7	4.76	1.2	5.16
	2NU-CNGA120412F	-	●	-	●	-	-	-	-	-	-	-	9.9	2.6	12.7	4.76	1.2	5.16
	2NU-CNGA120412T	-	●	-	●	-	-	-	-	-	-	-	9.9	2.6	12.7	4.76	1.2	5.16
	2NU-CNGA120412W	-	●	-	-	-	-	-	-	-	●	-	9.9	2.6	12.7	4.76	1.2	5.16
	2NU-CNGA120412WT	-	-	-	-	-	●	-	-	-	-	-	9.9	2.6	12.7	4.76	1.2	5.16
	T-2NU-CNGA120404	-	●	-	-	-	-	-	-	-	-	-	9.9	2.7	12.7	4.76	0.4	5.16
	T-2NU-CNGA120408	-	●	-	●	-	-	-	-	-	-	-	9.9	2.6	12.7	4.76	0.8	5.16
	4NU-CNGA120404	-	●	-	-	-	-	-	-	-	-	-	9.9	2.7	12.7	4.76	0.4	5.16
	4NU-CNGA120408	-	●	-	●	-	-	-	-	-	-	-	9.9	2.6	12.7	4.76	0.8	5.16
	4NU-CNGA120412	-	●	-	-	-	-	-	-	-	-	-	9.9	2.6	12.7	4.76	1.2	5.16
	2NU-DNGA150404	-	●	●	●	-	-	●	●	-	-	-	12.3	2.6	12.7	4.76	0.4	5.16
	2NU-DNGA150404F	-	●	-	●	-	-	-	-	-	-	-	12.3	2.6	12.7	4.76	0.4	5.16
	2NU-DNGA150404T	-	●	-	●	-	-	-	-	-	-	-	12.3	2.6	12.7	4.76	0.4	5.16
	2NU-DNGA150408	-	●	●	●	-	●	●	●	-	-	-	12.3	2.2	12.7	4.76	0.8	5.16
	2NU-DNGA150408F	-	●	-	●	-	-	-	-	-	-	-	12.3	2.2	12.7	4.76	0.8	5.16
	2NU-DNGA150408T	-	●	-	●	-	-	-	-	-	-	-	12.3	2.2	12.7	4.76	0.8	5.16
	2NU-DNGA150412	-	●	-	●	-	●	●	-	-	-	-	12.3	2.5	12.7	4.76	1.2	5.16
	2NU-DNGA150412F	-	●	-	●	-	-	-	-	-	-	-	12.3	2.5	12.7	4.76	1.2	5.16
	2NU-DNGA150412T	-	●	-	●	-	-	-	-	-	-	-	12.3	2.5	12.7	4.76	1.2	5.16
	2NU-DNGA150604	●	●	-	●	-	-	-	-	-	-	-	15.4	2.5	12.7	6.35	0.4	5.16
	2NU-DNGA150608	●	●	-	●	-	-	-	-	-	-	-	15.4	2.5	12.7	6.35	0.8	5.16
	4NU-DNGA150404	-	●	-	●	-	-	-	-	-	-	-	12.3	1.8	12.7	4.76	0.4	5.16
	4NU-DNGA150408	-	●	-	●	-	-	-	-	-	-	-	12.3	2.9	12.7	4.76	0.8	5.16
	4NU-DNGA150412	-	●	-	●	-	-	-	-	-	-	-	12.3	3	12.7	4.76	1.2	5.16
	4NU-DNGA150608	-	●	-	-	-	-	-	-	-	-	-	15.4	2.9	12.7	6.35	0.8	5.16
	4NU-SNGA120404	-	●	-	-	-	-	-	-	-	-	-	9.9	3.1	12.7	4.76	0.4	5.16
	4NU-SNGA120408	-	●	-	-	-	-	-	-	-	●	-	9.9	3.1	12.7	4.76	0.8	5.16
	3NU-TNGA160404	-	●	-	●	-	●	●	●	-	●	-	7.2	2.5	9.53	4.76	0.4	3.81
	3NU-TNGA160404T	-	●	-	-	-	-	-	-	-	-	-	7.2	2.5	9.53	4.76	0.4	3.81
	3NU-TNGA160408	-	●	-	●	-	-	-	-	-	●	-	7.2	2.3	9.53	4.76	0.8	3.81
	3NU-TNGA160408F	-	●	-	-	-	-	-	-	-	-	-	7.2	2.3	9.53	4.76	0.8	3.81
	3NU-TNGA160408T	-	●	-	-	-	-	-	-	-	-	-	7.2	2.3	9.53	4.76	0.8	3.81
	3NU-TNGA160412	-	-	-	●	-	-	-	-	-	-	-	7.2	2.0	9.53	4.76	1.2	3.81

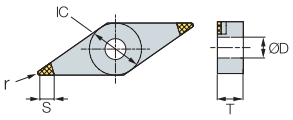
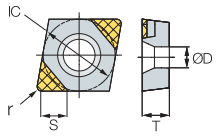
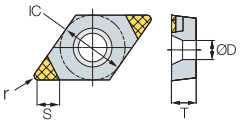
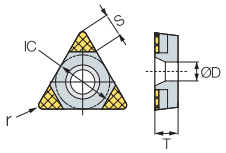
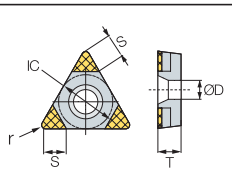
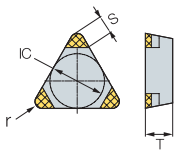
1:1 CHAT

cBN Spec

cBN Multi-corner Type (Negative/Positive)

※ T-2NU-□□□□△△△△△△designation packaging unit is 10EA.

• ● : Stock

Drawing	Designation	Grade											W (Weight)	mm				
		DNC100	DNC250	DNC300	DNC350	DNC400	DB1000	DB2000	DBN250	DBN350	DBN700A	DBNX20		S (Cutting Edge Length)	IC (Inscribed Circle)	T (Thickness)	r (Nose)	ØD (Hole Diameter)
	2NU-VNGA160404					-	-	-		-		-	10.2	3.5	9.53	4.76	0.4	3.81
	2NU-VNGA160404F	-		-		-	-	-	-	-	-	-	10.2	3.5	9.53	4.76	0.4	3.81
	2NU-VNGA160404T	-		-		-	-	-	-	-	-	-	10.2	3.5	9.53	4.76	0.4	3.81
	2NU-VNGA160408					-				-		-	10.2	2.6	9.53	4.76	0.8	3.81
	2NU-VNGA160408F	-		-		-	-	-	-	-	-	-	10.2	2.6	9.53	4.76	0.8	3.81
	2NU-VNGA160408T	-		-		-	-		-	-	-	-	10.2	2.6	9.53	4.76	0.8	3.81
	T-2NU-VNGA160408	-		-	-	-		-	-	-	-	-	10.2	2.6	9.53	4.76	0.8	3.81
	2NU-CCGW060202	-		-	-	-	-	-	-	-	-	-	0.9	2.8	6.35	2.38	0.2	2.8
	2NU-CCGW060202T	-		-	-	-	-	-	-	-	-	-	0.9	2.8	6.35	2.38	0.2	2.8
	2NU-CCGW060204	-		-	-	-	-		-	-	-	-	0.9	2.7	6.35	2.38	0.4	2.8
	2NU-CCGW060204F	-		-	-	-	-	-	-	-	-	-	0.9	2.7	6.35	2.38	0.4	2.8
	2NU-CCGW060204T	-		-	-	-	-	-	-	-	-	-	0.9	2.7	6.35	2.38	0.4	2.8
	2NU-CCGW060208	-	-	-	-	-		-	-	-	-	-	0.9	2.6	6.35	2.38	0.8	2.8
	2NU-CCGW09T302	-		-	-	-	-	-	-	-	-	-	4.6	2.7	6.35	2.38	0.2	4.4
	2NU-CCGW09T304			-		-		-		-		-	4.6	2.7	9.53	3.97	0.4	4.4
	2NU-CCGW09T304T	-		-	-	-	-	-	-	-	-	-	4.6	2.7	9.53	3.97	0.4	4.4
	2NU-CCGW09T308			-		-	-			-		-	4.6	2.6	9.53	3.97	0.8	4.4
	2NU-CCGW09T308T	-		-	-	-	-	-	-	-	-	-	4.6	2.6	9.53	3.97	0.8	4.4
	2NU-CCGW09T308W	-		-	-	-	-	-	-	-	-	-	4.6	2.6	9.53	3.97	0.8	4.4
	2NU-DCGW070204	-		-	-	-		-	-	-	-	-	1.3	2.6	6.35	2.38	0.4	2.8
	2NU-DCGW070208	-		-	-	-	-	-	-	-	-	-	1.3	2.2	6.35	2.38	0.8	2.8
	2NU-DCGW070208T	-	-	-	-	-		-	-	-	-	-	1.3	2.2	6.35	2.38	0.8	2.8
	2NU-DCGW11T302	-		-	-	-	-	-	-	-	-	-	4.8	2.6	9.53	3.97	0.2	4.4
	2NU-DCGW11T304			-		-		-		-	-	-	4.8	2.6	9.53	3.97	0.4	4.4
	2NU-DCGW11T304F	-		-	-	-	-	-	-	-	-	-	4.8	2.6	9.53	3.97	0.8	4.4
	2NU-DCGW11T304T	-		-	-	-	-	-	-	-	-	-	4.8	2.6	9.53	3.97	0.4	4.4
	2NU-DCGW11T308			-		-	-	-		-		-	4.8	2.2	9.53	3.97	0.8	4.4
	2NU-DCGW11T308T	-		-	-	-	-	-	-	-	-	-	4.8	2.2	9.53	3.97	0.8	4.4
	T-2NU-DCGW11T304	-		-	-	-	-	-	-	-	-	-	4.8	2.6	9.53	3.97	0.4	4.4
	T-2NU-DCGW11T308	-		-		-	-	-	-	-	-	-	-	-	-	-	-	-
	3NU-TCGW090204	-		-	-	-	-	-	-	-	-	-	0.9	2.5	5.56	2.38	0.4	2.5
	3NU-TCGW090204F	-		-	-	-	-	-	-	-	-	-	0.9	2.5	5.56	2.38	0.4	2.5
	3NU-TCGW090204T	-		-	-	-	-	-	-	-	-	-	0.9	2.5	5.56	2.38	0.4	2.5
	3NU-TPGW110304	-		-		-				-		-	2.3	2.5	6.35	3.18	0.4	3.4
	3NU-TPGW110304F	-		-	-	-	-	-	-	-	-	-	2.3	2.5	6.35	3.18	0.4	3.4
	3NU-TPGW110304T	-		-	-	-	-	-	-	-	-	-	2.3	2.5	6.35	3.18	0.4	3.4
	3NU-TPGW110308	-		-		-				-		-	2.3	2.5	6.35	3.18	0.4	3.4
	3NU-TPGW110308F	-		-	-	-	-	-	-	-	-	-	2.3	2.5	6.35	3.18	0.4	3.4
	3NU-TPGW110308T	-		-	-	-	-	-	-	-	-	-	2.3	2.5	6.35	3.18	0.4	3.4
	3NU-TPGN110308	-	-	-	-	-			-	-	-	-	2.3	2.3	6.35	3.18	0.8	-
	3NU-TPGN160304	-		-	-	-	-	-	-	-	-	-	4.8	2.5	9.53	3.18	0.4	-
	3NU-TPGN160308	-		-	-	-	-	-	-	-	-	-	4.8	2.3	9.53	3.18	0.8	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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1:1 CHAT

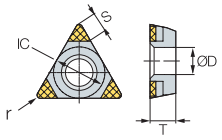
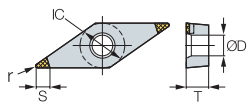
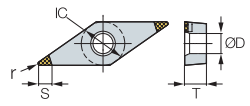
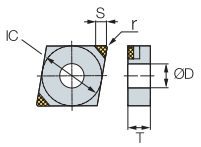
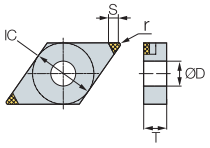
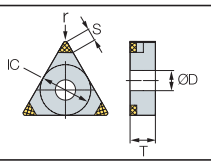
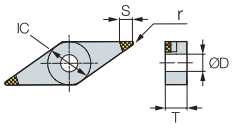
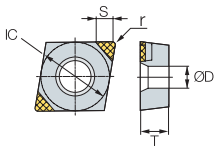
cBN Spec

cBN Multi-corner Type (Negative/Positive)

※ T-2NU-□□□□△△△△△△designation packaging unit is 10 EA.

• ● : Stock

○ : To be discontinued after inventory depletion

Drawing	Designation	Grade											W (Weight)	mm				
		DNC100	DNC250	DNC300	DNC350	DNC400	DB1000	DB2000	DBN250	DBN350	DBN700A	DBNX20		S (Cutting Edge Length)	IC (Inscribed Circle)	T (Thickness)	r (Nose)	ØD (Hole Diameter)
	3NU-TPGB110304	-	-	-	-	-	-	-	–	-	-	-	2.0	2.5	6.35	3.18	0.4	3.4
	3NU-TPGB110308F	-	○	-	-	-	-	-	-	-	-	-	2.0	2.3	6.35	3.18	0.8	3.4
	3NU-TPGB110308T	-	○	-	-	-	-	-	-	-	-	-	2.0	2.3	6.35	3.18	0.8	3.4
	2NU-VBGW160402	-	●	-		-	-	-	-	-	-	-	8.6	3.5	9.53	4.76	0.2	4.4
	2NU-VBGW160404	●	●	-	●	-	●	-	●	-	●	-	8.6	3.5	9.53	4.76	0.4	4.4
	2NU-VBGW160404F	-	●	-	-	-	-	-	-	-	-	-	8.6	3.5	9.53	4.76	0.4	4.4
	2NU-VBGW160404T	-	●	-	-	-	-	-	-	-	-	-	8.6	3.5	9.53	4.76	0.4	4.4
	2NU-VBGW160408	●	●	-	●	-	-	●	●	-	-	-	8.6	2.6	9.53	4.76	0.8	4.4
	2NU-VBGW160408F	-	●	-	-	-	-	-	-	-	-	-	8.6	2.6	9.53	4.76	0.8	4.4
	2NU-VBGW160408T	-	●	-	-	-	-	-	-	-	-	-	8.6	2.6	9.53	4.76	0.8	4.4
	T-2NU-VBGW160408	-	-	-	–	-	-	-	-	-	-	-	8.6	2.6	9.53	4.76	0.8	4.4
	2NU-VCGW160404	-	●	-	●	-	-	-	-	-	-	-	8.6	3.5	9.53	4.76	0.4	4.4
	2NU-VCGW160404F	-	●	-	-	-	-	-	-	-	-	-	8.6	3.5	9.53	4.76	0.4	4.4
	2NU-VCGW160404T	-	●	-	-	-	-	-	-	-	-	-	8.6	3.5	9.53	4.76	0.4	4.4
	2NU-VCGW160408	-	●	-	-	-	-	-	-	-	-	-	8.6	2.6	9.53	4.76	0.8	4.4
	2NU-VCGW160408F	-	●	-	-	-	-	-	-	-	-	-	8.6	2.6	9.53	4.76	0.8	4.4
	2NU-VCGW160408T	-	●	-	-	-	–	●	-	-	-	-	8.6	2.6	9.53	4.76	0.8	4.4
	T-2NU-VCGW160404	-	●	-	-	-	-	-	-	-	-	-	8.6	3.5	9.53	4.76	0.4	4.4
	T-2NU-VCGW160408	-	●	-	-	-	-	-	-	-	-	-	8.6	2.6	9.53	4.76	0.8	4.4
	CNMA120404	-	-	-	-	-	-	-	●	-	-	-	9.89	4.5	12.7	4.76	0.4	5.16
	CNMA120408	-	-	-	-	-	-	-	●	-	-	●	9.89	4.5	12.7	4.76	0.8	5.16
	T-CNMA120408	-	-	-	-	-	-	-	●	-	-	-	9.89	4.5	12.7	4.76	0.8	5.16
	DNMA150404	-	-	-	-	-	-	-	●	-	-	-	12.2	3.7	12.7	4.76	0.4	5.16
	DNMA150408	-	-	-	-	-	-	-	●	-	-	-	12.2	3.4	12.7	4.76	0.8	5.16
	TNMA160404	-	-	-	-	-	-	-	●	-	-	-	7.2	3.7	9.53	4.76	0.4	3.81
	TNMA160408	-	-	-	-	-	-	-	●	-	-	-	7.2	3.5	9.53	4.76	0.8	3.81
	T-VNMA160404	-	-	-	-	-	-	-	●	-	-	-	10.2	4.9	9.53	4.76	0.4	3.81
	VNMA160404	-	-	-	-	-	-	-	●	-	-	-	10.2	5.8	9.53	4.76	0.4	3.81
	VNMA160408	-	-	-	-	-	-	-	●	-	-	-	10.2	5.8	9.53	4.76	0.8	3.81
	CCMW09T304	-	-	-	-	-	-	-	●	-	-	-	4.5	4.3	9.53	3.97	0.4	4.4

1:1 CHAT

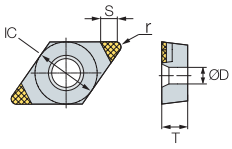
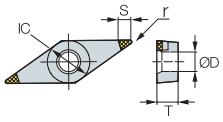
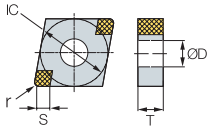
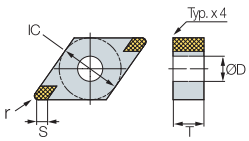
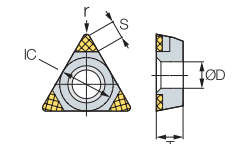
cBN Spec

cBN Multi-corner Type (Negative/Positive)

※T-2NU-□□□□△△△△△△ designation package unit is 10 EA.

• ● : Stock

○ : To be discontinued after inventory depletion

Drawing	Designation	Grade											W (Weight)	mm				
		DNC100	DNC250	DNC300	DNC350	DNC400	DB1000	DB2000	DBN250	DBN350	DBN700A	DBNX20		S (Cutting Edge Length)	IC (Inscribed Circle)	T (Thickness)	r (Nose)	ØD (Hole Diameter)
	DCGW11T308	-	-	-	-	-	-	-	●	-	-	-	4.8	3.2	9.53	3.97	0.8	4.4
	T-DCGW11T308	-	-	-	-	-	-	-	●	-	-	-	4.8	3.2	9.53	3.97	0.8	4.4
	VBMW160404	-	-	-	-	-	-	-	●	-	-	-	8.6	3.5	9.53	4.76	0.4	4.4
	VBMW160408	-	-	-	-	-	-	-	●	-	-	-	8.6	3.5	9.53	4.76	0.8	4.4
	4NS-CNGA120408	-	-	-	-	○	-	-	-	-	-	-	9.7	3	12.7	4.76	0.8	5.16
	4NS-CNGA120412	-	-	-	-	○	-	-	-	-	-	-	9.7	2.9	12.7	4.76	1.2	5.16
	4NS-DNGA150608	-	-	-	-	○	-	-	-	-	-	-	15.1	2.83	12.7	6.35	0.8	5.16
	4NS-DNGA150612	-	-	-	-	○	-	-	-	-	-	-	15.1	2.46	12.7	6.35	1.2	5.16
	T-TPGW110304	-	-	-	-	-	-	-	-	–	-	-	2.0	3.7	6.35	3.18	0.4	3.4
	TPGW110304	-	-	-	-	-	-	-	●	–	-	-	2.0	3.7	6.35	3.18	0.4	3.4
	TPGW110308	-	-	-	-	-	-	-	●	-	-	-	2.0	3.5	6.35	3.18	0.8	3.4

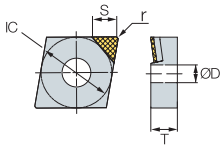
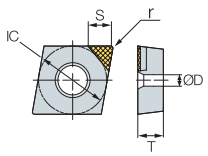
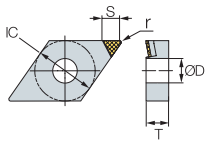
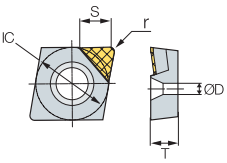
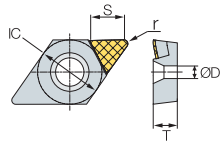
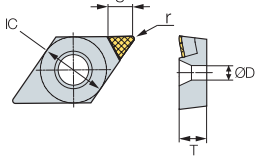
1:1 CHAT

PCD Spec

PCD Insert (Negative/Positive)

※ T-2NU-□□□□△△△△△△designation packaging unit is 10EA.

• ● : Stock

Drawing	Designation	Grade	W (Weight)	mm				
		DP150		S (Cutting Edge Length)	IC (Inscribed Circle)	T (Thickness)	r (Nose)	ØD (Hole Diameter)
	CNMM120404	●	9.9	4.3	12.7	4.76	0.4	5.16
	CNMM120408	●	9.9	4.2	12.7	4.76	0.8	5.16
	CCMW120404	●	8	4.3	12.7	4.76	0.4	5.16
	DNMM150404	●	12.2	3.5	12.7	4.76	0.4	5.16
	DNMM150408	●	12.2	3.2	12.7	4.76	0.8	5.16
	CCMT060202	●	0.9	2.8	6.35	2.38	0.2	2.8
	CCMT060204	●	0.9	2.7	6.35	2.38	0.4	2.8
	CCMT09T304	●	3.4	4.3	9.53	3.97	0.4	4.4
	CCMT09T308	●	3.4	4.2	9.53	3.97	0.8	4.4
	DCMT070202	●	1.2	3.7	6.35	2.38	0.2	2.8
	DCMT070204	●	1.2	3.5	6.35	2.38	0.4	2.8
	DCMT11T302	●	4.5	3.5	9.53	3.97	0.2	4.4
	DCMT11T304	●	4.5	3.5	9.53	3.97	0.2	4.4
	DCMT11T304	●	4.5	3.2	9.53	3.97	0.8	4.4
	DCGT11T304	●	4.5	3.5	9.53	3.97	0.4	4.4

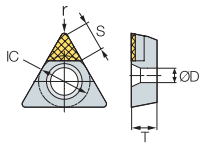
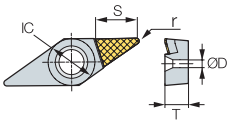
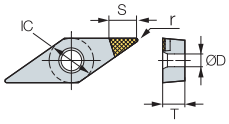
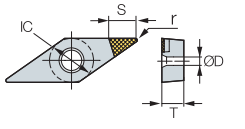
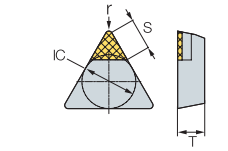
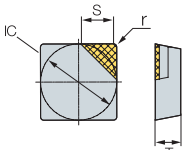
1:1 CHAT

PCD Spec

PCD Insert (Negative/Positive)

※T-2NU-□□□□△△△△△△ designation packaging unit is 10EA.

• ● : Stock

Drawing	Designation	Grade	W (Weight)	mm				
		DP150		S (Cutting Edge Length)	IC (Inscribed Circle)	T (Thickness)	r (Nose)	ØD (Hole Diameter)
	TPGW080204	●	0.6	-	6.35	2.38	0.4	2.4
	TPGW090204	●	0.8	3.2	5.56	2.38	0.4	2.5
	TPGW110304	●	1.4	3.7	6.35	3.18	0.4	3.4
	TPGW110308	●	1.4	3.5	6.35	3.18	0.8	3.4
	VBMT110304	●	2.5	5.8	6.35	3.18	0.4	3.4
	VBMT110308	●	2.5	4.9	6.35	3.18	0.8	3.4
	VBMT160404	●	8.6	5.8	9.53	4.76	0.4	4.4
	VBMT160408	●	8.6	4.9	9.53	4.76	0.8	4.4
	VCMT110304	●	2.4	5.8	6.35	3.18	0.4	3.4
	VBGW160404	●	8.6	5.8	12.7	4.76	0.4	4.4
	VCMT160404	●	8.3	5.8	9.53	4.76	0.4	4.4
	VCMT160408	●	8.3	5.9	9.53	4.76	0.8	4.4
	TPGN110304	●	1.9	3.7	6.35	3.18	0.4	-
	TPGN110308	●	1.9	3.5	6.35	3.18	0.8	-
	SPGN090304	●	3.6	4.1	9.53	3.18	0.4	-

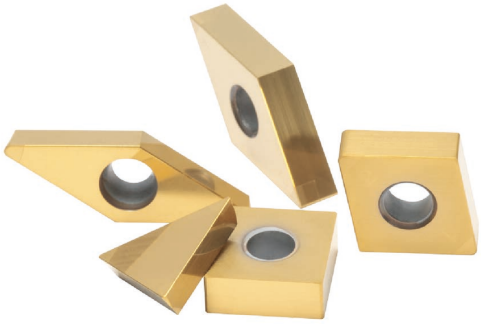
1:1 CHAT

cBN Features



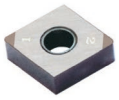
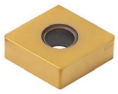
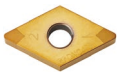
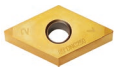
Features

DINOX cBN features very excellent hardness and thermal resistance by adding special ceramic bonding material to cBN, its main ingredient, and sintering them at an ultrahigh pressure high temperature. It also provides optimal conditions for productivity improvement through high-speed processing of cast iron and heat-treated steel due to its excellent strength and wear resistance.



