DINOX

NC TOTAL 2018~19
TOOLING SYSTEM

DINE

30th Anniversary

DYNAMIC DINE

1988 - 2018

Homepage

Facebook

YouTube

CATALOG MANUAL

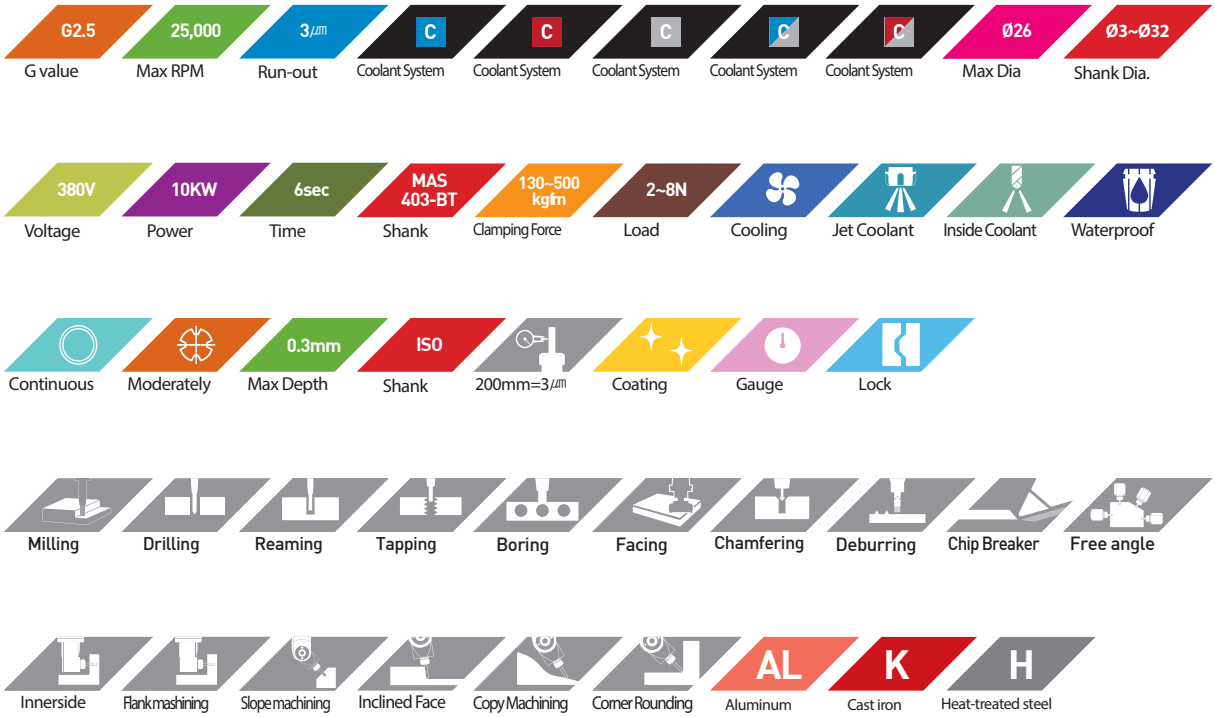
NC TOTAL TOOLING SYSTEM

Catalog Layout Guide

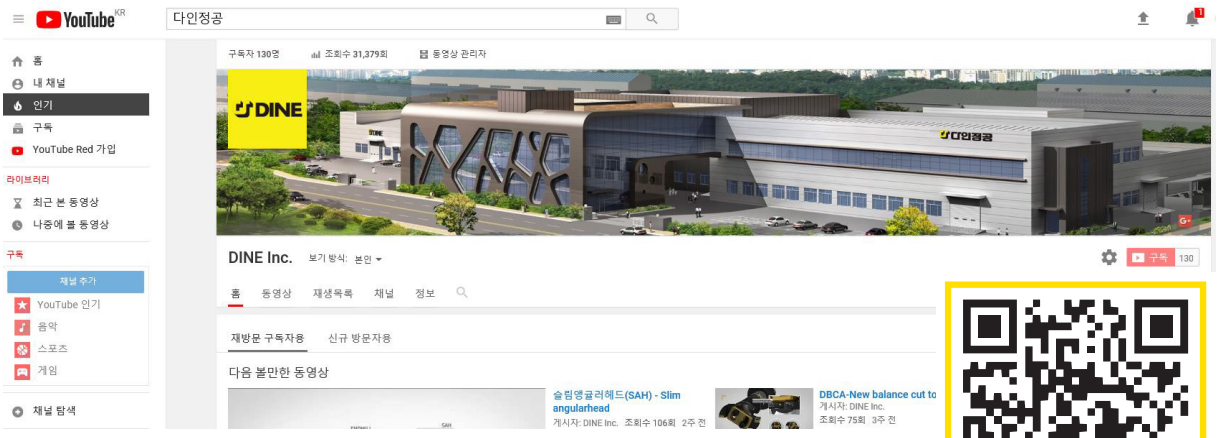
Facebook

- https://www.facebook.com/DINE0701

Description of Important Pictogram



Youtube



- https://www.youtube.com/channel/UC1NSQaC6HSHEEn8kc9zHfeA

HISTORY

1975. 07	Established Hanju Trading Company (importer and vendor of hard metal 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 Department
1994. 08	Made a contract with Sumitomo (Japan) to introduced manufacturing technology of cBN cutting tools
1995. 12	Tooling System factory was transferred (in Sihwa Industrial Complex)
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, ILSHIN Industry, Presto Co., Ltd.
2000. 02	Designated as a family company of IBK (IBK: outstanding enterprise)
2001. 07	Acquired ISO 9001: 2000 certification (Small and Medium Enterprises Certification Center)
2001. 11	Won the "3 Million Dollar Export Tower" award during the 38th Trade Day
2003. 03	Made an application for patent for "Milling chuck supporting the more accurate connection of cutting tools" (Application Number 10-2003-0015317)
2004. 11	Won the "5 Million Dollar Export Tower" award during the 41st Trade Day
2006. 01	Started operation of the 2nd Sihwa Factory
2006. 04	Designated as an enterprise for small and medium-sized enterprises learning enterprise project
	(Human Resources Development Service of Korea)
2006. 06	Established 高耐大因刀具商贸(青島)有限公司 (sales subsidiary in China)
2006. 10	The establishment of DINE, Inc. Tool Laboratory was acknowledged
	(Korea Industrial Technology Association)
2006. 11	Won the "10 Million Dollar Export Tower" award during the 43rd Trade Day
2006. 12	Designated as a technical innovation-type small enterprise (INNO-BIZ) (Small Business Administration)
2007. 01	Opened the knowledge management system "Dian"
2007. 04	Obtained Patent (No. 10-0713805) for
	"Milling chuck with foreign material prevention function and robust construction"
2007. 06	Opened the call center
2007. 08	Designated as a promising small enterprise in Gyeonggi-do (for 5 years)
2007. 10	Established 高耐大因工具制造(青島)有限公司 (manufacturing subsidiary in China)
2007. 12	Receive a presidential citation at the 7th Machine Tool Experts' Day (President Yun Hye-seop)
2008. 07	Held a ground-breaking ceremony for the manufacturing subsidiary in China (高耐大因工具制造(青島)有限公司)
	Achieved the zero hazard goal 2 times
2008. 10	Achieved the zero hazard goal 3 times
2008. 12	Won the "20 Million Dollar Export Tower" award during the 45th Trade Day /
	Won the grand prize in the 3rd Gyeonggi-do Small Enterprises Awards for the export category

HISTORY

NC TOTAL TOOLING SYSTEM

2009. 12	Signed an MOU with the Qingdao bonded area / Held a ceremony for the completion of the manufacturing enterprise in China
2010. 02	Made an application for patent for the Tool Holder Installation System (Application Number 10-2010-0012422)
2010. 03	Established WEB ERP (company-wide resources management) System
2010. 06	Made a contract for the fostering of technical skills (Human Resources Development Service of Korea)
2010. 07	Won the 8th Siheung-si Women's Award (President Yun Hye-seop) for the economy category
2010. 09	Designated as the best enterprise for human resources development (Best HRD)
2010. 11	Productivity Management System (PMS) Certified /Won the IBK Export Tower - Stone Tower / Designated as a management innovation-type small enterprise (MAIN-BIZ) (Small Business Administration)
2011. 03	Named "Korea's Best Trader of the Month" - President Yun Hye-seop
2011. 05	Made the "Contract for National Team Member of the 41st UK International Vocational Training Competition"
2011. 08	Patent No. 10-1060687 Fine Adjustment Cutting Tools Module for Machine Tool using Dual Pitch Screw
2011. 09	Acquired ISO 14001 Certification
2011. 11	Acquired Certifications for Achieving the Zero Hazard Goal 2 Times (Head Office) and 3 Times (Factory)
2011. 12	Won the "30 Million Dollar Export Tower" award during the 48th Trade Day
2012. 04	Acquired Excellent Green-Biz Certification (Small Business Administration)-A Class
2012. 05	Designated as a potential Korean hidden champion enterprise (Export-Import Bank of Korea)
2012. 08	Made a contract for the rehabilitation of the social contribution business (Siheung City Hall)
2013. 03	Received a citation from the Minister of Knowledge Economy during the 40th Commerce and Industry Day: Yun Hye-seop
2013. 04	Received a citation from the Head of the Fair Trade Commission during the 12th Fair Trade Day: Yun Hye-seop
2013. 07	Established the FTA SYSTEM
2013. 08	Acquired Place of Origin Approved Exporter Certification
2013. 12	Received a citation for the sponsorship of Siheung-si 1% Welfare Foundation from the Mayor of Siheung-si
2014. 06	Acquired DSP Tooling (DSP)
2014. 12	Established the Standard Cost Operation System
2015. 07	Opened the Incheon Distribution Center (DIW)
2015. 12	Integrated and moved the Head Office and Factory-to Siheung Smart Hub MTV Industrial Complex
2016. 01	Introduced and established the automatic storage system Established the production system of small tools for the IT industry Established the new office in Busan
2016. 04	Held a ceremony for the completion of the new factory in Sihwa Smart Hub MTV
2016. 07	Awarded the Presidential Medal during the 2nd Strong Medium Enterprises Day (President Yun Hye-seop)
2016. 11	Won the Creative Technology Award during the autumn symposium of KSMTE (President Yun Hye-seop)
2016. 12	Won the "50 Million Dollar Export Tower" award during the 55th Trade Day (annual sales 100 billion won)
2017. 01	Launched the second brand - Tau Max - and started sales of its products
2017. 02	Established a branch in Vietnam
2017. 03	Started the sunlight generation business
2017. 04	Designated as a small hidden champion in 2017 (Ministry of Employment and Labor)
2018. 01	Created the Robot Business Division

Safety Guidelines

Before use, check the following:
For common and specific precautions, please refer to the main text.

The precautions below are designed to guarantee safe and correct use of DINOX products and to prevent injuries. Precautions are divided into "Danger," "Warning," and "Caution" based on the severity of injuries and damages that may be caused by improper use. Every precaution contains important information on safety, so you must observe all precautions.

DANGER	Important matters wherein death or serious injury may be caused by inaccurate or improper operation.
WARNING	Matters wherein death or serious injury may be caused by inaccurate or improper operation.
CAUTION	Matters wherein minor injury or material damage may be caused by inaccurate or improper operation.

You must observe the occupational safety and health acts and other safety regulations.
Please be aware that, in some cases, a situation marked as "Caution" may have more serious consequences. Every precaution contains important information on the safety, so you must observe all precautions.

WARNING

You must choose the correct tooling.

Products in this catalog will be used in various conditions. The suitability of the product for the system should be determined by the designer of the overall system or user after performing all the necessary analyses and inspections. The person who determined the suitability for the system should assume responsibility for the expected performance and safety assurance of this system. When configuring the system in the future, please review all matters described in the latest product catalog and data and consider the failure conditions of the device.

Tooling should be controlled by a person with proper knowledge and experience.

Before using the product, read this catalog and the user's manual carefully. Inaccurate or improper use of tooling may cause injury or material damage. Tooling is designed for machine tools. It should be controlled by a person who knows how to operate and maintain this product and the related machine tools.

Tooling is designed for machine tools. Do not use it for other devices.

Precautions for tooling/common matters

Before use, confirm the following matters.
You must also check the "Safety Guidelines" and each precaution.

When selecting this product

⚠ WARNING

Check the dimension and shape of the main axis shaft and tooling shank.
- If the dimension or shape is incorrect, tooling may be detached due to improper installation, or the main shaft or cutting tool of the machine tool may be damaged due to vibration during rotation.

Select a cutting tool with proper size and shape for the clamping part of tooling.
- If the size and shape of cutting tool are not matched with the clamping part of tooling, the cutting tool may be loosened or detached.

Select the proper cutting conditions.
- If you perform cutting under harsh conditions, the cutting tool and tooling may be damaged.

When handling this product

⚠ WARNING

When moving this product or taking it out of the case, prevent it from bouncing off or dropping.
- You may be injured.

Be careful when handling many packaged products at the same time or handling heavy tooling.
- Use a carrying device if necessary.

Do not alter or disassemble the tooling.
- Its functions or performance may deteriorate. If you need to alter or disassemble it, please contact DINE, Inc.

⚠ CAUTION

The shank and clamping part of the tooling must not have any scratch, groove, cutting powder, or rust.
- The cutting tool may be damaged due to decreased coaxiality and clamping force caused by abnormal run-out or vibration.

Do not touch the thread.
- Thread and incomplete screw are sharp, possibly causing injury.

When installing a cutting tool

⚠ WARNING

Must wear a protective gear when installing a cutting tool in tooling.
- If you touch the cutting tool with your bare hands, you may be injured by its sharp blade.

When installing the cutting tool in tooling, you must tighten it firmly.
- Use only the spanner for tightening designated by DINE. Insert it into the hook of spanner and tighten firmly. Do not hit the spanner with a hammer or other tools to tighten tooling more firmly.

When installing on a machine tool

⚠ WARNING

Before use, read the user's manual carefully.
- You must read and understand the contents of the user's manual before installing and using the product. Keep the user's manual nearby so that you can refer to it frequently.

⚠ CAUTION

When installing the tooling, check whether there is any dust, scratch, or rust in the main shaft, tooling shank, and clamping part.
- Run-out is affected by the shank of tooling, clamping part, and main shaft of the machine.

Inspect run-out (accuracy) on a regular basis.
- Install a test bar on the main shaft and tooling's clamping part and inspect run-out on a regular basis.

Pull Stud Bolt is a consumable and must be replaced on a regular basis.
- Otherwise, the machine, cutting tools, or tooling may be damaged due to fatigue failure. (Fatigue failure may occur after 5 months.)

During machining

⚠ WARNING

Do not touch the tooling when it is rotating.
- If you touch the rotating tooling or cutting tool, you may be hurt, or your clothes may be dragged into the machine.

Do not process the machine when no cutting tool is installed in the tooling.
- Screws and nuts may be loosened and scattered due to idling. If you want to idle the product, inspect parts first and install a device to prevent scattering or a dummy tool (fake tool).

Prevent reverse rotation.
- If the tooling is rotating in reverse direction, the cutting tool may be damaged, and parts may be scattered.

During machining, place a safety cover and wear protective goggles.
- You may get cut or burned by hot cutting powders.

When installing a high-pressure coolant machining device, keep your hands and body away from the edge of the device.
- You may be injured by the scattering of cutting tool.

After machining

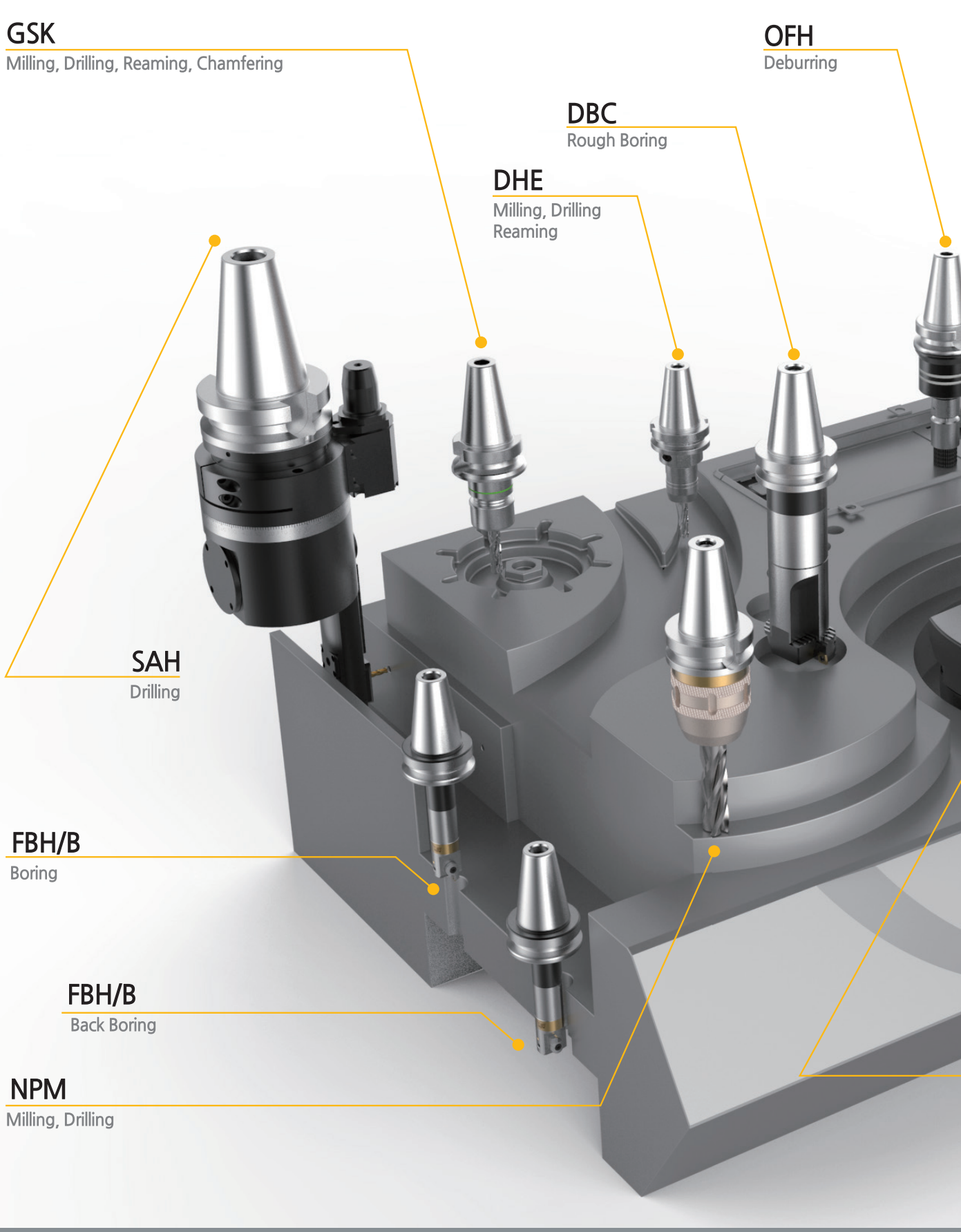
⚠ STORAGE

Wipe off cutting powders and other fragments from tooling, apply rust-preventing oil, and store the tooling in a safe place to prevent any scratch or groove in the shank and holder.

When storing the tool's holder for a long time, separate the cutting tool from it.
- If the cutting tool is installed but not operated for a long time, the clamping force may be decreased. If you store the holder with the cutting tool for a long time, loosen the collar and tighten it again before use.

TOOL APPLICATION

NC TOTAL TOOLING SYSTEM

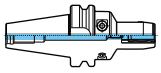



DST
Tapping
DSK
Milling, Drilling
SDC/P
Milling, Drilling
Tapping
MAH
Milling, Drilling
SLIM DSC
Milling, Drilling, Reaming,
Chamfering
TBC • FBC
Large boring
KMB
Micro boring
DINE

DINOX MAP

NC TOTAL TOOLING SYSTEM

1. Hydraulic expansion chuck



DHE P.60

DHC COLLET P.62

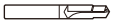
DHJ P.62

DZC COLLET P.63

DRILL

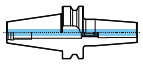
ENDMILL

REAMER

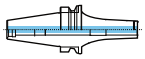


BURNISHING DRILL

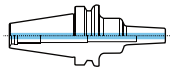
2. Shrinking chuck



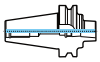
DSC P.64



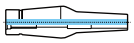
DSC/M P.65



DSC/S P.67

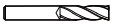


SLK P.69



CM/CS P.68

DRILL

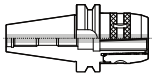


ENDMILL

REAMER

BURNISHING DRILL

3. Milling chuck

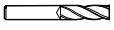


NPM P.72

DZC COLLET P.63

ENDMILL

DRILL



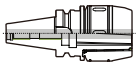
ENDMILL

DRILL

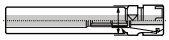
DCS COLLET P.74

DC COLLET P.74

TC COLLET P.75



CPM P.71

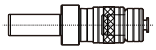


S-SDC/S P.141

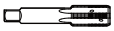
DRILL

ENDMILL

DJT P.75



S-DTN P.144

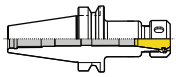


TAP

S-FBH P.143

INSERT

4. Collet chuck



SDC/P P.78

TER COLLET P.93

TAP

ER COLLET P.80

GERC COLLET P.80

DRILL

ENDMILL

DSK P.84

GSK P.82

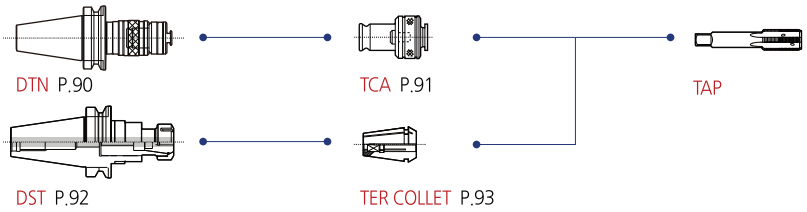
HC COLLET P.86

5. Drill chuck

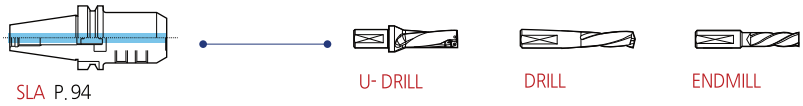
NPU P.88

DRILL

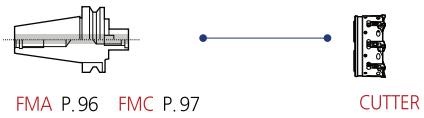
6. Tapping holder



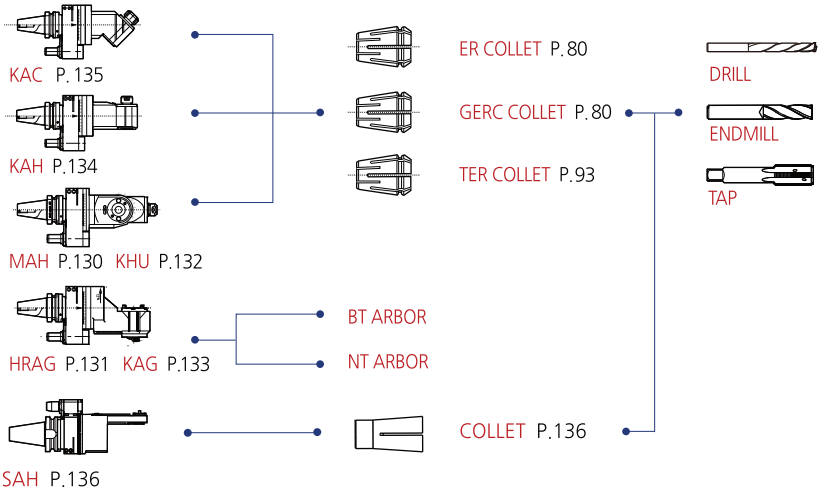
7. Side lock arbor



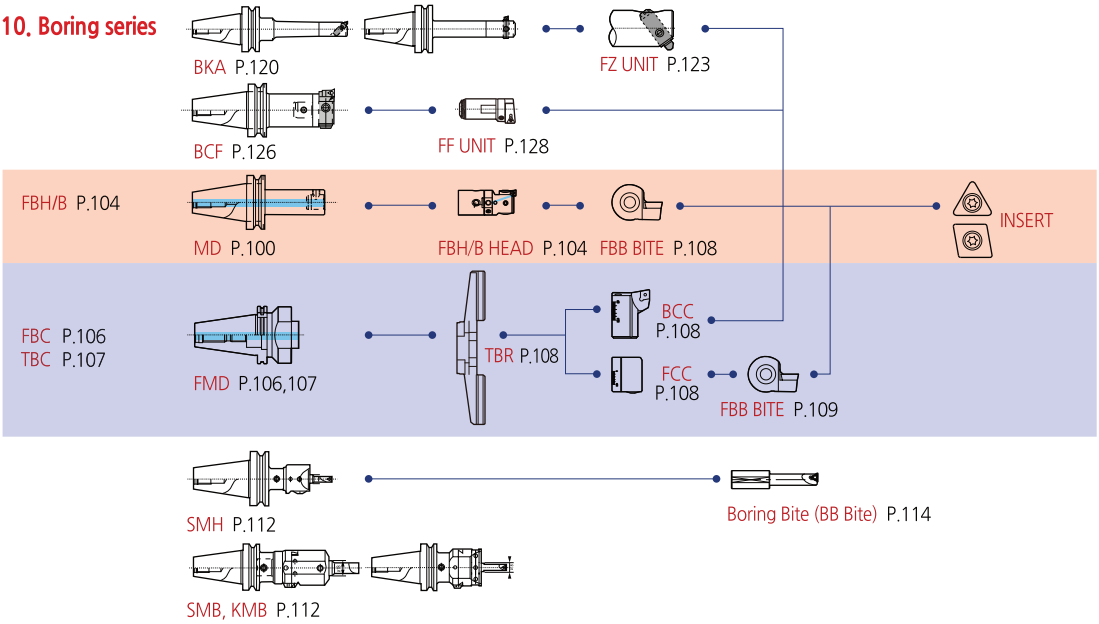
8. Face mill arbor



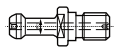
9. Angular head



10. Boring series



11. Pull stud bolt



MASTER INDEX

NC TOTAL TOOLING SYSTEM

CHUCK

DHE

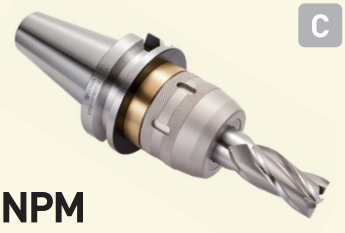
Hydraulic expansion chuck

DSC

Shrinking chuck

CPM

Champion milling chuck



NPM

New power milling chuck

NPM Set.

New power milling chuck set.

DZC

Zero fit collet

DCJ

DINE Jet coolant collet(for milling chuck)

SDC/P

Precision collet chuck for multi purpose machining

RTJW

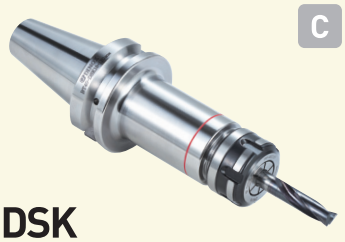
Jet coolant disk

GERC

GERC Collet

SDC

ER collet chuck



DSK

Slim-type collet chuck

C Internal coolant system installed.
C Internal coolant system optional.
C This product does not support the internal coolant system.

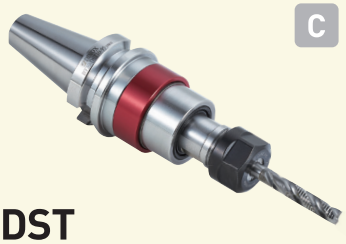
CHUCK

GSK
Great speed slim collet chuck

HC collet
HC slim collet

DTN
Tapping holder

TCA
Tap adapter

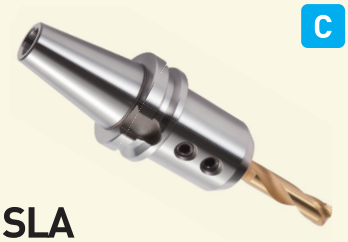


DST
High-speed synchro tapping chuck

TER collet
TER Collet_ER tap collet

NPU
Drill chuck

OFH
Floating holder for brush



SLA
Side lock arbor

FMA
Face mill arbor

FMC
Facemill arbor

MD
Modular arbor

MODULAR

MASTER INDEX

NC TOTAL TOOLING SYSTEM

MODULAR

EXT
Extension bar

RDC
Reducer bar

FBH/B
Micro boring balanced type

BORING

FBH
Small micro boring

FBC/TBC
Rough boring tools

DBC
Boring tools (rough boring)

KMB
Micro boring

SMB
Small micro boring bar

SMH
Small micro boring bar (precision type)

SMH set.

NEW

SAH
Slim angular head

MAH
Rigidity Reinforced Angular Head

ANGULAR HEAD

C Internal coolant system installed.
C Internal coolant system optional.
C This product does not support internal coolant system.

ANGULAR HEAD

HRAG
Attachment type angular head
Features 39 BT shank 131

KHU
Angle-adjustable type angular head
Features 39 BT shank 132

KAG
Attachment type angular head
Features 39 BT shank 133

KAH
Fixed angle type angular head
Features 39 BT shank 134

KAC
Fixed angle type angular head
Features 39 BT shank 135

BORING

C

BSA
Square boring bar
BT shank 116

BH
BSA boring bite
Spec 119

C

BKA
FZ micro boring bar (finishing boring)
BT shank 120

C

FZ UNIT
FZ micro boring unit
Spec 123

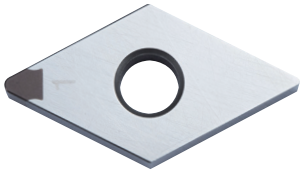
C

BCF
Micro boring bar
BT shank 126

C

FF
FF micro boring unit
Spec 128

cBN/PCD

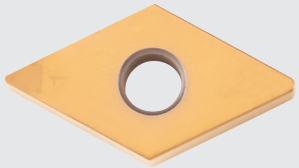


KB400
Solid-type cBN
Features 52 Spec 178

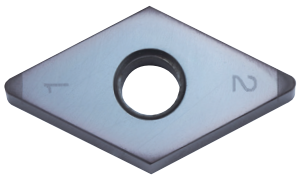
MASTER INDEX

NC TOTAL TOOLING SYSTEM

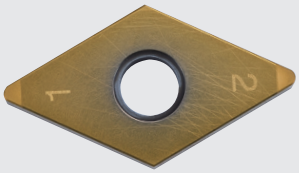
cBN/PCD



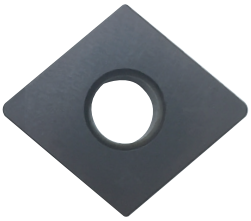
DNC400
Solid-type coating cBN



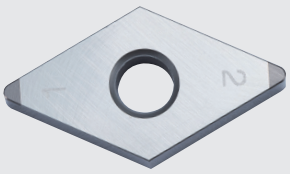
DNC350
Coating cBN



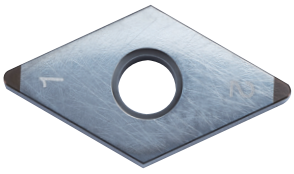
DNC250
Coating cBN



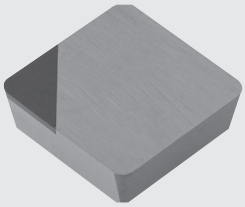
DNC100
Coating cBN



KB1000
Uncoated cBN



KB2000
Uncoated cBN



PCD
PCD insert (negative/positive)

ROT
Run-out tester

3D-Taster
Domestic sales only(in korea)

Other

Tool master lite
Tool master lite

Tool master quadra
Tool master quadra

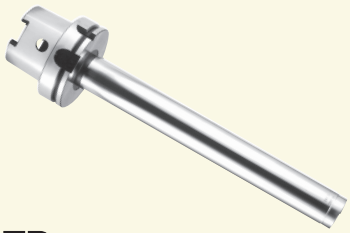
Tool boy
MODULAR

C Internal coolant system installed.
C Internal coolant system optional.
C This product does not support internal coolant system.

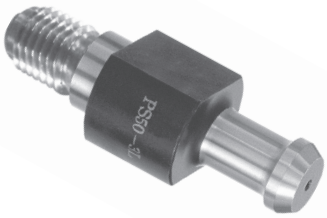
HT
HEIGHT TOUCH SETTER
Spec 194

DOP
DINE OPTICAL EDGE FINDER
Spec 194

DZOP
DINE Z AXIAL P RESET GAUGE
Spec 196



TB
Test bar
Spec 198



Pull stud bolt
Pull Stud Bolt
Spec 199

NEW PRODUCTS

DINOX NC TOTAL TOOLING SYSTEM

DZC NEW

Feature **25**page

SDC/P NEW

Feature **28**page

SAH NEW

Feature **42**page

Feature

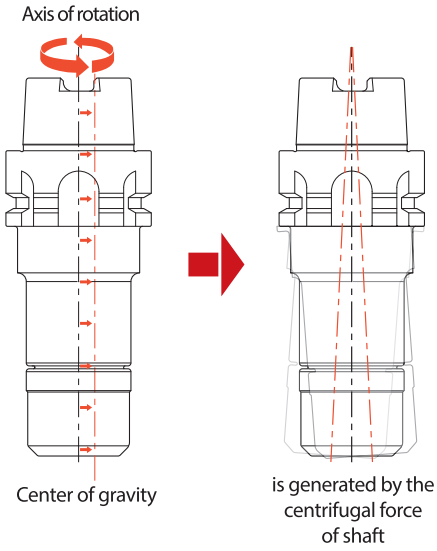
CHUCK

DINOX NC TOTAL TOOLING SYSTEM

BALANCING SYSTEM

Imbalance

※ Deviation of the tool's center of gravity from shaft



Reason for imbalance

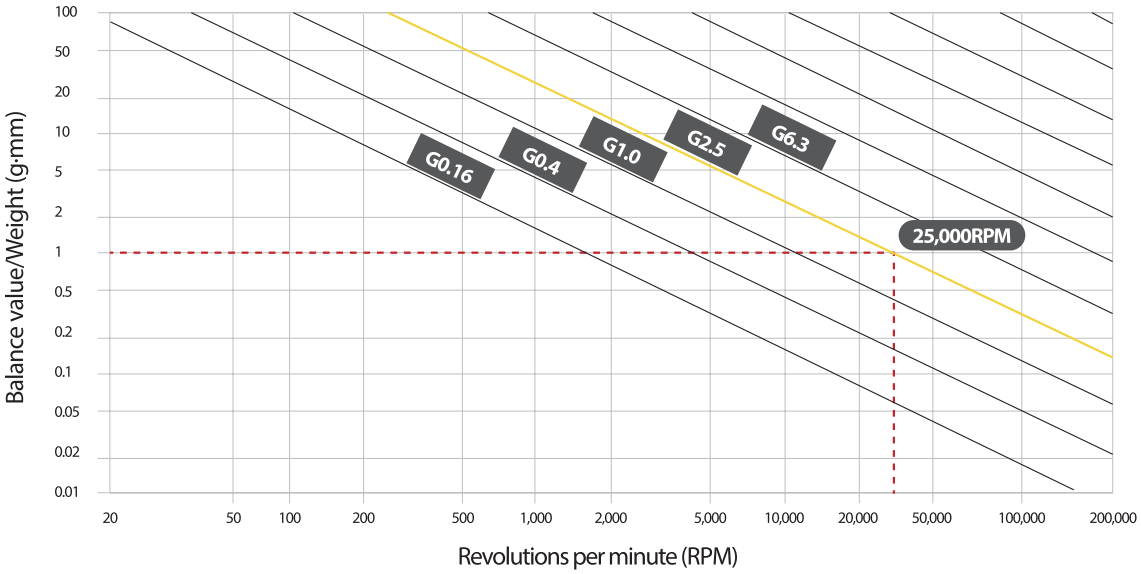
Imbalance is caused by the run-out of spindle and asymmetric shape of tool

Problem of imbalance

The center of gravity generates tool vibration; as a result, the life of tool and quality of machining surface are damaged, and noise occurs.

Necessity of balancing

Balancing is required to prevent imbalance. It is necessary to improve the quality of machining surface and life of tool.



※ G 2.5 @ 25 000 rpm is residual mass unbalance for 1 g mm. (ex. If the mass of product is 1 kg, allowable eccentricity of 1 ㎛ from the center of rotation.)

Industry sectors where balance is applicable

GRADE	Body of rotation
G17-40	Axle of automobile
G16	Parts of agricultural machines and truck engine
G6.3	Parts of machine tool and general machines, gas turbine rotor of airplane
G2.5	Main shaft of machine tool, gas turbine, steam turbine
G1	Grinding wheel spindle
G0.4	Precision grinding wheel spindle, gyroscope

DBT Series PAT.

For high-speed machining

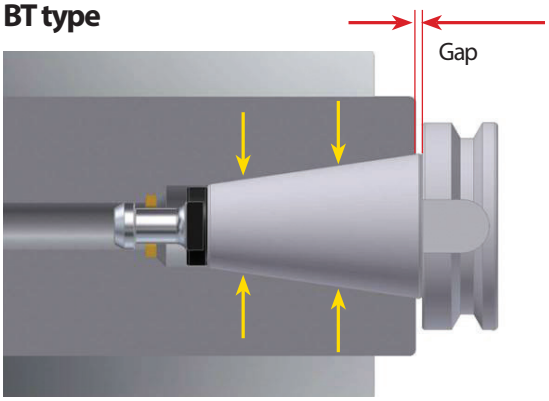
DBT spindle system

This system supports heavy cutting, high-speed machining, smooth surface profile, and finishing surface machining using two-face contact of taper and cross section.

Advantages of two-face contact

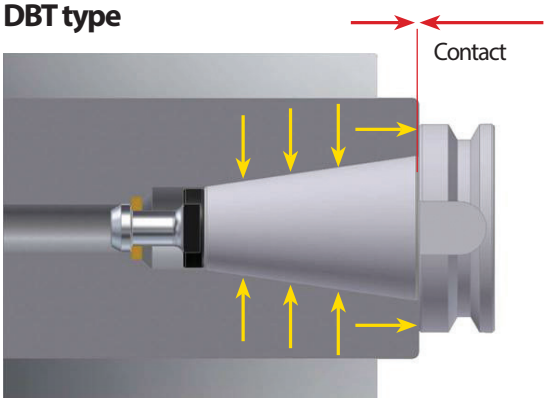
- Stable machining even at high speed
- Extends the life of tool's spindle and cutting tools
- Prevents corrosion of equipment and tool holder due to vibration during heavy cutting
- Guarantees optimal machining and high precision

BT type



The cross sections of spindle and shank are separated.

DBT type

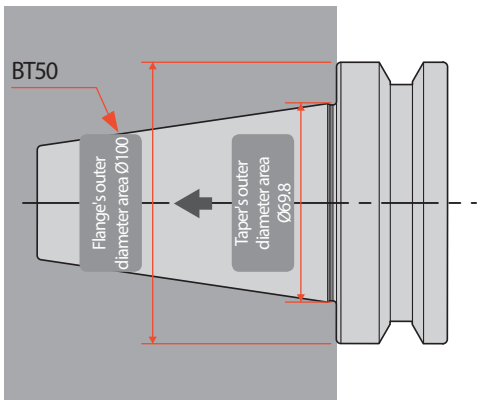


The cross sections of spindle and shank are in contact Improves the precision of machining / shaking

Improves rigidity

Unlike the BT shank that comes in contact only with the taper's cross section, in DBT shank, both the taper's cross section and flange's wide outer diameter are in contact. As a result, rigidity is improved.

Shank	Taper's outer diameter	Flange's outer diameter
BT30	Ø31.7 → Ø46	
BT40	Ø44.4 → Ø63	
BT50	Ø69.8 → Ø100	



Difference between taper's cross section and flange's outer diameter contact

DHE

Hydraulic expansion chuck

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

Features

- Optimized for the machining of mold, automobile parts, and precision parts with high precision
- Improved machining surface roughness due to vibration-proof effect of hydraulic cylinder
- Decreased time to replace and workers' fatigue because tools can be removed by T-wrench
- Clamping range: Ø6~Ø32

Designation

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

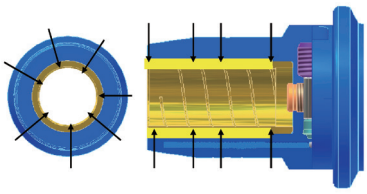
Features

With high precision, this product extends the life of cutting tools by decreasing their abrasion and improves the machining surface roughness by reducing vibration.