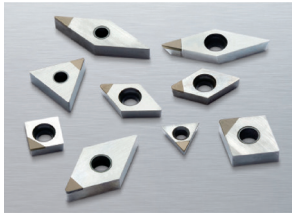
High Accuracy | Wear Resistance | Productivity Improvement

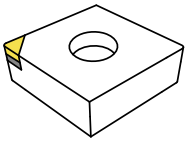
cBN Type

Re-polishing Type	One Use Type	Multi-corner Type	Multi-corner Type(Coated)	NS Type	NT Type
					

Re-grinding Type

- Stable and long tool life
- Excellent wear resistance, high hardness
- 3~4 time re-polishing is possible, which reduces tool expenses





e.g.) CNGA120408

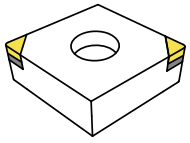
Multi-corner Type (Coated/Uncoated)

- Simple corner management
- Strong welding surface
- Possible to create an effect of several cBNs with one insert



Coated cBN

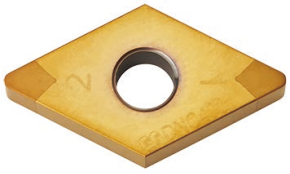
Uncoated cBN

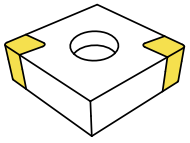


e.g.) 2NU-CNGA120408

NS Type

- Specialized high depth of cut
- Excellent machining performance in spite of variable depth of cut

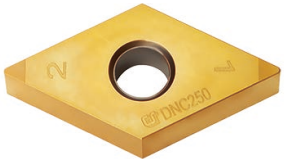


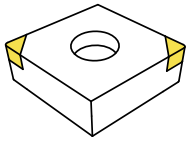


e.g.) 4NS-CNGA120408

NT Type

- High depth of cut versus general brazing type
- Economical cBN





e.g.)2NT-CNGA120408

※ High depth of cut and high feed available; excellent machining performance in spite of variable depth of cut
※ Universal machining available; stable and efficient machining versus general brazing inserts

1:1 CHAT

cBN Features



Applications by Grade and Textural Characteristics

Textural Characteristics	Texture	cBN Content	Grade Name	Workpiece, Applications	Features
Mostly cBN particles combine by themselves		High ▲	DB7000 DB7500	Cemented Carbide Alloy, Chilled Cast Iron, White Cast Iron, Iron Metal Sintered Alloy, Heat-resistant Alloy, Cast Iron	• High cBN content and texture where cBN particles strongly combine by themselves • Suitable for cutting machining of high-hardness materials such as cast iron, heat-resistant alloy, Cemented carbide alloy, etc.
Mostly cBN particles combine by means of bonding material		▼ Low	DB1000, DB2000, DBN250,DBN350, DBN500, DBNX20,DBNX25 DNC100,DNC250, DNC300,DNC350 DNC400	Alloy Steel, Titanium Steel, Carbon Tool Steel, Bearing Steel, Dice Steel, Ductile Cast Iron	• cBN particles strongly combine by special ceramic bonding material • Features excellent wear resistance and tenacity in cutting heat-treated steel due to its high cBN retention capacity

Grade Map

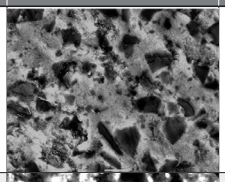
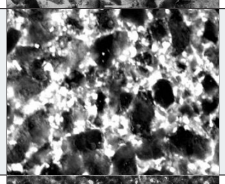
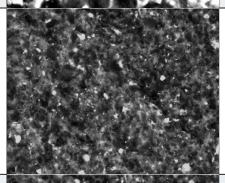
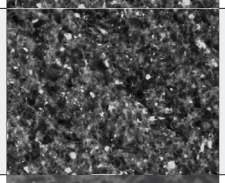
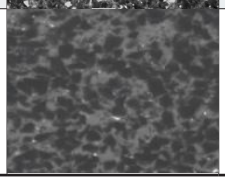
Workpiece	Type	High-speed Continuous	Continuous	Light/Medium Interrupted	Heavy Interrupted
H Heat-treated Steel	Usage Classification	H01	H10	H20	H30
	Coated cBN	DNC100	DNC250	DNC300	DNC350
	Uncoated cBN	DB1000	DB2000	DBNX20	DBNX25
Sintered Alloy	Usage Classification	1	10	20	30
	Uncoated cBN	DB7500	DB7000		
K Cast Iron	Usage Classification	K01	K10	K20	K30
	Uncoated cBN	DBN500	DB7000	DBNS800	
S Difficult-to-cut materials	Usage Classification	S01	S10	S20	S30
	Uncoated cBN	DB7000	DBNS800		

1:1 CHAT

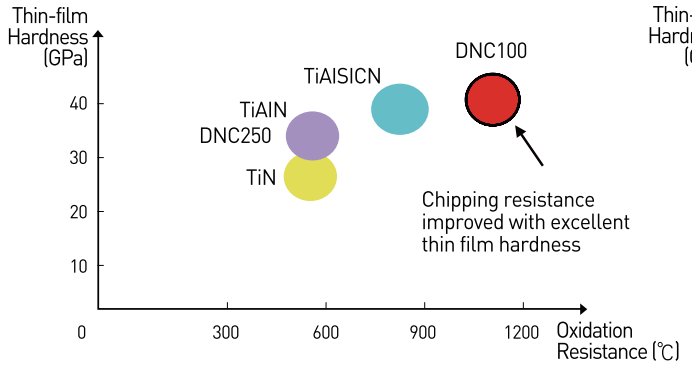
cBN Feature

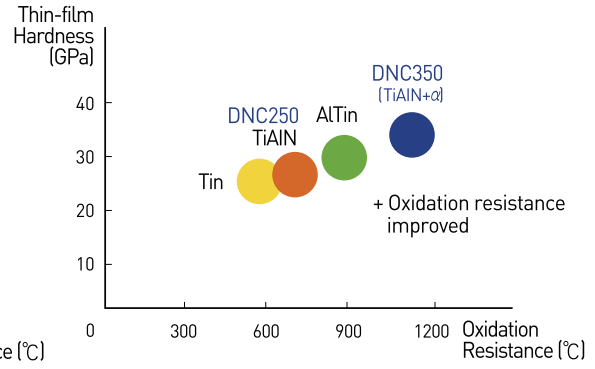
Coating Information

Coated cBN Features

Classification	Grade	Texture	Binder	cBN Content(%)	Grain Size(㎛)	Hardness(Gpa)
H Heat-treated Steel Coated	DNC100		TiN	50~55	2	31~34
	DNC250		TiC	65~70	6	32~34
	DNC300		TiN	65~70	4	29~31
	DNC350		TiN	60~65	1	33~35
	DNC400		TiN	65	3	-

Coated Thin-film Characteristics



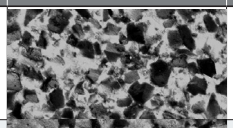
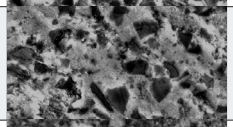
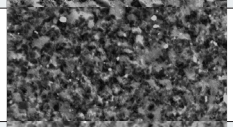
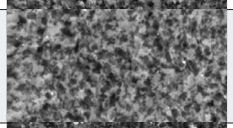
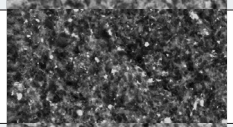
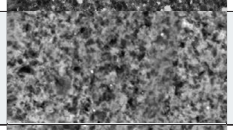
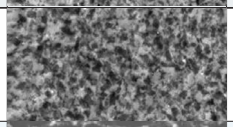
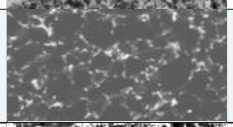
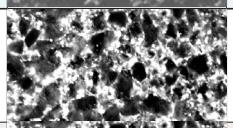
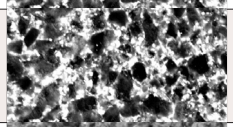
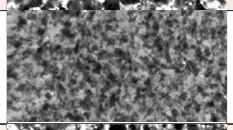
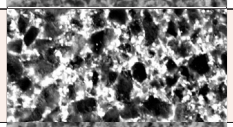
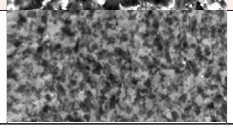


1:1 CHAT

cBN Series Feature

Uncoating Information

Uncoated cBN Features

Classification	Grade	Texture	Binder	cBN Content(%)	Grain Size(㎛)	Hardness(Gpa)
H Heat-treated Steel	DB1000		TiCN	40 - 45	1	27 - 31
	DB2000		TiN	50 - 55	2	31 - 34
	DBNX20		TiN	55 - 60	3	31 - 33
	DBNX25		TiN	65 - 70	4	29 - 31
	DBN250		TiN	50 - 55	2	31 - 34
	DBN350		TiN	60 - 65	1	33 - 35
Sintered Alloy	DB7000		CO compound	90 - 95	2	41 - 44
	DB7500		CO compound	90 - 95	1	41 - 44
K Cast Iron	DBN500		TiC	65 - 70	6	32 - 34
	DBNS800		Al compound	85 - 90	8	39 - 42
	DB7000		CO compound	90 - 95	2	41 - 44
S Difficult-to-cut materials	DBNS800		Al compound	85 - 90	8	39 - 42
	DB7000		CO compound	90 - 95	2	41 - 44

1:1 CHAT

cBN Heat-treated Steel

Features and Cutting Conditions of cBN Grade

Classification	Coating	Grade	Insert Color	Applications	Cutting Conditions: Cutting Speed (m/min) (0 50 100 150 200 250 300)	Feed (mm/rev)	Depth of Cut (mm)
H Heat-treated Steel	Coated	DNC100	Dark Gray	For high-speed, continuous machining	180 – 300	0.03 -0.30	0.03 -0.30
		DNC250	Gold	For continuous, light interrupted machining	120 – 220	0.05 -0.30	0.05 -0.30
		DNC300	Dark Gray	For light/medium interrupted machining	90 – 250	0.05 -0.20	0.05 -0.25
		DNC350	Dark Gray	For medium/heavy interrupted machining	90 – 150	0.05 -0.30	0.05 -0.50
		DNC400	Gold	For light/medium interrupted machining	80 – 200	0.05 -0.30	0.05 -0.50
	Uncoated	DBNX20		For high-efficiency machining	120 – 150	0.03 -0.30	0.03 -0.50
		DBNX25		For high-speed interrupted machining	150 – 200	0.03 -0.30	0.03 -0.50
		DBN250		For light/medium interrupted machining	80 – 120	0.03 -0.20	0.03 -0.30
		DBN350		For heavy interrupted machining	80 – 110	0.03 -0.20	0.03 -0.30
		DB1000		For high-speed, continuous machining	130 – 250	0.03 -0.15	0.03 -0.20
		DB2000		For light/medium interrupted machining	80 – 200	0.03 -0.20	0.03 -0.30

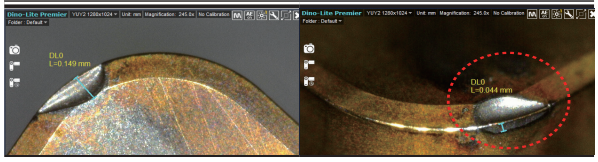
Comparison of Coated and Uncoated cBNs

Machining Information

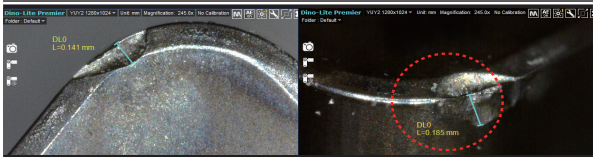
Vc(m/min)	f(mm/rev)	ap(mm)	No. of Machining Ops.	Cutting Distance	Workpiece	Heat-treated	Hardness	Size
200	0.1	0.1	20 times	30m	SCM415 round rod	Carburizing heat treatment	58~62	Ø105*150

Wear Loss (Coating Superior)

Coated cBN



Uncoated cBN



Surface Roughness (Uncoating Superior)

Surface Roughness			
Grade	8 times	12 times	20 times
Uncoated cBN	Ra 0.431	Ra 0.477	Ra 0.492
Coated cBN	Ra 0.579	Ra 0.631	Ra 0.792

※The details may vary according to machining environments.

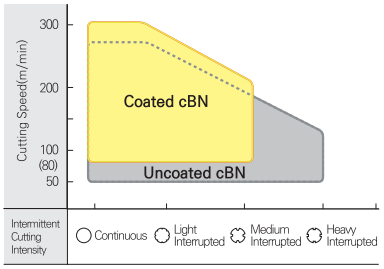
1:1 CHAT

cBN Heat-treated Steel

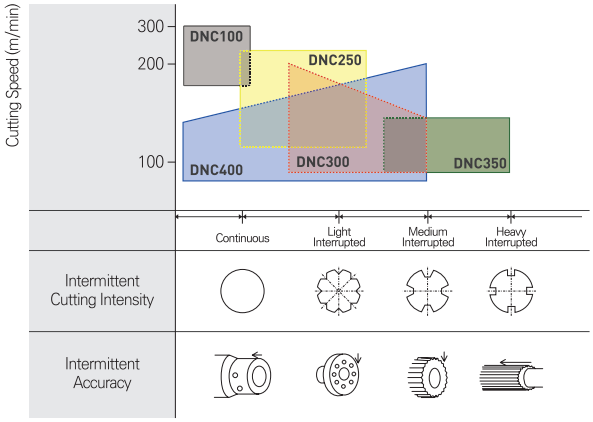
Applicable Area

- **Coated cBN** : Suitable for all heat-treated steel machining as it is excellent in high-speed and high-efficiency machining.
- **Uncoated cBN** : Suitable for machining of high-hardness heat-treated steel or parts to which cutting speed is limited.

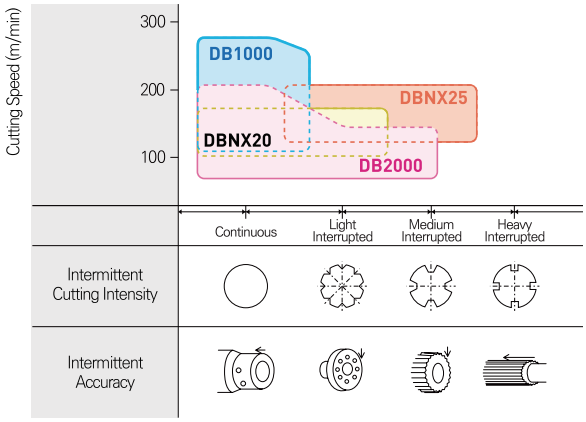
Series	Usable Area
Coated cBN	• Ideal for heat-treated steel machining • Machining requiring high speed and high-precision • Machining requiring high-efficiency such as carburized layer removal
Uncoated cBN	• Small parts not requiring high cutting speed • Machining materials including much hard particles such as mold parts • Applicable even in case of an unstable machine setup



Coated cBN

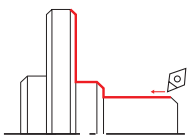


Uncoated cBN

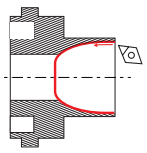


Recommended Machining Works

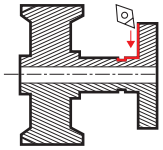
Outer Diameter Machining



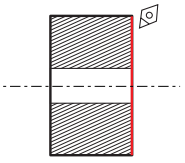
Inner Diameter (Curved surface) Machining



Width Decision Groove Machining

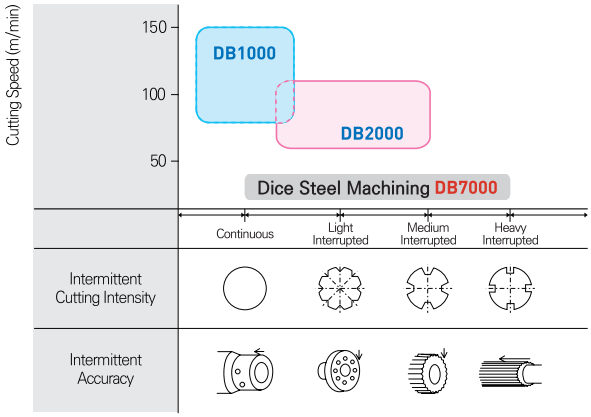


Cross-sectional Machining



Dice Steel

Uncoated cBN



1:1 CHAT

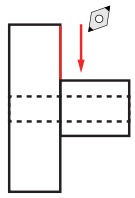
cBN Heat-treated Steel

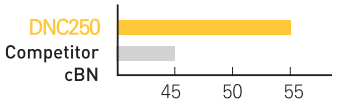
Cases of Coated Machining

Machining Example

DNC250

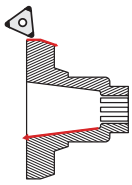
Grade	DNC250	Competitor cBN
Insert	2NU-DNGA150408	
Workpiece	H6 Swash Plate(FCD55 Plate)	
Cutting Speed (m/min)	180	
Feed (mm/rev)	0.06	
Depth of Cut (mm)	0.05 – 0.10	
Dry/Wet Cutting	Wet Cutting	

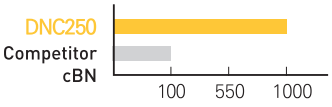




DNC250

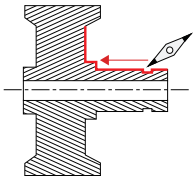
Grade	DNC250	Competitor cBN
Insert	3NU-TNGA160408	
Workpiece	Shaft UD Brake(SCR420HB)	
Cutting Speed (m/min)	160	
Feed (mm/rev)	0.08	
Depth of Cut (mm)	0.425	
Dry/Wet Cutting	Wet Cutting	

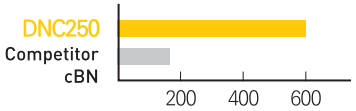




DNC250

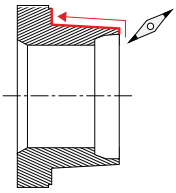
Grade	DNC250	Competitor cBN
Insert	2NU-VCGW160408	
Workpiece	Trans driver gear(SCM422)	
Cutting Speed (m/min)	90	
Feed (mm/rev)	0.15	
Depth of Cut (mm)	0.15	
Dry/Wet Cutting	Wet Cutting	

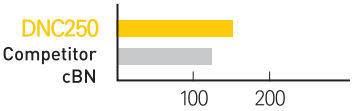




DNC250

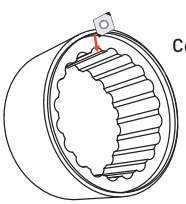
Grade	DNC250	Competitor cBN
Insert	2NU-VNGA160408	
Workpiece	Clutch Body(SCr420 8903)	
Cutting Speed (m/min)	140	
Feed (mm/rev)	0.12	
Depth of Cut (mm)	0.025/0.075	
Dry/Wet Cutting	Wet Cutting	

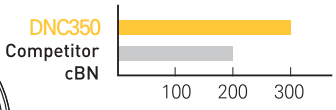




DNC350

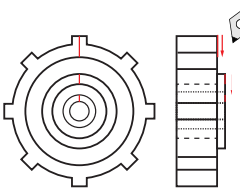
Grade	DNC350	Competitor cBN
Insert	2NU-CNGA120408	
Workpiece	Anulus Gear (SCR420)	
Cutting Speed (m/min)	200	
Feed (mm/rev)	0.05 – 0.08	
Depth of Cut (mm)	0.4	
Dry/Wet Cutting	Wet Cutting	

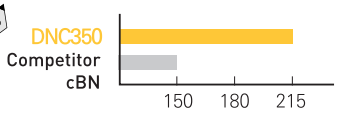




DNC350

Grade	DNC350	Competitor cBN
Insert	2NU-CNGA120404	
Workpiece	Retainer(SAPH440-P)	
Cutting Speed (m/min)	150	
Feed (mm/rev)	0.2	
Depth of Cut (mm)	0.10-0.20	
Dry/Wet Cutting	Wet Cutting	





※The details may vary according to machining environments.

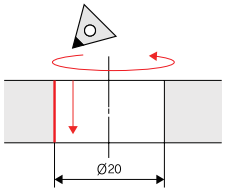
cBN Heat-treated Steel

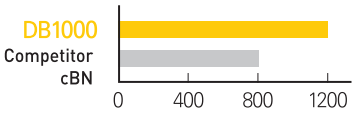
Uncoated Grade Machining Example

Machining Example

DB1000

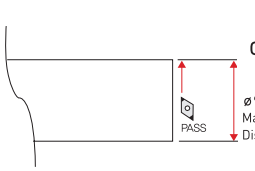
Grade	DB1000	Competitor cBN
Insert	NU-TPGW110304	
Workpiece	Inner Diameter Boring Machining(SUJ2)	
Cutting Speed (m/min)	120	
Feed (mm/rev)	0.06	
Depth of Cut (mm)	0.2	
Dry/Wet Cutting	Wet Cutting	

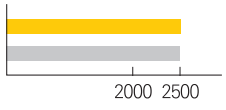




DB1000

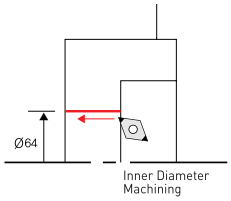
Grade	DB1000	Competitor cBN
Insert	2NU-CNGA120408	
Workpiece	Shaft(SCM440H)	
Cutting Speed (m/min)	282	
Feed (mm/rev)	0.1	
Depth of Cut (mm)	0.1	
Dry/Wet Cutting	Wet Cutting	

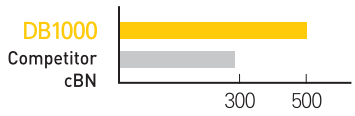




DB1000

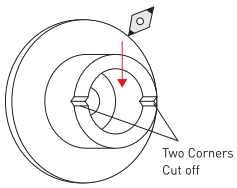
Grade	DB1000	Competitor cBN
Insert	2NU-CNGA120412-W	
Workpiece	Reactor	
Cutting Speed (m/min)	210	
Feed (mm/rev)	0.15	
Depth of Cut (mm)	0.23	
Dry/Wet Cutting	Wet Cutting	

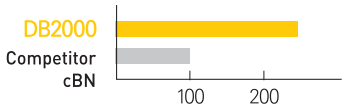




DB2000

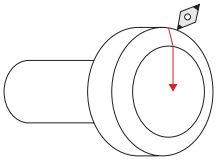
Grade	DB2000	Competitor cBN
Insert	2NU-DNGA150408	
Workpiece	Poly Slide(SCM415H CVT)	
Cutting Speed (m/min)	150	
Feed (mm/rev)	0.1	
Depth of Cut (mm)	0.2	
Dry/Wet Cutting	Wet Cutting	

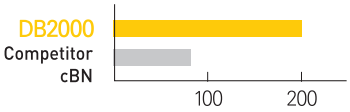




DB2000

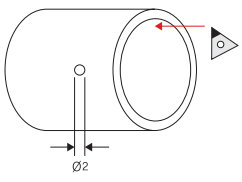
Grade	DB2000	Competitor cBN
Insert	2NU-DNGA150408	
Workpiece	Plunger(SKD11)	
Cutting Speed (m/min)	100	
Feed (mm/rev)	0.03 – 0.25	
Depth of Cut (mm)	0.04	
Dry/Wet Cutting	Wet Cutting	

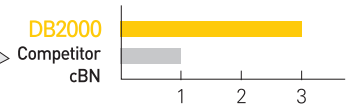




DB2000

Grade	DB2000	Competitor cBN
Insert	NU-TPGW110308	
Workpiece	Clunch Parts(SCM415H)	
Cutting Speed (m/min)	135	
Feed (mm/rev)	0.08	
Depth of Cut (mm)	0.15	
Dry/Wet Cutting	Wet Cutting	





※The details may vary according to machining environments.

1:1 CHAT

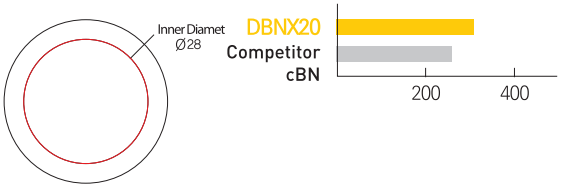
cBN Heat-treated Steel

Uncoated Grade Machining Example

Machining Example

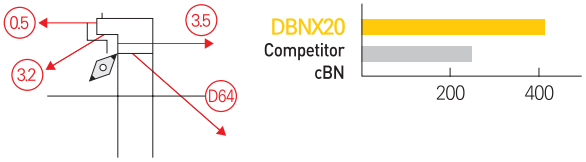
DBNX20

Grade	DBNX20	Competitor cBN
Insert	VBMW160412	
Workpiece	BH-RR Outer Wheel	
Cutting Speed (m/min)	130	
Feed (mm/rev)	0.1	
Depth of Cut (mm)	0.2	
Dry/Wet Cutting	Wet Cutting	



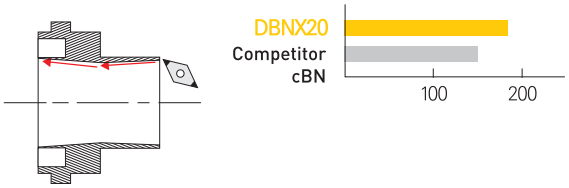
DBNX20

Grade	DBNX20	Competitor cBN
Insert	2NU-CNGA120408	
Workpiece	Reactor	
Cutting Speed (m/min)	221~248	
Feed (mm/rev)	0.1	
Depth of Cut (mm)	0.2	
Dry/Wet Cutting	Wet Cutting	



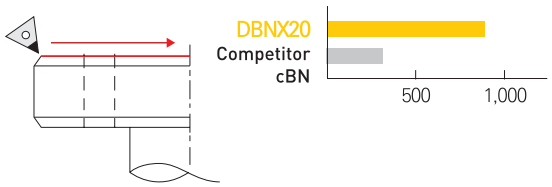
DBNX20

Grade	DBNX20	Competitor cBN
Insert	2NU-DNGA150612	
Workpiece	Transmission Bearing(STB2)	
Cutting Speed (m/min)	137	
Feed (mm/rev)	0.18-0.20	
Depth of Cut (mm)	0.08-0.10	
Dry/Wet Cutting	Wet Cutting	



DBNX20

Grade	DBNX20	Competitor cBN
Insert	NU-TNMA160408	
Workpiece	Flange(HrC62 SCM415)	
Cutting Speed (m/min)	150	
Feed (mm/rev)	0.1	
Depth of Cut (mm)	0.12	
Dry/Wet Cutting	Wet Cutting	



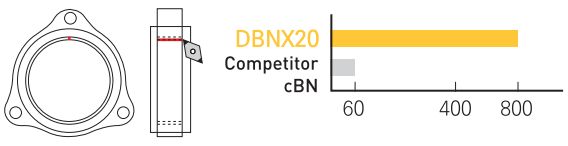
DBNX20

Grade	DBNX20	Competitor cBN
Insert	CNMA120408	
Workpiece	Chain Sprocket (Sintered Alloy)	
Cutting Speed (m/min)	200	
Feed (mm/rev)	0.1	
Depth of Cut (mm)	0.1	
Dry/Wet Cutting	Wet Cutting	



DBNX20

Grade	DBNX20	Competitor cBN
Insert	2NU-DNGA150412	
Workpiece	Bearing Outer Wheel(S55 CR)	
Cutting Speed (m/min)	190	
Feed (mm/rev)	0.15	
Depth of Cut (mm)	0.2	
Dry/Wet Cutting	Wet Cutting	



※The details may vary according to machining environments.

1:1 CHAT

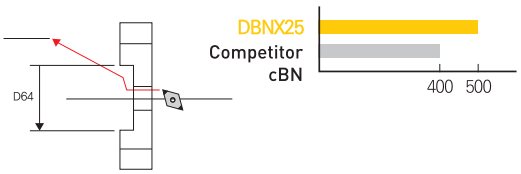
cBN Heat-treated Steel

Uncoated Grade Machining Example

Machining Example

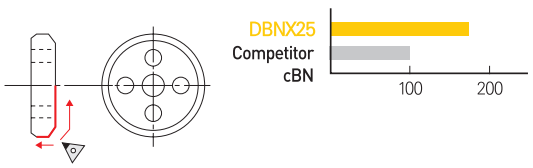
DBNX25

Grade	DBNX25	Competitor cBN
Insert	2NU-CNGA120412-W	
Workpiece	Reactor	
Cutting Speed (m/min)	200~220	
Feed (mm/rev)	0.12~0.16	
Depth of Cut (mm)	0.12~0.16	
Dry/Wet Cutting	Wet Cutting	



DBNX25

Grade	DBNX25	Competitor cBN
Insert	NU-TNMA160408	
Workpiece	Gear(HrC60 SCM420)	
Cutting Speed (m/min)	150	
Feed (mm/rev)	0.12	
Depth of Cut (mm)	0.2	
Dry/Wet Cutting	Wet Cutting	



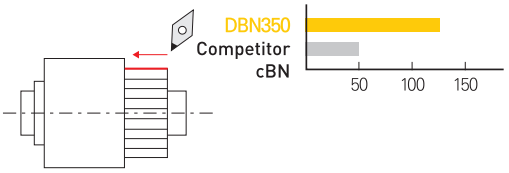
DBN250

Grade	DBN250	Competitor cBN
Insert	3NU-TPGB110308	
Workpiece	Sprocket Crank Shaft(SCM415)	
Cutting Speed (m/min)	120-180	
Feed (mm/rev)	0.18	
Depth of Cut (mm)	0.12	
Dry/Wet Cutting	Wet Cutting	



DBN350

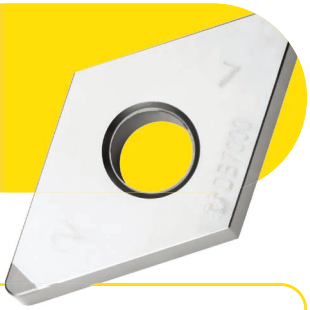
Grade	DBN350	Competitor cBN
Insert	NU-CNMA120412	
Workpiece	Gear Shaft(SCR420H)	
Cutting Speed (m/min)	125	
Feed (mm/rev)	0.15	
Depth of Cut (mm)	0.3	
Dry/Wet Cutting	Wet Cutting	



※The details may vary according to machining environments.