- RUN OUT: Less than 5㎛
- L = 3 x ØD
- Shank: Tolerance of ØD: h6

Hermetically sealed interior (durability)

- Prevents the infiltration of dust, cutting oil, and lubricating oil and chip etc. with complete sealing system in inner diameter part
- Maintains the clamping force and precision level for a long time

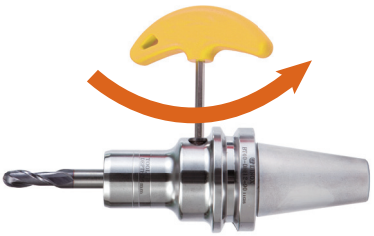


SHANK	Grade	Max.RPM
BT50, SK50,HSK100A	G6.3	8,000
BT40, SK40, HSK63A	G6.3	10,000
BT30, HSK50A, SK30	G6.3	15,000

C Internal coolant system installed.
C Internal coolant system optional. (HSK Shank)

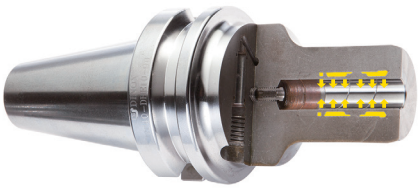
Tools can be removed using a T-wrench

- Clamping/Unclamping with simple/operation (convenience)
  : Decreases the fatigue of workers
  : Improves the operation rate of the machine



Stable clamping force

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



- BT : 60P HSK : 146P SK : 158P

DSC
Shrinking chuck

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

Features

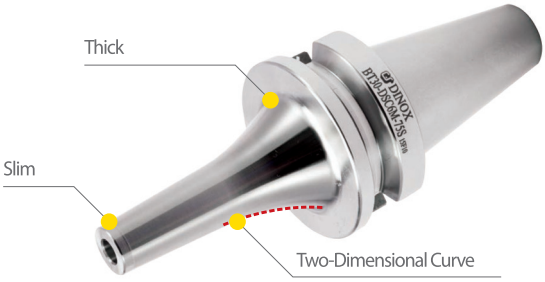
- Using special steel subjected to special heat treatment
- With this product, anyone can perform connection and machining with high precision.
- Extends the life of tools and precision of machining by minimizing interference and tool projection when machining a deep groove
- Clamping range: Ø3~Ø20

Designation

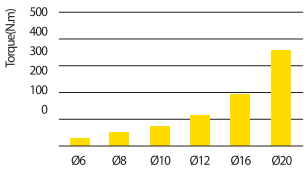
BT50	–	DSC	6	–	S	–	165	–	S
Shank Shape BT HSK SK ST CS CM		Holder type DSC: Shrinking chuck SLK: 2piece holder	Tool Dia.		Type S: Silm M: Middle NON: General		Length		Special S: Curve type NON: General

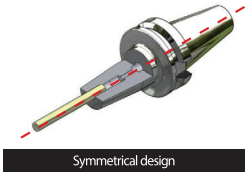
MONO CURVE TYPE

- Integral DSC with excellent precision and rigidity balance
- Long but rigid holder design

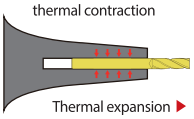
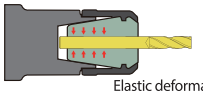


High clamping force




Symmetrical design

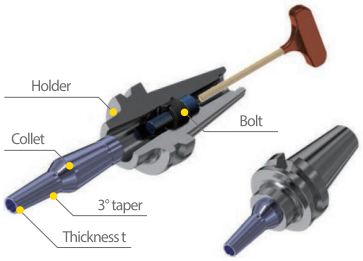
· Compared to the hydraulic expansion chuck, clamping force is increased by 30%
· Stable power delivery · Run-out (≤ 0.003mm)

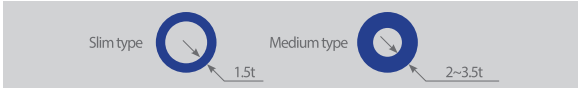
Shrinking chuck	Collet chuck
Fixes the space of holder and tool with thermal contraction	Fixes tools with the elasticity of collet
 Thermal expansion ▶ Thermal contraction	 Elastic deformation
Very high clamping force	High clamping force

MONO TYPE

Shape	Accuracy
 3° taper, Thickness t	 Run-out 3㎛

2-PIECE TYPE

Shape	Accuracy
 Holder, Collet, Bolt, 3° taper, Thickness t	 Run-out 5㎛



C Internal coolant system installed.

· BT : 64P ↗ ·ST : 138P ↗ HSK : 147P ↗ SK : 159P ↗

NPM

New power milling chuck

15㎛ | C | Milling | Drilling

Run-out | Coolant System

Features

- Strong clamping force of more than 500kgf*m (based on NPM42)
- Blocks foreign materials with the DUST BLOCK function
- Supports jet coolant
- Realizes high precision of around 15㎛ at L/D=3
- Clamping range: Ø20~Ø42

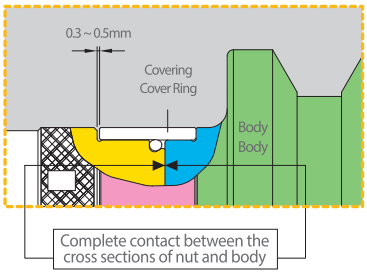
Designation

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

Strong clamping force

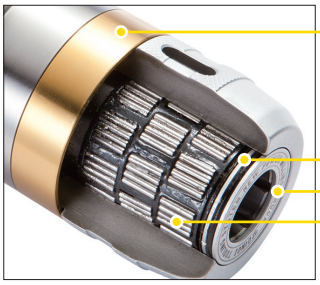
NPM20 : Min. 130kgf·m
NPM25 : Min. 265kgf·m
NPM32 : Min. 350kgf·m
NPM42 : Min. 500kgf·m
NPM32(Short type) : Min. 230kgf·m

Improves durability by preventing foreign materials (Dust Block) PAT.

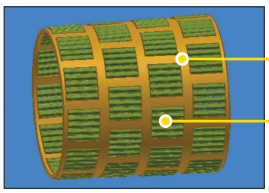


Front Stop Ring
- Prevents infiltration with SHIM RING and O-Ring

Performs clamping/unclamping within an average of 2.5 rotations



Needle Roller Bearing <NPM20>

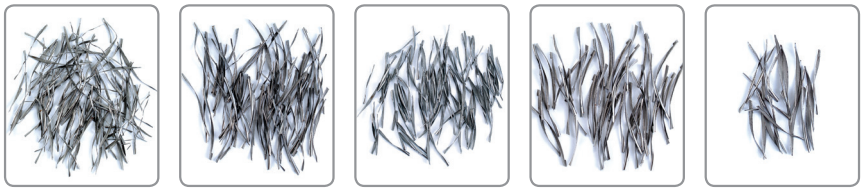


- Prevents damage with a special steel bearing
- Firm connection for chucking by dispersing the weight

Provides stable operation from semi-finishing to heavy cutting

Provides excellent vibration absorption and reinforced cutting power with complete contact of cross section and strong clamping force.

Provides stable operation from rough boring to heavy cutting



Depth of radial cutting (Rd)=1.0mm | Depth of radial cutting (Rd)=2.5mm | Depth of radial cutting (Rd)=3.5mm | Depth of radial cutting (Rd)=5.0mm | Depth of radial cutting (Rd)=8.0mm

C Internal coolant system optional.

• BT : 72P ↗ HSK : 148P ↗ SK : 160P ↗ NT : 174P ↗

DZC NEW

Zero fit collet

≤2㎛	C		
Run-out	Coolant System	Drilling	Reaming

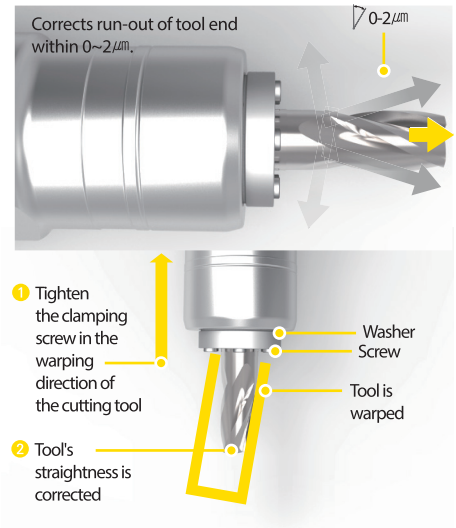
Features

- Calibrate of tool run-out(max. 0~2㎛).
- Improves the run-out and straightness of end tools.
- Improves the surface roughness and quality of the machining area.
- Improves the accuracy of hole dimension.
- Improves tool life.

Designation

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

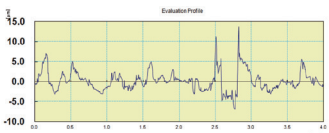
Main Features



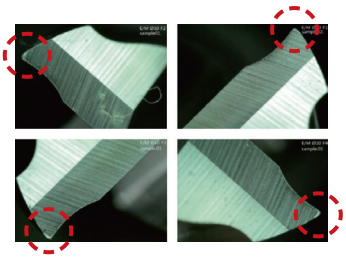
* Screw pushes the washer, correcting the straightness of the tool

Comparison Test

Run-out of tool end: 10~20 ㎛

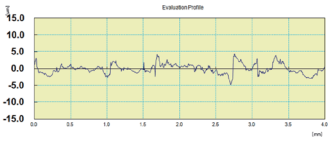


Surface roughness Rz 11.064

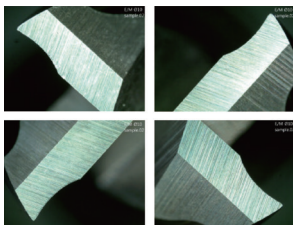


Tool fracture occurred

Run-out of tool end: 0~2 ㎛

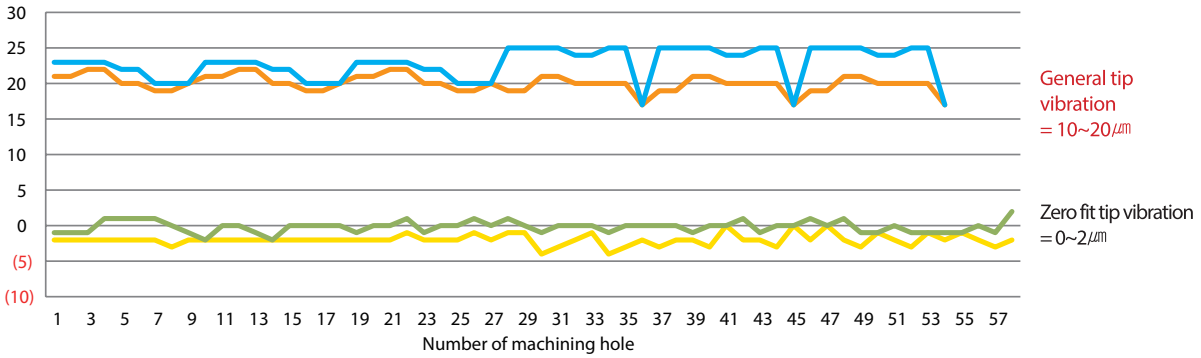


Surface roughness Rz 6.688



No fracture occurred

Results of hole machining test with PCD reamer



Zero fit top 0° | Zero fit top 90° | General top 0° | General top 90°

Deviation in hole measurement after machining (mm)		
Based on Ø8	Zero Fit	General
	+0.003	+0.02

• SPEC : 63P

CPM

Champion milling chuck

15㎛ | C | Milling | Drilling

Run-out | Coolant System | Milling | Drilling

Features

- Prevents leak of grease and infiltration of foreign materials with O-ring
- Supplies coolant to cutting tools using CTC Set
- Supports the adjustment of tool's length by inserting length-adjustable screw
- Provides stable cutting using the contact of cross sections
- Clamping range: Ø20~Ø32

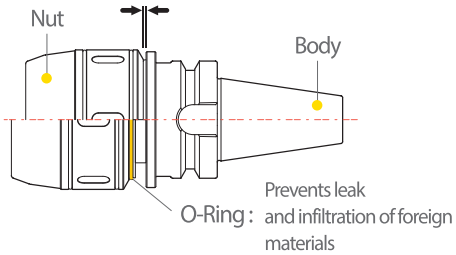
Designation

BT40	–	CPM	32	–	105
Spindle		Champion Milling Chuck	Tool Dia.		Length

Prevents leak of grease and infiltration of foreign materials

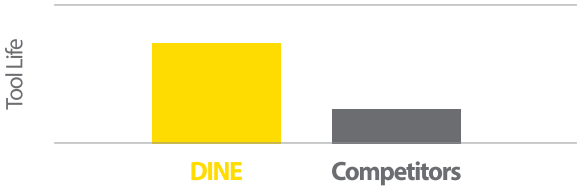
CPM provides durability and stable machining by attaching the O-ring to absorb and prevent vibration during cutting and increases the life of tools by preventing the infiltration of foreign materials into CPM

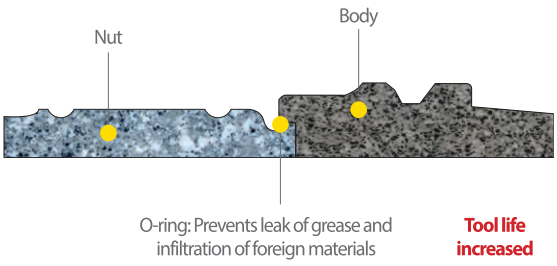
Provides stable cutting using the contact of cross sections and prevents the infiltration of foreign materials



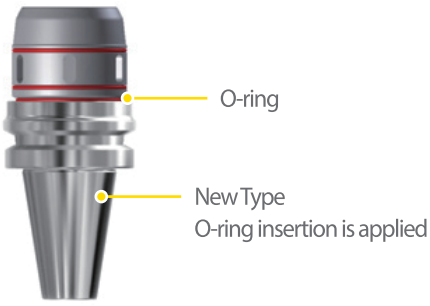
Effect of grease leak on the tool's life

The tool's life is increased after the foreign material prevention system is applied

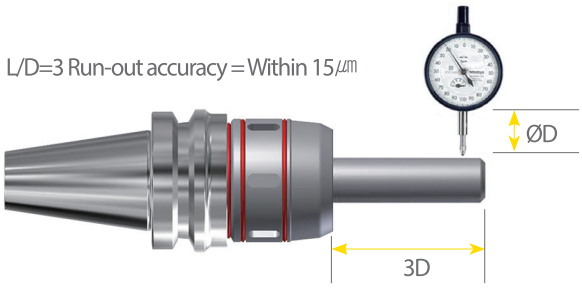




Unique design



Excellent precision



C Internal coolant system optional.

• BT : 71P

DCJ NEW

DINE Jet coolant collet (for milling chuck)

Features

- Extends the life of cutting tool by preventing adhesion between chip and tool
- Improves chip machining using strong Jet injection
- Maintains the performance of the existing milling chuck
- Can replace INSIDE, JET COOLANT fast by replacing collet
- Compatible with even extra-high-pressure internal coolant

NPM+JET COOLANT COLLET

Maching of Metals

Chip discharge

Fast cooling

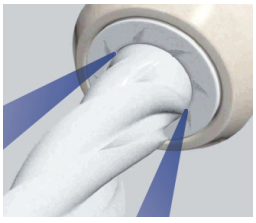
Extended tool life

Convenient assembly

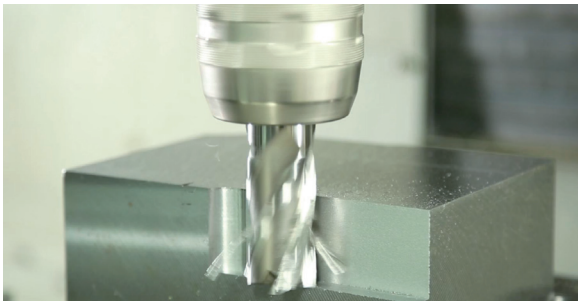
※ The user can connect only collet to the existing milling chuck (NPM, CPM) to use this product

Coolant type

- Jet coolant

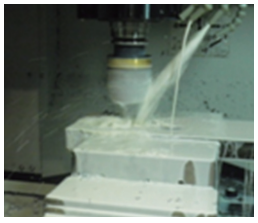


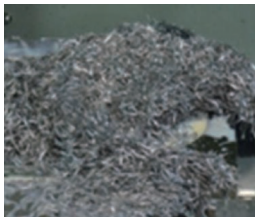
- Inside coolant



Chip discharge capacity

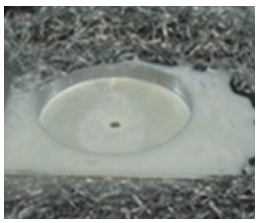
- External coolant





Stacked chips

- JET injection type



Discharged chip

SDC/P NEW

Precision collet chuck for multi purpose machining

Ø26 Max Dia | Milling | Drilling | Tapping

Features

- Improved precision (higher than conventional SDC)
- The well-arranged gauge line simplifies the management of model no. compared to conventional SDC
- ER collet chuck suitable for multi-purpose machining with SWISS-MADE sleeve nut adopted
- Clamping range: Ø1~Ø26

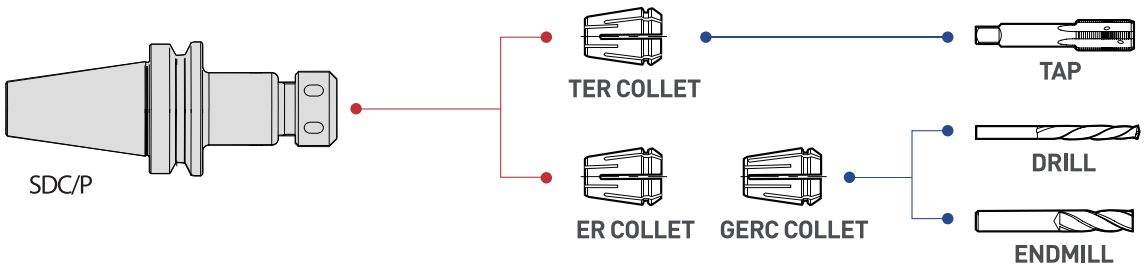
Designation

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

Premium Nut Adopted (SWISS made)

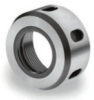
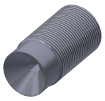
Before adoption		After adoption	
	General R/RU nut		Smooth sleeve bearing RN nut

SDC/P Application



SPARE PART

Main Components

Chuck	Main Components	
	Sleeve bearing nut	Adjustable screw
TYPE		
SDC 7P	RN11	BN0716F
SDC 10P	RN16	BN1025F
SDC 13P	RN20	BN1325F
SDC 16P	RN25	BN1830F
SDC 20P	RN32	BN2230F
SDC 26P	RN40	BN2838F

Components Not Included

Chuck	Components Not Included	
	Spanner	Collet
TYPE		
SDC 7P	20-22	GERC/ER 11-ØD
SDC 10P	32-35	GERC/ER 16-ØD
SDC 13P	35-38	GERC/ER 20-ØD
SDC 16P	42-46	GERC/ER 25-ØD
SDC 20P	48-52	GERC/ER 32-ØD
SDC 26P	62-65	GERC/ER 40-ØD

- BT : 78P ↗ HSK : 149P ↗ SK : 161P ↗

RTJW
Jet coolant disk

Jet coolant Inside coolant

Features

- Extends the life of cutting tool by preventing adhesion between chip and tool
- Improves chip machining using strong Jet injection
- Reduces the machine's downtime by fixing the location of the nozzle

Designation

RTJ	16	–	6
Jet Coolant Disk	ER Collet Size		Tool Dia.

Application

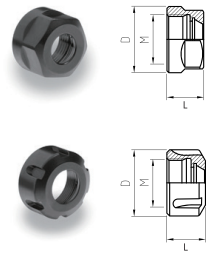
- The user can use Inside and Jet coolant simultaneously with one waterproof type (RT, RUT) NUT
- The user can replace Inside and Jet coolant by replacing only the disk
- Powerful jet injection not scattered even in high-speed rotation

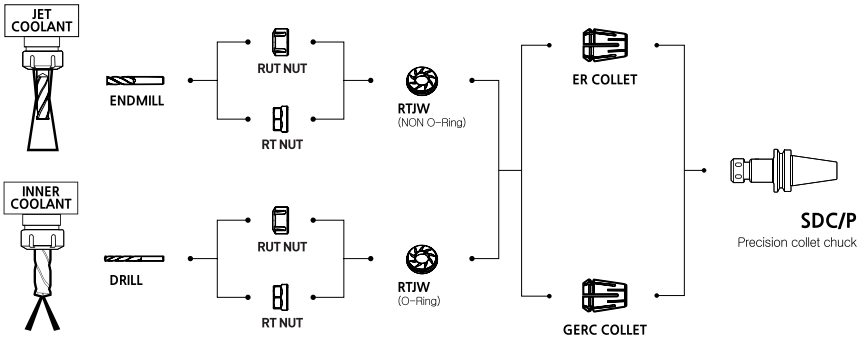
RT

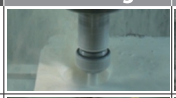
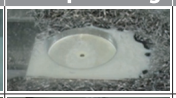
TYPE	M	D	L
RT16	M22x1.50	28.0	22.5

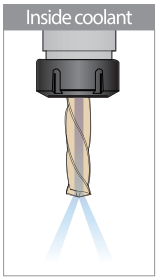
RUT

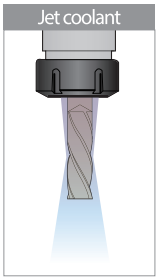
TYPE	M	D	L
RUT20	M25x1.50	35.0	24.0
RUT25	M32x1.50	42.0	25.0
RUT32	M40x1.50	50.0	27.5
RUT40	M50x1.50	63.0	30.5





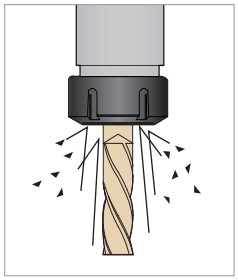
	Pocketing	After pocketing	Remarks
JET COOLANT			▶ Chips in pocket are removed completely by powerful JET injection
OUTSIDE COOLANT			▶ Chips in pocket are not removed ▶ Chips are stacked in collet and nut





Coolant type

by the intended use
Inside coolant, Jet coolant
Supports oil feeding



Prevents mixing

Prevents vibration effectively by preventing the infiltration of cutting chips using RTJW

• SPEC : 77P

GSK

Great speed slim collet chuck

G2.5	25,000	Ø25	C	Milling	**Drilling**	Reaming	Chamfering
G value	Max RPM	Max Dia	Coolant System				

Features

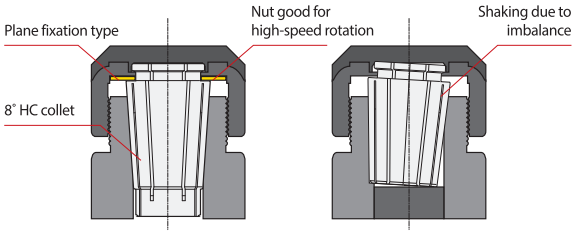
- Supports machining by balancing G2.5 up to 25,000RPM
- Improves machining productivity with high-speed machining
- Minimizes the vibration of tools during machining by adopting 8˚ collet
- Machining stability is optimized because SWISS MADE high-precision
- nuts press the collet evenly
- Clamping range: Ø1~Ø25

Designation

BT40	–	GSK	10	–	90
Spindle		Great Speed Silm collet chuck	Tool Dia.		Length

Unique design

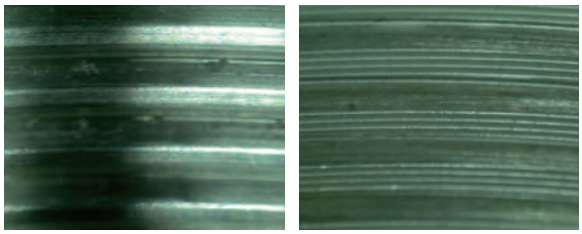
GSK	Competitors



Provides firm connection with 8˚ collet and excellent fixation by adopting the plane fixation type	Losing balance due to centrifugal force generated by high-speed rotation

Comparison of screw grinding in nut joint

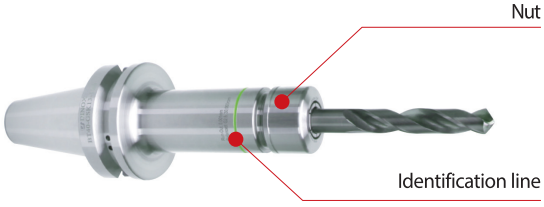
GSK	Competitors



Precise representation derived from screw grinding	Low-level precision due to turning

Unique design

Optimized for high-speed collet chuck. The user can designate the area of test bar and measure run-out conveniently with the unique design of this product



Spanner (optional)

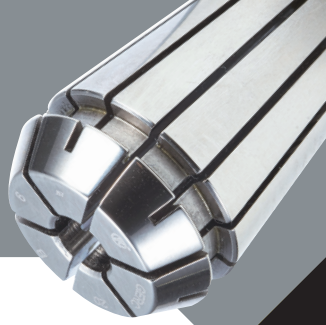
Designation	GSK
GSK6 SPANNER	GSK6
GSK10 SPANNER	GSK10
GSK13 SPANNER	GSK13
GSK16 SPANNER	GSK16
GSK20 SPANNER	GSK20
GSK25 SPANNER	GSK25

C Internal coolant system optional.

- BT : 82P
- HSK : 150P
- SK : 162P

GERC

GERC Collet



Normal 5㎛ Run-out | Precise 2㎛ Run-out | Waterproof | C Coolant System

Features

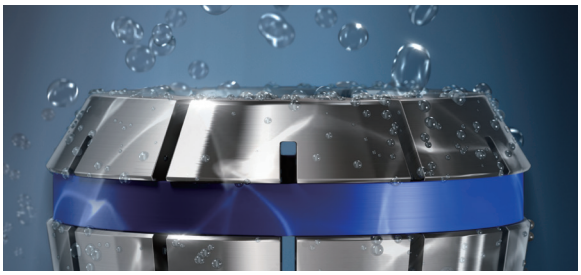
- Collet that prevents the corrosion of surface up to micro-level
- Maintains functionality and precision for a long time using cutting-edge coating technology
- Maintains functionality and precision for a long time using hi-tech coating technology
- Economical product with extended use life

Designation

GERC	16	–	4	HP
GERC Collet	Coolet Size		Tool Dia.	HP : Presicion NON : General

Special Coating Technology

Unlike GERC collet, conventional unprotected collets have the following characteristics:
Conventional uncoated collets are easily corroded in a short time due to various reasons including humidity, cutting oil, cleaning solution, salt, and gas. This may affect not only the collet itself but also the whole machining.



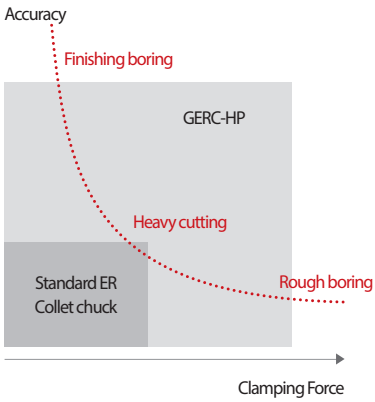
If the collet is rusted, the use life and precision degree will decrease drastically. Thus, this product protects the collet by coating it up to micro-level and maintains the precision degree for a long time by preventing the corrosion of collet.

Shape of collets after 4 months:
The left one is an uncoated collet, and the right one is GERC collet.

GERC-HP (precision type)

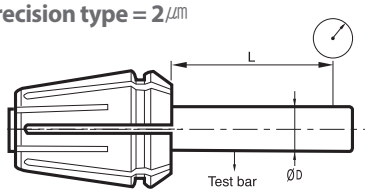
Precision collet chuck is more expensive than conventional collet chucks, but more economical in the long term. The user can minimize expensive rework with better processed products obtained from the maximum precision degree and low manufacturing tolerance.

Precision-type collet 2㎛



Precision (L/D=3)

General type = 5㎛
Precision type = 2㎛



• SPEC: 80P

DSK

Slim-type collet chuck

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

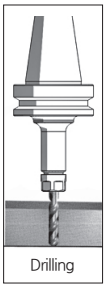
Features

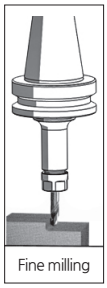
- Supports machining by balancing G6.3 up to 15,000RPM
- Minimizes the vibration of tools during machining by adopting 8˚ collet
- Optimizes machining stability by adopting SWISS MADE nut.
- Clamping range: Ø1~Ø25

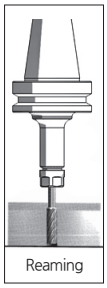
Designation

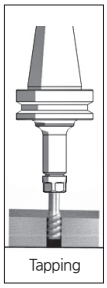
BT30	–	DSK	10	–	90
Spindle		Slim type Collet Chuck	Tool Dia.		Length

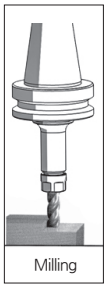
Multi-purpose work

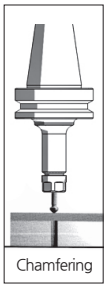

Drilling


Fine milling


Reaming


Tapping

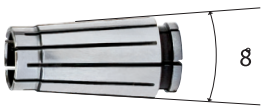

Milling


Chamfering

Collet

Conventional & precision types	Designation	Max Chacking	Run-out
	HC6 - ØD	6.0	Conventional type 5μm 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



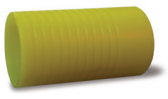
Minimizes the vibration of tools during machining

Spanner (optional)


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

Device to extract collet


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

C Internal coolant system optional.

• BT : 84P

OFH

Floating holder for brush

G6.3	15,000	2~8N	C	
G value	Max RPM	Load	Coolant System	Deburring

Features

- Exclusive arbor (floating function) with steady pressure, supporting continuous use
- G6.3 , Max RPM 15,000rpm
- Extends the life of brush (about 50% compared to collet chuck)
- Decreases lead time and improves lead time productivity
- Supports sleeves and brushes in various sizes

Designation

BT30	–	OFH	10	–	90
Spindle		Floating holder for brush	Brush Dia.		Length

Integral exclusive tool

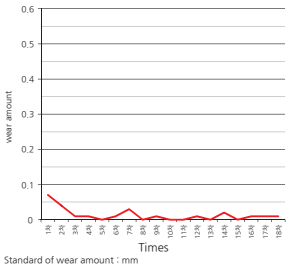
OR

Sleeve(OFHS)

Tools compatible with sleeve

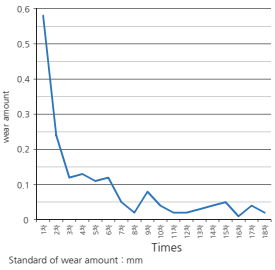
Comparison of brush's abrasion

OFH Floating Holder



Supports continuous use thanks to steady level of abrasion

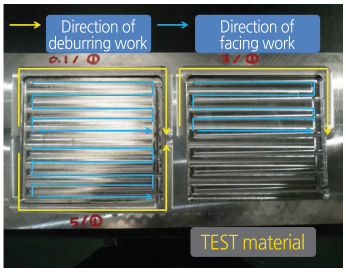
Conventional Collet Chuck

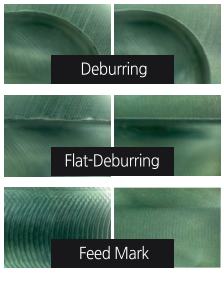


Reduces the life of brush due to sharp abrasion

Deburring after aluminum cutting

Pocket

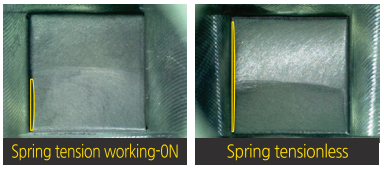




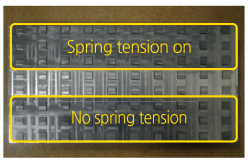
Surface roughness is improved by about 4 times

0.906㎛ (before application) > 0.179㎛ (after application)

Boss



The area of workpiece's abnormal abrasion **is reduced by about 2.5 times**



The abrasion of brush **is reduced by about 3 times**
(*Abrasion applied in total area)
=> (Total abrasion) 0.18mm
=> (Total abrasion)0.59mm

C This product does not support the internal coolant system.

·BT : 70P ST: 139P

DTN
Tapping holder

C
Coolant System Tapping

Features

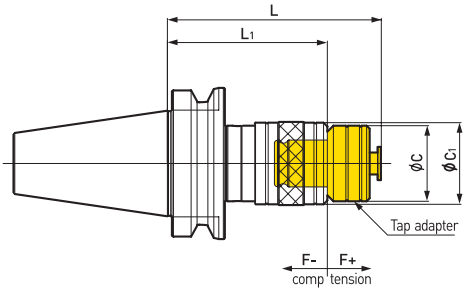
- Fast and convenient tool exchange
- Minimizes damage of tap using adapter with tension/ contraction devices
- Clamping range: M3~M38

Designation

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

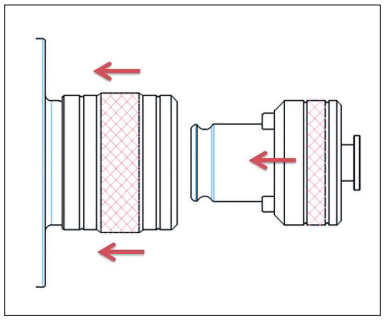
Easy TCA (Tap adapter) exchange

- One-touch exchange adapter providing high precision and long life Provides fast exchange of tap by Ø and supports various machining types
- Provides axial floating-type tension and contraction



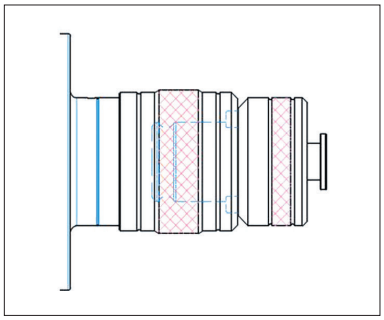
How to Clamp

Insert TCA



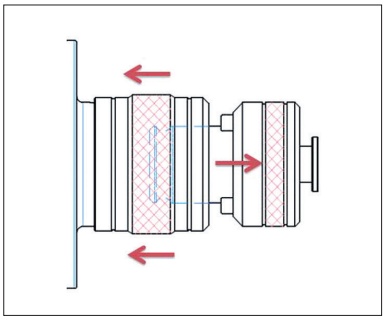
1. Press the cover tap holder downward and insert TCA.
2. Install TCA on the key seat and press until it clicks.

Install TCA



1. The cover of tap holder is lifted to the normal position.

Detach TCA



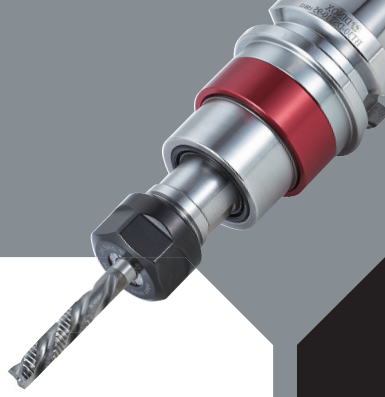
1. Press the cover of tap holder and detach TCA.

C This product does not support the internal coolant system.

• BT : 90P S : 144P SK : 163P

DST PAT.

High-speed synchro tapping chuck



G6.3 (G value) | C (Coolant System) | Tapping

Features

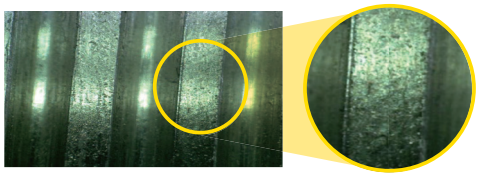
- Tapping chuck for high-speed machining
- Prevents damage of tap by absorbing thrust load with its unique design and extends the life of tools
- Supports the internal coolant
- Clamping range: M1~M22

Designation

BT40	–	DST	22	–	100
Spindle		Tapping holder	Tapping Range		Length

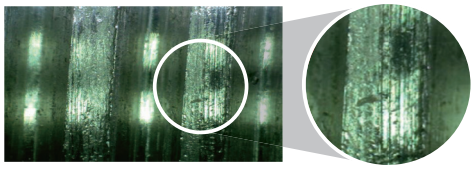
Precise machining

Expanded machining area

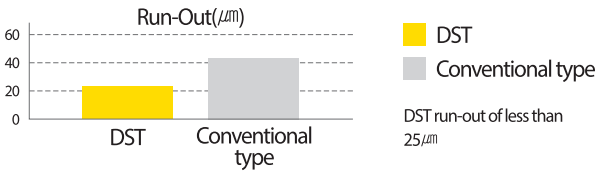


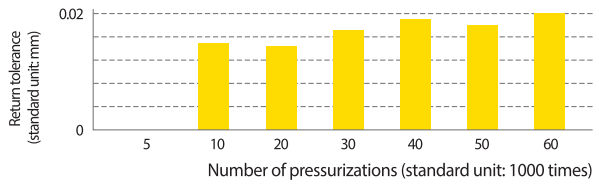
DST22
(V=100 m/min)

Improved surface roughness



Our Old Product

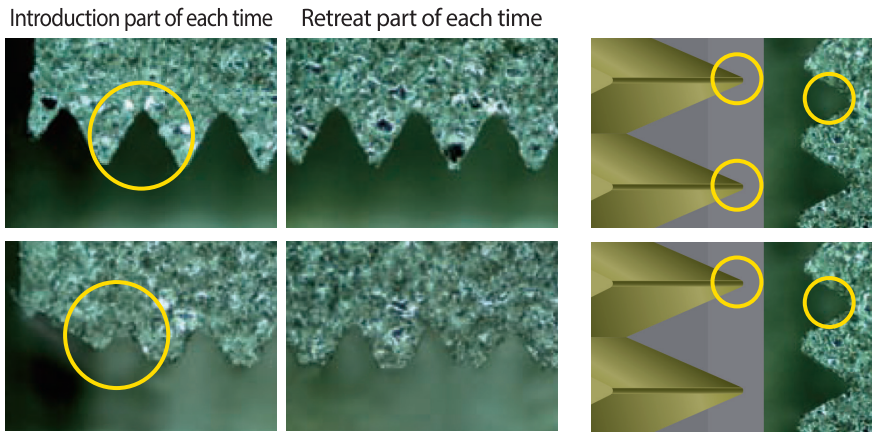




Tapping-exclusive collet

- Use TER during tap work
- DST3: Use ER11 collet

Comparison of shape of thread



Synchro tap chuck (DST7)

Thread is not collapsed, and shape of thread is clean

Conventional collet chuck

Shape of thread is collapsed because the synchronization error is not compensated

C Internal coolant system optional.