1:1 CHAT

cBN Cast Iron

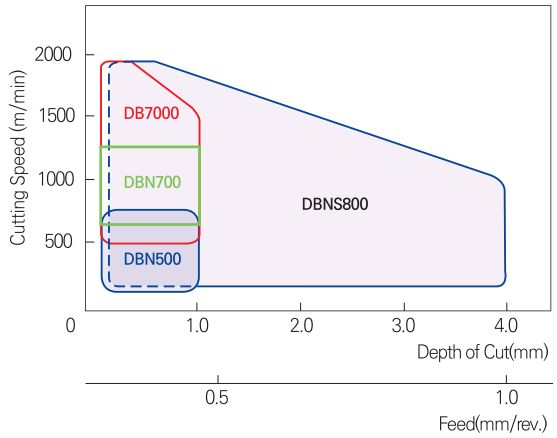


Features and Cutting Conditions of cBN Grade

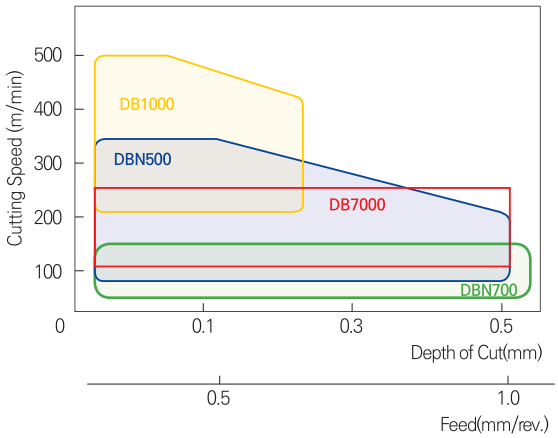
Applications	Workpiece	Grade	Cutting Conditions		
			Cutting Speed (m/min) 100 500 1000 1500 2000	Feed (mm/rev)	Depth of Cut (mm)
Turning	Gray Cast Iron	DBNS800	200 — 2000	0.1 ~ 1.0	≤ 4.0
		DBN500	200 — 700	0.1 ~ 0.5	≤ 1.0
		DB7000	500 — 2000	0.1 ~ 0.5	≤ 1.0
	Alloy Cast Iron	DBNS800	200 — 1000	0.1 ~ 0.8	≤ 2.0
	Ductile Cast Iron	DBN500	100 — 350	0.1 ~ 0.4	≤ 0.5
		DB1000	250 — 500	0.1 ~ 0.2	≤ 0.2
		DB7000	80 — 200	0.1 ~ 0.4	≤ 0.5
Milling	Gray Cast Iron	DBN700	800 — 2000	0.1 ~ 0.5	≤ 0.5
		DBNS800	800 — 2000	0.1 ~ 1.0	≤ 4.0

Applicable Area

Gray Cast Iron (FC)



Ductile Cast Iron (FCD)



1:1 CHAT

cBN Cast Iron



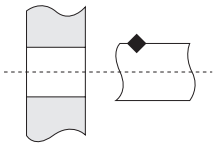
cBN Grade Features

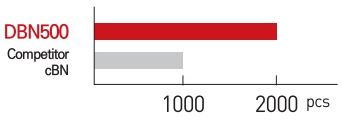
Classification	Coating	Grade	Insert Color	Applications	Features
K Cast Iron	Uncoated	DBN500		FC, FCD Cutting, High-hardness VSR Cutting, High-hardness Roll Grinding Cutting	For cast iron cutting, cBN sintered body formation is optimized and wear resistance and damage resistance are excellent
		DBN700		High-speed Cutting of FC / Cutting of Milling of FC, Cutting of Iron Metal Heat-treated Parts Cutting of High-hardness Roll / Cutting of Heat-resistant Alloy	Grades whose material strength and thermal conductivity are improved by greatly increasing cBN content and optimizing sintered tissues
		DB7000		Foundry Machining	For cast-iron difficult-to-cut materials machining, wear resistance and damage resistance are excellent
		DBNS800		Large Depth of Cut Machining, High-precision Grinding Machining	The solid structure capable to be used cutting knife of entire insert, which responds brazing type machining and high-speed grinding unlike conventional brazing type

Machining Example

DBN500

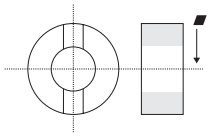
Grade	DBN500	Competitor cBN
Insert	SPGN090308	
Workpiece	Crank Bore (FC250 = FCD450 Inner Boring)	
Cutting Speed (m/min)	150	
Feed (mm/rev)	0.15	
Depth of Cut (mm)	0.5	
Dry/Wet Cutting	Wet Cutting	

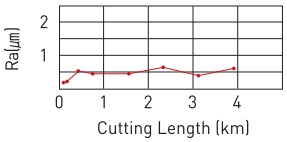




DBN500

Grade	DBN500	Competitor cBN
Insert	CNMA120412	
Workpiece	Compressor Comp (FC250 Facing, Interrupted)	
Cutting Speed (m/min)	400	
Feed (mm/rev)	0.07	
Depth of Cut (mm)	0.15	
Dry/Wet Cutting	Wet Cutting	

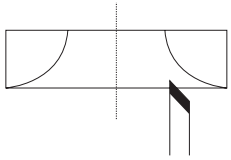


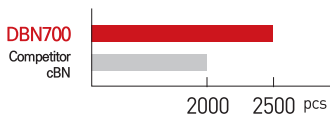


DBN500 : under 0.8㎛, Ceramics : over 1.5㎛

DBN700

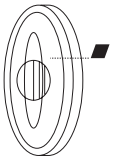
Grade	DBN700	Competitor cBN
Insert	Special Bite	
Workpiece	VSR Intake (Hv250-330 Plunge Cutting)	
Cutting Speed (m/min)	95	
Feed (mm/rev)	0.08	
Depth of Cut (mm)	0.2	
Dry/Wet Cutting	Dry cutting	

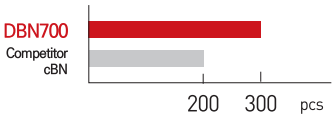




DBN700

Grade	DBN700	Competitor cBN
Insert	SPGN090308 / TNGA150408	
Workpiece	Fly Wheel (FC300 Facing)	
Cutting Speed (m/min)	600	
Feed (mm/rev)	0.15	
Depth of Cut (mm)	0.2	
Dry/Wet Cutting	Wet Cutting	

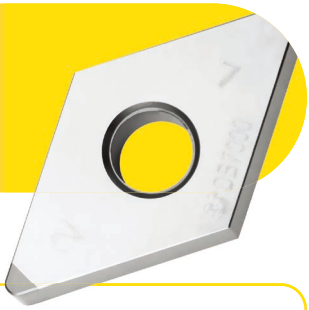




※The details may vary according to machining environments.

1:1 CHAT

cBN Sintered Alloy



Features and Cutting Conditions of cBN Grade

*First Recommended

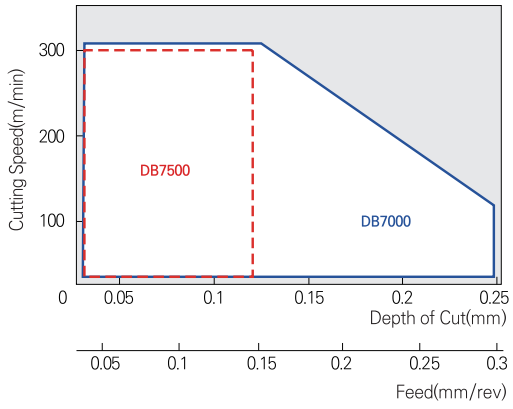
Classification	Coating	Grade	Insert Color	Applications	Features
Sintered Parts	Uncoated	DB7000		High-density Heat-treated Parts	Features excellent wear resistance and damage resistance in sintered alloy machining to stably implement a long service life
		DB7500*		High-density Heat-treated Parts	Appropriate for sintered alloy deburring machining by maintaining the best cutting performance

Workpiece	Grade	Cutting Conditions		
		Cutting Speed (m/min) 100 150 200 250 300	Feed (mm/rev)	Depth of Cut (mm)
General Sintered Alloy	DB7000	80 ~ 300	0.1 ~ 0.3	≤0.25
	DB7500*	80 ~ 300	0.1 ~ 0.15	≤0.25

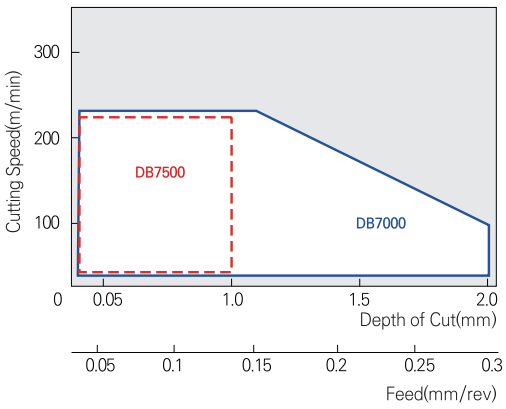
Workpiece	Grade	Cutting Conditions		
		Cutting Speed (m/min) 100 150 200 250 300	Feed (mm/rev)	Depth of Cut (mm)
High-density Heat-treated Sintered Alloy	DB7000	80 ~ 200	0.1 ~ 0.3	≤0.2
	DB7500*	80 ~ 200	0.1 ~ 0.15	≤0.2

Applicable Area

General Sintered Alloy



High-density Heat-treated Sintered Alloy



1:1 CHAT

cBN Sintered Alloy

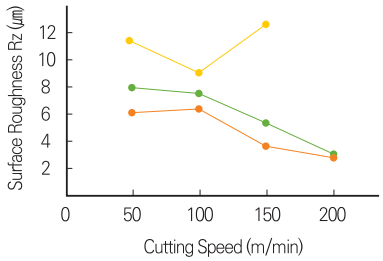


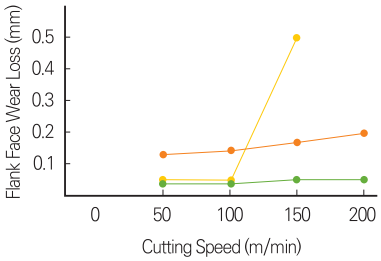
cBN Cutting Performance

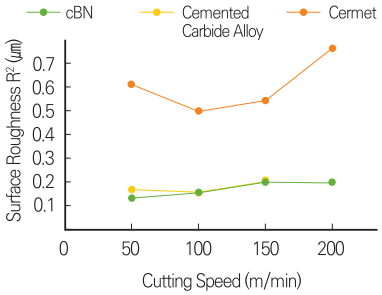
Cutting Performance Comparison by Tool Materials

Workpiece	SMF4040
Details of Machining	Groove of Ø80-Ø100, porous steel control face machining (after machining of 40pass)
Tool Designation	TNGA160404 / DB7000
Cutting Conditions	f=0.1mm/rev.ap=0.1mm, wet type

For general sintered alloys, machining with cemented carbide or cermet-coated tools can be performed at up to Vc=100 m/min. However, beyond approximately 120m/min, wear occurs rapidly, leading to the surface roughness degradation and formation of machining burrs. cBN is excellent in maintaining surface roughness, wear resistance, and burr suppression in high-speed ranges, ensuring stable machining performance.







Valve Seat Ring (VSR)

VSR is divided into VSR for Intake (IN) and VSR for Exhaust (EX). Generally, VSR for EX is of high-hardness

Recommended Grade

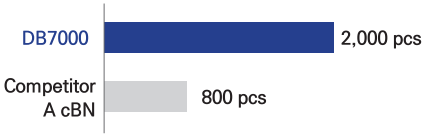
	Gasoline Engine VSR Material	Diesel Engine VSR Material
Flange Cutting	DB7000 DBN350	DB7000 DBN350
Traverse Cutting	DB7000 DBN500	DB7000 DBN500
Workpiece Hardness(HV)	Low ◀ HV300 ▶ High	Low ◀ HV300 ▶ High

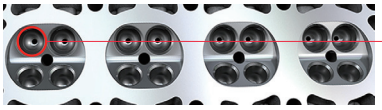
Recommended Conditions

Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)
50~100	0.03~0.2	0.05~0.5

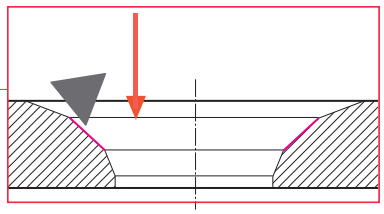
Cutting Example

The tool service life was increased more than two fold versus conventional one when machining with DB7000 whose damage resistance is excellent.





※Cylinder Head Shape



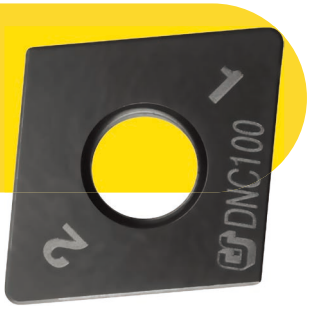
Recommended Conditions

Workpiece	Sintered Alloy (150-250HV)
Details of Machining	VSR(IN) 45 Surface Grinding Machining
Tool Designation	TBGN060104(DB7000)
Cutting Conditions	Vc=100m/min, f=0.08mm/rev Wet Type

1:1 CHAT

DNC100

Coated cBN

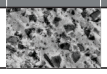


Coating | H Heat-treated Steel | 0.3mm Max Depth | Continuous



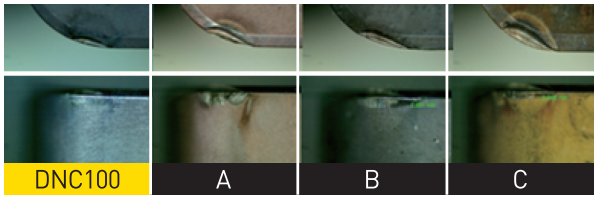
Features

- Primary recommended grade for high-speed, continuous machining
- Excellent heat resistance due to high oxidation temperature
- Coating with high-hardness, oxidation and chipping resistance applied

Grade	Texture	Binder	cBN Content (%)	Grain Size(㎛)	Hardness (Gpa)
DNC100		TiN	50 - 55	2	31 - 34

Performance Comparison Test

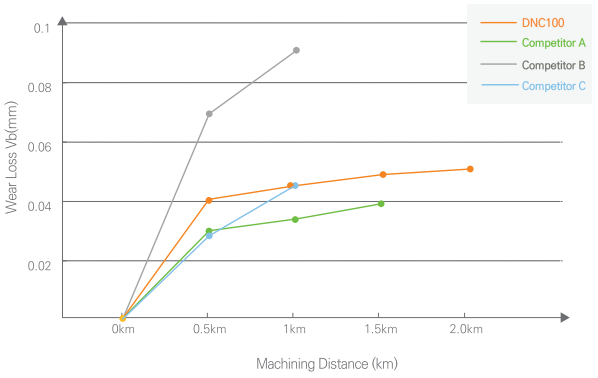
Wear Resistance Comparison Test in High-speed Machining



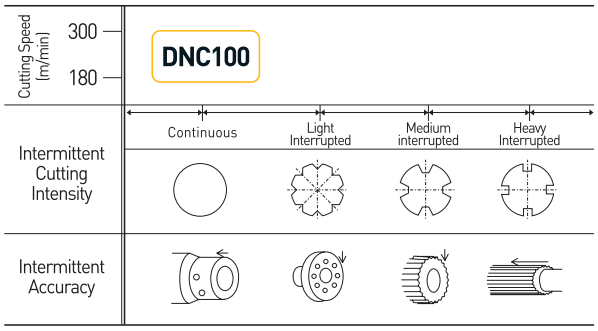
Cutting Conditions

Insert Designation	2NU-CNGA120408
Test Holder	DCLNL2525-M12
Workpiece	SCM415 (58~62HrC)
Cutting Speed (m/min)	300
Feed (mm/rev)	0.1
Depth of Cut (mm)	0.1
Dry/Wet Cutting	Dry Cutting

Wear Loss



Applicable Area



Recommended Cutting Conditions

- Improved oxidation and wear resistance through the application of high-hardness coating
- Significantly improved resistance to chipping, fracture, and wear

Cutting Speed (m/min)	180	300
Feed (mm/rev)	0.03	0.3
Depth of cut (mm)	0.03	0.3

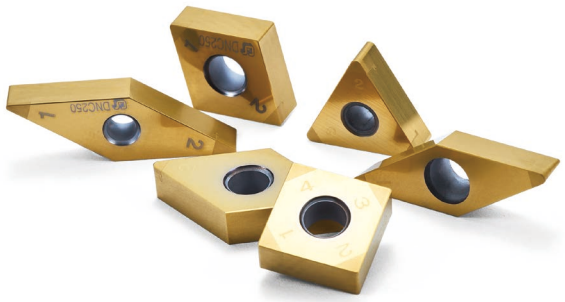
1:1 CHAT

DNC250

Coated cBN

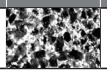


Coating | Heat-treated Steel | Max Depth 0.3mm | Continuous | Light Interrupted



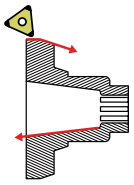
Features

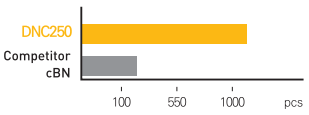
- Grade first recommended for continuous machining
- General-purpose cBN that enables machining ranging from Continuous cutting to Light interrupted cutting by PVD coating application
- Wear resistance improved

Grade	Texture	Binder	cBN Content(%)	Grain Size(㎛)	Hardness (Gpa)
DNC250		TiC	65 - 70	4	32 - 34

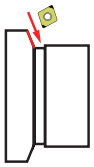
Machining Example

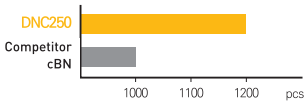
Grade	DNC250	Competitor cBN
Insert	3NU-TNGA160408	
Workpiece	Shaft UD Brake(SCR420HB)	
Cutting Speed (m/min)	160	
Feed (mm/rev)	0.08	
Depth of Cut (mm)	0.425	
Dry/Wet Cutting	Wet Cutting	



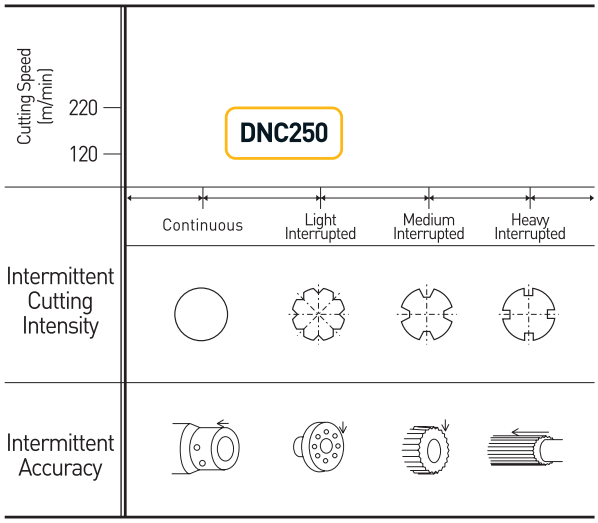


Grade	DNC250	Competitor cBN
Insert	2NU-CNGA120408	
Workpiece	Hardness : HrC40~50(SCM92 0HVS I)	
Cutting Speed (m/min)	280	
Feed (mm/rev)	0.08-0.15	
Depth of Cut (mm)	0.2	
Dry/Wet Cutting	Wet Cutting	



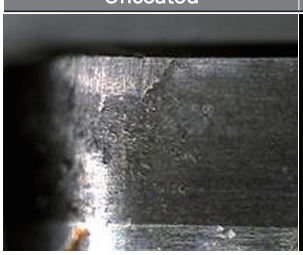
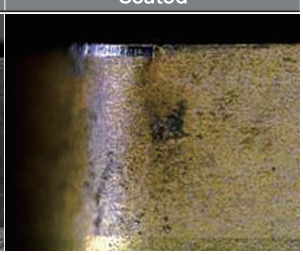


Applicable Area



Recommended Cutting Conditions



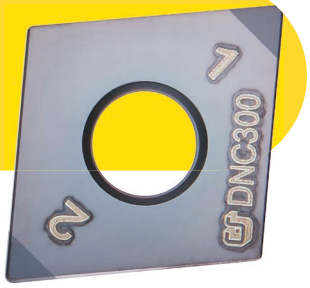
Uncoated	Coated
	

※The details may vary according to machining environments.

1:1 CHAT

DNC300

Coated cBN

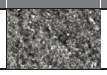


Coating | H Heat-treated Steel | 0.3mm Max Depth | Light Interrupted | Medium Interrupted



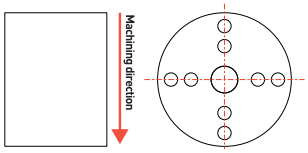
Features

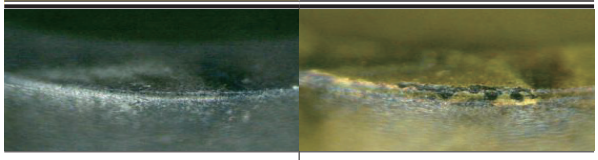
- Grade first recommended for machining ranging from Light interrupted to Medium interrupted
- Improved resistance to chipping and wear versus rival products
- Minimized coating peeling due to its stable coating

Grade	Texture	Binder	cBN Content(%)	Grain Size(㎛)	Hardness (Gpa)
DNC300		TiN	65 - 70	4	29 - 31

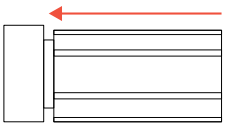
Performance Comparison

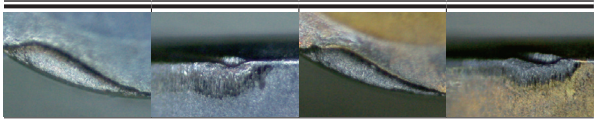
[Interruption] V90 F0.1 D0.1 / SCR420H(HrC58~62) / DRY (4PATH = 0.21KM)



DNC300	Conventional cBN
	
Stable	Coated Thin Film

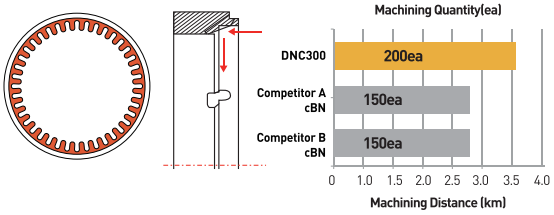
[Outer Diameter Interruption] V120 F0.1 D0.1 / 9PATH



DNC300		Competitor A cBN	
KT	VB	KT	VB
			

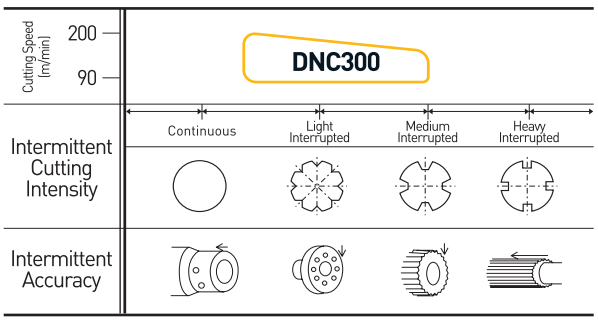
Superior performance due to less VB wear loss of DNC 300

Machining Example



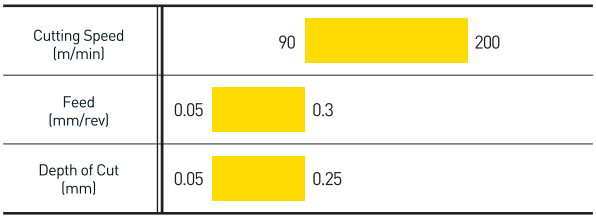
Grade	DNC300	Competitor A cBN	Competitor B cBN
Insert	CNGA120408		
Workpiece	Heat-treated steel(HrC57.8)		
Cutting Speed (m/min)	160		
Feed (mm/rev)	0.08		
Depth of Cut (mm)	0.2~0.3		
Dry/Wet Cutting	Wet Cutting		

Applicable Area



Recommended Cutting Conditions

- Wear resistance and oxidation resistance are improved with high-hardness thin film adopted
- Significantly improved resistance to chipping, fracture, and wear

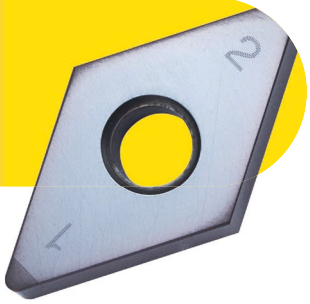


※The details may vary according to machining environments.

1:1 CHAT

DNC350

Coated cBN

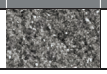


Coating | Heat-treated Steel | Max Depth 0.3mm | Light Interrupted | Heavy Interrupted



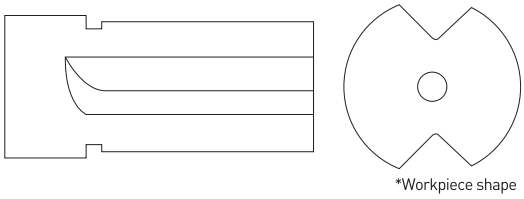
Features

- Grade first recommended for interrupted cutting
- Maintains functionality and precision for a long time due to its advanced coating technology
- Economical due to its longer service life

Grade	Texture	Binder	cBN Content(%)	Grain Size(㎛)	Hardness (Gpa)
DNC350		TiN	60 - 65	1	33 - 35

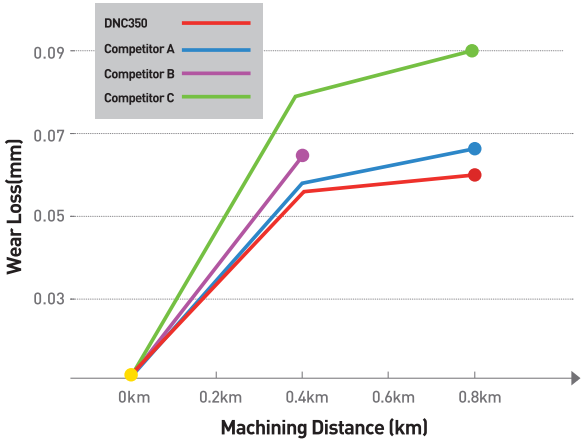
Machining Example

Grade	DNC350	Competitor cBN
Insert	2NU-CNGA120408	
Workpiece	SCM415(HrC58~60)	
Cutting Speed (m/min)	120	
Feed (mm/rev)	0.1	
Depth of Cut (mm)	0.1	
Dry/Wet Cutting	Dry Cutting	

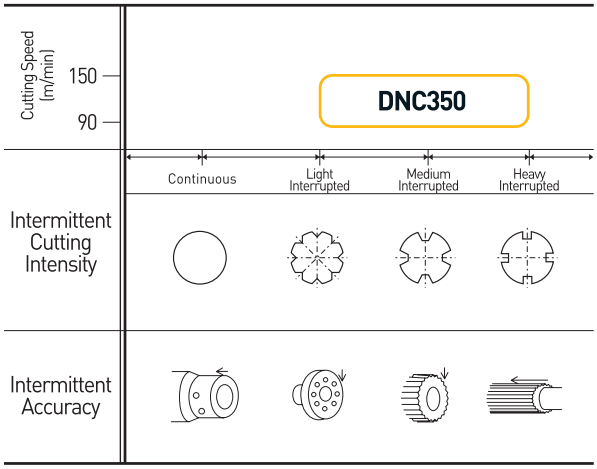


*Workpiece shape

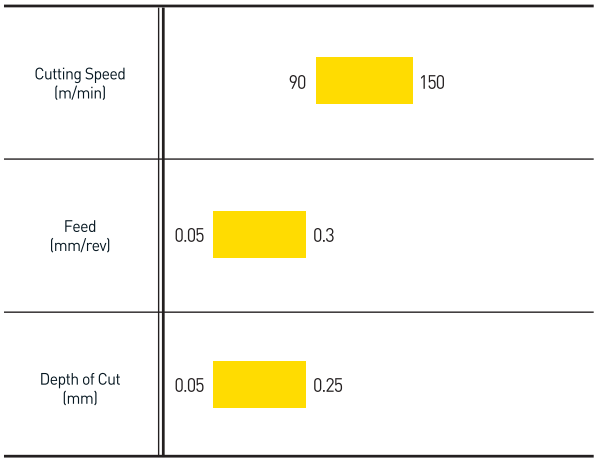
Wear Loss



Applicable Area



Recommended Cutting Conditions

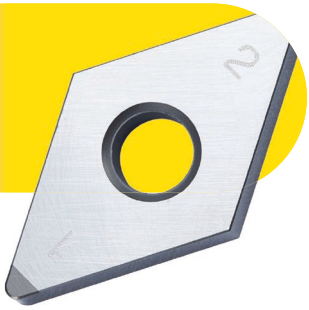


※The details may vary according to machining environments.

1:1 CHAT

DB1000

Uncoated cBN



H — Heat-treated Steel

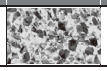
0.3mm — Max Depth

Continuous



Features

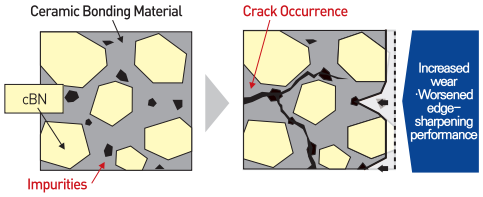
- Grade for high-speed machining with the best wear resistance among Uncoated cBNs
- Features an excellent tool service life in the continuous cutting Light interrupted machining
- Focuses on wear resistance and improves fracture resistance
- Improves heat resistance and strength by high-purity TiCN ceramic bonding materials

Grade	Texture	Binder	cBN Content(%)	Grain Size(㎛)	Hardness (Gpa)
DB1000		TiCN	40 - 45	1	27 - 31

Newly Developed High-purity Ceramic Bonding Material

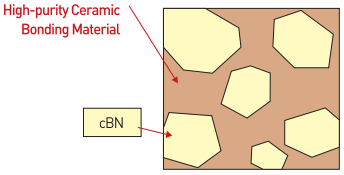
Existing Grades

Impurities included in the ceramic binders of existing grades leads to a decrease in the strength and heat resistance of the sintered body, resulting in cracks and wear.



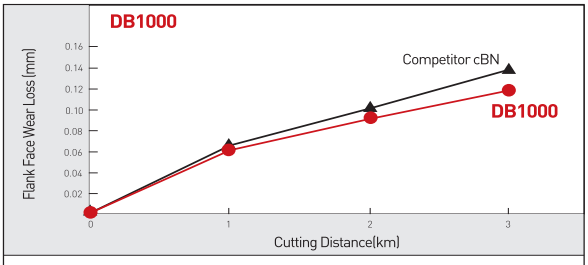
DB1000

DB1000 enhanced heat resistance and strong tenacity by reducing impurities to the very limit using the newly developed 「high-purity ceramic bonding material」!



Cutting Performance

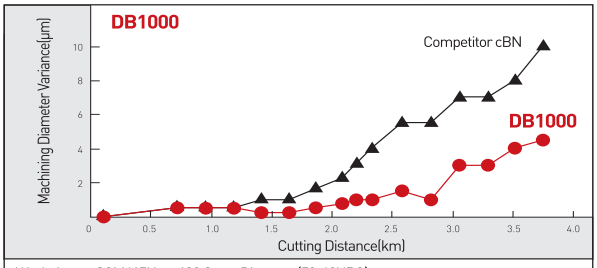
Dimension Accuracy Comparison (Continuous Cutting)



Workpiece : SUJ2 · Round Bar (58-62HRC)
Cutting Conditions : Vc=150m/min, f=0.1mm/rev, ap=0.2mm, Dry Cutting

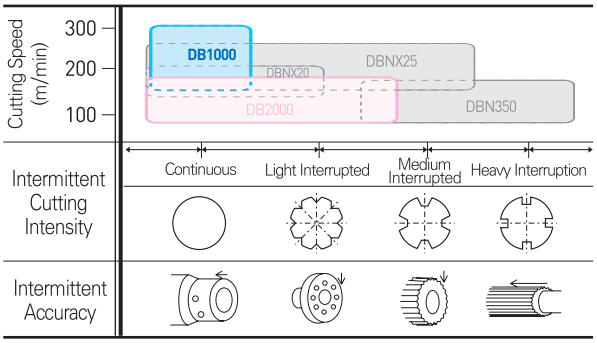
Machining Precision

Wear Resistance (Continuous Cutting)



Workpiece : SCM415H ø130 Outer Diameter(58-62HRC)
Tool Model No. : 2NU-CNGA120408
Cutting Conditions : Vc=200m/min, f =0.1mm/rev, ap=0.1mm, Wet Cutting

Applicable Area



Recommended Cutting Conditions

Cutting Speed (m/min)	130	250
Feed (mm/rev)	0.03	0.15
Depth of Cut (mm)	0.03	0.2

※ Cutting Oil: Continuous machining dry/wet, Interrupted machining dry

※The details may vary according to machining environments.