• BT : 92P ST : 139P HSK : 151P SK : 164P

TBC

Wide diameter balance cut tool for rough boring

Boring

Features

- Provides a wide machining area of rough boring
  - Wide Boring Range: Ø130 ~ Ø540mm
- Stable structure to endure cutting load
  - Provides powerful cutting by adopting precisely ground dove-tail
- The user can perform finishing boring work by replacing the boring head cartridge set
  - Boring head and rail share the same structure
- Various cartridge tip angles
  - The user can set the cartridge tip angle as 15° or 45°

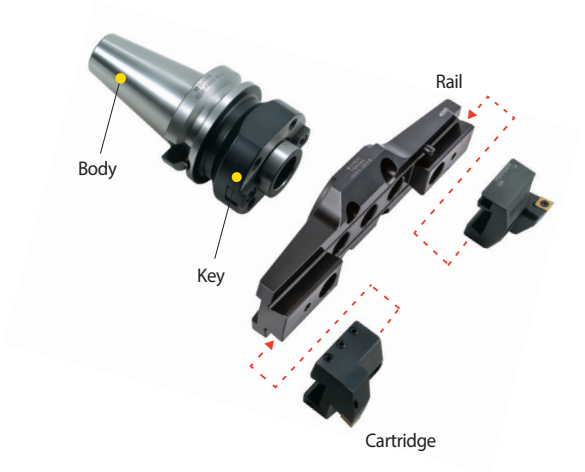
Designation

BT50 – FMD50 – 85 + TBC 130S

Body | Head set

Structure and features of the TBC Boring Tool

Components



Cartridge: BCC1348
Insert: CCMT1204□□
CNMG1204□□

Reduces weight and secures space for chip discharge by removing the sidepiece

TBC Boring Tool's cutting conditions

Work-piece	Grade(Hrc)	Cutting condition	
		Tip Grade (Grade)	Feed per Revolution f(mm/rev.)
AL	ADC12	Material	0.1
Mild steel	SS41(HB160)	P Material	0.1
Steel	S45C(H250)	P Material	0.1
Stainless Steel	SUS304	M Material	0.1
Cast-iron	FC25(HB250)	K Material	0.1

TBC Boring Tool's machining area

Designation	Dia(Ø) Boring range		Body	Head Set	Insert
	MIN.	MAX.			
TBC130	130	180	FMD50	TBC130S	CCMT1204□□
TBC175	175	225	FMD50	TBC175S	CCMT1204□□
TBC220	220	270	FMD50	TBC220S	CCMT1204□□
TBC265	265	315	FMD50	TBC265S	CCMT1204□□
TBC310	310	390	FMD50	TBC310S	CCMT1204□□
TBC385	385	465	FMD50	TBC385S	CCMT1204□□
TBC460	460	540	FMD50	TBC460S	CCMT1204□□

• BT : 107P SK : 170P

FBC

Wide diameter balance cut tool for fine boring

Boring

Features

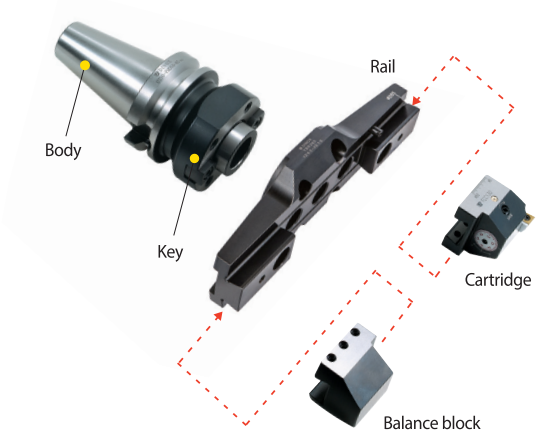
- Provides wide machining area of rough boring
  - Wide Boring Range : Ø130 ~ Ø540mm
- Supports high-precision machining using a structure with fine adjustment function
  - 1DIV=Ø0.01mm
- Compatible with rough boring because it shares the same structure as the body for rough boring (TBC)
- The user can perform rough boring by replacing the boring head set
  - Micro Cartridge + Balance Block (finishing boring)
- Supports various workpiece materials with ISO standard tips
  - Applicable Insert: CCMT09T3/1204, TPMT1103

Designation

BT50	–	FMD50	–	85	+	FBC	130S
Body						Head set	

Structure and features of the FBC Boring Tool

Components



Cartridge: FCC130
Insert: CCGT09T3□□
CCMT1204□□
TPGT1103□□

Balance block: FCB130

FBC Boring Tool's machining area

Designation	Dia(Ø) Boring range		Head Set	Insert
	MIN.	MAX.		
FBC130	130	180	FBC130S(TBR130+FCC130+FCB130)	FBB130-C09 (CCMT09T3□□, CCGT09T3□□ FBB130-C12 (CCMT1204□□) FBB130-T11 (TPMT1103□□,TPGT1103□□L)
FBC175	175	225	FBC175S(TBR175+FCC130+FCB130)	
FBC220	220	270	FBC220S(TBR220+FCC130+FCB130)	
FBC265	265	315	FBC265S(TBR265+FCC130+FCB130)	
FBC310	310	390	FBC310S(TBR310+FCC310+FCB310)	
FBC385	385	465	FBC385S(TBR385+FCC310+FCB310)	
FBC460	460	540	FBC460S(TBR460+FCC310+FCB310)	

- BT : 106P
SK : 170P

FBH/B

FBH Back boring & balanced type

G6.3 (G value) | C (Coolant System) | Boring

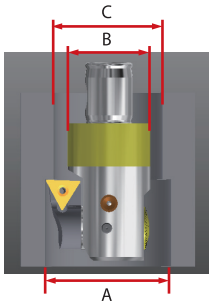
Features

- Supports high-speed boring and back boring machining
- Head balanced : G6.3
- Min. adjustable diameter: 2㎛

Designation

FBH	32	33	B
Fine boring head	MD Arbor Size	Boring Range(Min)	Balance type

Calculation of Back Boring Range



- A: Boring Range(Ø)
- B: FBH BODY size(Ø)
- C: Diameter for pass(Ø)

Designation	Min. diameter for pass (Ø)'C'
FBH1920B	More than Ø24
FBH2526B	More than Ø30.5
FBH3233B	More than Ø35
FBH4042B	More than Ø44
FBH5053B	More than Ø54
FBH6368B	More than Ø71.5
FBH6398B	More than Ø100
FBH8098B	More than Ø100

A	Max. range of back boring(Ø)	A Max. value = (2xC)-B
B	Max. FBH BODY body size(Ø)	B Max. value = (2xC)-A
C	Min. diameter for pass (Ø)	C Min. value = (A+B)/2

Boring Direction Shiftable

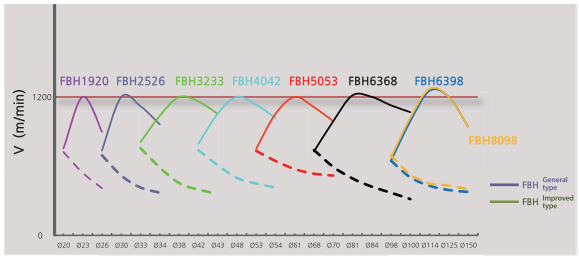
During Boring Machining

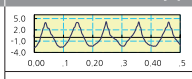
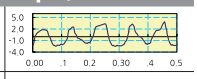
During Back Boring Machining

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

Test Results

Permissible boring speed for FBH

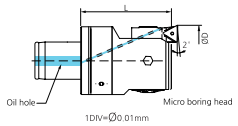


Designation	Model No.	FBH2526 (NEW)	FBH2526N (OLD)
	V(m/MIN.)	732(6,861rpm)	
HSK63A-MD25F-60	Difference in surface roughness		
		• Constant and regular cycles shown on the graph • Indicates stable boring work at high cutting speed	• Irregular cycles shown on the graph • Indicates unstable boring work at high cutting speed

C Internal coolant system installed.

Boring Range

- ( ): Max. boring diameter of expansion type
- The back boring range of FBH1920B and FBH2526B is applicable only to the expansion type



Designation	Boring Range		Back Boring Range		L
	MIN.	MAX.	MIN.	MAX.	
FBH1920B	20	26(30)	(29)	(30)	31.7
FBH2526B	26	34(40)	(36)	(40)	37
FBH3233B	33	43(50)	38	43(50)	38
FBH4042B	42	54(62)	48	54(62)	46.5
FBH5053B	53	70(82)	58	70(82)	54
FBH6368B	68	100(122)	78	100(122)	76
FBH6398B	98	150(172)	106	150(172)	96
FBH8098B					

• BT : 104P ↗ S : 142P ↗ SK : 169P ↗

ANGULAR HEAD

Angular head

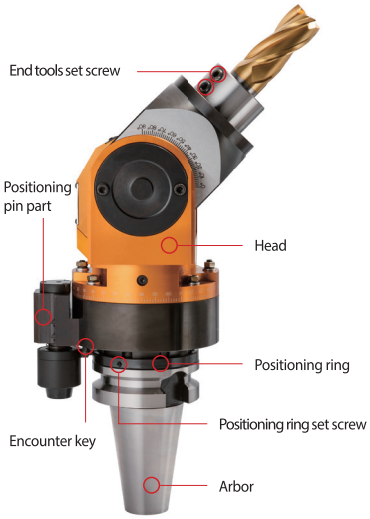
Features

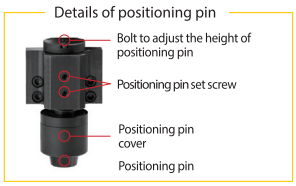
- Provides 2x productivity
- Supports machining in various angles
- Light weight of aluminum body

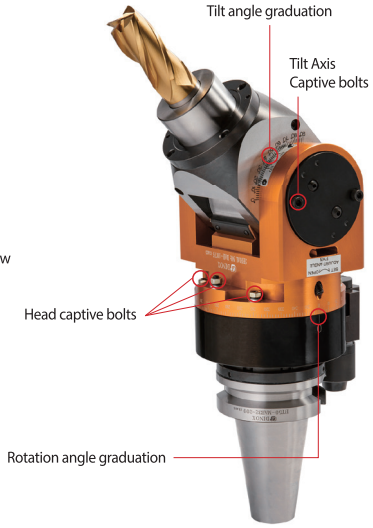
Designation

BT50	–	KHU	10	–	195
Spindle		Angular Head	Tool Dia.		Length

Names of Components

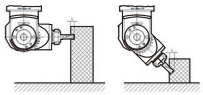




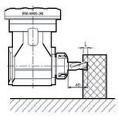


Various machining methods

0°-90° tilt angle-adjustable angular head (MAH, KHU)

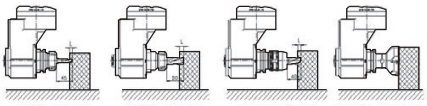


Tilt angle 90°-type angular head (KAH)

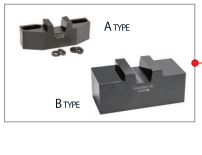


Tilt angle 45°-type angular head (KAC)

Attachment-type angular head (HRAG, KAG)

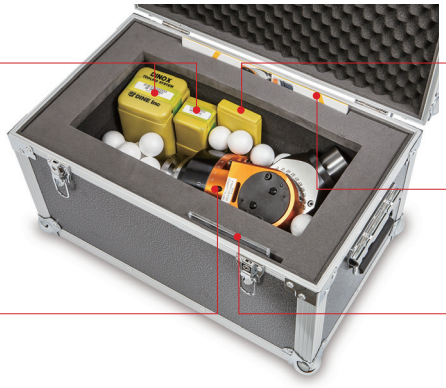


Components



POSITIONING BLOCK

ANGULAR HEAD



Part (basic) (spanner, wrench)

WARRANTY

VIDEO CD

ANGULAR HEAD

Angular head

MAH

Universal Angular Head/Rigidity-reinforced side-lock type

MAH that supports mold machining by improving performance of the existing universal type product

- Stable machining of large-size mold
- Supports ball endmill 32mm in diameter (D)
- Improves the rigidity of KHU type

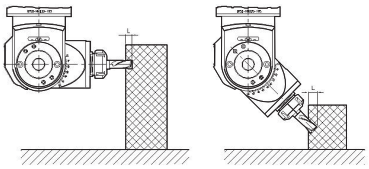
• BT: 130P

KHU

Universal Angular Head/Collet chuck type

Wide machining angle range from 0°- 90°

- HSK and SK types are customizable



BT50-KHU20-195

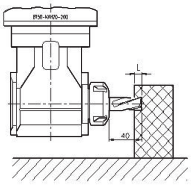
• BT : 132P

KAH

Modular Angular Head/ Fixed 90˚

The user can adjust the horizontal machining angle up to 360°.

- To use tap-exclusive collet, please contact us in advance.
- HSK and SK types are customizable



BT50-KAH20-200

• BT : 134P

ANGULAR HEAD

Angular head

HRAG

90˚ Angular Head/Rigidity-reinforced interchangeable adapter type

HRAG that improves rigidity of attachment type bracket by 200%

- Provides stable operation of face mill cutter
- Improves rigidity of KAG type

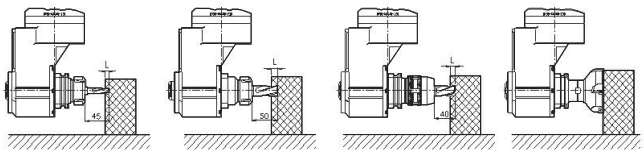
• BT : 131P

KAG

90˚ Angular Head/Interchangeable adapter type

The user can adjust the horizontal machining angle up to 360°

- Compatible with various tools for BT40 and BT30
- HSK and SK types are customizable



• BT : 133P

KAC

Modular Angular Head/ Fixed 45˚

The user can adjust the horizontal machining angle up to 360°

- HSK and SK types are customizable

• BT : 135P

SAH NEW

Slim angular head

3,500 Max RPM

Drilling

Features

- Angular head for tight space

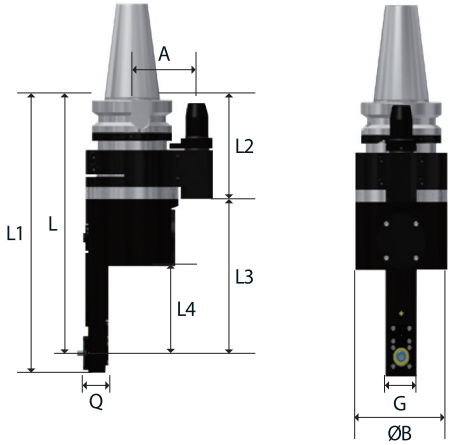
(MIN. inner diameter of workpiece: Ø40, min. width 32mm)

- MAX. 3,500RPM, Spindle: applied rotation ratio of 1:1.37
- Clamping range: Ø3, Ø4, Ø6

Designation

BT50	–	SAH	6	–	277
Spindle		Slim Angular head	Tool Dia.		Length

Details



Machining Features

Min. Ø40 hole
(except tool length)

Min. 32mm gap
(except tool length)

Designation	L	L1	L2	L3	L4	A	Q	G	ØB	Rotation ratio (IN:OUT)	Rotating direction	MAX RPM	Weight (Kg)
BT50-SAH6-277	277	298	183.5	166.5	93.5	80(110)	31.5	40	76	1:1.37	CW:CW	3,500	14

Clamping Force

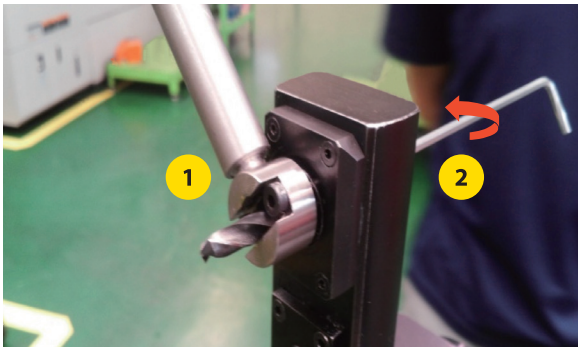
	Measurement	Readings (N-m)			
Clamp torque	2	2.5	3	3.5	4
Clamping Force	Not measurable	5.5	6.5	7	7

※ The moderate clamp torque of collet is 3.5N-m.

Exclusive collet

Designation	Clamping Range
SAH6-C3	3
SAH6-C4	4
SAH6-C6	6

How to Clamp



1. Connect the tool with the SAH-exclusive collet
2. Insert the tool in SAH and fix with the couple-dedicated tightening jig
3. Clamping by turning the bolt using a wrench.

• BT : 136P

Feature

cBN/PCD

DINOX NC TOTAL TOOLING SYSTEM

INSERT CODE SYSTEM(ISO)

C — 1 — Shape of insert

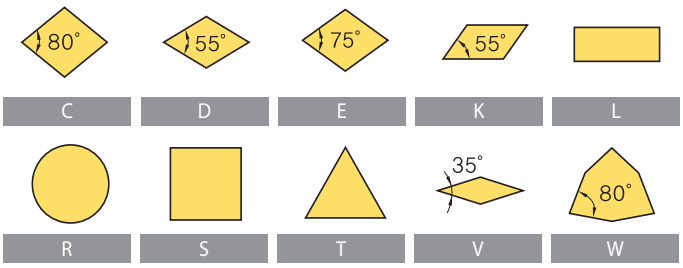
N — 2 — Relief angle of main cutting blade

M — 3 — Tolerance

G — 4 — Shape of cross section

1 Shape of insert

C N M G 12 04 08 - VM

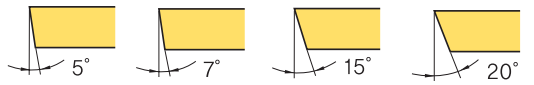


C D E K L

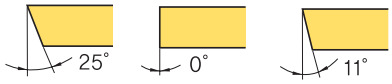
R S T V W

2 Relief angle of main cutting blade

C N M G 12 04 08 - VM



B C D E



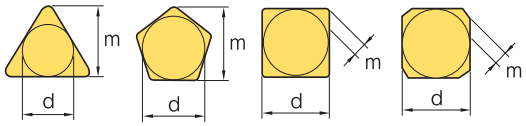
Special

F N P O

3 Tolerance

C N M G 12 04 08 - VM

d: Diameter of inscribed circle
t: Insert's Thickness
m: Refer to the figure



(mm)

Grade	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)

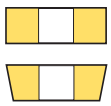
d	d's tolerance		m's tolerance	
	J, K, L, M, N	U	M, N	U
6.35	±0.05	±0.08	±0.08	±0.13
9.525	±0.05	±0.08	±0.08	±0.13
12.7	±0.08	±0.13	±0.13	±0.20
15.875	±0.10	±0.18	±0.15	±0.27
19.05	±0.10	±0.18	±0.15	±0.27
25.4	±0.13	±0.25	±0.18	±0.38

Tolerance definition of D-type inscribed circle (exceptions)

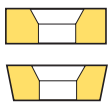
d	d's tolerance	m's tolerance
6.35	±0.05	±0.11
9.525	±0.05	±0.11
12.7	±0.08	±0.15
15.875	±0.10	±0.18
19.05	±0.10	±0.18

4 Shape of cross section

C N M G 12 04 08 - VM

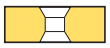


A



C'Sink 70° ~ 90°

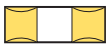
B



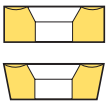
C'Sink 70° ~ 90°

C

F

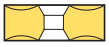


G



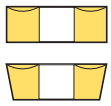
C'Sink 70° ~ 90°

H

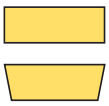


C'Sink 70° ~ 90°

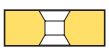
J



M

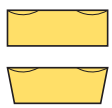


N

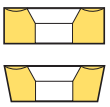


C'Sink 40° ~ 60°

Q

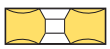


R



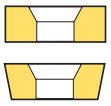
C'Sink 40° ~ 60°

T



C'Sink 40° ~ 60°

U



C'Sink 40° ~ 60°

W

Specifically designed and asymmetric insert

X

12 04 08

5 Length of cutting edge, diameter of inscribed circle

6 Height of cutting edge

7 Size of nose "r"

5 Length of cutting edge, diameter of inscribed circle

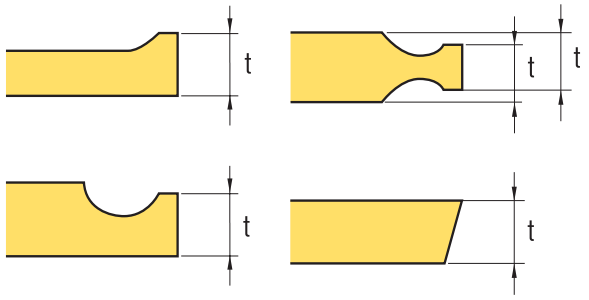
C N M G **12** 04 08 - VM

Symbols							Inch	IC
C	d	S	T	R	V	W		
Metric								d(mm)
03	04	03	06	03	-	02	1.2(5)	3.97
04	05	04	08	04	08	S3	1.5(6)	4.76
05	06	05	09	05	09	03	1.8(7)	5.56
-	-	-	-	06	-	-	-	6.00
06	07	06	11	06	11	04	2	6.35
08	09	07	13	07	13	05	2.5	7.94
-	-	-	-	08	-	-	-	8.00
09	11	09	16	09	16	06	3	9.525
-	-	-	-	10	-	-	-	10.00
11	13	11	19	11	19	07	3.5	11.11
-	-	-	-	12	-	-	-	12.00
12	15	12	22	12	22	08	4	12.70
14	17	14	24	14	24	09	4.5	14.29
16	19	15	27	15	27	10	5	15.875
-	-	-	-	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	22.225
-	-	-	-	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

( ) small symbols

6 Height of cutting edge

C N M G 12 **04** 08 - VM



Symbols		Height of cutting edge (t)	
Metric	Inch	M, N	Inch
01	1(2)	1.59	1/16
T0	1.125	1.79	9/128
T1	1.2	1.98	5/64
02	1.5(3)	2.38	3/32
T2	1.75	2.78	7/64
03	2	3.18	1/8
T3	2.5	3.97	5/32
04	3	4.76	3/16
05	3.5	5.56	7/32
06	4	6.35	1/4
07	5	7.94	5/16
09	6	9.52	3/8
11	7	11.11	7/16
12	8	12.70	1/2

( ) small symbols

7 Size of nose "r"

C N M G 12 04 **08** - VM

Symbols		Nose "r"	
Metric	Inch	M, N	Inch
01	0	0.1	0.004
02	0.5	0.2	0.008
04	1	0.4	1/64
08	2	0.8	1/32
12	3	1.2	3/64
16	4	1.6	1/16
20	5	2.0	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)	

cBN Series

cBN

Advantages

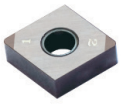
DINOX cBN boasts of excellent hardness and heat resistance by sintering cBN (main ingredient) and special ceramic binder at ultra-high-pressure and high temperature.
Optimized to improve productivity with excellent hardness and wear resistance for machining of cast iron and heat-treated steel at high speed.