1:1 CHAT

DB2000

Uncoated cBN

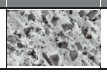


H — Heat-treated Steel
0.3mm — Max Depth
Continuous
Medium Interrupted



Features

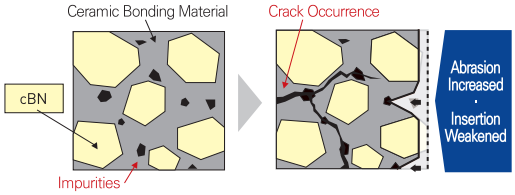
- General-purpose grade that responds to overall heat-treated steel – Realizes a stable tool service life ranging from continuous cutting to Light / Medium interrupted machining
- Highly compatible with fracture resistance and wear resistance – Both properties greatly improved by the use of the high-purity ceramic bonding material
- Achieves a stable surface roughness based on edge-sharpening performance

Grade	Texture	Binder	cBN Content(%)	Grain Size(㎛)	Hardness (Gpa)
DB2000		TiN	50 - 55	2	31 - 34

Newly Developed High-purity Ceramic Bonding Material

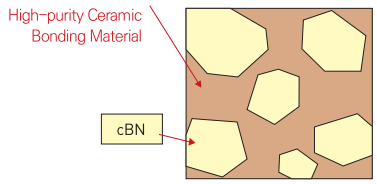
Conventional Grade

Impurities included in conventional grade ceramic bonding materials decreased the strength and heat resistance of sintered parts, becoming the cause of cracks (fracture) and wear.



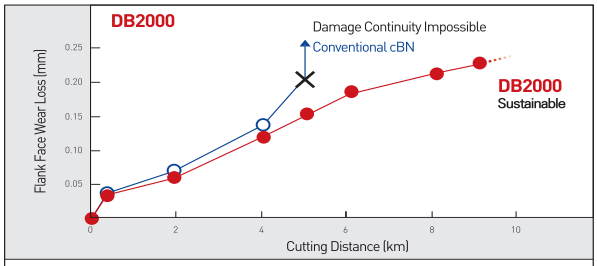
DB2000

DB2000 realizes enhanced heat resistance and strong tenacity by reducing impurities to the very limit using the newly developed 「high-purity ceramic bonding material」!



Cutting Performance

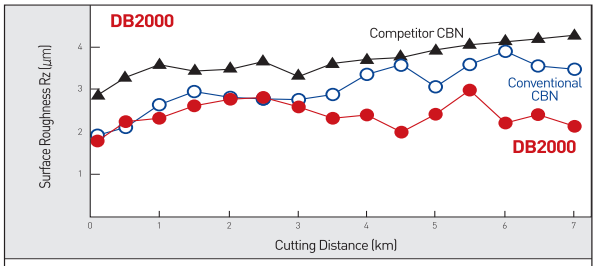
Wear Resistance (Continuous Machining)



Workpiece : SCM415H Round Bar (58-62HRC)
Cutting Conditions : Vc=100m/min,f=0.1mm/rev,ap=0.2mm, Dry Cutting

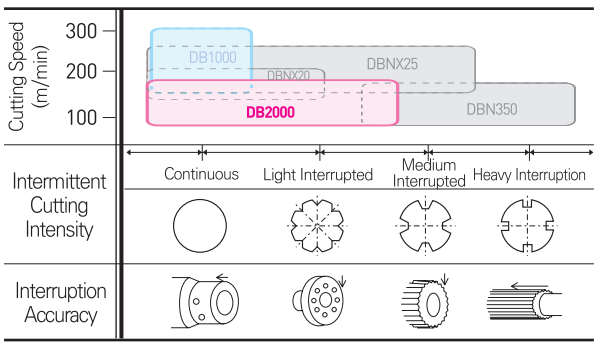
Machining Precision

Surface Roughness Comparison (Continuous Machining)



Workpiece : SCM415H Round Bar (58-62HRC)
Tool Model No. : 2NU-CNGA120408
Cutting Conditions : Vc=100m/min,f =0.08mm/rev, ap=0.2mm, Dry Cutting

Applicable Area



Recommended Cutting Conditions

Cutting Speed (m/min)	80 – 200
Feed (mm/rev)	0.03 – 0.2
Depth of Cut (mm)	0.03 – 0.3

※ Cutting Oil: Continuous Machining Dry/Wet, Interrupted Machining Dry

※The details may vary according to machining environments.

1:1 CHAT

DB7000

Uncoated cBN

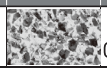


K Cast Iron | 0.5mm Max Depth | Sintered Parts Sintered Parts | Continuous | Light Interrupted



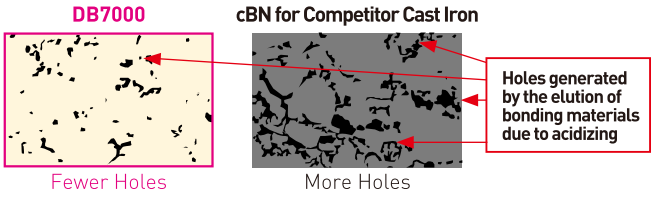
Features

- Ideal for high-speed grinding machining of cast iron
- Suppresses heat crack and realizes excellent damage resistance by high-speed machining of gray cast iron
- Realizes highly efficient sintered alloy machining
- Provides a stably longer service life in case of machining of sintered alloys with diverse shape hardness by meeting the requirements for cutting edge treated products of high standard+2 types
- Responds to various difficult-to-cut materials
- Features high performance for difficult-to-cut materials such as rolls, high-speed tools, and heat resistant alloys, etc.

Grade	Texture	Binder	cBN Content(%)	Grain Size(㎛)	Hardness (Gpa)
DB7000		CO Compound	90 - 95	2	41 - 44

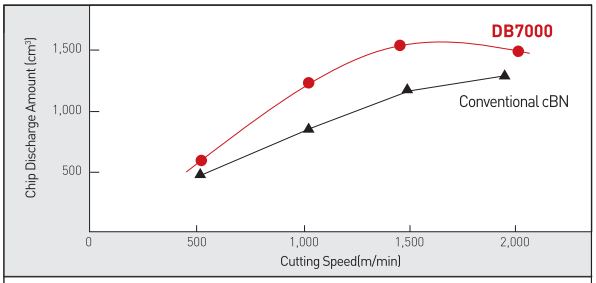
Tissue that Acidized cBN Sintered Parts

Provides an excellent damage resistance and an enhanced inter-cBN particle coherence by sintering intermediate particle cBNs in high-density to realize the best content Ensures a long service life and stable machining in highspeed grinding of hard-to-cut materials of cast iron sintered alloys



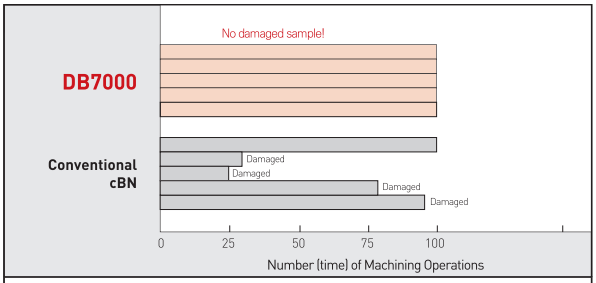
Cutting Performance

Cast Iron Milling Machining



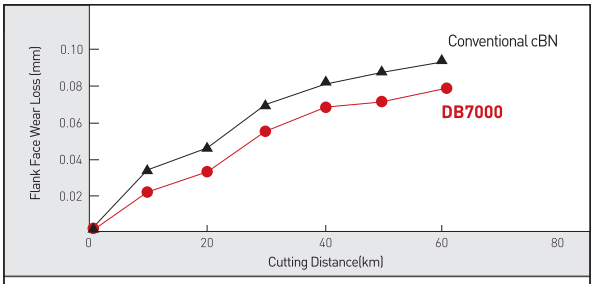
Workpiece : FC250(Pearl lite)
Tool Model No. : FMU4100R SNEW1203ADTR
Cutting Conditions : Vc=500~2,000m/min, f =0.2mm/rev, ap=0.3mm, Dry Cutting

Cast Iron Turning Machining



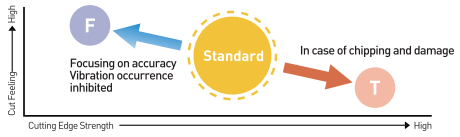
Workpiece : FC300(Pearl lite)
Tool Model No. : 2NU-CNGA120408
Cutting Conditions : Vc=800m/min, f =0.15mm/rev, ap=0.2mm, Wet Cutting

Cast Iron Turning Machining

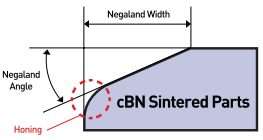


Workpiece : SMF4040(70HRB, Interrupted Machining)
Tool Model No. : 2NU-CNGA120408
Cutting Conditions : Vc=250m/min, f =0.1mm/rev, ap=0.3mm, Dry Cutting

Recommended Cutting Edge Treatment



Item	TYPE	Honing	Negaland	Angle
Sharp	F	—	—	—
Standard	—	—	0.12	15°
Reinforced	T	—	0.12	25°



※The details may vary according to machining environments.

1:1 CHAT

DB7500

Uncoated cBN



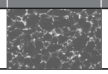
Sintered Parts | 0.5mm | Continuous | Light Interrupted

Sintered Parts | Max Depth | Continuous | Light Interrupted

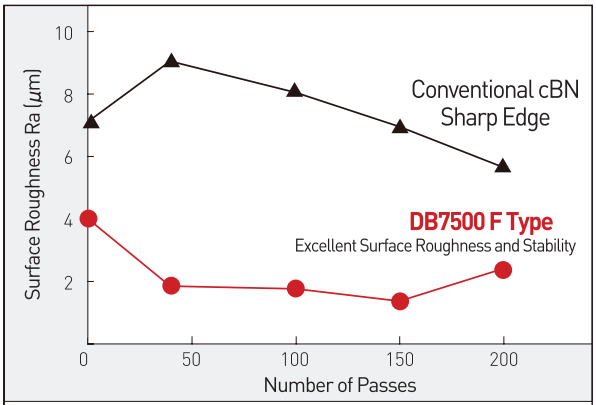


Features

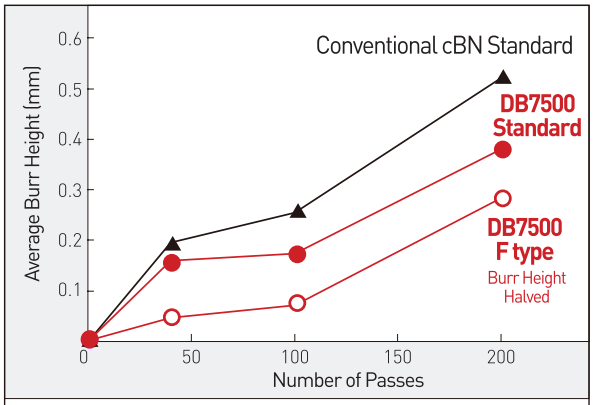
- Ideal for grinding machining of sintered alloys
- Realizes excellent surface roughness and machined surface quality
- Various shapes of sintered parts can cutting by various cutting edge treatment
- The F type, designed for cutting performance in machining sintered alloys, suppresses burrs and improves machining precision.
- The T type, with reinforced cutting edges, demonstrates stable chipping resistance even during interrupted machining.

Grade	Texture	Binder	cBN Content(%)	Grain Size(㎛)	Hardness (Gpa)
DB7500		CO compound	90 - 95	1	41 - 44

Cutting Performance

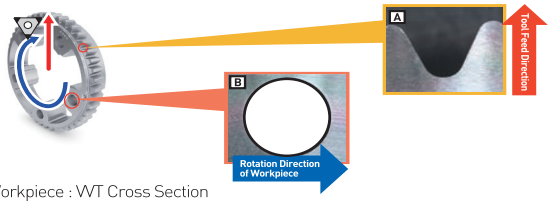


Workpiece : Equivalent to iron metal sintered alloy SMF4040 (70HRB, continuous machining) Old cutting : 2NU-CNGA120408F
Conditions : Vc=200m/min, f=0.1mm/rev, ap=0.1mm, wet

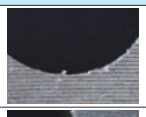
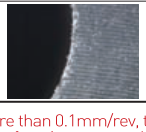
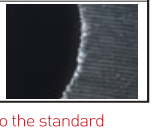


Workpiece : Equivalent to iron metal sintered alloy SMF4040 (70HRB, continuous machining) Old cutting : 2NU-CNGA120408F
Conditions : Vc=200m/min, f=0.1mm/rev, ap=0.1mm, wet

Feed-burr Relationship

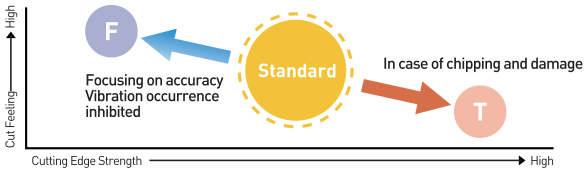


Workpiece : WT Cross Section
Tool Model No. : 3NU-TNGA160404
Cutting Conditions : Vc=200m/min, f=0.1mm/rev, ap=0.1mm, Wet Cutting

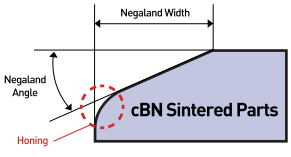
	F type	Standard Type	T Type
A		 Burr	
B		 Damage	

* If Feed is more than 0.1mm/rev, the T type is superior to the standard type in terms of cutting taste and burr can be inhibited.

Recommended Cutting Edge Treatment



Item	TYPE	Honing	Negaland	Angle
Sharp	F	—	—	—
Standard	—	—	0.12	15°
Reinforced	T	—	0.12	25°



※The details may vary according to machining environments.

1:1 CHAT

RA,GA Chip Breaker

cBN Chip Breaker



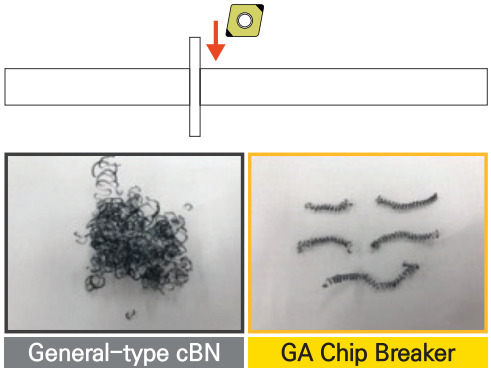
Coating | Chip Breaker | 0.5mm Max Depth



Features

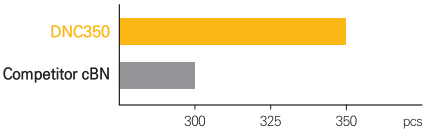
- Smooth chip evacuation with the use of chip breakers
- Proper for automation
- RA chip breaker is for roughing
- GA chip breaker is for finishing

Example of Use



Applicable Area

Grade	DNC350(GA)	Competitor cBN
Insert	2NU-CNGM120412-GA	
Workpiece	Input Shaft (SCM920 HVSI)	
Cutting Speed (m/min)	145	
Feed (mm/rev)	0.1	
Depth of Cut (mm)	0.4 ~ 0.5	
Dry/Wet Cutting	Wet Cutting	



Chip Breaker

GA Type

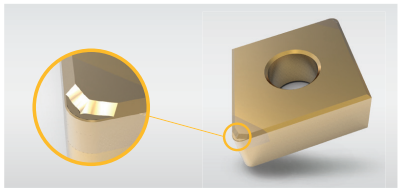
Chip breaker suitable for finishing

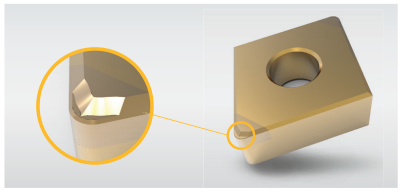
RA Type

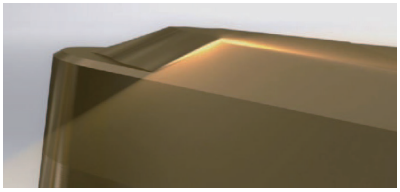
Chip breaker suitable for roughing

Chip Breaker Features

Superior design fit for chip breaking to induce easy curling



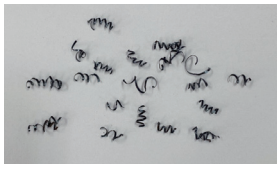




Chip Breaker Comparison

GA Chip Breaker

Cutting Speed=150m/min
Feed=0.15mm/rev
Depth of Cut=0.15mm

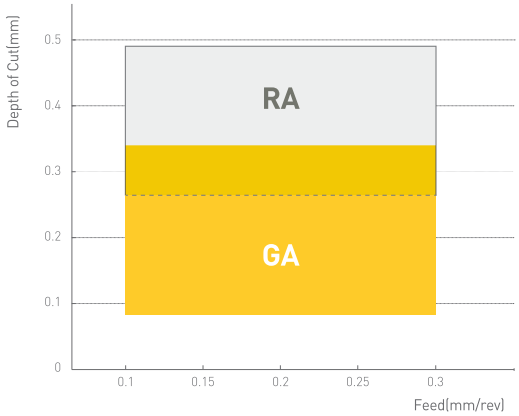


RA Chip Breaker

Cutting Speed=150m/min
Feed=0.15mm/rev
Depth of Cut=0.3mm



Applicable Area



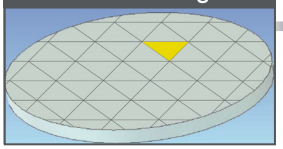
※The details may vary according to machining environments.

1:1 CHAT

cBN Technical Data

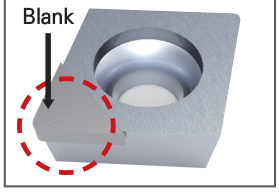
Manufacturing Process of cBN

Wire Cutting



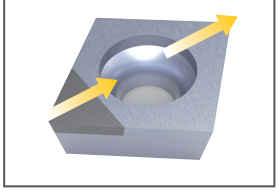
Perform wire cutting as per shapes and specifications necessary for cBN Blank

Welding



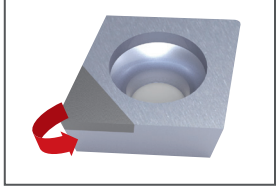
Do brazing cBN Blank on cemented carbide basic materials

Upper and Lower Side Grinding



Perform lower-side grinding and machining after upper-side machining

CNC Outer Surface Grinding



Perform machining on the welded side with the CNC grinder

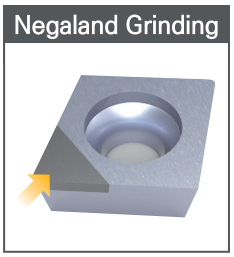
Tip Spot Grinding



Perform machining on the blank area of cemented carbide basic materials with machining allowance

Cutting Edge Treatment

Negaland Grinding



Negaland Grinding



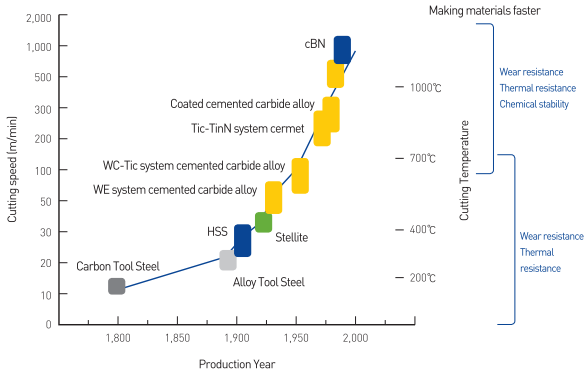
Laser Marking

Cleaning, Inspection

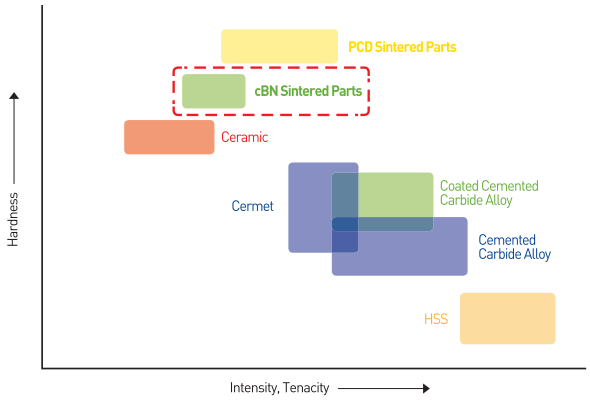
Packaging

Release

Cutting speed change and tool materials development in history



Hardness and intensity of tool materials

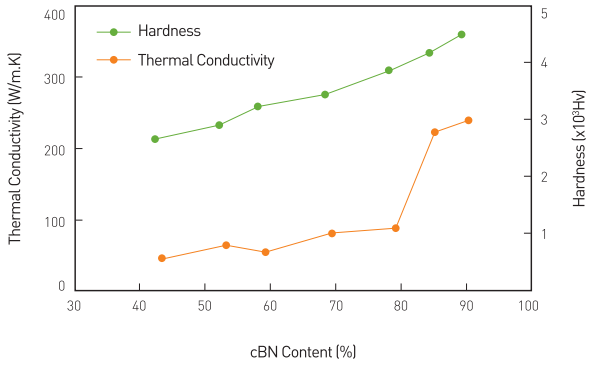


1:1 CHAT

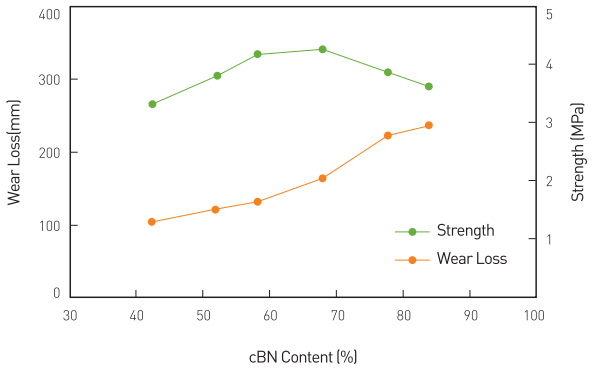
cBN Technical Data

Main Characteristics of cBN

Main Characteristics I of cBN



Main Characteristics II of cBN



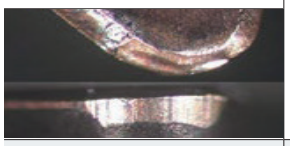
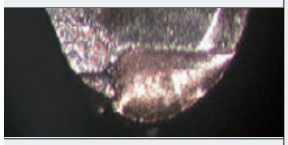
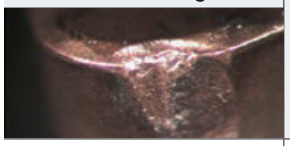
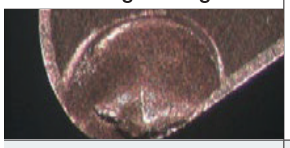
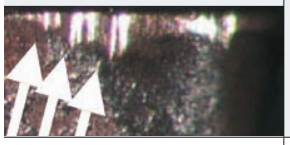
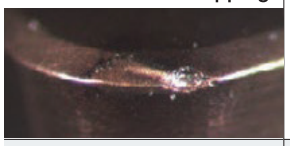
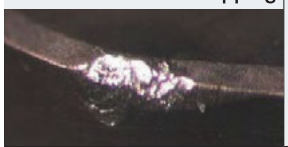
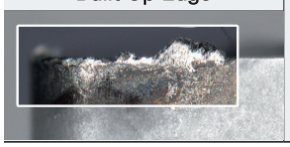
cBN Machining Workpieces and Advantages of Machining

Workpiece	Representative Parts	Advantages of Machining	Corresponding Grade
Heat-treated Steel	Transmission Gear Driving Shaft Shafts Valves Hydraulic Parts, etc.	• Improved workpiece phenomenon accuracy • Responding to machining of composite parts and micro parts • Machining efficiency improved, grinding/polishing minimized • Investment equipment cost reduced • Environmental measures	DNC100,DNC250 DNC300,DNC350 DNC400 DB1000, DB2000 DBN250, DBN350 DBNX20, DBNX25
Casting	Engine Block Cases Brake Disks, etc.	• Responding to high-speed machining • Responding to hard-to-cut material casting • Machining efficiency improved	DBNS800, DBN500 DB7000
Sintered Alloy	VVT(VTC) Parts Various Sprocket Rotas Oil Pump Parts Valve Seats	• Improved workpiece phenomenon accuracy • Responding to heat-treatment sintered parts and composite parts • Capacity utilization (longer tool service life) • High-speed, high-efficiency machining	DBN500 DB7000, DB7500
Heat-resistant Alloy	Jet Engine Parts, etc.	• Machining efficiency improved • Workpiece machining surface roughness improved	DBNX20

1:1 CHAT

cBN Technical Data

Causes of and Measures for Tool Damage

Insert Damage Type	Causes	Measures
Flank Face Wear 	• Insufficient of wear resistance of tool grade • High cutting speed • Low feed rate	• Select high wear resistance grade • Decreases cutting speed • Reduce to less than Vc 200m/min. (Measures to increase feed and decrease machining distance are effective.) • Enlarge clearance angle
Crater Wear  Crater Damage 	• Insufficient of crater wear resistance of tool grade • Too high cutting speed • Low feed rate	• Change to high-sufficiency machining grade • Reduces cutting speed and feeds
Flaking Damage 	• Insufficient tenacity of tool grade • High radial cutting force	• Use high tenacity grade • Increase cutting edge strength (Enlarge Negaland angle and perform honing)
Corner Wear 	• Tough surface at the machining area • Wear due to chips	• Change to grade with strong resistance to corner wear • Increase cutting speed (more than 150m/min) • Apply various feeds • Enlarge the Negaland angle and perform honing operation
Previous Corner Chipping 	• Great impact on the front cutting edge and large number of times	• Change to a grade with high resistance to damage • Increase feed (Impact of interruption reduced and chipping inhibited) • Enlarge the Negaland angle and perform honing operation
Horizontal Corner Chipping 	• Great impact on the horizontal cutting edge and large number of times	• Change to a grade with high resistance to damage • Decrease feed • Enlarge horizontal cutting edge angle • Increase R size • Enlarge the Negaland angle and perform honing operation
Crack 	• Large heat impact	• In case of wet cutting machining 〉dry cutting recommended • Change to high thermal conductivity grade • Decrease Vc, f, ap to reduce machining load
Built Up Edge 	• Too low cutting speed • Strong affinity of the workpiece with the tool	• Increase cutting speed • Select a shape whose slope angle is larger than the workpiece • Select a grade whose tenacity is better than the workpiece

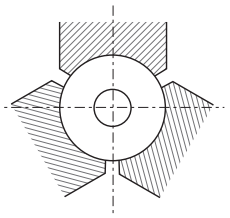
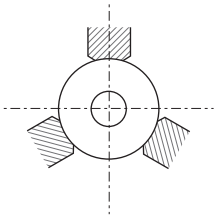
1:1 CHAT

cBN Technical Data

Heat-treated Steel High-precision Machining Points

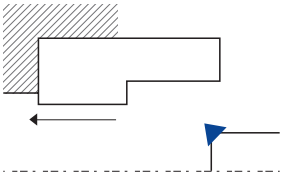
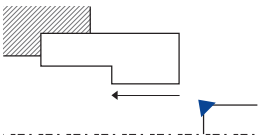
Out of Roundness

Clamping the workpiece evenly as possible

Good	Bad
	

Cylindricity

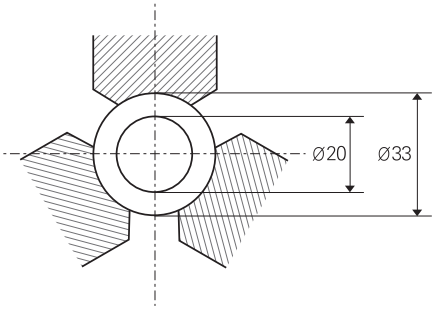
Clamping near the machining area

Good	Bad
	

Relationship of Chucking Pressure and Out-of-roundness

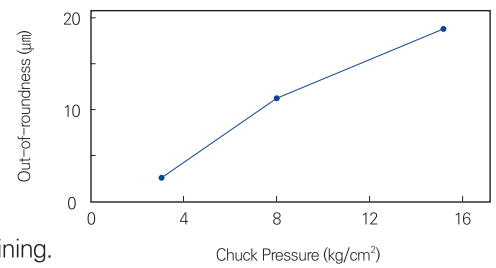
Machining Conditions

- Machine: N/C lathe
- Workpiece: SUJ2 HRC60
- Chuck: 3Jaw
- Tool : DBN250, TPGW160404



Cutting Conditions

- Cutting Speed=150m/min
- Feed=0.04mm/rev
- Depth of Cut = 0.1mm
- Wet Cutting

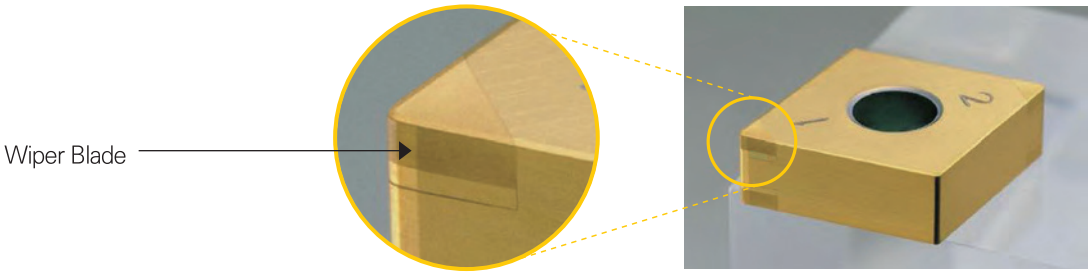


※ An appropriate chuck pressure is necessary for an excellent machining.

cBN Edge Treatment

cBN Wiper Insert

Shape

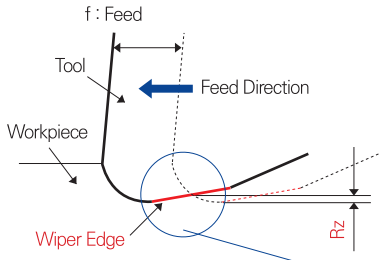


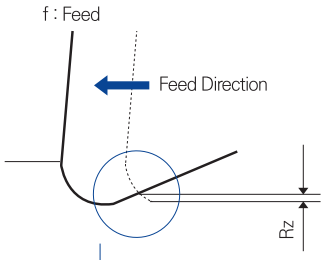
Purpose

CT reduction — Tool service life increased — High surface roughness required

Features and Performance of Wiper Insert

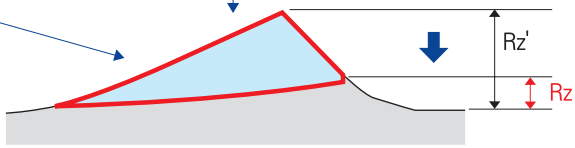
Wiper Insert	Conventional Nose R Insert





Features

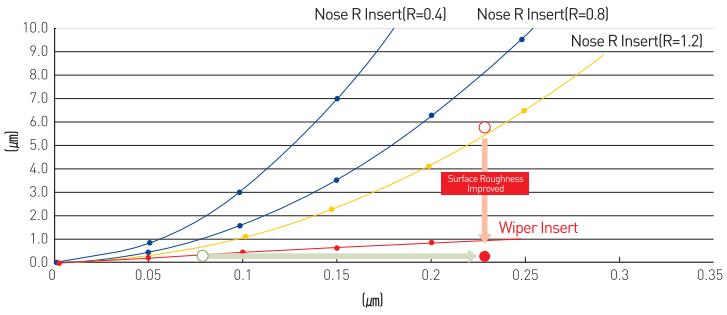
- Surface roughness improved
- High efficiency machining based on high feed (when the surface roughness is the same)



※ According to wiper cutting edge, the surface roughness Rz is getting smaller even in case of cutting with the same feed.

Theoretical Surface Roughness of Wiper Insert

Based on the wiper effect, surface roughness was increased 3~5 times on the same conditions!

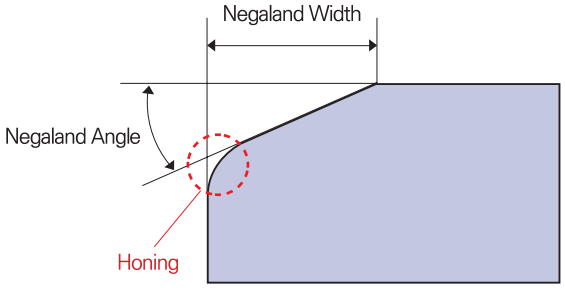


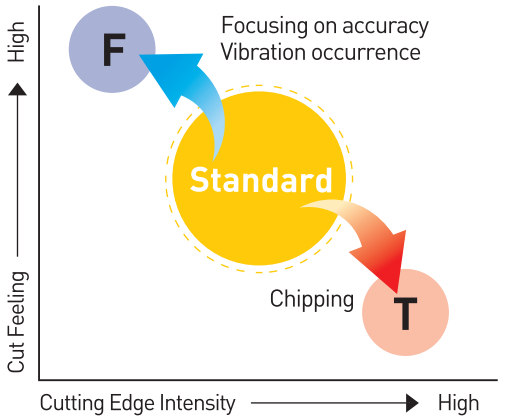
※The details may vary according to machining environments.

1:1 CHAT

cBN Edge Treatment

cBN Cutting Edge Treatment





CNGA120408F / CNGA120408 / CNGA120408T

Item	Marking	Heat-treated Steel			Cast Iron/Sintered Alloy		
		Honing	Negaland Width	Negaland Angle	Honing	Negaland Width	Negaland Angle
Sharp	F	O	0.12	15-degrees	-	-	-
Standard*	None	O	0.12	25-degrees	N/A	0.12	15-degrees
Reinforced	T	O	0.12	35-degrees	N/A	0.12	25-degrees

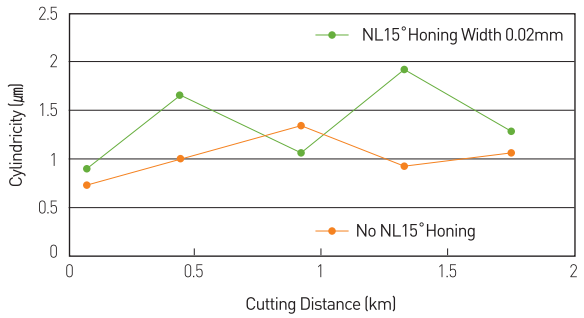
- First recommended cutting edge treatment: standard type*
- Apply sharp / reinforcement types according to machining conditions

Adjust negaland width and angle and honing amount appropriately for machining

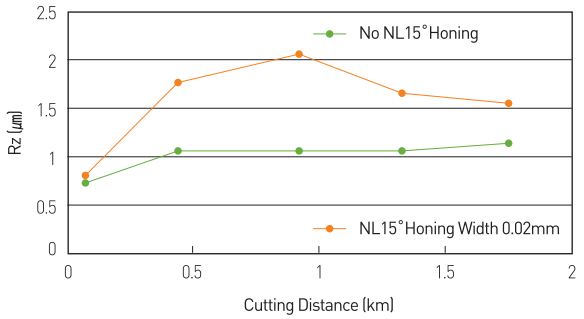
Characteristics of cBN Honing

- SCM415 Ø10 Inner diameter machining 2NU-CNGA120408 DBNX20
- Cutting Speed=70m/min Feed=0.03mm/rev Depth of Cut=0.05mm Dry Cutting
- Giving honing increases cutting resistance to weaken machining accuracy but tends to improve surface roughness.

Comparison of cylindricity as per cutting edge shape



Comparison of surface roughness as per cutting edge shape



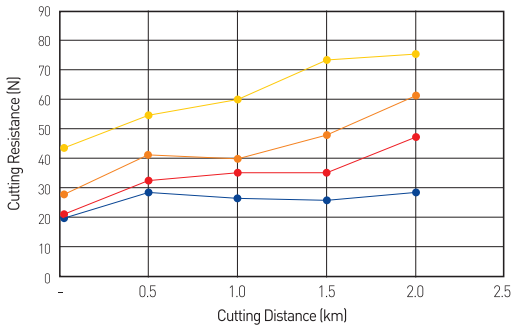
※The details may vary according to machining environments.

cBN Edge Treatment

cBN Test Comparison – Negaland

The smaller negaland angle is, the smaller cutting resistance is.

Comparison of Cutting Resistance



NL-35
NL-25
NL-15
Sharp

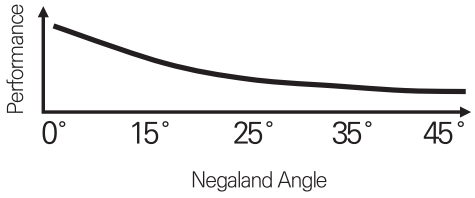
※ TEST Information

1. Cutting Conditions :
   - Cutting Speed 90m/min
   - Feed 0.06mm/rev
   - Depth of Cut = 0.08mm
2. Workpiece: SCM420(HRC55~57)
3. Holder: DCLNR2525
4. Insert: CNMA120408 / DBN250
   (Standard Cutting Edge : Negaland Angle 25°)

cBN (Effect of Negaland)

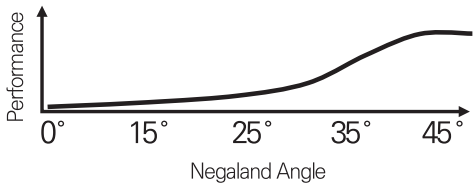
Dimensional Accuracy

Dimension accuracy
increases
as the cutting edge angle
is getting smaller.



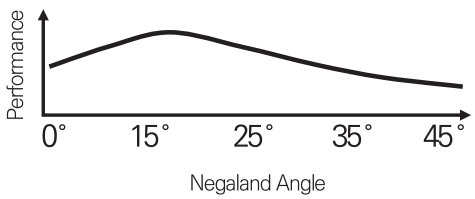
Chipping Resistance

Cutting edge strength
increases
as the cutting edge angle
is getting larger.



Surface Roughness

Surface roughness decreases
as the cutting edge angle
is getting larger.



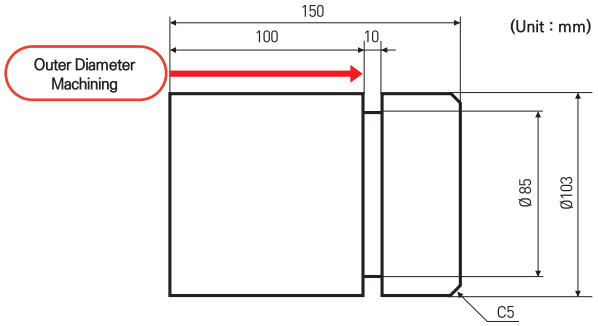
1:1 CHAT

cBN Edge Treatment

cBN Test Comparison – Cutting Edge Treatment (Standard Type/F Type/T Type)

Workpiece(Round Bar) Information	
Size	Ø105X 150(mm)
Material	SCM415
Heat-treated	Carburization
Hardness	HRC58~62

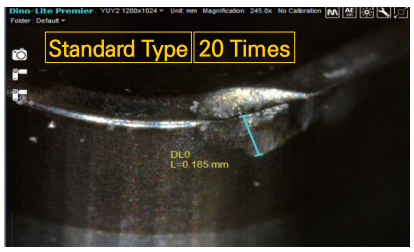
Insert Information 2NU-CNGA120408			
Grade	Cutting Edge Treatment	Negaland	Honing
DB1000	Standard Type	0.12 X 25°	0.010
DB1000	FType	0.12 X 15°	0.010
DB1000	TType	0.12 X 35°	0.010

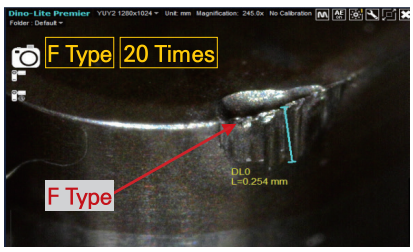


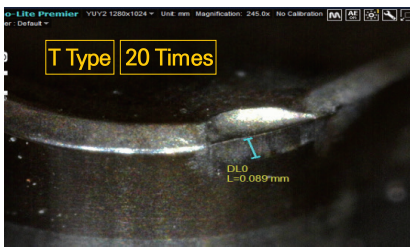
Results Analysis

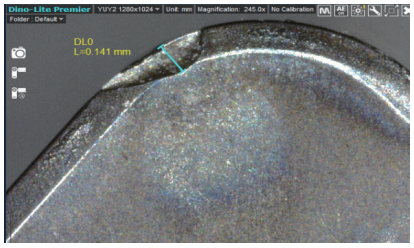
1. Wear Loss : T Type 〉Standard Type 〉F Type
2. Surface Roughness : Standard Type 〉T Type 〉F Type
   – With 20 times of machining, surafce roughness is machined at 8/12/20 times.
3. Remarks :
   – Theoretically, F type (sharp type) is excellent in surface roughness, but under the machining condition of V=200/f=0.1/ap=0.1, the surface roughness due to initial chipping occurrence of F type is shown inferior.

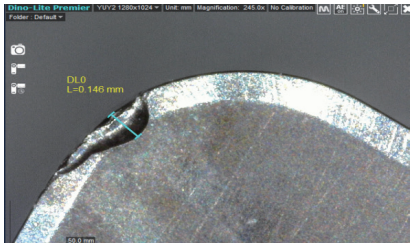
Comparison of Surface Roughness			
Grade	8-times Machining	12-times Machining	20-times Machining
DB1000	Ra 0.431	Ra 0.477	Ra 0.492
DB1000F	Ra 0.629	Ra 0.754	Ra 0.821
DB1000T	Ra 0.496	Ra 0.545	Ra 0.584

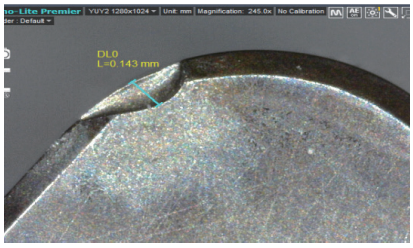












1:1 CHAT

cBN Re-grinding

How to Select Re-grinding

1. Check for abnormality or brokenness through inspection
2. Classify re-grding according to the size of an inscribed circle

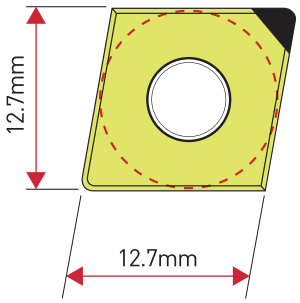
Designation	Inscribed Circle			
	New Product(Before use)	Class B	Class C	Class D
CNMA1204☐☐	12.7	12.5	12.3	12.1
DNMA1504☐☐	12.7	12.5	12.3	12.1
VNMA1504☐☐	9.525	9.4	9.3	9.2
DCGW11T3☐☐	9.525	9.3	9.1	X
CCGW09T3☐☐	9.525	9.3	9.1	X

Unit: mm

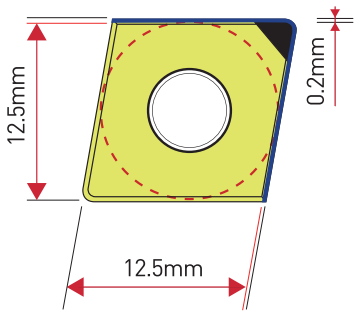
Machining Example

CNMA120408 –› 0.2mm machined at one time machining

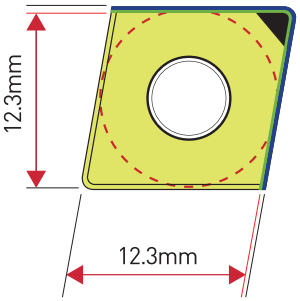
New Product (Before Use) / Re-grinding: 0 time/
Inscribed Circle: 12.7mm



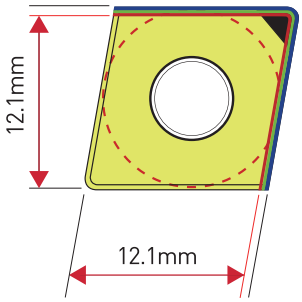
Class B / Re-grinding: 1 time / Inscribed Circle: 12.5mm



Class C / Re-grinding: 2 times / Inscribed Circle: 12.3mm



Class D / Re-grinding: 3 times / Inscribed Circle: 12.1mm



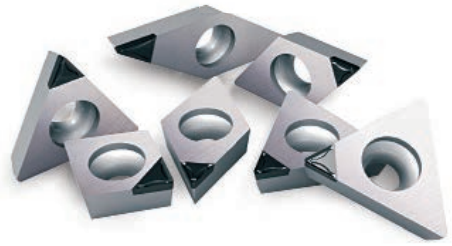
1:1 CHAT

PCD Chip Breaker(UC)



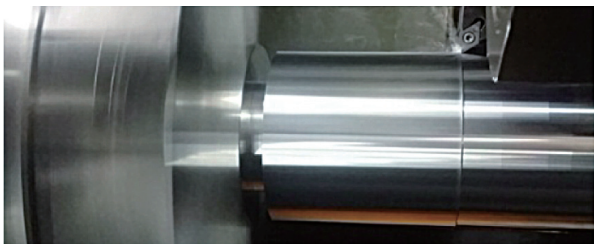
Features

- Productivity improved by resolving chip troubles
- Stable capacity to break chips in the large cutting area
- Excellent in machining aluminium and copper alloys
- Provides very high hardness and excellent wear resistance due to high-density combination of diamond polycrystallines



Performance Comparison Test

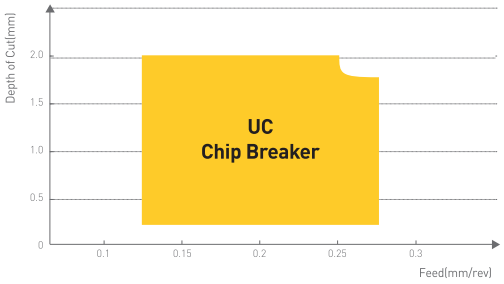
- Tool Designation: DCMT11T304-UC
- Workpiece: AL6061 (Ø 100*160L Outer Diameter Machining)
- Cutting Conditions: Vc=500m/min, f=0.15mm/rev, ap=0.2mm, Dry Cutting





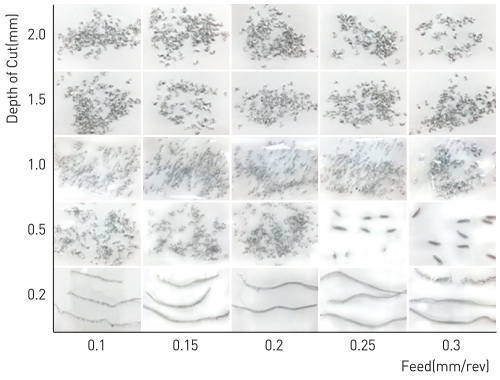
General Type PCD	UC Chip Breaker

Applicable Area

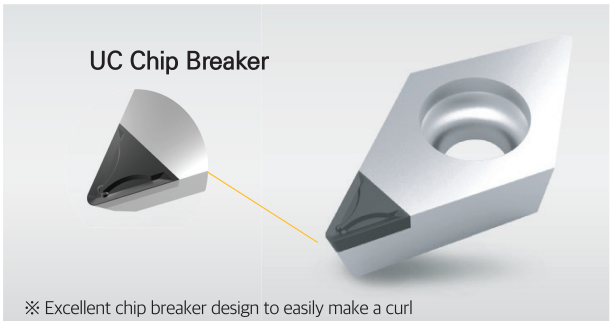


Shape of Chip

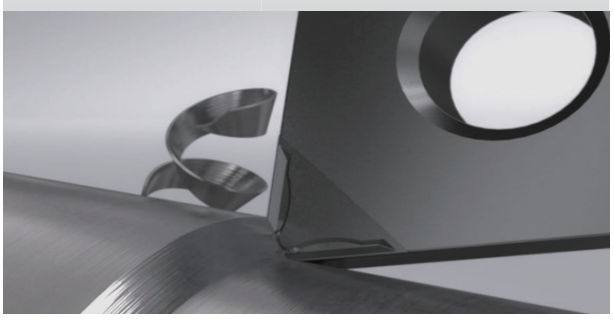
- Tool Designation: DCMT11T304-UC
- Workpiece: AL6061 (Ø100*160L Outer Diameter Machining)
- Cutting Conditions: Vc=500m/min Dry Cutting



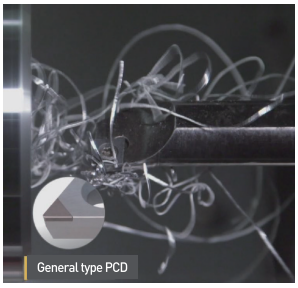
Chip Breaker

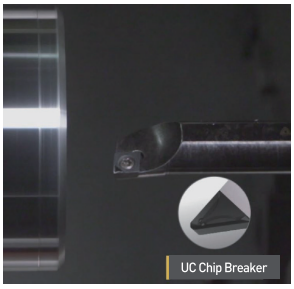


※ Excellent chip breaker design to easily make a curl



Comparison of Chip Rear Discharge





1:1 CHAT

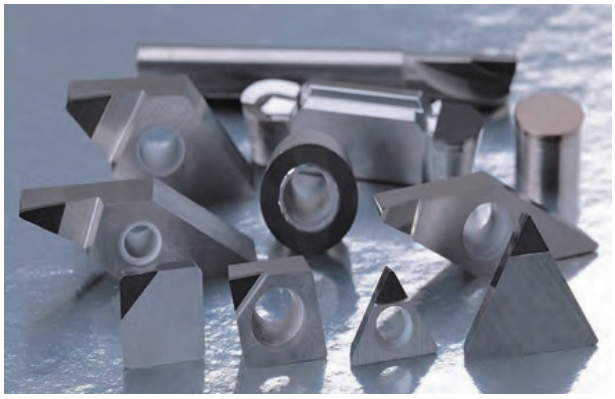
PCD Technical data

PCD Features

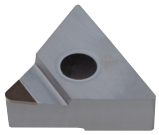
DINE PCD products provide very high accuracy and excellent wear resistance as they are manufactured by the ultrahigh temperature and ultrahigh pressure manufacturing process to combine diamond polycrystallines in high density.
In addition, diamond crystal grain size control technology allows a wider range of machining applications.
DINE PCD products provide excellent workpiece surface roughness, high machining accuracy and long tool service life.

- Excellent in machining aluminium alloys and copper alloys
- Excellent in machining ceramic, high Si-aluminium alloy, stone, etc.
- Excellent in machining rubber, carbon, graphite, wood, etc.

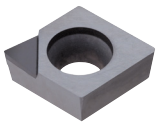
PCD Shape



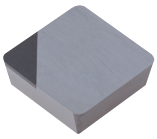
TN□□



CC□□

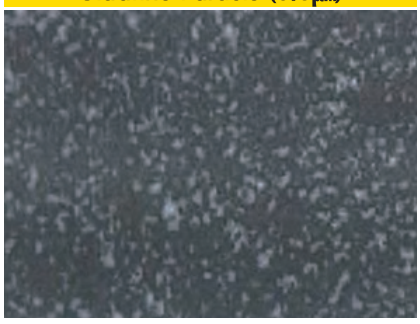
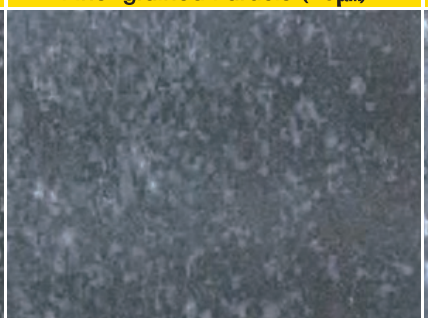
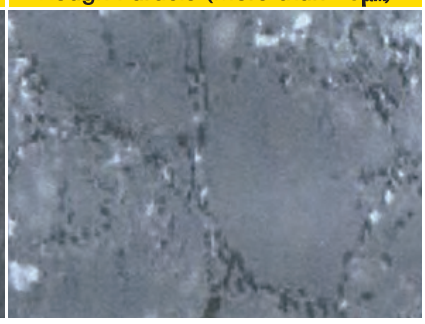


SP□□



PCD Tool Technology Guide

1. PCD = Polycrystalline Diamond = Particle Sintered Diamond
2. Composition : [Diamond Crystal Grain + Diamond Additives (Metal, Ceramic)]
   Sintering by high temperature and pressure (1200℃, 50K atm)
3. Particle Size : Ultrafine Particle (0.5㎛) 〈 Fine-grained Particle (10㎛) 〈 Rough Particle (More than 25㎛)

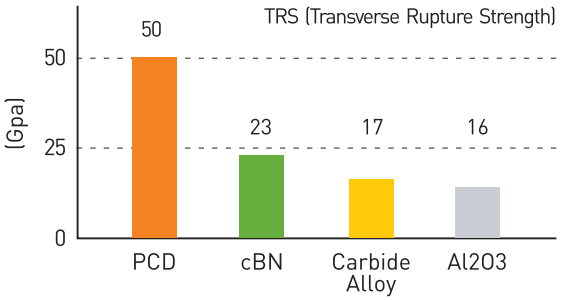
Ultrafine Particle (0.5㎛)	Fine-grained Particle (10㎛)	Rough Particle (More than 25㎛)
		

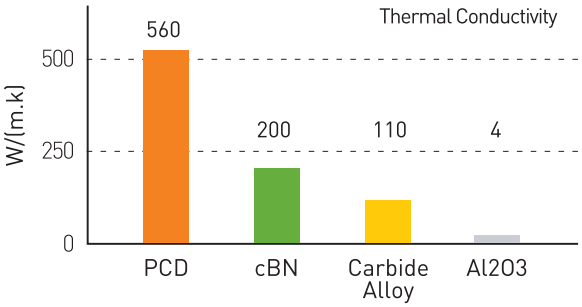
4. Application : Nonferrous Metals, Glass Fiber, Woodwork, High-hardness Plastic
5. Specification
   1) Rough Particle =〉 High Density and Thermal Conductivity – Excellent wear resistance but weak surface roughness
   2) Cutting edge oxidation occurs in case of machining high-hardness materials at low oxidation temperature

1:1 CHAT

PCD Technical Data

PCD





Comparison of cBN and PCD

		cBN	PCD
Thermal Stability	In Atmosphere	Stable up to 1300°C	Oxidized from 700°C
	In Vacuum	Stable up to 1500°C	Stable up to 1400°C
Applications		Heat-treated Steel, High-hardness Materials	Nonferrous Metals, Glass Fiber, Woodwork, High-hardness Plastic

PCD Grade

Grade	Features	Applications	Particle Size(μm)	Particle	Hardness (Hv)	Deflective Strength (kgf/㎟)
DP90	The largest grade diamond content by sintering rough diamond particles; Excellent wear resistance	High silicon Al alloy machining, Al composite material machining, cemented carbide alloy machining, rough boring of cemented carbide alloy, ceramic semi-sintered parts, and compound products, ceramic sintered parts machining, stone and rock machining	≥25		10,000 ~ 12,000	110
DP150	The same-size grade diamond particle by sintering finegrained diamond particles; good coherent grade with workpiece machinability and wear resistance	General grinding machining of nonferrous metals; grinding surface machining of cemented carbide alloys, ceramic sintered parts, and compound products; crosssectional machining of FRP, hard rubber, graphite, wood, and mineral board, etc.	10		10,000 ~ 12,000	200
DP200	Good sharpness and excellent tenacity of grade cutting edge by sintering ultrafine diamond particles	General grinding machining of nonferrous metals; grinding surface machining of cemented carbide alloys, ceramic sintered parts, and compound products; crosssectional machining of FRP, hard rubber, graphite, wood, and mineral board, etc.	0.5		8,000 ~ 10,000	220

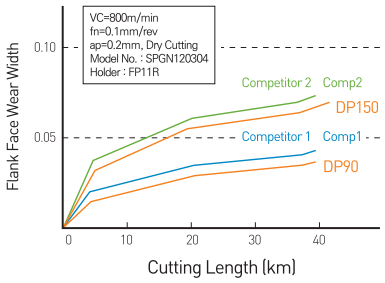
1:1 CHAT

PCD Technical Data

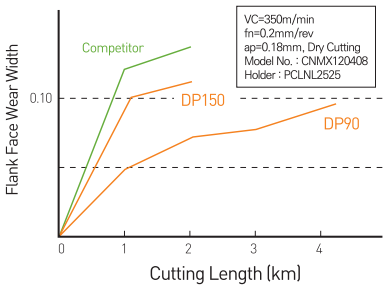
Machining Example

Workpiece	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Recommended Grade	
				1st	2nd
Aluminum Alloy (4%-8%Si)	1000~3,000	0.1~0.6	~3	DP150	DP200
Aluminum Alloy (9%-14%Si)	600~2,500	0.1~0.5	~3	DP150	DP200
Aluminum Alloy (15%-18%Si)	300~700	0.1~0.4	~3	DP150	DP200
Copper Alloy	~1,000	0.05~0.2	~3	DP150	DP200
Reinforced Plastic	~1,000	0.1~0.3	~2	DP150	DP200
Wood	~4,000	0.1~0.4	-	DP150	DP200
Cemented Carbide	10~30	~0.2	~0.5	DP90	DP150

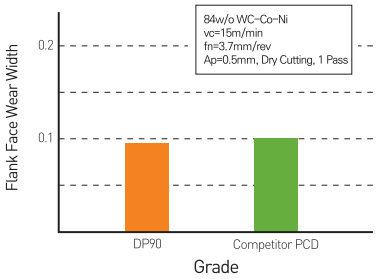
Continuous Machining Test (Workpiece:Al-25%Si)



Interrupted Machining Test (Workpiece:Al-20%Si)