High precision | **Wear resistance** | **Productivity**

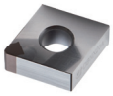
cBN type

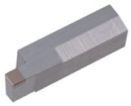

Regrinding type


One-use type


Multi-corner type


Multi-corner type (Coated)


Solid type


Grooving type

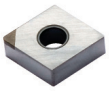
Type

Multi-corner coating type


2NU-CNGA120408

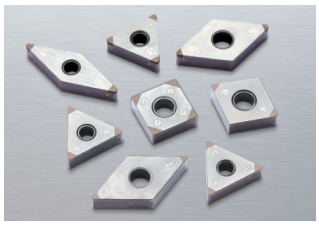
- Easy to manage corner
- Hard weld face
- Longer tool life compared to the uncoated ones

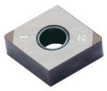
One-use type


NU-CNGA120408

- Reasonable price
- Smaller than expensive cBNs, and requires much lower cost
- Easy to manage tools
- Performs more stable cutting on hard weld face
- Various series

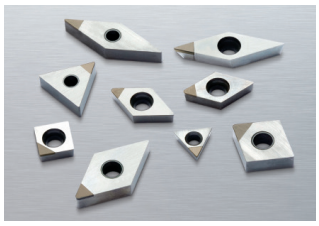
Multi-corner type

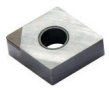



2NU-CNGA120408

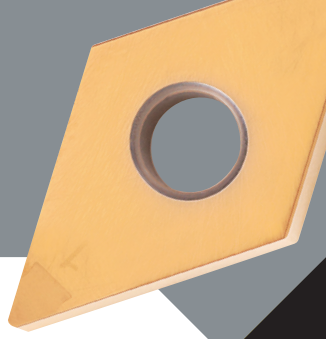
- Brazes many cBNs to one insert
- Cost Down
  - The user can use many cBNs with one insert.
- Diverse range of application
  - Supports a diverse range of applications from continuous cutting to hard intermittent cutting

Regrinding type




CNMA120408

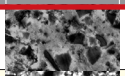
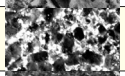
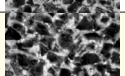
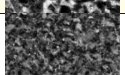
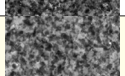
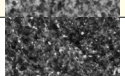
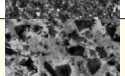
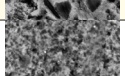
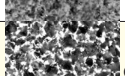
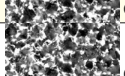
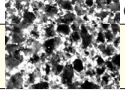
- Stable, long life
- Excellent wear resistance and high hardness
- The user can reduce the tool cost by grinding again for 3~4 times



Use of Each Grade and Features of Texture

Features of Texture	Texture	cBN content	Hardness	Grade	Application	Features
Generally, cBN particles are combined		High ▲	44 ▲	KB370 KB800 KB7000 KB7500	Hard metal chilled cast iron Ni-Hard cast iron Heat-resisting alloy, cast iron Metal sintered alloy	• cBN content is high, with texture wherein cBN particles are combined firmly • Optimized for cutting of hard materials including cast iron, heat-resisting alloy
Generally, cBN particles are combined via a binder		▼ Low	▼ 21	KB1000 KB320 KB2000 KB335 KB410 KB350 KB420 DNC100 KB425 DNC250 KB210 DNC350	Alloy steel, carburizing steel Carbon tool steel, bearing steel Die steel, ductile cast iron	• cBN particles are combined firmly by a special ceramic binder • Provides excellent wear resistance and toughness when cutting heat-treated steel and cast iron due to many cBN particles

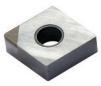
Characteristics

Classification		Grade	Texture	Binder	CBN content (%)	Grain size (㎛)	Hardness HV (Gpa)	Transverse rupture strength (Gpa)
	Coated	DNC100		TiN	50 - 55	2	31 - 34	1.05 - 1.15
	Coated	DNC250		TiC	65 - 70	4	32 - 34	1.00 - 1.10
	Coated	DNC350		TiN	60 - 65	1	33 - 35	1.20 - 1.30
	Coated	DNC400		TiN	65	1	-	-
Heat-treated steel (H)		KB410		TiCN	40 - 45	3	27 - 31	0.80 - 0.90
Heat-treated steel (H)		KB1000		TiCN	40 - 45	1	27 - 31	0.90 - 1.00
Heat-treated steel (H)		KB420		TiN	55 - 60	3	31 - 33	0.95 - 1.10
Heat-treated steel (H)		KB425		TiN	65 - 70	4	29 - 31	1.00 - 1.10
Heat-treated steel (H)		KB320		TiN	50 - 55	2	31 - 34	1.00 - 1.10
Heat-treated steel (H)		KB2000		TiN	50 - 55	2	31 - 34	1.05 - 1.15
Heat-treated steel (H)		KB335		TiN	60 - 65	1	33 - 35	1.20 - 1.30
Sintered parts		KB370		CO compound	90 - 95	2	40 - 43	1.20 - 1.30
Cast iron (K)		KB370		CO compound	90 - 95	2	40 - 43	1.20 - 1.30
Cast iron (K)		KB350		TiC	65 - 70	6	32 - 34	1.00 - 1.10

cBN Series

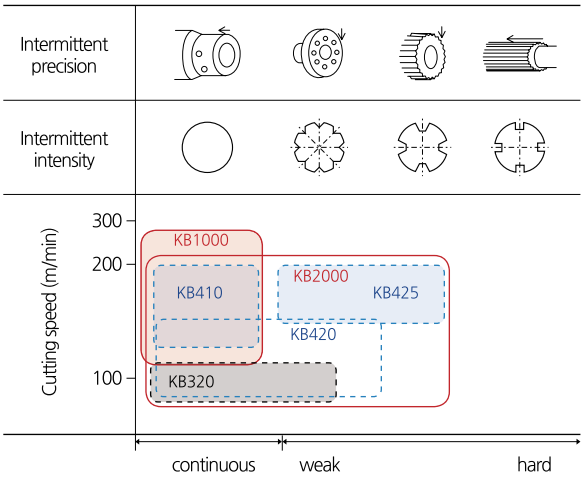
cBN

Features and cutting conditions of cBN grade

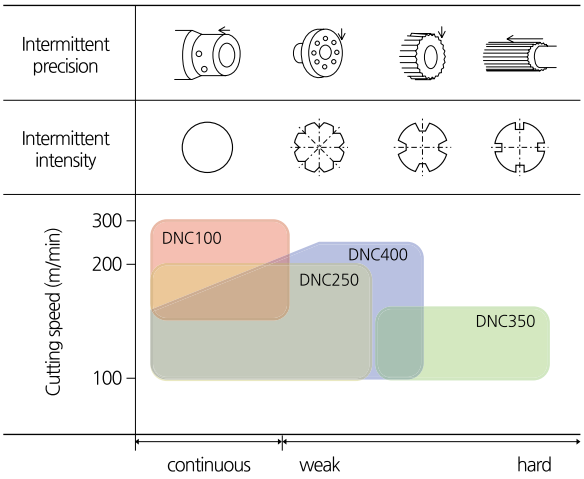
Grade			Insert Color	Application	Cutting conditions		
Workpiece	Coated Status	Name			Cutting speed vc (0 50 100 150 200 250 300)	Feed	Depth of cutting ap
H Heat-treated steel	Coated	DNC100	 Dark brown	For high-speed and continuous cuttings	180 – 300	0.03 -0.30	0.03 -0.30
		DNC250	 Gold	For high-speed, continuous, and weak intermittent cuttings	120 – 220	0.05 -0.30	0.05 -0.30
		DNC350	 Dark brown	For medium and hard intermittent cuttings	90 – 150	0.05 -0.30	0.05 -0.25
		DNC400	 Gold	For weak and medium intermittent cuttings	80 – 200	0.05 -0.30	0.05 -0.50
	Uncoated	KB410		Continuous high speed cutting	150 – 200	0.03 -0.13	0.03 -0.20
		KB1000		Continuous high speed cutting	130 – 250	0.03 -0.15	0.03 -0.20
		KB420		High performance cutting	120 – 150	0.03 -0.30	0.03 -0.50
		KB425		High speed interrupted cutting	150 – 200	0.03 -0.30	0.03 -0.50
		KB320		Low ~ medium interrupted cutting	80 – 120	0.03 -0.20	0.03 -0.30
		KB2000		Low ~ medium interrupted cutting	80 – 200	0.03 -0.20	0.03 -0.30
		KB335		Heavy interrupted cutting	80 – 110	0.03 -0.20	0.03 -0.30

Application range

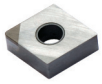
Uncoated area



Coated area



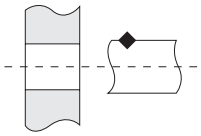
Use and features of cBN grade

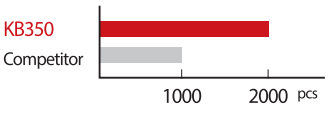
Grade			Insert Color	Application	Features
Workpiece	Coated status	Name			
K Cast iron	Uncoated	KB370		High speed cutting of FC/Milling cutting of FC Cutting of Hardened iron parts Hard material roll cutting/ Heat resistant alloy cutting.	High percentage of cBN. Material with high solidity and heat conductivity by optimizing small connective tissue.
		KB350		FC, FCD cutting, Hard VSR cutting, Hard roll finishing cutting.	Optimal structure of small connective tissue of cBN for cast iron cutting. Excellent wear resistance and fracture resistance.
		KB800		High depth cutting, finishing processing high precision.	Solid structure enabling use of whole insert as cutting edge. Great performance in rough machining which was difficult for previous brazing type. Also available for high speed surface cutting.

Example of machining

KB350 TEST RESULT

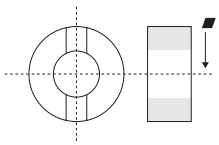
Names of parts and workpiece material	Grade	KB350	Competitor cBN
	Insert	SPGN090308	SPGN090308
Crank bore FC250 = FCD450 Inner boring	Vc(m/min)	150	
	Fn(mm/rev)	0.15	
	D.O.C(mm)	0.5	
	Dry/Wet	Wet type	

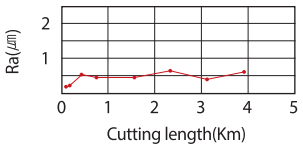




KB350 TEST RESULT

Names of parts and workpiece material	Grade	KB350	Ceramic
	Insert	CNMA120412	
Compressor comp. FC250 Facing, Interrupted	Vc(m/min)	400	
	Fn(mm/rev)	0.07	
	D.O.C(mm)	0.15	
	Dry/Wet	Wet type	

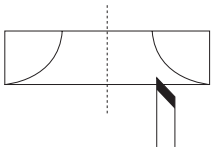


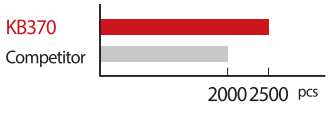


KB350 : under 0.8㎛, Ceramic: over 1.5㎛

KB370 TEST RESULT

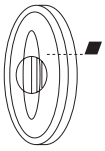
Names of parts and workpiece material	Grade	KB370	Competitor cBN
	Insert	Special bite	
VSR intake Hv250-330 Plunge cutting	Vc(m/min)	95	
	Fn(mm/rev)	0.08	
	D.O.C(mm)	0.2	
	Dry/Wet	Dry type	

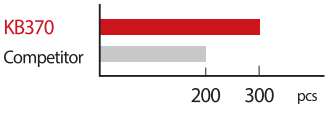




KB370 TEST RESULT

Names of parts and workpiece material	Grade	KB370	Competitor cBN
	Insert	SPGN090308	TNGA150408
Fly wheel FC300 Facing	Vc(m/min)	600	
	Fn(mm/rev)	0.15	
	D.O.C(mm)	0.2	
	Dry/Wet	Dry type	





Comparison Table of cBN Grade

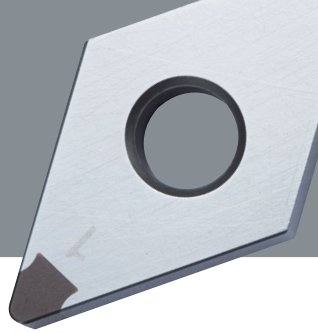
Classification of usage		DINE, Inc.	NTK	Kyocera	TaeguTec
H (heat-treated steel)	H01	DNC100 KB420 KB1000	B521K	KBN510 KBN05M KBN10M	
	H10	DNC250 KB320 KB2000	B521K	KBN525 KBN25M KBN05M	KB90A TB650
	H20	KB420 KB425 DNC350 KB400 DNC400	B421K B422K	KBN30M KBN35M KBN900	
	H30	KB335 DNC350	B421K B422K		
K (cast iron)	K01	KB350	B230K	KBN60M KBN65B	KB90
	K10	KB370	B205K B300K	KBN60M KBN900 KBN65B	KB90A
	K20	KB370 KB800	B205K B300K	KBN900	KB90A
	K30	KB800	B205K B300K		
N (nonferrous metals)	N01	KB800			
S (heat-resisting alloy)	S01	KB370		KBN65B	
	S10	KB370			

Comparison Table of cBN Grade

DINE, Inc.	Sumitomo	Tungaloy	Seco	Mitsubishi	Sandvik	Kennametal
DNC100 KB420 KB1000	BN1000 BNC100	BXM10 BX310	CBN10 CBN100 CBN60K	MBC010 MB810	CB50 CB7050	PB250
DNC250 KB320 KB2000	BNC160 BNC200 BN2000	BXM10 BX330 BX530	CBN10 CBN100 CBN150 CBN60K CBN160C	MBC020 MB8025 BC8020	CB20 CB7015	KB1645 KD050 KD120 KB9610
KB420 KB425 DNC350 KB400 DNC400	BNC200 BNX20	BXM20 BX360	CBN150 CBN160C	BC8020 MB8025 MB825	CB7025 CB7035	KB5625 KB1615
KB335 DNC350	BNC300 BN350 BNX25	BXM20 BXC50 BX380		BC8020 MB835		KB9640
KB350	BNC500	BX930 BX870		MB710	CB50 CB7050	KD120 PB100
KB370	BN700 BN7000 BN7500	BX470 BX480 BX950	CBN200 CBN300 CBN300P CBN400C	MB710 MB730	CB7925 CB7525	KB1645 KB9610
KB370 KB800	BN700 BN7000 BNS800	BXC90 BX90S	CBN200 CBN300 CBN300P CBN400C	MB730 MBS140 BC5030		
KB800	BNS800	BX90S BXC90	CBN500	MBS140 BC5030		KB9640 KB1340
						KD120 PB100
KB370	BN700 BN7000	BX950		MB730		

KB400

Solid-type cBN



Features

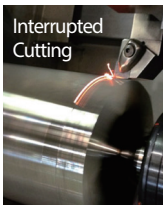
- Heat-treated steel's range of high-speed medium&weak intermittent cuttings is applied
- Grade with balance between wear resistance and shock resistance
- Solid type supporting highly efficient work

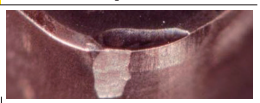
Advantages of solid type

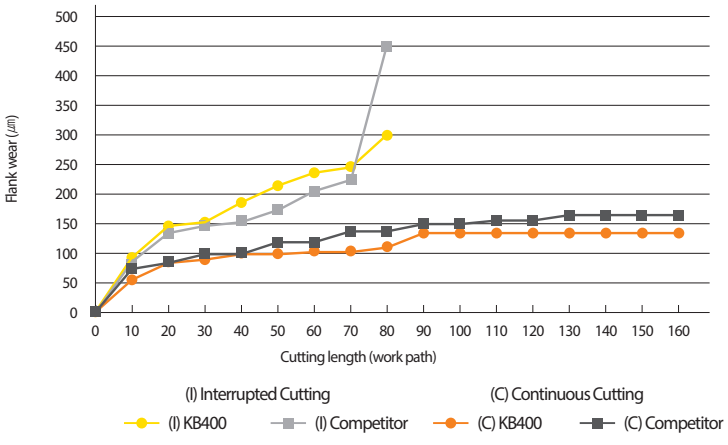
- Improves productivity with high-speed and deep machining
- Removes carburizing layer, optimized for machining of welds
- Improves stability of welding with 3-sided blazing
- Provides excellent machining even when cutting depth is changed

Performance

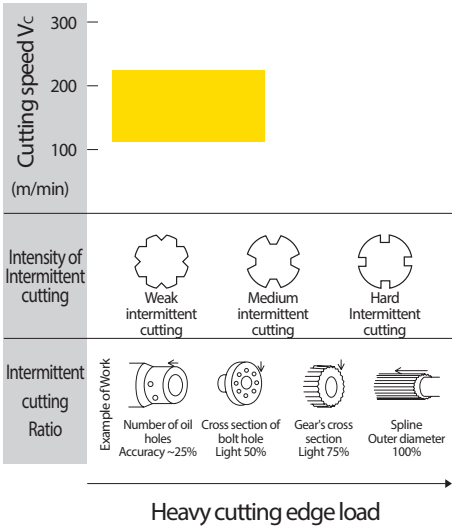
Coolant	Dry
Cutting Speed	150 m/min.
Feed Rate	0.10 mm/rev
Designation	2NS-CNGA120408
Material	SCM440(H)
Hardness	55~60 HRc



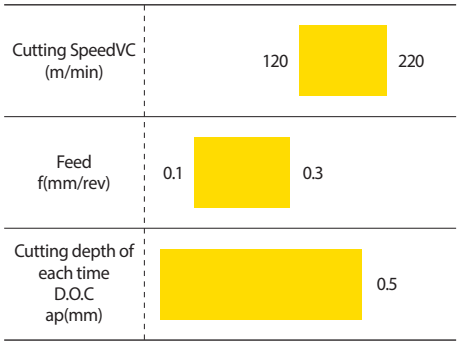
Type	KB400	Competitors
Continuous Cutting		
Interrupted Cutting		



Cutting conditions

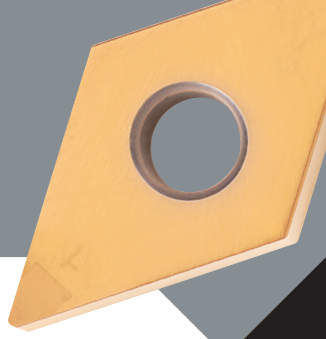


Recommended cutting conditions



DNC400 NEW

Solid-type coated cBN



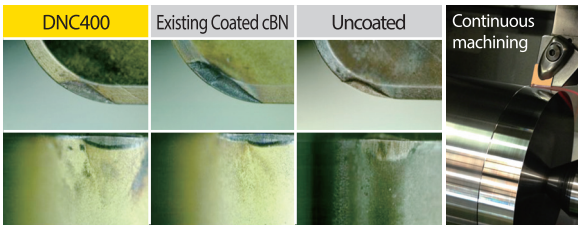
Features

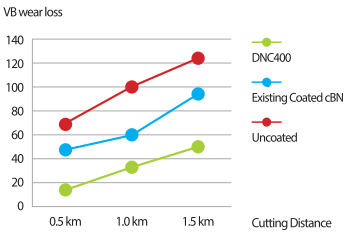
- Heat-treated steel's range of continuous and medium intermittent cuttings applied
- Improves life using coated
- Solid type for wide use

Advantages of solid type

- Improves productivity with high speed and deep machining
- Removes carburizing layer, optimized for machining of welds
- Improves stability of welding with 3-sided blazing
- Provides excellent machining even when the cutting depth is changed

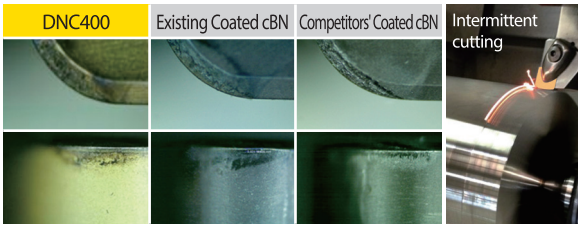
Performance

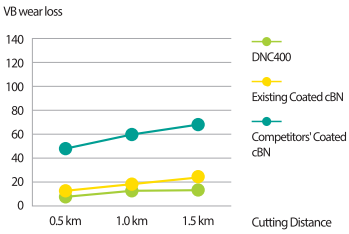




Machining conditions (dry cutting)

SUJ2 (Hardness HrC 58~62)
Cutting Speed 150 m/min
Feed Rate 0.10 mm/rev
D.O.C 0.1 mm
Designation CNGA120408

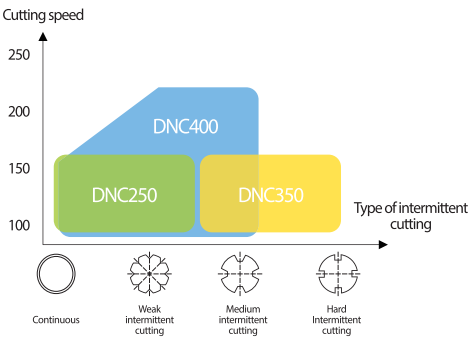




Machining conditions (dry cutting)

SUJ2 (Hardness HrC 58~62)
Cutting Speed 150 m/min
Feed Rate 0.10 mm/rev
D.O.C 0.3 mm
Designation CNGA120408

Application range

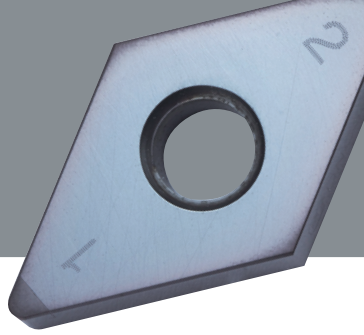


Recommended cutting conditions

Feed f(mm/rev)	DNC400	0.05	0.30
	DNC250	0.05	0.30
	DNC350	0.05	0.30
Cutting depth of each time D.O.C ap(mm)	DNC400	0.05	0.50
	DNC250	0.05	0.30
	DNC350	0.05	0.30

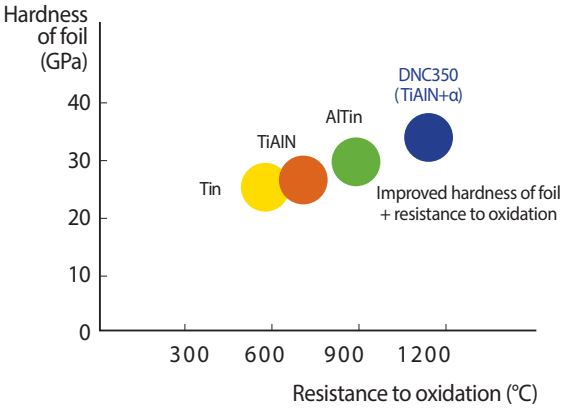
DNC350

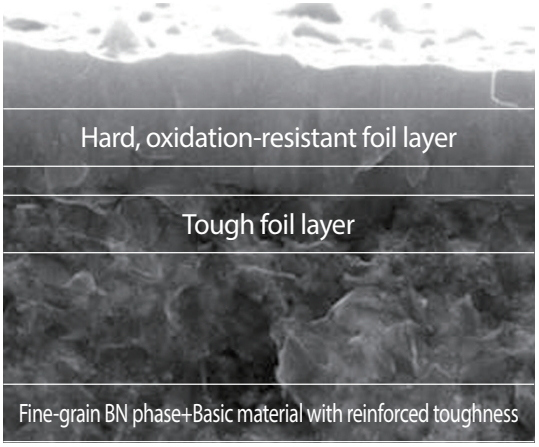
Coated cBN



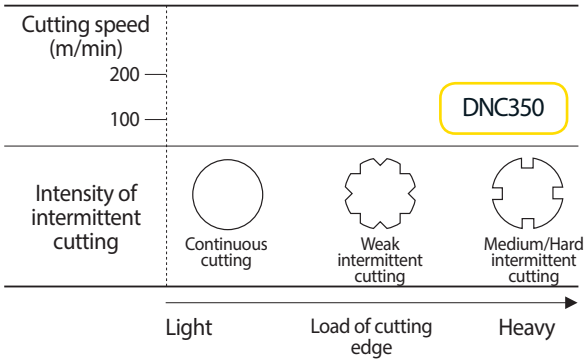
Features

- Coated cBN for hard intermittent cutting
- Maintains functionality and precision for a long time using cutting-edge coating technology
- Maintains functionality and precision for a long time using hi-tech coating technology
- Economical product with extended use life





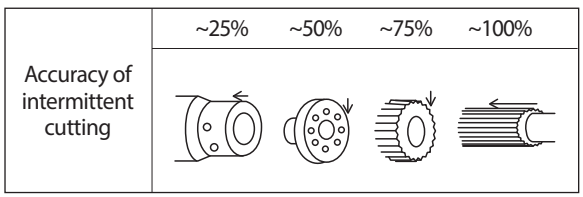
Application range



Hard and oxidation-resistant foil
→ Improved wear resistance/resistance to oxidation (wear resistance)

Tough foil
→ Improved shock resistance/resistance to chipping

Fine-grain BN phase+Basic material with reinforced toughness
→ Improved wear resistance/resistance to oxidation (wear resistance+tension)

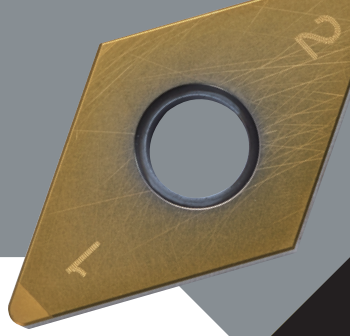


Recommended cutting conditions

Cutting Speed VC (m/min)	120	150
Feed f(mm/rev)	0.05	0.3
Cutting depth of each time D.O.C ap (mm)	0.05	0.25

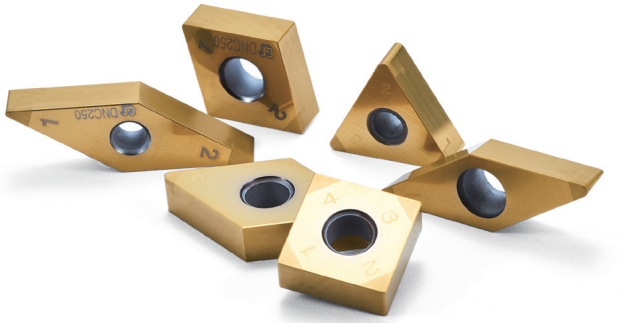
DNC250

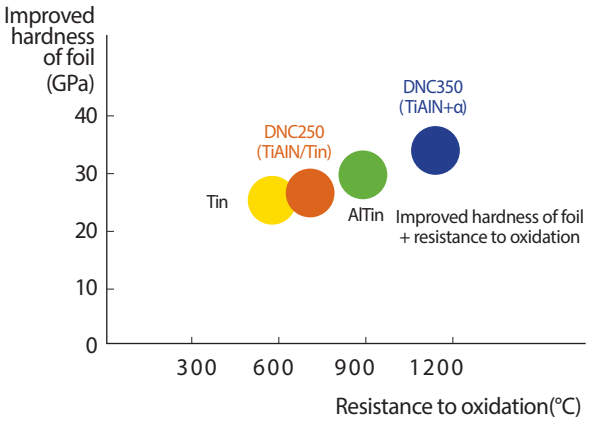
Coated cBN

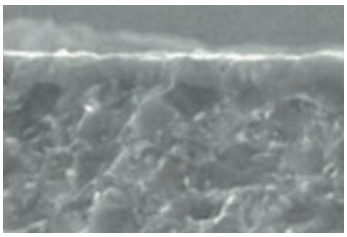


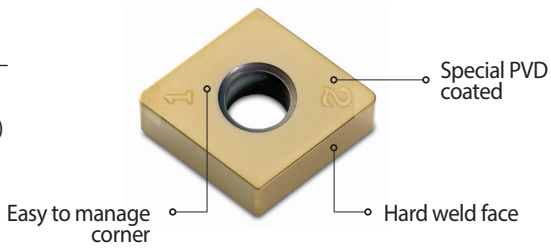
Features

- 2x longer life compared to the existing cBN
- Lowered tool cost by supporting various corners
- New-type PDV coated applied
- Thin film with high hardness and lubrication
- Wear resistance improved

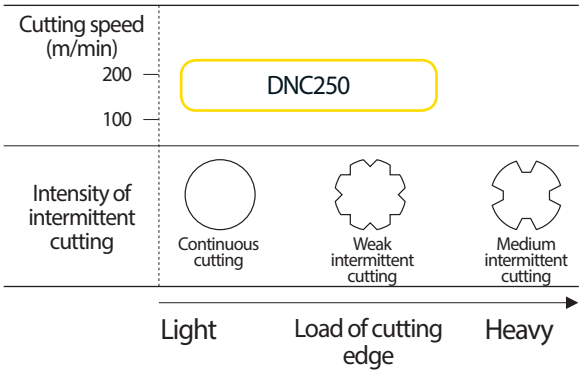


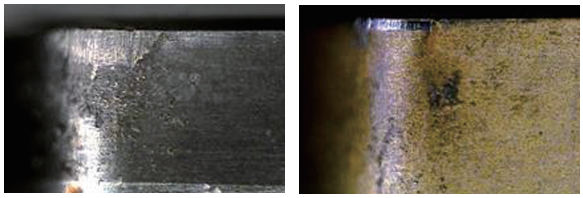




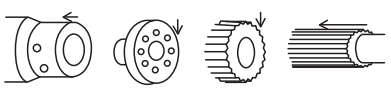


Application range





Uncoated Coated

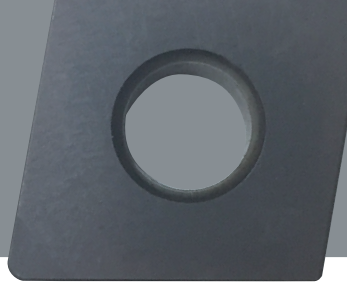
Accuracy of intermittent cutting	~25%	~50%	~75%	~100%
				

Recommended cutting conditions

Cutting Speed VC (m/min)	120	220
Feed f(mm/rev)	0.05	0.3
Cutting depth of each time D.O.C ap (mm)	0.05	0.3

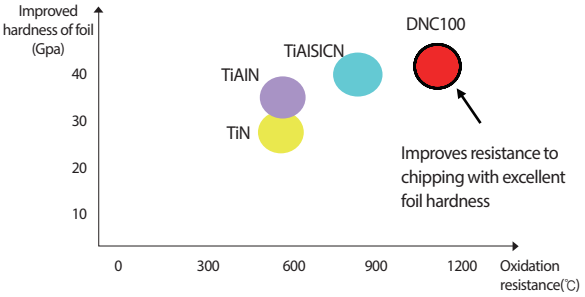
DNC100 NEW

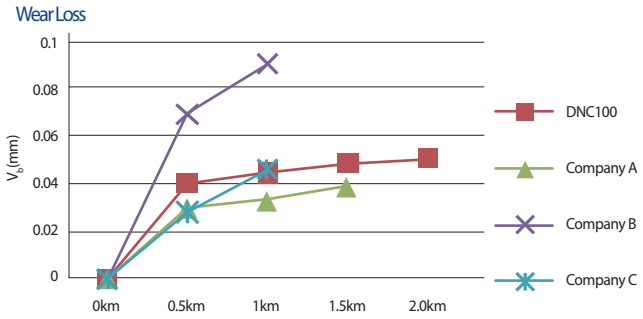
Coated cBN



Features

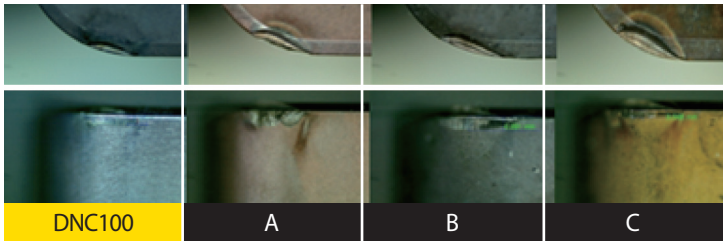
- Excellent wear resistance during high-speed cutting
- High heat resistance with high oxidation temperature
- Thin film applied with high hardness and high resistance to oxidation and chipping
- Optimized for high-speed·and intermittent cuttings





Performance Comparison Test

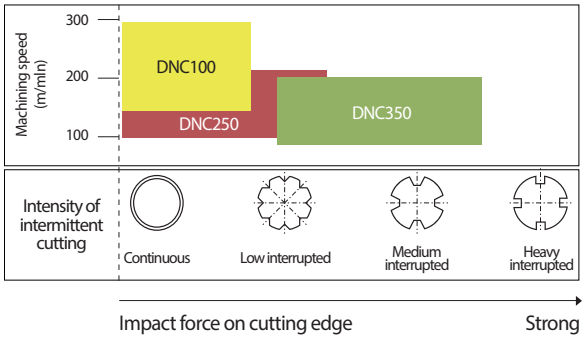
Comparison of wear resistance during high-speed machining



Cutting conditions

Insert model No. = 2NU-CNGA120408
Test holder = DCLNL2525-M12
Workpiece = SCM415 (58~62HrC)
Machining speed = 300m/min
Feed = 0.1mm/rev
Depth of cutting = 0.1mm
Dry cutting

Application range



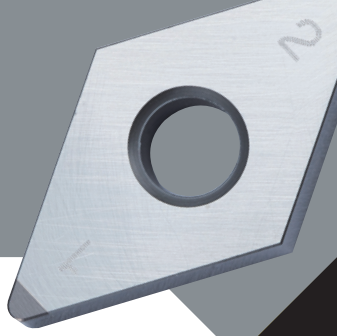
Recommended Cutting Conditions

Cutting speed V(m/min)	DNC100	180	300
Feed (mm/rev)	DNC100	0.03	0.3
Depth of cutting ap(mm)	DNC100	0.03	0.3

- Wear resistance and oxidation resistance are improved with high-hardness thin film adopted
- Significantly improved resistance to chipping, fracture, and wear

KB1000

Uncoated cBN

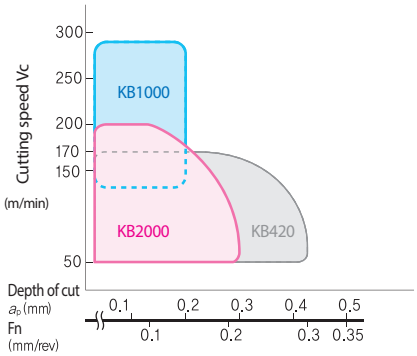


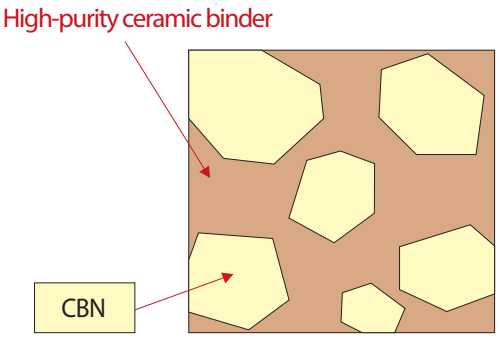
Features

- Grade for high-speed machining with the best wear resistance among non-coating cBNs
- Provides long tool life for continuous and weak intermittent cuttings
- Emphasizes wear resistance but improves fracture resistance
  - Improves heat resistance and intensity with high-purity TiCN ceramic binder Improves intensity

Application

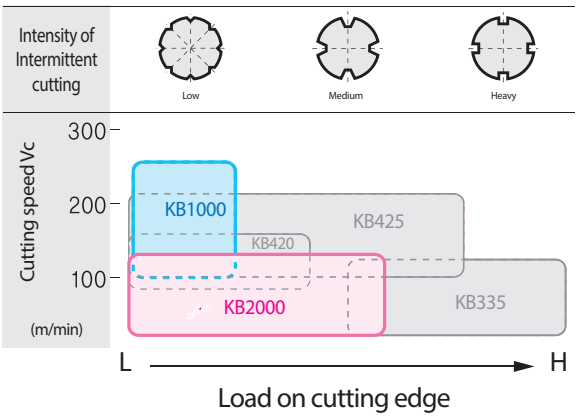
Continuous cutting



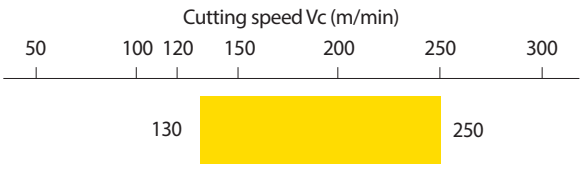


Grade	cBN				
	cBN content (Vol%)	Size of cBN particle(㎛)	Blinder	Hardness HV (GPa)	Transverse rupture strength (GPa)
KB1000	40~45	1	High-purity TiCN	27~31	0.90~1.00
Our Old Product	40~45	3	TiCN	27~31	0.80~0.90

Interrupted cutting of hardened steel



Recommended Cutting Conditions

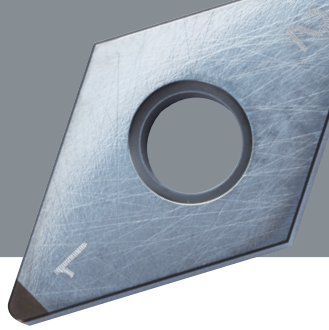


Feed (mm/rev)	Depth of cut ap (mm)
0.03 ~ 0.15	0.03 ~ 0.2

※ Cutting oil
Continuous cutting : Dry, Wet
Interruppted cutting : Dry

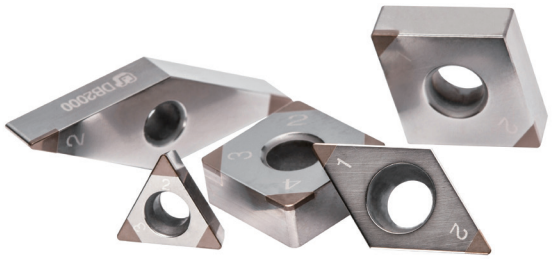
KB2000

Uncoated cBN



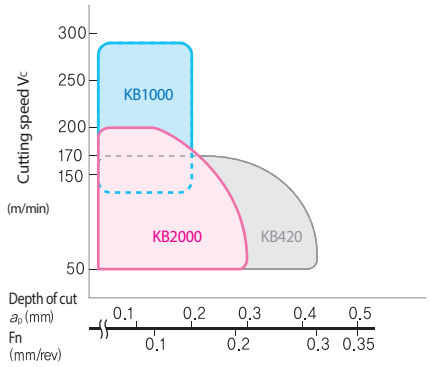
Features

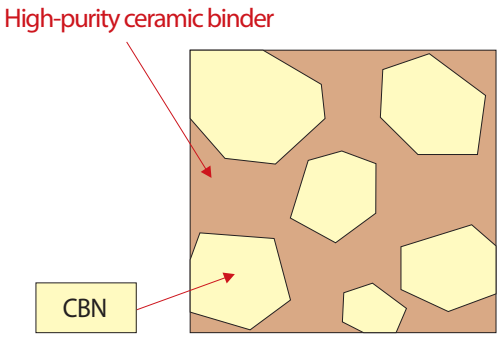
- Grade for a wide use for machining of overall heat-treated steels
  - Provides stable tool life for various cuttings from continuous to weak/medium intermittent cuttings
- Realizes both high fracture resistance and wear resistance
  - Both resistances are improved significantly by adopting high-purity ceramic binder
- Provides stable surface roughness with improved insertion



Application

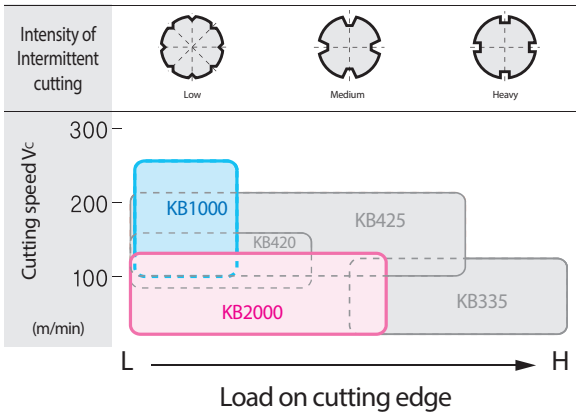
Continuous cutting



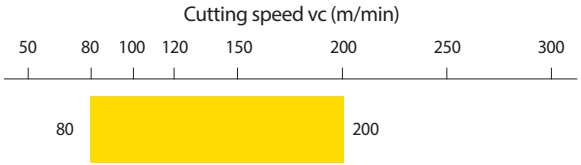


Grade	cBN				
	cBN content (Vol%)	Size of cBN particle(㎛)	Blinder	Hardness HV (GPa)	Transverse rupture strength (GPa)
KB2000	50~55	2	High-purity TiCN	31~34	1.05~1.15
Our Old Product	50~55	2	TiCN	31~34	1.00~1.00

Interrupted cutting of hardened steel



Recommended Cutting Conditions



Feed (mm/rev)	Depth of cut ap (mm)
0.03 ~ 0.2	0.03 ~ 0.3

※ Cutting oil
Continuous cutting : Dry, Wet
Interruppted cutting : Dry

BT Shank

DINOX NC TOTAL TOOLING SYSTEM

BT-DHE

Hydraulic expansion chuck

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

Fig.1

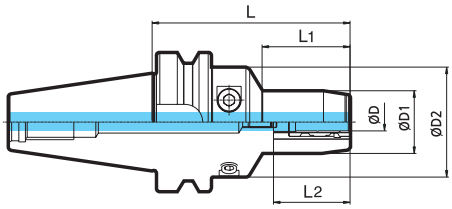
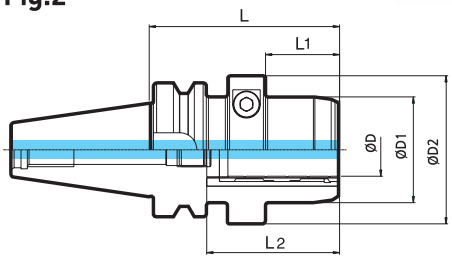


Fig.2



- **L2**: Depth of tool insertion (MIN.~MAX.)