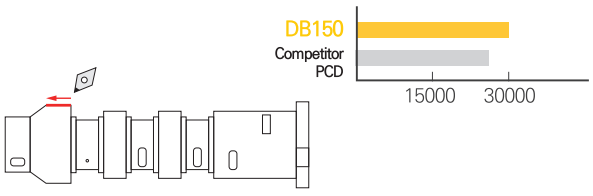
Continuous Machining Test (Workpiece:Al-25%Si)



Machining Example

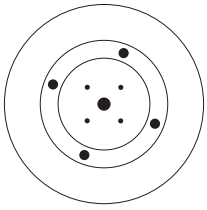
DP150

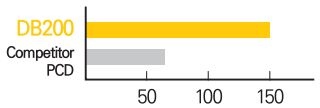
Grade	DP150	Competitor A PCD
Insert	DCMT11T304-UC	
Workpiece	Compressor Piston(AL A4000)	
Cutting Speed (m/min)	400-450	
Feed (mm/rev)	0.12	
Depth of Cut (mm)	1.0 ~ 1.5	
Dry/Wet Cutting	Wet Cutting	



DP200

Grade	DP200	Competitor A PCD
Insert	NF-SEN09T3ADTR	
Workpiece	Ring Spec. Outer Diameter(AL6061)	
Cutting Speed (m/min)	380	
Feed (mm/rev)	0.1	
Depth of Cut (mm)	0.15	
Dry/Wet Cutting	Dry/Wet Cutting	





1:1 CHAT

How to Indicate the Model No. of Insert

How to Indicate cBN Cutting Edge

Designation Example

①										②	③	④
	2NU -	C	N	G	A	12	04	04	T		RA	(SS001225)

① Number of Cutting Edge Type Symbol

Refer to ISO Standard Specifications

② Cutting Edge Shape Symbol

③ Chip Breaker

④ Cutting Edge Change Symbol

① Number of Cutting Edge Type Symbol

Symbol	Symbol Description		Shape
Number of Cutting Edge	None	1 Corner Type	
	2	Multi-corner Type	
	3	Multi-corner Type	
	4	Multi-corner Type	

Item	Symbol Description		Shape
Symbol	None	Re-grinding Type	
	NU	One-use Type, Corner Type	
	NT	NT Type	
	NS	Full Solid Type	

② Cutting Edge Shape Symbol

Item	Symbol Meaning	Symbol Description		
None	Standard Type	ISO Standard Insert		
F	Low Resistance Type	Workpiece	Standard	F
		Heat-treated Steel Grade	25°	15°
		Cast Iron Grade	15°	0°
		Wiper Insert	15°	–
T	Cutting Edge Reinforced Type	Workpiece	Standard	T
		Heat-treated Steel Grade	25°	35°
		Cast Iron Grade	15°	25°
		Wiper Insert	15°	25°
W	Wiper Type	Wiper Insert		

③ Chip Breaker

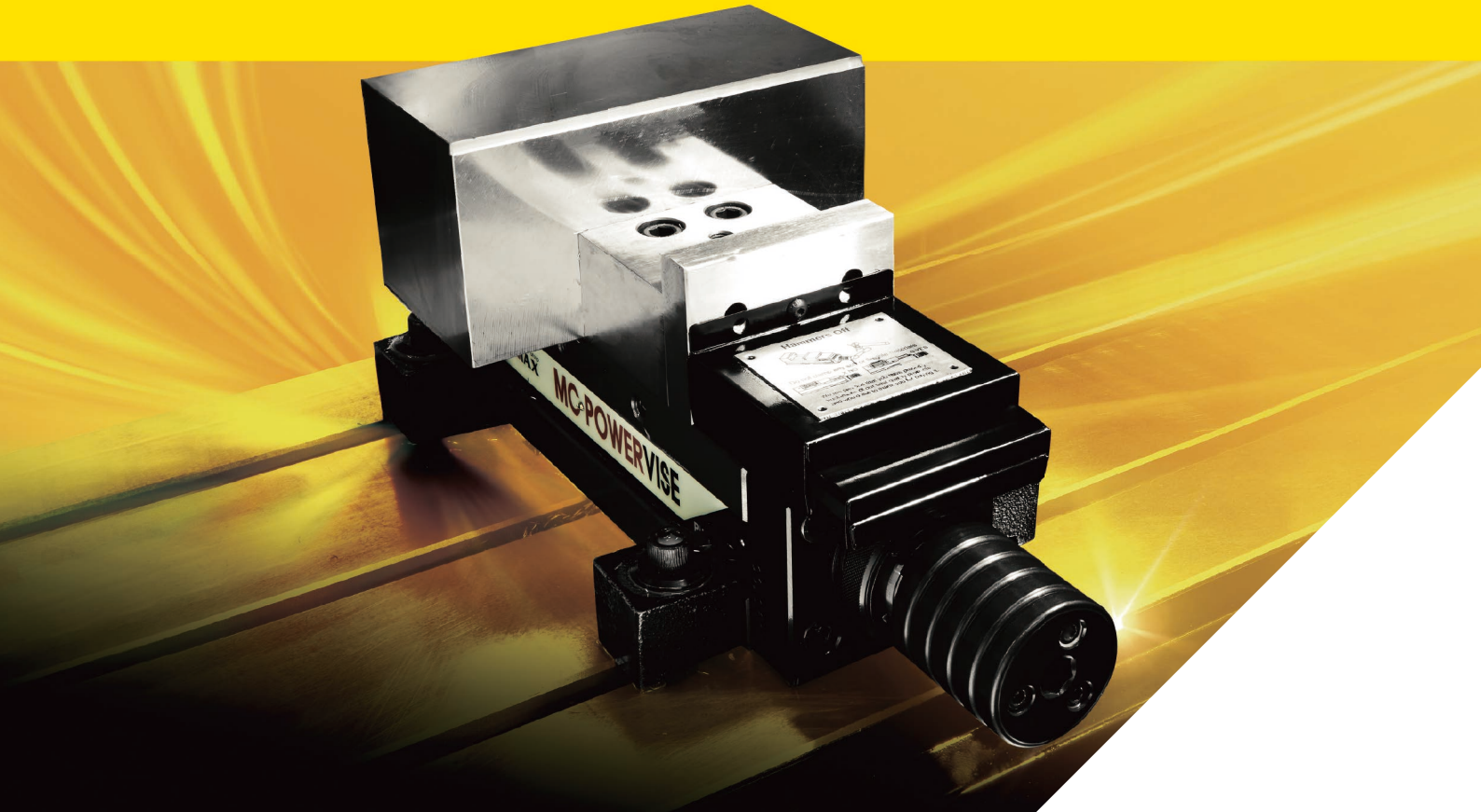
cBN	Roughing	Finishing	PCD	General-purpose
	 RA	 GA		 UC

④ Cutting Edge Change Symbol

(S S 012 25)

- S: Honing Amount
- S: Included / not included of Honing
- 012: Negaland Width
- 25: Negaland Angle

Honing Amount		Honing		Negaland Width	Negaland Angle
S	Small	S	Existence	0.12mm	25°
M	Medium	T	Non-existence	0.15mm	35°
L	Large			0.20mm	



Device& Accessory

DINE TOTAL TOOLING SOLUTION

PVT	300
PVTM	301
DVT	303
MVT	303
FVT	304
QPT	306
TAPER CLEANING DEVICE	307
MH-300	308
TOOL SHRINK BASIC	309
CLEAN-TEC FAN	312
PRECISION MICRO ADJUSTING CARTRIDGE	313
PSBW	313
TTC	314
TSC	314
TMB	315
DIGITAL 3D TASTER	316
3D TASTER 2007	316
HDG	317
DZH	318
DZP	318
DZOP	319
DOP	319
ROT	320
TB	321
SC	321
NTSS	322
PULL STUD BOLT	323
PSB-T (PULL STUD BOLT-T)	324

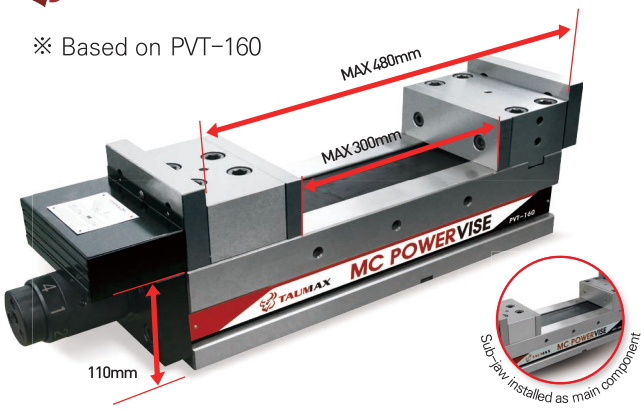
1:1 CHAT

PVT

MC Power Vise_**PVT (Standard Type)**

TAUMAX

※ Based on PVT-160



Features

- Apparatus type power increase device adopted
- Designed to minimize workpiece floating
- Height tolerance: 0.01mm, Can be used in parallel
- Built-in IN (18T) sub-jaw
- Durability enhanced by using high stiffness

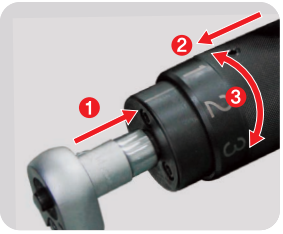


Clamping Force

Spec / Grasp Step	PVT-100	PVT-130	PVT-160	PVT-200
Step1	1,000	1,500	2,000	2,500
Step2	2,000	2,500	3,000	3,500
Step3	3,000	3,500	4,000	4,500
Step4	3,500	4,500	5,000	5,500

(Unit: kgf)

How to Use

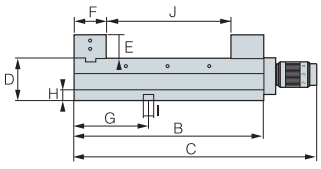


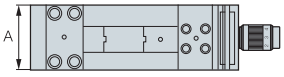
1. Fix the grip after tightening by the main handle
2. Pull the clamping force control grip toward the handle
3. Rotate the clamping force control grip from side to side to set the clamping force.

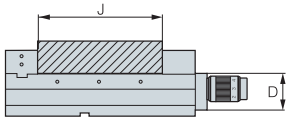
Main Components

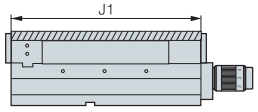
Handle	Ratchet Handle	Internal Sub-jaw	Accessory
			

※ Handle and ratchet handle are not sold separately









Designation	A	B	C	D	E	F	G	H	I	J	J1	Clamping Force(kgf)	Package Weight(kg)	Stock
PVT-100	100	310	442	85	50	75	110	25	18	150	300	3,500	28.5	●
PVT-130	130	410	542	100	55	80	135	25	18	240	400	4,500	45.5	●
PVT-160	160	490	622	110	60	85	200	25	18	300	480	5,000	68.3	●
PVT-200	200	530	662	110	60	85	220	25	18	350	520	5,000	91.4	●

(Unit : mm)

1:1 CHAT

PVTM

MC Power Vise_**PVTM (Entry Type)**

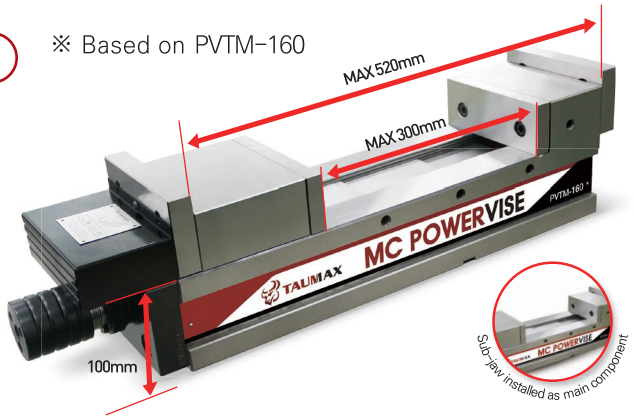
TAUMAX

Features

- Easy-to-use entry type power vise
- Apparatus type power increase device adopted
- Height tolerance : 0.01mm, Can be used in parallel
- Built-in IN (18T) sub-jaw



※ Based on PVTM-160

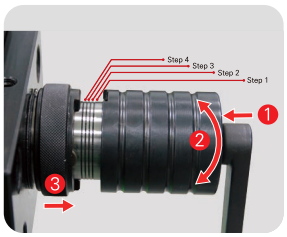


Clamping Force

Spec / Grasp Step	PVTM-100	PVTM-130	PVTM-160	PVTM-200
Step1	1,500	2,000	2,000	2,000
Step2	2,500	3,000	3,000	3,000
Step3	3,000	4,000	4,000	4,000
Step4	3,500	4,500	5,000	5,000

(Unit: kgf)

How to Use

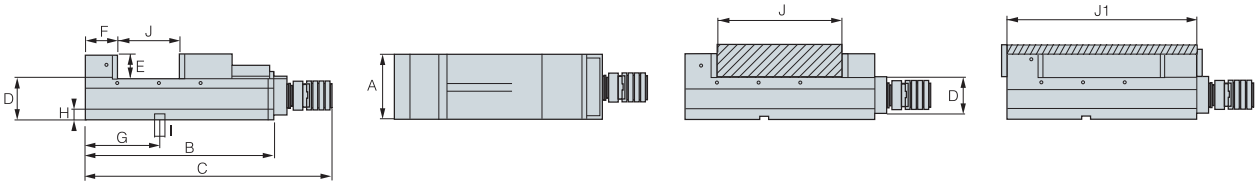


1. Push it to the workpiece using the ratchet handle, a main component
2. Apply instantaneous torque(rotation) to increase grasping power Pull out the workpiece by turning the ratchet handle in the opposite direction after machining
3. Be sure to use the clutch to clamp any hard workpiece (mild steel, aluminium, copper, acryl, etc.). Otherwise, the material of the workpiece may be strained.

Main Components

Handle	Ratchet Handle	Internal Sub-jaw	Accessory
			

※ Handle and ratchet handle are not sold separately



Designation	A	B	C	D	E	F	G	H	I	J	J1	Clamping Force(kgf)	Package Weight(kg)	Stock
PVTM-100	100	395	530	85	50	60	110	25	18	200	370	3,500	28	●
PVTM-130	130	470	605	100	55	75	160	25	18	250	450	4,500	45	●
PVTM-160	160	545	680	100	60	80	200	25	18	300	520	5,000	68	●
PVTM-160L	160	750	885	100	63	90	200	25	18	500	740	5,000	90	●
PVTM-200	200	615	740	110	60	95	220	25	18	350	590	5,000	91	●

(Unit : mm)

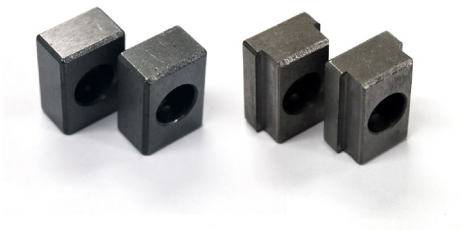
1:1 CHAT

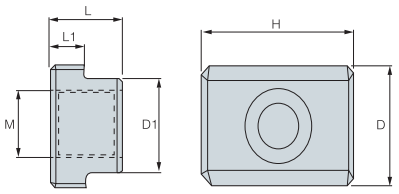
ACCESSORIES

Power Vise Accessories

TAUMAX

Guide Key





Designation	D1	D	H	M	L	L1
KEY-14MM	14	18	25	M6	12	6
KEY-18MM	18	18	25	M6	12	6

※ For 22mm guide key, please inquire us separately.

(Unit : mm)

IN/OUT Sub-jaw & Movable Jaw/Fixed Jaw





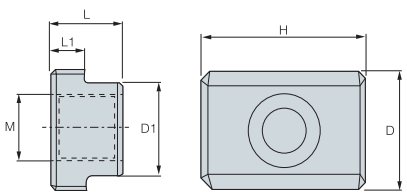
Item	Designation	Compatibility Classification
In/Out Sub-jaw	PVT-000 INSIDE JAWS	PVTM
	PVT-000 OUTSIDE JAWS	PVTM
Upper End Block	PVT-000 FIXED BLOCK	PVT
	PVT-000 SLIDER BLOCK	PVT

※ OUT sub-jaws are for separate purchase.

※ In sub-jaws can be compatible between standard type and entry type only in the models of 100 and 130.

Clamp Set





Designation	D1	D	H	M	L	L1	Compatible	Components
Clamp Set (T-NUT & Screw)	14	22	28	M12*1.75(S)	16	8	PVTM-100	T-NUT/ Washer Clamp/ Bolt 4EA
	16	25	28	M12*1.75(M)	16	8	PVTM-100,130	
	18	28	31	M12*1.75(L)	19	11	PVTM-160,200	

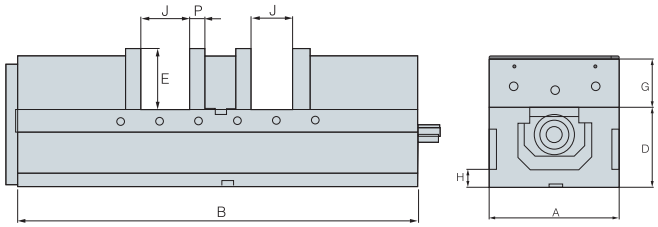
(Unit : mm)

1:1 CHAT

DVT

Double Lock & Anglock Vise_Double Vise TAUMAX





Features

- 5 ways of clamping by changing jaws position
- Max opening 70mm for each jaws, 136mm max for single piece clamping
- High-hardened / Heat-treated steel body with HrC hardness 50, height tolerance 0.01mm
- Anti-lifting structure

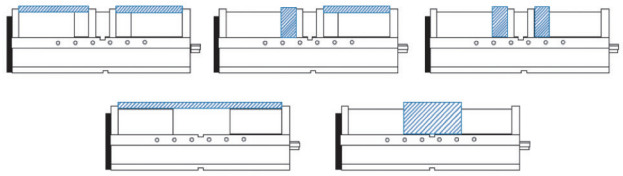
Designation	A	B	D	E	G
DVT-160	160	500	160	63	60
	H	P	J	Package Weight(kg)	Stock
	23	18	70	64	●

(Unit : mm)

Main Components

Serrated Jaws	Wrench	Clamp x4 Guide Key x2	Screw Support Block
			

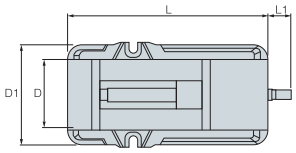
You can clamp the workpiece by the below five methods.

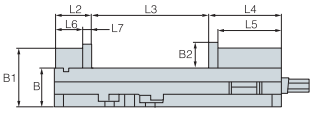


MVT

MC Machine Vise TAUMAX





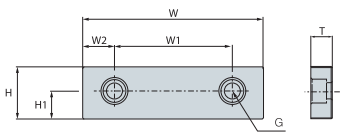


Designation	L	L1	L2	L3	L4	L5	L6	L7	D
MVT-154	438	56	70	225	141	123	52	18	154
	D1	B	B1	B2	Width	Clamping Force(kgf)	Package Weight(kg)		Stock
	230	73	111	44.5	6inches	1,000	31		●

(Unit : mm)

Features

- Handy for use, versatile
- Provides a wide machining range (Max. opening width: 225mm)
- Durability improved with hard materials
- Height tolerance considered, Can be used in parallel



Designation	W	W1	W2	H
MVT-154 Sub Jaws	152	98.4	26.7	44.5
	H1	G		T
	23.8	M12x1.75P		18

(Unit : mm)

Main Components

Wrench	Inside Jaws
	

Accessories



Designation	Compatible
Swivel Base for MVT-154	MVT-154

1:1 CHAT

FVT

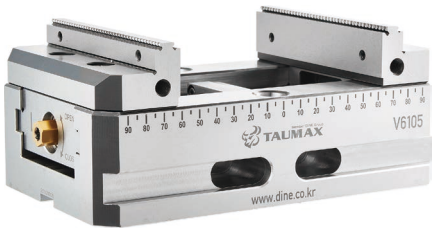
Centering Vise

TAUMAX

Features

- Best economic clamping solution for machining
- Heat-treated / High alloy steel base structure to provide excellent wear-resistance and high anti-tension
- Optimized to be used on high-quality machining process
- Standard serrated jaw with a clamping width of 3.5mm; Alternative jaws are available upon customers' request
- Maxmium clamping force 1,200kgf at 75kN
- Height tolerance within 0.01mm
- Repeatability within 0.01mm or less for versatile and high level machining
- Easy to assemble and disassemble thanks to its modular structure





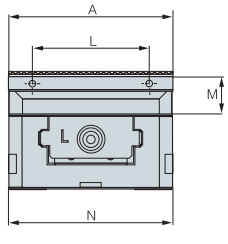
Main Components

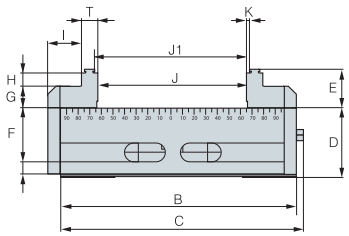
Self-Centering Vise	Wrench, Clamp x4, Guide Key x2	User Manual
		

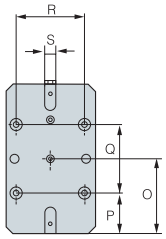
Features

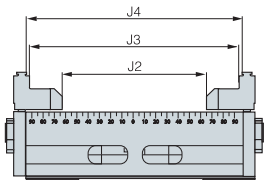
Handy Replace of Parts thanks to Modular Structure	Minimized Interference	Wide Variety of Jaws
		

※ Jaws are not included in vise, so pelase choose types of jaws which you are going to use.









Designation	A	B	C	D	E	F	G	H	I	T	K	L	M
FVT-77	77	130	135	38	27	10	13	11	23	12	3	135	19
FVT-125	125	210	215	57	32	12	18	11	28	14	3	90	24

Designation	NO	O	P	Q	R	S	J	J1	J2	J3	J4	Clamping Force(kgf)	Package Weight(kg)	Stock
FVT-77	78	65	39	52	52	16	60	66	60	106	112	1,000	4	●
FVT-125	126	104	57	96	96	16	126	132	126	182	188	1,500	11	●

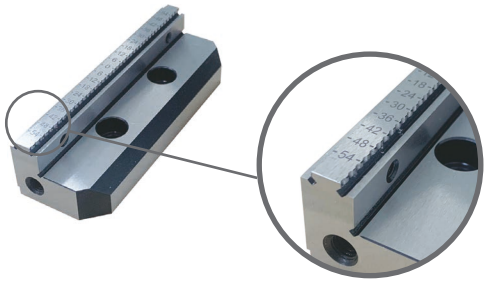
(Unit : mm)

ACCESSORIES

Jaws_Sub Jaws

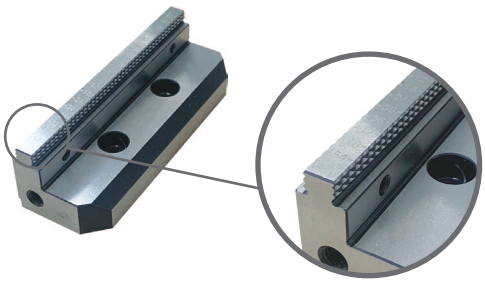
TAUMAX

Serrated Jaws



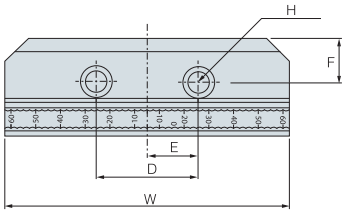
Single Serrated Jaws

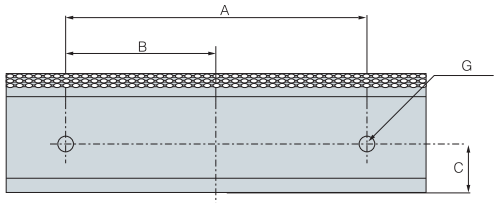
- Teeth height 3mm
- Material : SCM440
- Versatile
- Minimize interference and excellent clamping assistance thanks to its serrate

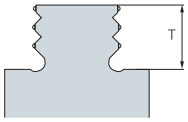


3 Steps Serrated Jaws

- Teeth height 7mm
- Material : SCM440
- Effective on thick and heavy weight material

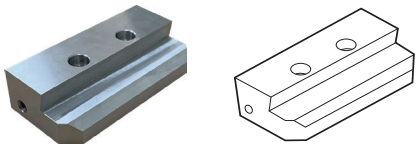






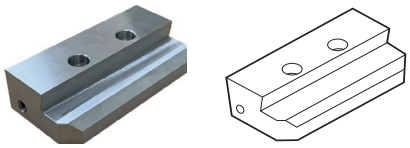
For	Designation	A	B	C	D	E	F	G	H	T	W	Material	Package Weight(kg)	Stock
FVT-77	Single Serrated Jaws	60	30	16	24	12	16	M4x0.7	Ø6.5	3	77	SCM440	1	●
	3 Steps Serrated Jaws	60	30	16	24	12	16	M4x0.7	Ø6.5	7	77	SCM440	1	●
FVT-125	Single Serrated Jaws	90	45	15	45	22.5	19	M5x0.8	Ø9	3	125	SCM440	1	●
	3 Steps Serrated Jaws	90	45	15	45	22.5	19	M5x0.8	Ø9	7	125	SCM440	1	●

(Unit : mm)



General Sub-jaw

- Material : AL -6061
- Both sides available for use
- For soft material
- Customer can customize easily as necessary
- Wide width 60mm for user customizing



General Sub-jaw

- Material : SCM440
- Both sides available for use
- For general material clamping
- Customer can customize easily as necessary
- Wide width 60mm for user customizing

1:1 CHAT

NEW

QPT

Quick Point System for 5-axis Vise

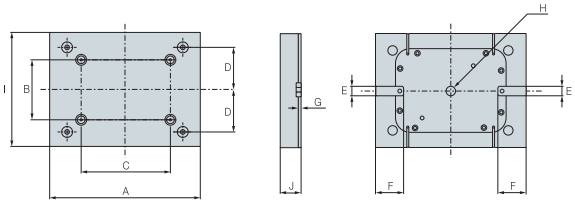
TAUMAX



QPTA-96



QPTB-96



Features

- Fast and easy vise floating enabled with four stud bolts
- Supports up to 6 tons with a 96mm distance between bolts and four pull-stud bolts
- Easy vise clamping with a mechanical pin system using a single wrench clamping
- Height tolerance within 0.01mm when clamping
- Compatible with 4-axis rotary and 5-axis tilting/rotary beds

Designation	A	B	C	D	E	F	G	H	I	J	Clamping Force(kgf)	Package Weight(kg)	Stock	Item
QPTA-96	192	96	150	63	20	35	6	12	192	27	6000	7.0		T Nut-fixed Type
QPTB-96	192	96	150	63	20	35	6	12	192	27	6000	6.4		Screw-fixed Type

(Unit : mm)

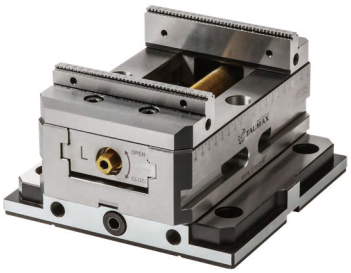
Main Components

Ratchet Handle x1	M10x35L Screw x4
	

Accessory

Pull Stud Bolt x4





1:1 CHAT

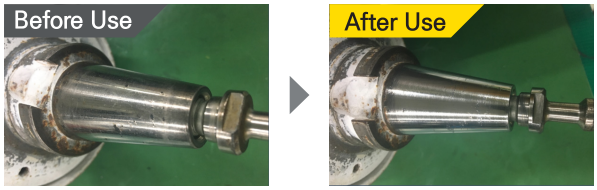
TAPER CLEANING DEVICE

Taper Cleaning Device

TAUMAX

Features

- Improves accuracy by cleaning Taper
- Increases the life cycle of tool
- Protects the spindle of equipment
- Maintains accuracy of the contact surface for a long time
- Compact design and timer function





Item	Designation	Diameter	Height	kg	Compatible	Power Supply	Stock	Power Consumption
Lower Basis	Taper Cleaning Drive Unit	300	140	11	-	110-240VAC	●	Max.150 W
Upper Cleaning Part	Cleaning Attachment ISO 30	230	160-190	10	BT/SK/CAT30	-	●	-
	Cleaning Attachment ISO 40				BT/SK/CAT40	-	●	-
	Cleaning Attachment ISO 50				BT/SK/CAT50	-	●	-
	Cleaning Attachment HSK-63				HSK-63	-		-
	Cleaning Attachment HSK-100				HSK-100	-		-

(Unit : mm)

Accessory

Item	Designation	Compatible
Spare Brush	Spare Brush ISO 30	BT/SK/CAT30
	Spare Brush ISO 40	BT/SK/CAT40
	Spare Brush ISO 50	BT/SK/CAT50
	Spare Brush HSK-63	HSK-63
	Spare Brush HSK-100	HSK-100



1:1 CHAT

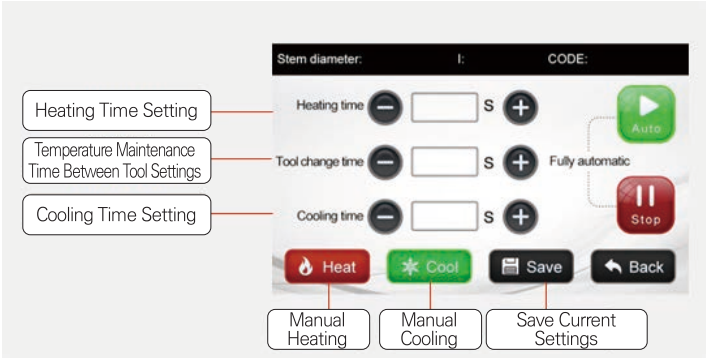
MH-300 NEW

Shrinking Device

TAUMAX

Features

- Compatible for steel and SUS holders
- Presets for 10 frequently used tool diameters can be saved
- Interchangeable heating coils for small(35mm) and large(58mm) diameters
- Standard BT30/BT40/HSK63 compatible, other shanks available (optional)
- Prevents overheating and enables manual cooling through settings





Designation	WxLxH(mm)	Power Supply	Max. Frequency (KHz)	Max. Power Consumption (kW)	Axis Operation Range (mm)	Basic Applicable Hole Diameter (mm)	Packaging Weight (kg)	Stock
MH-300	500*430*750mm	Single phase AC 220V (50Hz)	40	3.2	440	Ø3-Ø12	28	●

1:1 CHAT

ACCESSORIES

Accessories

TAUMAX

Item	Designation	Size(mm)	Provision Status	Stock
Heating Coil	Induction Coil (Thin)	Ø35 (for hole diameter of Ø3-Ø12)	Standard	●
	Induction Coil (Thick)	Ø58 (for hole diameter of Ø3-Ø32)	Option	●
Adapter	Flange Ring BT30	BT30	Standard	●
	Flange Ring BT40/HSK-A63	BT40, HSK-A63	Standard	●
	Flange Ring HSK-AE50/F63	HSK-A50, E50, F63	Option	●
Stopper	STP-4,6,8,10,12	Ø4,6,8,10,12	Standard	●

※ Induction Coil (Thin) basically installed

1:1 CHAT

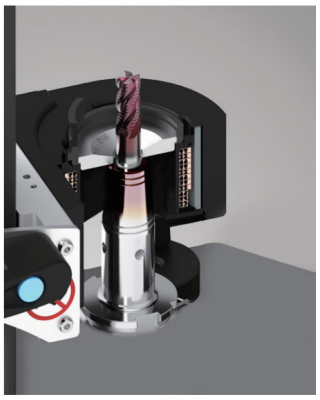
TOOL SHRINK BASIC

NEW

Shrinking Device

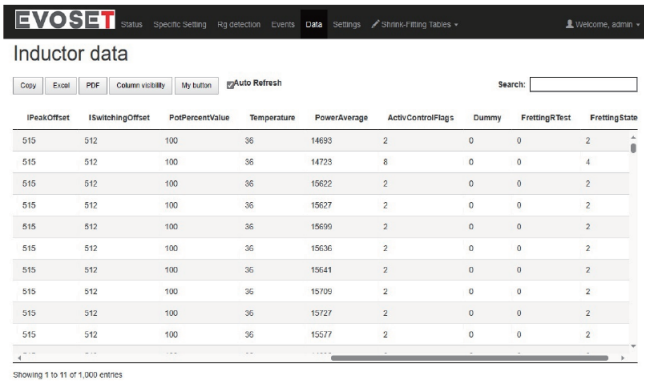
TOOL SHRINK BASIC is a hard-metal / high-speed steel equipment with powerful shrinking and customization features developed by Swiss company EVOSET designed to efficiently, quickly, and safely protect tools.





High Compatibility

- Clamping and unclamping of all end tools corresponding Ø3-32mm hard metal, high-speed steel, etc.
- EVO-Pi , a mini-computer interface is built in allowing users to set the strength and time, etc. of the shrinking



Powerful Heating Performance

- Heating time: 2-7 seconds
- Cooling time: 40-120 seconds
- Easy, fast heating available just by using a keypad

* Cooling and heating speeds may vary depending on the materials and outer diameter dimensions



Reliable Protection of User and Tools with Smart Coil

- The shrinking chuck may lose the properties and rigidity of raw materials and may not guarantee the existing precision at around 400˚C when the denaturation occurs. Therefore, to use the shrinking chuck effectively and stably for a long time, It is necessary to keep the tool from overheating during the shrink-fitting process
- Smart coil on the TOOL SHRINK series detects the outer diameter thickness of the holder and automatically applies an optimized heating cycle for each thickness, preventing problems caused by overheated tools and unnecessary energy consumption.
- The ergonomic design improves user safety and convenience

1:1 CHAT

TOOL SHRINK BASIC

NEW

Shrinking Device

TOOL SHRINK BASIC is a product that uses maximum 16kW of power for a safe and quick shrink-fitting process.

Features

- It is equipped with a "smart coil" that adjusts power and time according to the thickness of the tool holder, automatically adjusting heating time and power optimized for each holder
- Improved holder life by automatically adjusting the amount of power from 7 to 16kW to prevent overheating of the holder
- Applicable at Ø3-Ø32 without coil replacement, fast shrinking is possible regardless of holder material (normal steel , SUS) or tool material (HSS, hard metal)
- Easy keypad use
- High concentricity
- Customization of heating using Wi-Fi is possible through Evo-Pi PC
- Online support service is available



Designation	Volume [WxLxH (mm)]	Power Consumption (kW)	Power Supply (V)	Basic Shank	Basic Cooling Time	Applied Tool Outer Diameter (mm)	Pressure (bar)	Weight (kg)
TOOL SHRINK BASIC	955x317x920(device) 1061x317x920(support installed)	7~16	3phase 380 (50-60Hz)	BT40, 50 HSK63A, 100A	5-7minutes (based on air cooling)	Ø3-Ø32mm	3~6	46

Basic Accessories

TOOL SHRINK BASIC Body	Basic Adapter	Air Cooling Conditioner	Heat-resistant Gloves
			

1:1 CHAT

ACCESSORIES

Accessories

	Cooling Adapter	SK30, SK40, SK50 HSK-E25 ACE 32, 40, 50, 63, 80
	Heat Focusing Stopper	Ø3-Ø6 Ø8-Ø14 Ø16-Ø18 Ø20-Ø25 Ø32
	Cooling Manager A(Power-Air)	
	Cooling Box for 5 Shrink Holders	
	Adapter Ring	SK30, SK40, SK50 HSK-E25 ACE 32, 40, 50, 63, 80

1:1 CHAT

CLEAN-TEC FAN

Cleaning Fan

C Coolant System

TAUMAX

Features

- Removes chips without opening/closing the door of CNC equipment
- Improved stability through operations without operator intervention
- Electricity cost reduction by eliminating compressed air
- Increased production efficiency through the compatibility with ATC and the connection with automated facilities



Designation	ØD(Unfolded)	Ø Shank	Max.RPM	Package Weight(kg)	Stock
Clean-Tec 160	160	20	12,000	0.2	●
Clean-Tec 260	260	20	8,000	0.2	●
Clean-Tec 330	330	20	8,000	0.5	●

(Unit : mm)

1:1 CHAT

ACCESSORIES

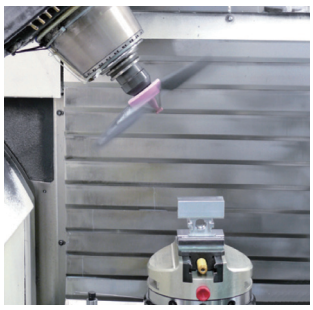
Accessories

TAUMAX



Photograph of Use





Designation	Components	Compatible
Spare Part Kit for Clean-Tec 160	Blade/Spring 4EA	Clean-tec 160
Spare Part Kit for Clean-Tec 260	Blade/Spring 4EA	Clean-tec 260
Spare Part Kit for Clean-Tec 330	Blade/Spring 4EA	Clean-tec 330

(Unit : mm)

1:1 CHAT

PRECISION MICRO ADJUSTING CARTRIDGE

Precision Micro Adjusting Cartridge

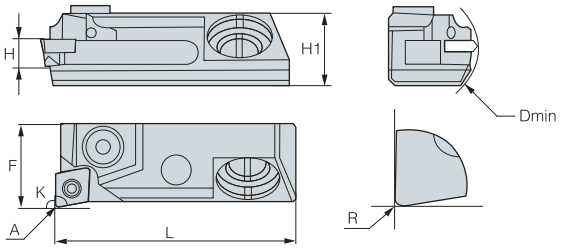
Boring

TAUMAX



Features

- Both left-hand and right-hand versions available, internal coolant type
- Available minimum boring diameter: 28.00mm
- 90-degree, 95-degree lead angle versions
- Unit diameter adjustable up to 0.01mm within the radial adjustment 0.3mm(1 gradation adjustment radius: 0.005mm)
- Axial range adjustable : 1.0mm



Designation	K	H	F	L	H1	Dmin	R	Applicable Insert	Package Weight(kg)	Stock
TMCR90-F16-CC06	90°	8.8	16	45.8	13.5	28	0.4	CC.0602.	1	●
TMCL90-F16-CC06	90°	8.8	16	45.8	13.5	28	0.4	CC.0602.	1	
TMCR95-F16-CC06	95°	8.8	16	45.8	13.5	28	0.4	CC.0602.	1	
TMCL95-F16-CC06	95°	8.8	16	45.8	13.5	28	0.4	CC.0602.	1	●
TMCR90-F16-TP09	90°	8.8	16	45.8	13.5	28	0.4	TP.0902.	1	●
TMCL90-F16-TP09	90°	8.8	16	45.8	13.5	28	0.4	TP.0902.	1	
TMCR/L95-F16-TP09	95°	8.8	16	45.8	13.5	28	0.4	TP.0902.	1	
TMCR90-F20-TC11	90°	8.8	20	45.8	13.5	36	0.4	TC.1102.	1	●
TMCL90-F20-TC11	90°	8.8	20	45.8	13.5	36	0.4	TC.1102.	1	
TMCR/L95-F20-TC11	95°	8.8	20	45.8	13.5	36	0.4	TC.1102.	1	
TMCR/L90-F20-TP11	90°	8.8	20	45.8	13.5	36	0.4	TP.1103.	1	
TMCR/L95-F20-TP11	95°	8.8	20	45.8	13.5	36	0.4	TP.1103.	1	
TMCR90-F22-CC09	90°	7.5	22	54.8	17.0	34	0.4	CC.09	1	
TMCR120-F16-DC07	120°	5.0	16	48.6	13.5	34	0.4	DC.07	1	

(Unit : mm)

1:1 CHAT

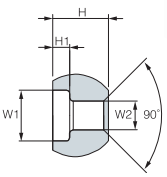
PSBW

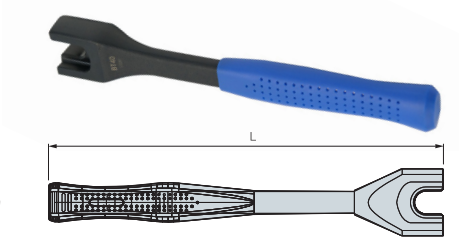
Pull Stud Bolt Wrench

TAUMAX

Features

- Fully compatible with pull stud bolts of each specification
- Solid design
- Conveniently fasten and disassemble pull stud bolts without using an adjustable spanner





Designation	L	H	H1	W1	W2	Torque (N·m)	Package Weight(kg)	Stock
PSBW-30	210	16	5	13	7	≤80	0.5	●
PSBW-40	230	25	6	19	10	≤150	0.5	●
PSBW-50	280	33	10	30	17	≤280	1	●
PSBW-40(PS-805)	230	20.5	7	19	14	≤150	0.5	●
PSBW-40(PS-G51)	240	13	5	19	13	≤150	0.5	●
PSBW-50(PS-G41)	290	17	8	30	21	≤280	1	●

(Unit : mm)

1:1 CHAT

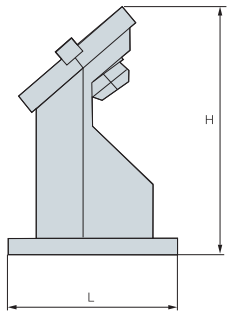
TTC

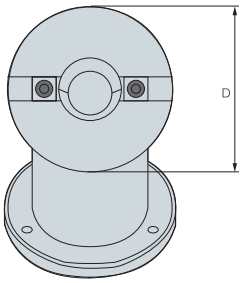
Tool Setting Stand

TAUMAX

Features

- For cutting tool and pull stud bolt tightening
- Enables more convenient and easier tightening in case of tool tightening using a 45-degree type
- Provides work stability by heavier load (3kg) than rival products









Designation	Compatible	L	H	D	Package Weight(kg)	Stock
TTC30	BT30, NT30	119	169	114	3	●
TTC40	BT40, NT40	119	169	114	3	●
TTC50	BT50, NT50	119	169	114	3	●

(Unit : mm)

1:1 CHAT

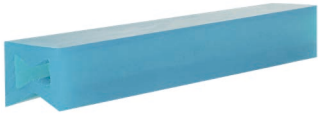
TSC NEW

T-Slot Cover

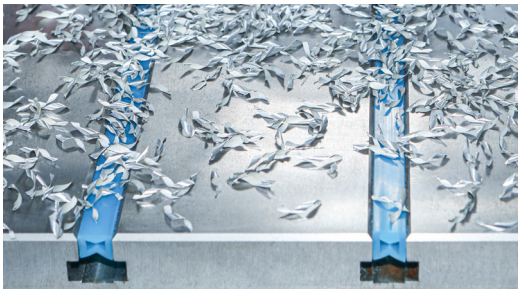
TAUMAX

Features

- Silicon material can be used after cutting it into the required size
- Flameproof treatment enables excellent corrosion resistance and allows for long-term use
- Optimized design for the T slot shape







Designation	Width (mm)	Total Length (m)	Material	Compatible (mm)	Package Weight(kg)	Stock
TSC-14	14	3	Silicon	14 slot	0.5	●
TSC-18	18	5		18 slot	0.9	●

1:1 CHAT

TMB

Magnetic Base

TAUMAX

Features

- Strong adsorptive power (80kgf)
- Smooth and precise joint movement
- Ensures lightness and precision as a multi-joint model with a full aluminum body



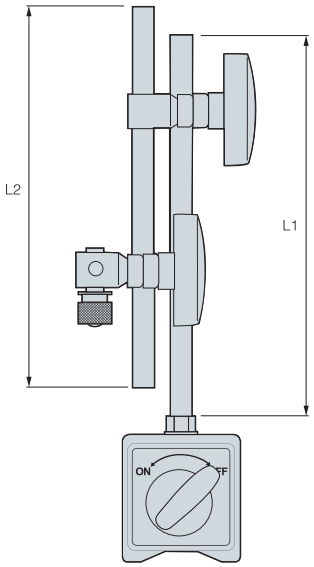
TMB-B

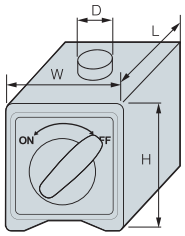


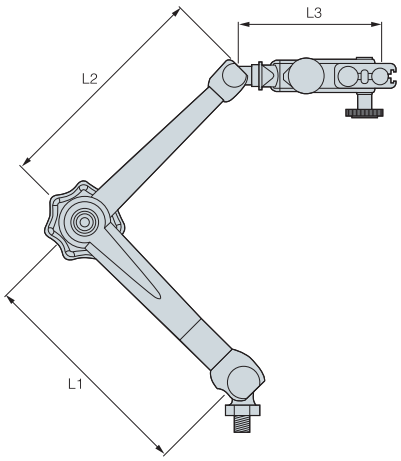
TMB-BV



TMB-330







Designation	Item	Adsorptive Power(kgf)	L1	L2	L3	(L*W*H)	D	Package weight(kg)	Stock
TMB-B	Basic Type	80	170*Ø12	160*Ø10	-	60*50*55	M8*1.25	2	●
TMB-BV	Basic Type (Fine Adjustment)	80	170*Ø12	160*Ø10	-	60*50*55	M8*1.25	2	●
TMB-330	Multi-joint Type	80	130*Ø12	130*Ø10	70	60*50*55	M8*1.25	2	●

(Unit : mm)

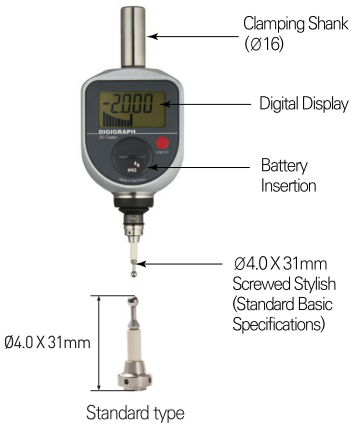
1:1 CHAT

DIGITAL 3D TASTER

Digital 3D Taster

Features

- High measurement accuracy: 0.01mm
- Display indication unit: : 0.005mm
- Easy to check measured values through a highly visible display
- Omnidirectional movement and measurable stylus
- Highly waterproof and shockproof structure (IP65 class)
- Convenient and simple concentricity adjustment
- Compatible with conventional styluses
- –,+ indicated according to movement direction based on zero reference
- Built-in CR2032 battery





• ● : Stock

X,Y,Z axes Driving range	Measurement Unit	Display Range	Zero Accuracy	Zero Repetitive Accuracy	Clamping Shank	Battery Classifications	Weight(g)	Stock
-2 / to 4	0.005 (5μm)	±2	±0.01	±0.005	Ø16	CR2032	520	●

(Unit : mm)

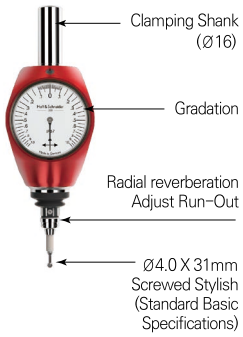
1:1 CHAT

3D TASTER 2007

3D Taster

Features

- High measurement accuracy: 0.01mm
- Easy zero adjustment
- Highly waterproof and vibration proof structure (IP67 class)
- Screw-type stylus prevents the stylus from falling out by vibration and shock
- Simple and accurate radial run-out measurement radial run-out measured directly from the lower part of the scanning arm
- Radial direction and axial direction measurable with one indicator

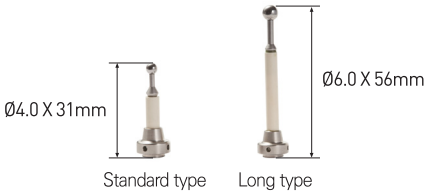




• ● : Stock

Measurement Unit	Measurement Precision	Clamping Shank	Weight(g)	Stock
0.01	0.01	Ø16	397	●

(Unit : mm)



1:1 CHAT

HDG

Hydraulic Expansion Chuck Gauge

Features

- Able to minimize the error rate due to lowered clamping force of the hydraulic chuck
- A gauge for a hydraulic chuck that is able to determine whether the clamping force is normal or not before processing
- Able to prevent defective processing caused by tool fallout



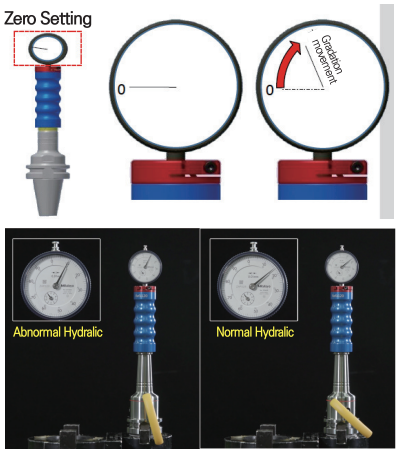
NAMING

HDG	20
Hydraulic Expansion Chuck Gauge	Tool Dia.

How to Measure Clamping Force

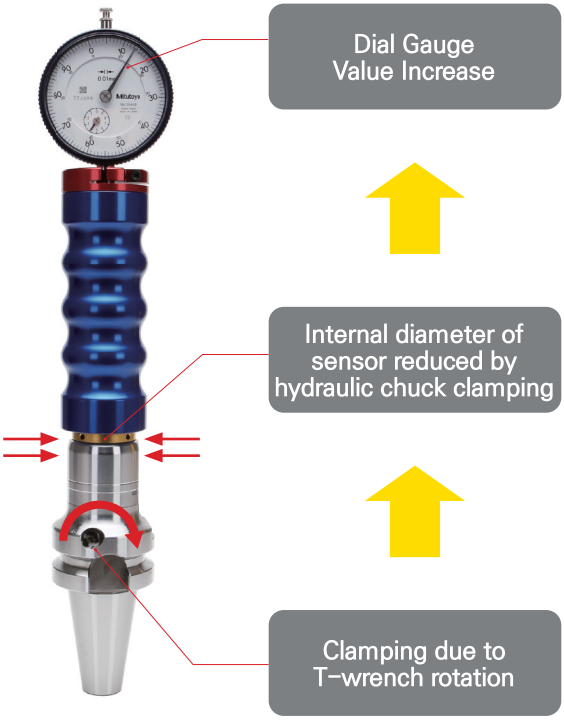
How to check if the hydarulic chuck is out of order by using HDG

1. Assemble the head fitting the hydraulic chuck's internal diameter with the body
2. Insert into the hydraulic chuck and set to "0" on the dial gauge.
3. After clamping the hydraulic chuck, check if the clamping force of the hydraulic chuck is normal or not based on the movement of the dial gauge.



※ After observing an increased volume, always check the table and determine whether to use the hydraulic chuck or not
※ Not compatible with other companies' hydraulic chucks

Operation



• ● : Stock
※ The measured value is based on the DINOX hydraulic chuck, and there may be a difference in specific values of other companies' products.
※ If the value is measured below the inspection range, please contact the place of purchase.

Designation	Hydraulic Chuck Tool Dia	Usable Range	Inspection Range	Stock
HDG-6	Ø6	More than 80	70μm~80μm	●
HDG-7	Ø7	More than 80	70μm~80μm	
HDG-8	Ø8	More than 80	70μm~80μm	●
HDG-9	Ø9	More than 120	110μm~120μm	
HDG-10	Ø10	More than 100	90μm~100μm	●
HDG-12	Ø12	More than 120	110μm~120μm	●
HDG-14	Ø14	More than 150	140μm~150μm	
HDG-16	Ø16	More than 150	140μm~150μm	●
HDG-18	Ø18	More than 150	140μm~150μm	
HDG-20	Ø20	More than 160	150μm~160μm	●
HDG-25	Ø25	More than 190	180μm~190μm	
HDG-32	Ø32	More than 160	150μm~160μm	

1:1 CHAT

DZH

DINE Z Axial Height Gauge

Features

- For setting up the tool Z axis of MCT
- Design setting height : 50.00±0.005mm
- Wide plane face, easy operation
- Relatively less spring ejection and designed to prevent the milling cutter or bite from breaking
- Using a polished parallel plate enables an easy setting.
- Good parallelization degree, quick use response to each direction, and good accuracy
- Easy adjustment of the height of the measuring stand.
- Using a hexagonal wrench enables an immediate zero (0) adjustment.
- Magnetic attachment type





• ● : Stock

Designation	Height(mm)	Weight(kg)	Size(mm)	Stock
DZH-50	50.00±0.005	1.2	Ø63X50	●

1:1 CHAT

DZP

Dine Z Axial Setting Height Gauge

Features

- For setting up the tool Z axis of MCT
- Design setting height: 100.00±0.005mm
- Wide plane face, easy operation
- Enables relatively less spring ejection; prevents the milling cutter or bite from breaking
- Using a polished parallel plate enables an easy setting.
- Good parallelization degree, quick use response to each direction, and good accuracy
- Magnetic attachment type





• ● : Stock

Designation	Height(mm)	Weight(kg)	Size(mm)	Stock
DZP-100	100.00±0.005	0.73	Ø50X100	●

DZOP

Dine Z Axial P Reset Gauge

Features

- For setting up the tool Z axis of MCT
- Design height : 50.00
- Wide plane face, easy operation
- Relatively less spring ejection and designed to prevent the milling cutter or bite from breaking
- Using a polished parallel plate enables an easy setting
- Good parallelization degree, quick use response to each direction, and good accuracy
- It emits light when touched
- Magnetic attached type



• ● : Stock

Designation	Height(mm)	Weight(kg)	Size(mm)	Stock
DZOP-50	50	0.6	Ø53X50	●

DOP

Dine Optical Edge Finder

Features

- Long-time no rust as it is waterproof treated on the whole
- Note : An optical laser type cardiopulmonary system is not suitable for rotation applications
- It sounds an alarm when touched



• ● : Stock

Designation	Weight(kg)	Accuracy(mm)	Size(mm)	Stock
DOP-20B	0.3	±0.005	Ø20X158	●

1:1 CHAT

ROT

Run-out Tester

ISO

Shank

200mm=3μm



Features

- **Compatible with various shanks; provides diverse lineups**
  - Compliant with ISO30~ISO50 (ISO: BT,SK, NT,CAT)
    affordable general type and multi-type that can measure the cutting edge height and outer diameter simultaneously

Designation

Designation	
ROTS	ROTM
ROTS-ISO15	ROTM-ISO15
ROTS-ISO20	ROTM-ISO20
ROTS-ISO25	ROTM-ISO25
ROTS-ISO30	ROTM-ISO30
ROTS-ISO40	ROTM-ISO40
ROTS-ISO50	ROTM-ISO50

Main Components				Accessories	
Shank	Body	Housing	Retainer	ARM	Indicator
ISO15	ROTM-BD (Multi-type)	ROT-HS-ISO15	ROT-RTB-ISO15	MB-1030-2	DIAL GAUGE (0.002mm)
ISO20		ROT-HS-ISO20	ROT-RTB-ISO20		
ISO25	ROTS-BD (General type)	ROT-HS-ISO25	ROT-RTB-ISO25		
ISO30		ROT-HS-ISO30	ROT-RTB-ISO30		
ISO40		ROT-HS-ISO40	ROT-RTB-ISO40		
ISO50		ROT-HS-ISO50	ROT-RTB-ISO50		

Simple Measurements



① After Inserting the Tool ② Check R/O by turning the tool

※ Measure run-out easily by inserting and turn the tool

Convenient Horizontal Adjustment Function (ROTM)

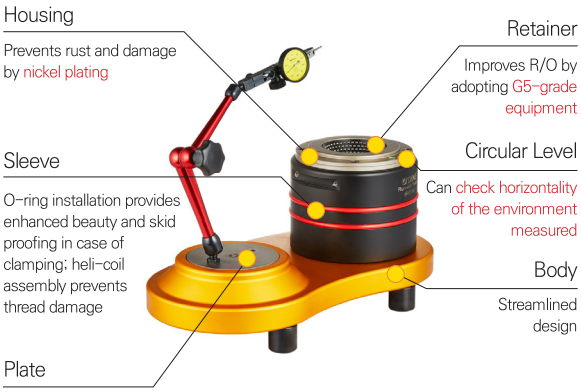
Can check horizontality by the level installed.



ROTS – General Type (~Ø150)



ROTM – Multi Type (~Ø400)

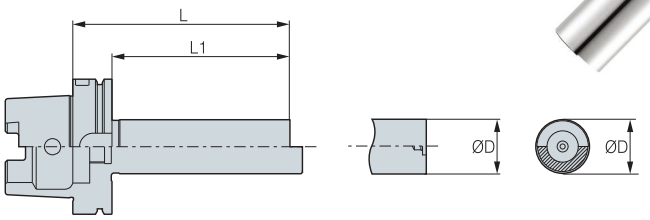


1:1 CHAT

TB

Test Bar





• ● : Stock

Shank	Designation	ØD	L	L1	Stock
BT	BTN30-TB30-200	30	200	198	●
BT	BTN40-TB50-300	50	300	298	●
BT	BTN50-TB50-300	50	300	298	●
HSK	HSK40A-TB25-200	25	200	180	
HSK	HSK50A-TB32-250	32	250	224	
HSK	HSK63A-TB40-300	40	300	274	●
HSK	HSK100A-TB40-350	40	350	321	●

(Unit : mm)

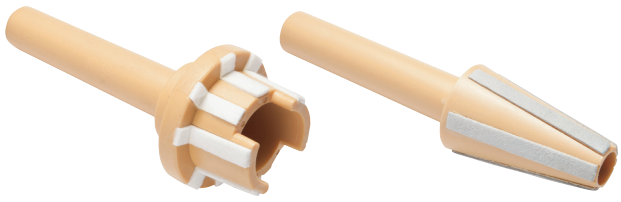
1:1 CHAT

SC

Spindle Cleaner

Features

• Made from sheepskin. By cleaning the inside of the spindle, it prevents spindle damage and static electricity, extending the life of the spindle.



• ● : To be switched to NP order after stock depletion
• ● : Stock

Designation	Shank	Weight(Kg)	Package Weight(kg)	Stock
SC-BT30	BT30	0.06	0.08	●
SC-BT40	BT40	0.07	0.1	●
SC-BT50	BT50	0.16	0.2	●
SC-HSK50	HSK50	0.08	0.12	●
SC-HSK63	HSK63	0.1	0.13	●
SC-HSK100	HSK100	0.5	0.7	●

1:1 CHAT

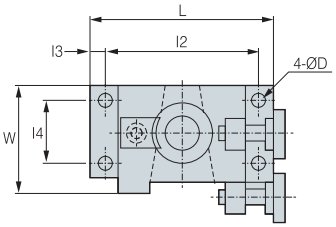
NTSS

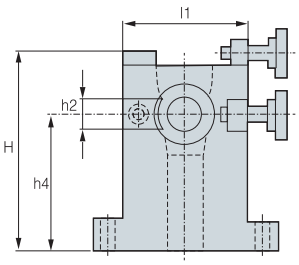
New Tool Setting Stand

Features

- Made of aluminum alloy
- Two types Vertical or Horizontal available
- All of BT, CAT, SK available





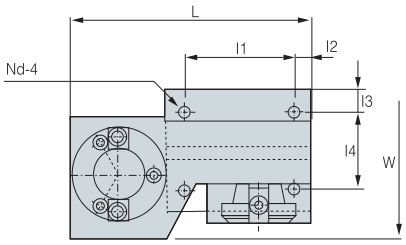


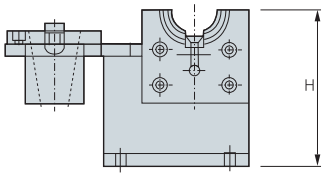
• ● : Stock

Designation	Shank	L	l1	l2	l3	l4	H	W	Package Weight(kg)	Stock
NTSS-30	BT30	95	65	80	7.5	33	100	58	1	●
NTSS-40	BT40	118	77	99	9.2	44	130	75	1.7	●

(Unit : mm)





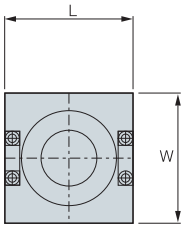


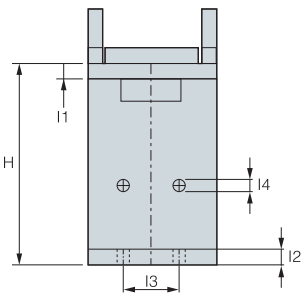
• ● : Stock

Designation	Shank	L	l1	l2	l3	l4	H	W	Package Weight(kg)	Stock
NTSS-50	BT50	275	113	20	24	105	200	150	11.4	●

(Unit : mm)







• ● : Stock

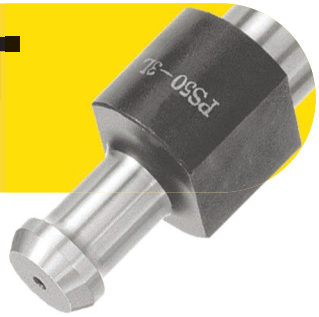
Designation	Shank	L	l1	l2	l3	l4	H	W	Package Weight(kg)	Stock
NTSS-HSK63A	HSK63A	106	11	11	50	9	160	106	4.1	●

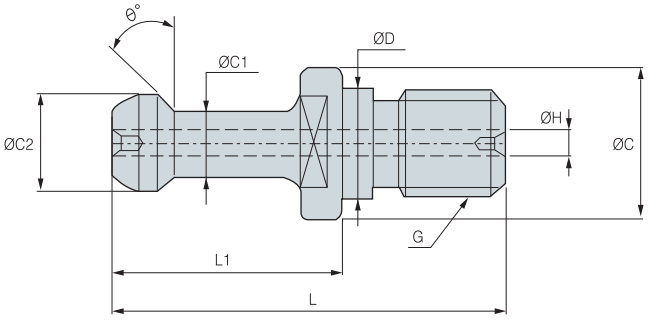
(Unit : mm)

1:1 CHAT

PULL STUD BOLT

Pull Stud Bolt





• ● : Stock

Designation	ØD	L	ØC	ØC1	ØC2	L1	θ	G	ØH	Stock
P20T-1	8.5	31.5	12	6	8.5	17.5	15°	M8		●
P30T-1	12.5	43	16.5	7	11	23	45°	M12		●
P30T-1(2.5)	12.5	43	16.5	7	11	23	45°	M12	Ø2.5	●
P30T-2	12.5	43	16.5	7	11	23	30°	M12		●
P30T-2(2.5)	12.5	43	16.5	7	11	23	30°	M12	Ø2.5	●
P40T-1	17	60	23	10	15	35	45°	M16		●
P40T-1(3)	17	60	23	10	15	35	45°	M16	Ø3	●
P40T-2	17	60	23	10	15	35	30°	M16		●
PS40-3F	17	60	23	10	15	35	0°	M16		●
PS-G51	17	44.11	22	12.45	18.8	19.11	45°	M16	Ø7	●
DIN69872-A40	17	54	23	14	19	26	15°	M16	Ø7	●
DIN69872-B40	17	54	23	14	19	26	15°	M16		●
JISB6339-A40(PS-806)	17	54	23	14	19	29	15°	M16	Ø7	●
JISB6339-B40(PS-805)	17	54	23	14	19	29	15°	M16		●
P50T-1	25	85	38	17	23	45	45°	M24		●
P50T-1(7)	25	85	38	17	23	45	45°	M24	Ø7	●
P50T-2	25	85	38	17	23	45	30°	M24		●
PS50-1F	25	85	38	17	23	45	0°	M24		●
PS50-1FH	25	85	38	17	23	45	0°	M24	Ø8	●
PS-G41	25	85	37	20.83	28.96	25.2	45°	M24	Ø10	●
DIN69872-A50	25	65.2	36	21	28	34	15°	M24	Ø11.5	●
P50T-1HS	25	85	38	17	23	45	45°	M24	Ø5.7	●

(Unit : mm)

1:1 CHAT

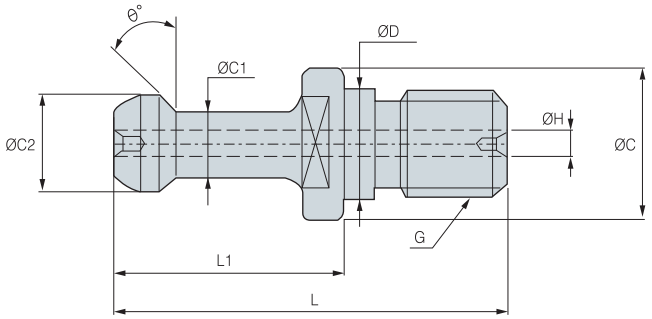
PSB-T

NEW

Pull Stud Bolt

TAUMAX





Designation	ØD	L	ØC	ØC1	ØC2	L1	θ	G	ØH	Stock
P30T-1-T	12.5	43	16.5	7	11	23	45°	M12		●
P30T-1(2.5)-T	12.5	43	16.5	7	11	23	45°	M12	Ø2.5	●
P30T-2-T	12.5	43	16.5	7	11	23	30°	M12		●
P40T-1-T	17	60	23	10	15	35	45°	M16		●
P40T-1(3)-T	17	60	23	10	15	35	45°	M16	Ø3	●
P40T-2-T	17	60	23	10	15	35	30°	M16		●
PS40-3F-T	17	60	23	10	15	35	0°	M16		●
PS-G51-T	17	44.11	22	12.45	18.8	19.1	45°	M16	Ø7	●
DIN69872-A40-T	17	54	23	14	19	26	15°	M16	Ø7	●
DIN69872-B40-T	17	54	23	14	19	26	15°	M16		●
JISB6339-A40(PS-806)-T	17	54	23	14	19	29	15°	M16	Ø7	●
JISB6339-B40(PS-805)-T	17	54	23	14	19	29	15°	M16		●
P50T-1-T	25	85	38	17	23	45	45°	M24		●
P50T-1(7)-T	25	85	38	17	23	45	45°	M24	Ø7	●
P50T-2-T	25	85	38	17	23	45	30°	M24		●
PS50-1F-T	25	85	38	17	23	45	0°	M24		●
PS-G41-T	25	65.2	37	20.83	28.96	25.2	45°	M24	Ø10	●
DIN69872-A50-T	25	74	36	21	28	34	15°	M24	Ø11.5	●

(Unit : mm)



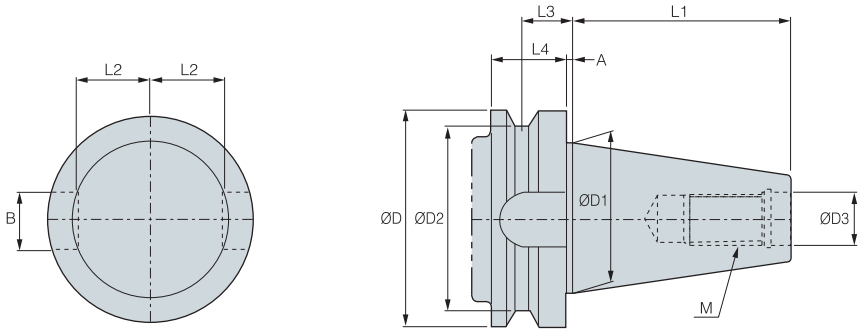
Standard

DINE TOTAL TOOLING SOLUTION

BOTTLE GRIP TAPER MAS403-BT 326
CAT SHANK 326
SK/NT 327
HSK 328
MORSE TAPER 329
SPARE PARTS 330

1:1 CHAT

BOTTLE GRIP TAPER MAS403-BT

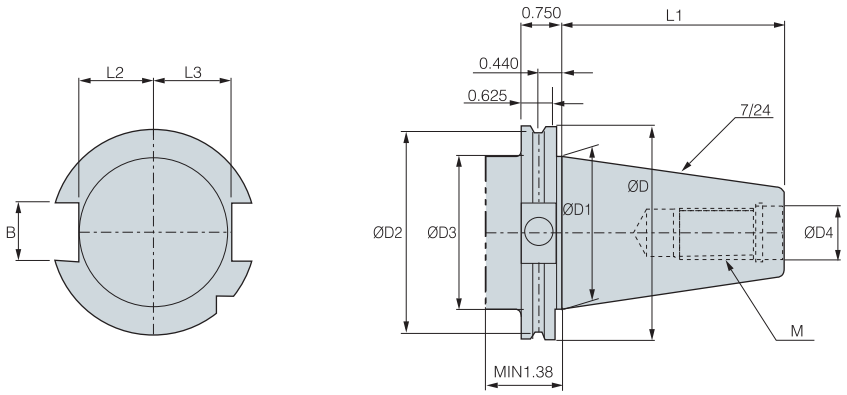


Shank	ØD	ØD1	ØD2	ØD3	L1	L2	L3	L4	A	B	M
BT30	46	31.75	38	12.5	48.4	16.3	13.6	20	2	16.1	M12 x 1.75
BT40	63	44.45	53	17	65.4	22.6	16.6	25	2	16.1	M16 x 2
BT50	100	69.85	85	25	101.8	35.4	23.2	35	3	25.7	M24 x 3
BT60	155	107.95	135	31	161.8	60.1	28.2	45	3	25.7	M30 x 3.5

(Unit : mm)

1:1 CHAT

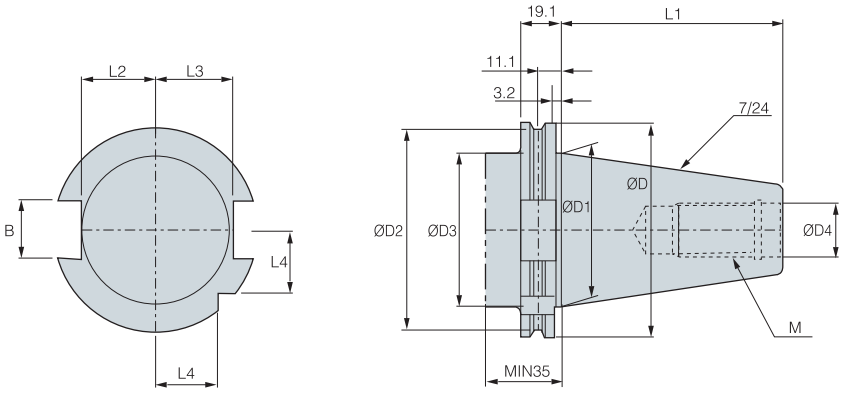
CAT SHANK
(ANSI/ASME B5.50-1985)



Shank	ØD	ØD1	ØD2	ØD3	ØD4	L1	L2	L3	B	M
CAT30	1.812	1.25	1.531	1.25	0.516	1.875	0.64	0.735	0.645	UNC 0.500-13
CAT40	2.500	1.75	2.219	1.75	0.641	2.687	0.89	0.985	0.645	UNC 0.625-11
CAT50	3.875	2.75	3.594	2.75	1.031	4.0	1.39	1.485	1.02	UNC 1.000-8
CAT60	5.500	4.25	5.219	4.25	1.281	6.375	2.14	2.235	1.02	UNC 1.250-7

(Unit : mm)

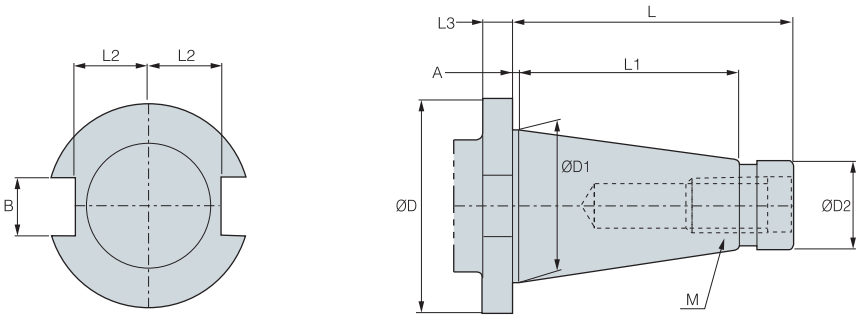
DIN 69871-1 A/B, ISO 7388/1 : 1983(E)



Shank	ØD	ØD1	ØD2	ØD3	ØD4	L1	L2	L3	L4	B	M
SK30	50	31.75	44.3	45	13	47.8	16.4	19	15	16.1	M12 x 1.75
SK40	63.55	44.45	56.25	50	17	68.4	22.8	25	18.5	16.1	M16 x 2.0
SK50	97.5	69.85	91.25	80	25	101.75	35.5	37.7	30	25.7	M24 x 3.0

(Unit : mm)

DIN 2080, JIS B 6101, ISO 297 : 1988(E)

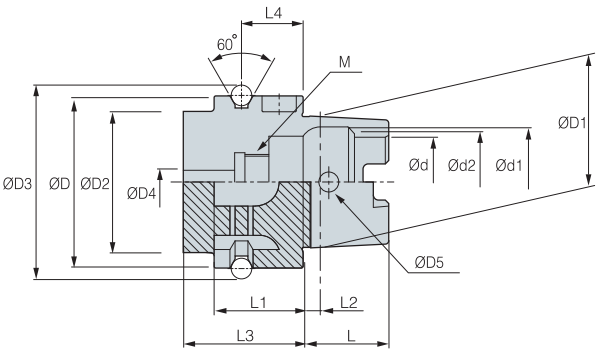


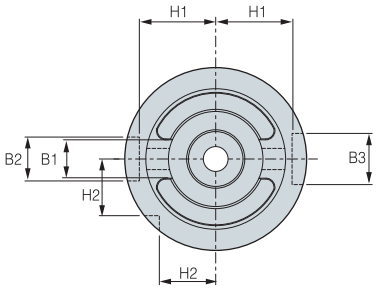
Shank	ØD	ØD1	ØD2	L	L1	L2	L3	A	B	M
NT30	46	31.75	17.4	68.4	48.4	16.2	10	1.6	16.1	UNC 1/2-13
NT40	63	44.45	25.3	93.4	65.4	22.5	10	1.6	16.1	UNC 5/8 -11
NT50	100	69.85	39.6	126.8	101.8	35.3	14	3.2	25.7	UNC 1 - 8
NT60	155	107.95	60.2	206.8	161.8	60	15	3.2	25.7	UNC 1,1/4 -7

(Unit : mm)

1:1 CHAT

HSK SHANK DIN 69893-1, ISO 12164-1 : 2001





Shank	ØD	ØD1	ØD2	ØD3	ØD4	ØD5	L	L2	L3	L4
HSK 40A	40	30	34	45	5.0	4.6	20	20	35	16
HSK 50A	50	38	42	59.3	6.8	6.0	25	26	42	18
HSK 63A	63	48	53	72.3	8.4	7.5	32	26	42	18
HSK100A	100	75	88	109.75	12	12.0	50	29	45	20

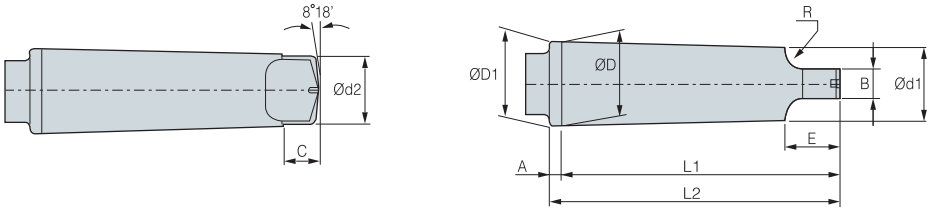
(Unit : mm)

Shank	Ød	Ød1	Ød2	B1	B3	B2	H1	H2	M
HSK 40A	21	25.5	23	8.05	11	9	17	12	M12×1.0
HSK 50A	26	32	29	10.54	14	12	21	15.5	M16×1.0
HSK 63A	34	40	37	12.54	18	16	26.5	20	M18×1.0
HSK 100A	53	63	58	20.02	22	20	44	31.5	M24×1.5

(Unit : mm)

1:1 CHAT

MORSE TAPER (Tang Type)

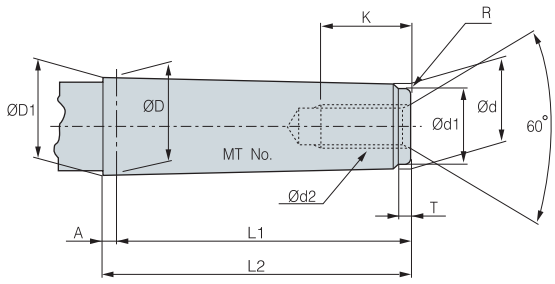


Shank	Taper	Taper Angle(a)	ØD	A	ØD1	Ød1	L1	L2	Ød2	B	C	E	R	r
MT0	1/19.212	1°29'27"	9.045	3	9.201	6.104	56.5	59.5	6	3.9	6.5	10.5	4	1
MT1	1/20.047	1°25'43"	12.065	3.5	12.24	8.972	62	65.5	8.7	5.2	8.5	13.5	5	1.2
MT2	1/20.020	1°25'50"	17.78	5	18.03	14.034	75	80	13.5	6.3	10	16	6	1.6
MT3	1/19.922	1°26'16"	23.825	5	24.076	19.107	94	99	18.5	7.9	13	20	7	2
MT4	1/19.254	1°29'15"	31.267	6.5	31.605	25.164	117.5	124	24.5	11.9	16	24	8	2.5
MT5	1/19.002	1°30'26"	44.399	6.5	44.741	36.531	149.5	156	35.7	15.9	19	29	10	3
MT6	1/19.180	1°29'36"	63.348	8	63.765	52.399	210	218	51	19	27	40	13	4
MT7	1/19.231	1°29'22"	83.058	10	83.578	68.186	286	296	66.8	28.6	35	54	19	5

(Unit : mm)

1:1 CHAT

MORSE TAPER (Screw Type)



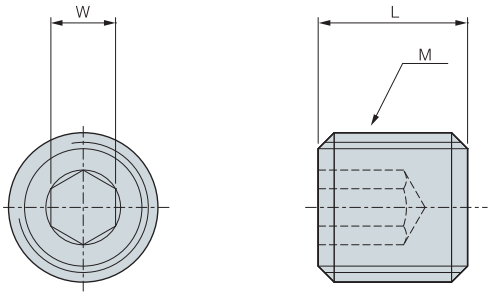
Shank	Taper	Taper Angle(a)	ØD	A	ØD1	d	L1	L2	Ød1	d2	K	T	R
MT0	1/19.212	1°29'27"	9.045	3	9.201	6.442	50	53	6.4	-	-	4	0.2
MT1	1/20.047	1°25'43"	12.065	3.5	12.230	9.396	53.5	57	9.4	M6	16	5	0.2
MT2	1/20.020	1°25'50"	17.780	5	18.030	14.583	64	69	14.6	M10	24	5	0.2
MT3	1/19.922	1°26'16"	23.825	5	24.076	19.759	81	86	19.8	M12	28	7	0.6
MT4	1/19.254	1°29'15"	31.267	6.5	31.605	25.943	102.5	109	25.9	M16	32	9	1
MT5	1/19.002	1°30'26"	44.399	6.5	44.741	37.584	129.5	136	37.6	M20	40	9	2.5
MT6	1/19.180	1°29'36"	63.348	8	63.765	53.859	182	190	53.9	M24	50	12	4
MT7	1/19.231	1°29'22"	83.058	10	83.578	70.058	250	260	70	M33	80	18.5	5

(Unit : mm)

1:1 CHAT

SPARE PARTS

Set Screw (BSA, BKA, FZ, FF, SLA, SMH)



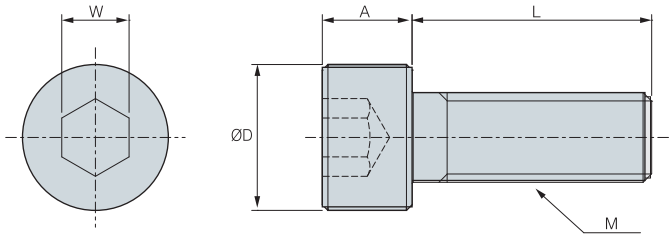
Designation	M	L	W
BTF0505	M5x0.8	5	2.5
BTF0606	M6x10	6	3
BTF0608	M6x1.0	8	3
BTF0808	M8x1.25	8	4
BTF0812	M8x1.25	12	4
BTF1010	M10x1.5	10	5
BTF1012	M10x1.5	12	5
BTF1016	M10x1.5	16	5
BTF1060	M10x1.5	60	5
BTF1212	M12x1.75	12	6
BTF1212-1.5	M12x1.5	12	6
BTF1414-1.5	M14x1.5	14	6
BTF1216	M12x1.75	16	6
BTF1220	M12x1.75	20	6
BTF1225	M12x1.75	25	6
BTF1230	M12x1.75	30	6
BTF1616	M16x2.0	16	6
BTF1616-1.5	M16x1.5	16	8
BTF1624-1.5	M16x1.5	24	8
BTF1818-1.5	M18x1.5	18	8
BTF2020	M20x2.5	20	10
BTF2020-1.5	M20x1.5	20	10

(Unit : mm)

1:1 CHAT

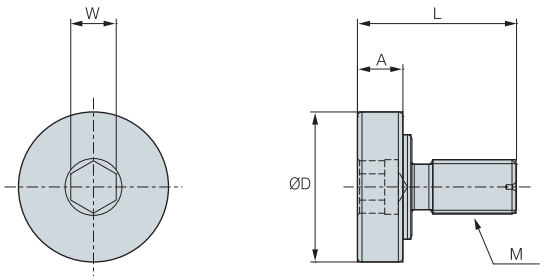
SPARE PARTS

Clamp Bolt (FMA, FMC, TBC, FBC, DBC)



Designation	M	A	L	ØD	W
BX0310	M3x0.5	3	10	5.5	2.5
BX0412	M4x0.7	4	15	7	3
BX0416	M4x0.7	4	16	7	3
BX0515	M5x0.8	5	15	8.5	4
BX0516	M5x0.8	5	16	8.5	4
BX0616	M6x1.0	6	16	10	5
BX0620	M6x1.0	6	20	10	5
BX0625	M6x1.0	6	25	10	5
BX0630	M6x1.0	6	30	10	5
BX0820	M8x1.25	8	20	13	6
BX0825	M8x1.25	8	25	13	6
BX0830	M8x1.25	8	30	13	6
BX1020	M10x1.5	8	20	16	8
BX1030	M10x1.5	8	30	16	8
BX1035	M10x1.5	8	35	16	8
BX1230	M12x1.75	12	30	18	10
BX1235	M12x1.75	12	35	18	10
BX1640	M16x2.0	16	40	24	14
BX1645	M16x2.0	16	45	24	14

(Unit : mm)



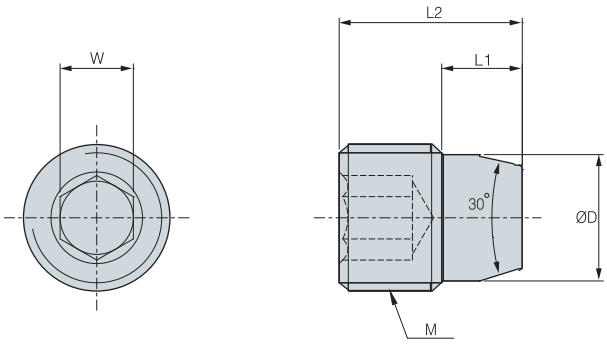
Designation	M	A	L	ØD	W
MBA-M8	M8x1.25	7	26	20	6
MBA-M10	M10x1.5	9	32	28	8
MBA-M12	M12x1.75	10	35	33	70
MBA-M16	M16x2.0	10	50	40	14
MBA-M20	M20x2.5	14	54	50	17
MBA-M24	M24x3.0	14	62	65	19

(Unit : mm)

1:1 CHAT

SPARE PARTS

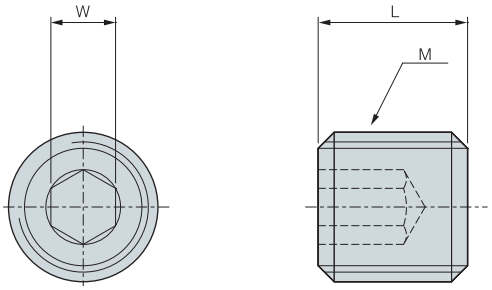
Taper Screw (SLA, FF, MD, EXT, RDC)



Designation	M	L1	L2	ØD	W
BTT0506F	M5x0.5	2.8	5.5	4.1	2.5
BTT0608F	M6x0.75	3.8	8	4.9	9
BTT0810F	M8x0.75	4.8	10	6.9	4
BTT1013F	M10x1.0	5.75	13	8.5	5
BTT1215F	M12x1.0	6.8	16	10.5	6
BTT1620F	M16x1.5	8.8	20	13.8	8
BTT1626F	M16x1.5	10.75	26	13.8	8
BTT1631F	M16x1.5	10.75	31	13.8	8

(Unit : mm)

Set Screw (TBC/FBC)



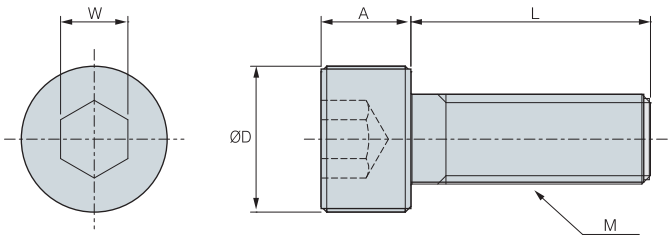
Designation	M	L1	W
BT0645	M6x1.0	45	3
BT0660	M6x1.0	60	3

(Unit : mm)

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SPARE PARTS

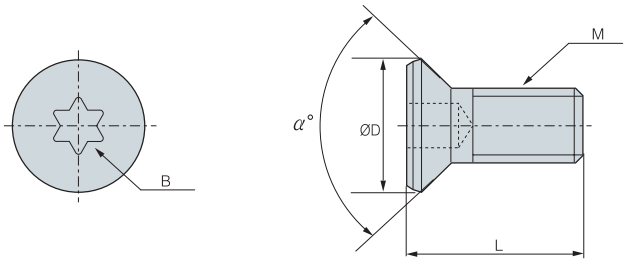
Clamp Bolt (FBB BITE)



Designation	M	A	L	ØD	W
BXC0304	M3x0.5	2	5	5.5	2
BXC0405	M4x0.7	2.8	6	7	2.5
BXC0506	M5x0.8	3.5	6	8.5	3
BXC0610	M6x1.0	4	10	10	4
BXC0810	M8x1.25	5	10	13	5
BTT1620F	M16x1.5	8.8	20	13.8	8

(Unit : mm)

Insert Screw



Designation	M	L	ØD	B	α°	(N·m)
BFTX0203A	2×0.4	3	2.7	T6	90	0.5
BFTX0204A	2×0.4	4.3	2.7	T6	90	0.5
BFTX0307A	3×0.5	6.8	4.3	T10	90	2.0
BFTX0410A	4×0.7	10.3	5.6	T15	90	3.4
BFTX02506N	2.5×0.45	5.5	3.45	T8	60	1.5

(Unit : mm)

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DINE
DINE GROUP

Head Office (15118) 24, MTV , Siheung-si, Gyeonggi-do, Republic of Korea (Jeongwang-dong) | T. +82-31-488-6200

Branch Office in China T. +86-532-8588-5907 | E. dine@dinox.com.cn
4th/5th Floor, 88 Building, Beijing Capital Airport International Center, No.6th Changchengnan Road, Chengyang District, Qingdao, Shandong Province,China(post code : 266108)

Branch Office in Vietnam T. +84-24-7300-6991 | E. sales@dine.com.vn
4th Floor, Tower B, Golden Palace Building, Me Tri ward, Nam Tu Liem district, Hanoi, Vietnam

Branch Office in Thailand T. +66-02-108-8911~3 | E. dine.thai@dine.co.kr
1/38 Bangna Thani Building 19B th Floor, Bangna-Trad 34 Alley, Bangna Tai Sub-district, Bangna District, Bangkok [10260]

Branch Office in Spain T. +34-911-09-59-35 | E. dms@dine.com
Avda. de los Montes de Oca, 19, Nave 3, 28703, San Sebastian de los Reyes, Madrid

www.dine.co.kr E-mail: dine@dine.co.kr