C Internal coolant system installed.

- For more information on the product features, see **Page 22**. 22P
- For more information on the applicable collet, see **Page 62**. 62P
- For more information on the related parts, see **Page 63**. 63P
- For more information, see **Page 146** for HSK shank and **Page 158** for SK shank. 146,158P

	Designation	ØD	L	ØD1	ØD2	L1	L2	ADJ SCREW	Fig.	Kg	Total Weight (Kg)
BT30	BT30-DHE6-65	6	65	29	46	33	30~39.8	M5	1	0.7	0.8
	BT30-DHE8-65	8	65	31	46	33	30~39.8	M5	1	0.7	0.8
	BT30-DHE10-65	10	65	32	46	34	35~44.8	M5	1	0.7	0.8
	BT30-DHE12-70	12	70	35	46	34	41~50.8	M5	1	0.8	0.8
	BT30-DHE14-90	14	90	36	46	40	43~52.8	M5	1	1.0	1.1
	BT30-DHE16-90	16	90	40	46	45	46~55.8	M5	1	1.0	1.1
	BT30-DHE18-90	18	90	42	46	40	49~58.8	M5	1	1.1	1.2
	BT30-DHE20-90	20	90	44	46	45	49~58.8	M5	1	1.1	1.2
BT40	BT40-DHE6-90	6	90	29	50	40	30~39.8	M5	1	1.4	1.6
	BT40-DHE6-140	6	140	29	50	40	30~39.8	M5	1	2.2	2.5
	BT40-DHE8-90	8	90	31	50	40	30~39.8	M5	1	1.4	1.6
	BT40-DHE8-140	8	140	31	50	40	30~39.8	M5	1	2.2	2.5
	BT40-DHE10-90	10	90	33	50	40	35~44.8	M5	1	1.5	1.7
	BT40-DHE10-140	10	140	33	50	40	35~44.8	M5	1	2.2	2.4
	BT40-DHE12-90	12	90	35	50	40	41~50.8	M10	1	1.5	1.7
	BT40-DHE12-140	12	140	35	50	40	41~50.8	M10	1	2.3	2.5
	BT40-DHE14-90	14	90	36	50	40	43~52.8	M10	1	1.5	1.7
	BT40-DHE14-140	14	140	36	50	40	43~52.8	M10	1	2.2	2.4
	BT40-DHE16-90	16	90	40	50	45	46~55.8	M10	1	1.5	1.7
	BT40-DHE16-140	16	140	40	50	45	46~55.8	M10	1	2.2	2.5
	BT40-DHE18-90	18	90	42	50	45	49~58.8	M10	1	1.5	1.7
	BT40-DHE18-140	18	140	42	50	45	49~58.8	M10	1	2.2	2.5
	BT40-DHE20-90	20	90	44	50	47	49~58.8	M10	1	1.5	1.7
	BT40-DHE20-140	20	140	44	50	50	49~58.8	M10	1	2.3	2.5
	BT40-DHE25-90	25	90	50	70	35	58~67.8	M16	2	2.0	2.2
	BT40-DHE32-90	32	90	63	80	35	58~67.8	M16	2	2.3	2.5

BT-DHE

Hydraulic expansion chuck

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

Fig.1

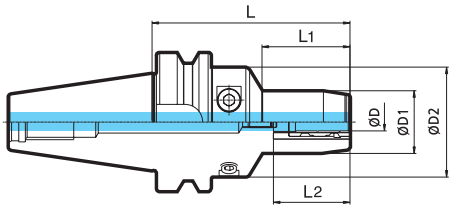
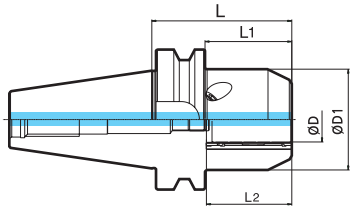


Fig.2



- **L2** : Depth of tool insertion (MIN.~MAX.)

C Internal coolant system installed.

- For more information on the product features, see **Page 22**. 22P
- For more information on the applicable collet, see **Page 62** . 62P
- For more information on the related parts, see **Page 63** . 63P
- For more information, see **Page 146** for HSK shank and see **Page 158** for SK shank. 146,158P

BT50

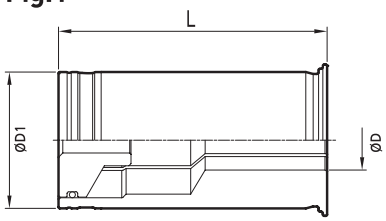
Designation	ØD	L	ØD1	ØD2	L1	L2	ADJ SCREW	Fig.	Kg	Total Weight (Kg)
BT50-DHE6-90	6	90	29	50	34	30~39.8	M5	1	3.9	4.2
BT50-DHE6-140	6	140	29	50	40	30~39.8	M5	1	4.4	4.8
BT50-DHE8-90	8	90	31	50	34	30~39.8	M5	1	4.2	4.5
BT50-DHE8-140	8	140	31	50	40	30~39.8	M5	1	4.6	5
BT50-DHE10-90	10	90	33	50	34	35~44.8	M5	1	3.9	4.2
BT50-DHE10-140	10	140	33	50	34	35~44.8	M5	1	4.5	4.9
BT50-DHE12-90	12	90	35	50	34	41~50.8	M10	1	4.0	4.3
BT50-DHE12-140	12	140	35	50	34	41~50.8	M10	1	4.6	5
BT50-DHE14-90	14	90	36	50	34	43~52.8	M10	1	3.9	4.2
BT50-DHE14-140	14	140	36	50	34	43~52.8	M10	1	4.5	4.9
BT50-DHE16-90	16	90	40	50	34	46~55.8	M10	1	4.1	4.4
BT50-DHE16-140	16	140	40	50	34	46~55.8	M10	1	4.7	5.1
BT50-DHE18-90	18	90	42	50	40	49~58.8	M10	1	4.0	4.3
BT50-DHE18-140	18	140	42	50	45	49~58.8	M10	1	4.5	4.9
BT50-DHE20-90	20	90	44	50	34	49~58.8	M10	1	4.0	4.3
BT50-DHE20-140	20	140	44	50	47	49~58.8	M10	1	4.5	4.9
BT50-DHE25-90	25	90	66	-	52	58~67.8	M16	2	4.7	5
BT50-DHE32-90	32	90	72	-	52	58~67.8	M16	2	5.8	6.2

DHC Collet (general & waterproof type)

DHE Collet (general type) / DHE Collet (waterproof type)

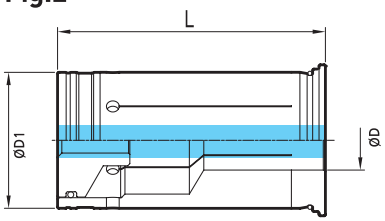
5㎛ Run-out | C Coolant System

Fig.1



C This product does not support the internal coolant system.

Fig.2



C Internal coolant system installed.

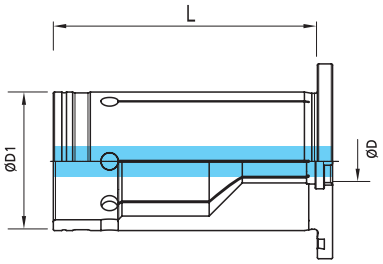
• Systems in other sizes are custom-made.

Designation (general type)	ØD	ØD1	L	Fig.	Kg
DHC12- 3,4,5,6,8	3,4,5,6,8	12	47	1	0.08
DHC20- 3,4,5,6,7,8,9,10,11,12,14,16	3,4,5,6,7,8,9,10,11,12,14,16	20	52	1	0.08
DHC32-6,8,10,12,14,16,18,19,20,25	6,8,10,12,14,16,18,19,20,25	32	63	1	0.08
Designation (waterproof type)	**ØD**	**ØD1**	**L**	**Fig.**	**Kg**
DHC12- 3(P),4(P),5(P),6(P),8(P)	3,4,5,6,8	12	47	2	0.08
DHC20- 3(P),4(P),5(P),6(P),7(P),8(P),9(P), 10(P),11(P),12(P),14(P),16(P)	3,4,5,6,7,8,9,10,11,12,14,16	20	52	2	0.08
DHC32- 6(P),8(P),10(P),12(P),14(P),16(P), 18(P),19(P),20(P),25(P)	6,8,10,12,14,16,18,19,20,25	32	63	2	0.08

DHJ Collet (jet coolant)

DHJ JET Coolant collet

3㎛ Run-out | C Coolant System



C Internal coolant system installed.

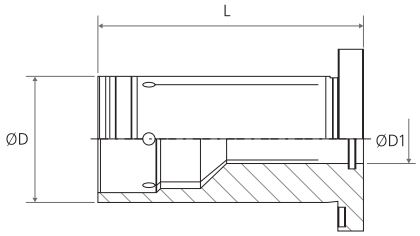
Designation	ØD	ØD1	L	Kg	Total Weight (Kg)
DHJ20-8	8	20	50	0.14	0.14
DHJ20-10	10	20	50	0.1	0.1
DHJ20-12	12	20	50	0.1	0.1
DHJ20-14	14	20	50	0.08	0.08
DHJ20-16	16	20	50	0.08	0.08

DZC Collet

Zero fit collet

≤2㎛ Run-out

C Coolant System



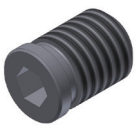
C This product does not support internal coolant system.

Designation	ØD	ØD1	L
DZC20-6	20	6	56.5
DZC20-8	20	8	56.5
DZC20-10	20	10	56.5
DZC20-12	20	12	56.5
DZC20-14	20	14	56.5
DZC20-16	20	16	56.5
DZC32-6	32	6	67.5
DZC32-8	32	8	67.5
DZC32-10	32	10	67.5
DZC32-12	32	12	67.5
DZC32-16	32	16	67.5
DZC32-20	32	20	67.5
DZC32-25	32	25	67.5

DHE SPARE PART

Parts for hydraulic expansion chuck

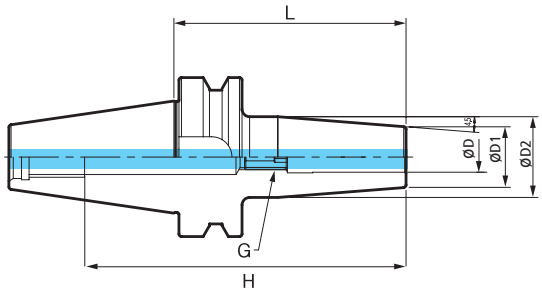
Spare Part

Main Components					
Type		Clamp bolt	Wrench	Type	Adjustable screw
Model No. / Images				Model No. / Images	
BT30 / SK30 / HSK50	DHE 6, 8, 10, 12	BTF1010	DHETW-5	DHE 6, 8, 10	DHE-M5 (ADJ)
	DHE 14, 16, 18, 20	BTF1010			
BT40 / BT50 / SK40 / SK50 / HSK63A HSK100A	DHE 6, 8, 10, 12, 14, 16, 18, 20	BTF1010		DHE 12, 14, 16, 18, 20	DHE-M10 (ADJ)
	DHE 25, 32	BTF1212-1.5	DHETW-6	DHE 25, 32	DHE-M16 (ADJ)

BT-DSC

Shrinking chuck

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



- For more information on the product features, see **Page 23**. 23P
- For more information on the related parts (adjustable screw), see **Page 70**. 70P

C Internal coolant system installed.

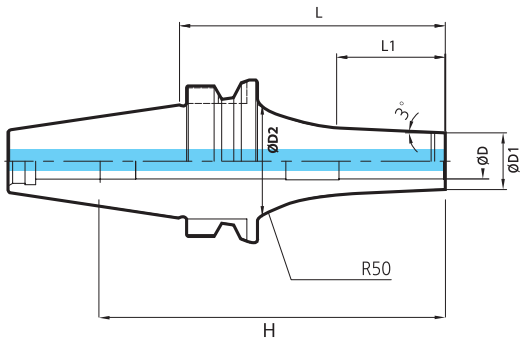
BT30, BT40

Designation	ØD	L	ØD1	ØD2	H	G	RPM	Kg	Total Weight (Kg)
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-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

BT-DSC/M MONO CURVE TYPE

Shrinking chuck

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



※ This product does not support adjust screw.

C Internal coolant system installed.

• For more information on the features of product, see **Page 23.** 23P

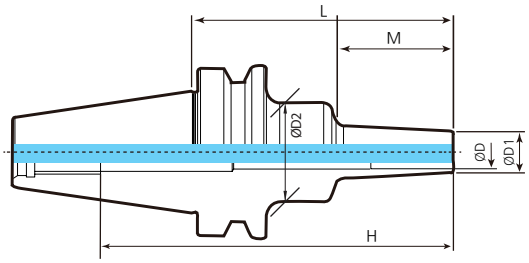
BT30

Designation	ØD	L	ØD1	ØD2	L1	H	RPM	Kg	Total Weight (Kg)
BT30-DSC3M-75S	3	75	8	25	29.8	97	25,000	0.4	0.5
BT30-DSC4M-75S	4	75	10	25	31.8	97	25,000	0.4	0.5
BT30-DSC6M-75S	6	75	12	30	28.9	97	25,000	0.5	0.5
BT30-DSC8M-75S	8	75	14	32	28.9	97	25,000	0.5	0.5
BT30-DSC10M-75S	10	75	16	32	30.7	45	25,000	0.5	0.5
BT30-DSC12M-75S	12	75	19	32	33.8	45	25,000	0.5	0.5

BT-DSC/M MONO 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				



- For more information on the features of product, see **Page 23**. 23P
- For more information on ST shank, see **Page 138**. 138P
- For more information, see **Page 147** for HSK shank and **Page 159** for SK shank. 147,159P

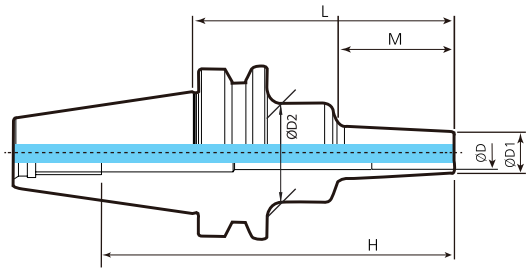
C Internal coolant system installed.

	Designation	ØD	L	ØD1	ØD2	M	H	RPM	Kg	Total Weight (Kg)
BT40	BT40-DSC3M-95	3	95	8	26	42	128	20,000	0.8	1.0
	BT40-DSC4M-95	4	95	8	26	42	128	20,000	0.8	1.0
	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	1.5
	BT40-DSC8M-95	8	95	13	36	42	128	20,000	1.1	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	1.3
	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	1.3	1.5
	BT40-DSC16M-120	16	120	24	50	67	47	20,000	1.4	1.6
	BT40-DSC16M-160	16	160	24	50	97	47	20,000	1.7	2.0
	BT40-DSC20M-95	20	95	29	50	42	55	20,000	1.3	1.5
	BT40-DSC20M-120	20	120	29	50	67	55	20,000	1.5	1.7
	BT40-DSC20M-160	20	160	29	50	97	55	20,000	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	3.9	4.2
	BT50-DSC20M-160	20	160	29	50	97	55	15,000	4.2	4.6

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				



※ This product does not support adjust screw.

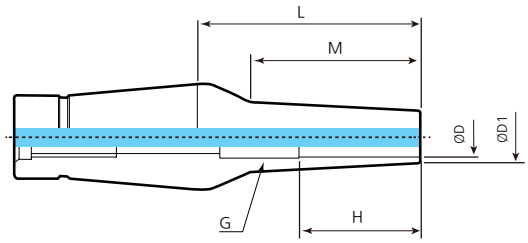
C Internal coolant system installed.

- For more information on the features of product, see **Page 23.** 23P
- For more information on S shank, see **Page 139.** 139P

	Designation	ØD	L	ØD1	ØD2	M	H	RPM	Kg	Total Weight (Kg)
BT30, BT40	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-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

CS/CM 2PIECES TYPE

Shrinking chuck



※ This product does not support adjust screw.

※ Stock management will be discontinued.

C Internal coolant system installed.

• For more information on the features of product, see **Page 23**. 23P

CS

Designation	ØD	L	ØD1	M	H	Kg	Total Weight (Kg)
CS12-6-35	6	35	9	22	55	0.1	0.2
CS12-6-55	6	55	9	42	75	0.2	0.2
CS12-6-80	6	80	9	67	100	0.2	0.2
CS12-6-110	6	110	9	97	130	0.2	0.3
CS12-8-35	8	35	11	22	55	0.1	0.2
CS12-8-55	8	55	11	42	75	0.2	0.2
CS12-8-80	8	80	11	67	100	0.2	0.2
CS12-8-110	8	110	11	97	130	0.3	0.3
CS12-10-35	10	35	13	22	45	0.1	0.2
CS12-10-55	10	55	13	42	49.5	0.2	0.2
CS12-10-80	10	80	13	67	65	0.2	0.3
CS12-10-110	10	110	13	97	65	0.3	0.4
CS12-12-35	12	35	15	22	45	0.1	0.2
CS12-12-55	12	55	15	42	49.5	0.2	0.2
CS12-12-80	12	80	15	67	65	0.2	0.3
CS12-12-110	12	110	15	97	65	0.3	0.4

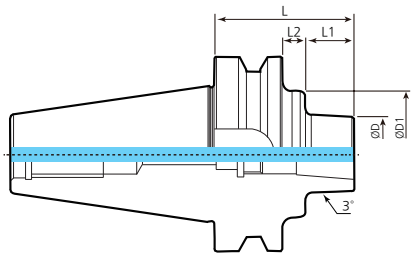
CM

Designation	ØD	L	ØD1	M	H	Kg	Total Weight (Kg)
CM12-6-35	6	35	12	22	55	0.2	0.2
CM12-6-55	6	55	12	42	75	0.2	0.2
CM12-6-80	6	80	12	67	100	0.2	0.3
CM12-8-35	8	35	14	22	55	0.2	0.2
CM12-8-55	8	55	14	42	75	0.2	0.2
CM12-8-80	8	80	14	67	100	0.3	0.3
CM12-10-35	10	35	16	22	45	0.2	0.2
CM12-10-55	10	55	16	42	45	0.2	0.3
CM12-10-80	10	80	16	67	45	0.3	0.3
CM12-12-35	12	35	20	22	45	0.2	0.2
CM12-12-55	12	55	20	42	45	0.3	0.3
CM12-12-80	12	80	20	52	55	0.3	0.4

BT-SLK 2PIECES TYPE

Shrinking chuck

MAS 403-BT (Shank) | G2.5 (G value) | 5㎛ (Run-out) | C (Coolant System)



※ BT30-SLK12-35 requires exclusive pull stud bolt.

※ Stock management will be discontinued.

C Internal coolant system installed.

• For more information on the features of product, see **Page 23**. 23P

BT30, BT40, BT50

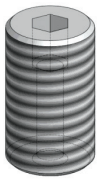
Designation	ØD	L	ØD1	L1	L2	Kg	Total Weight (Kg)
BT30-SLK12-35	38	35	-	13	-	0.4	0.5
BT40-SLK12-45	38	45	-	18	-	1.0	1.2
BT40-SLK12-45F	41	45	-	18	-	1.0	1.2
BT40-SLK12-75	38	75	-	48	-	1.3	1.5
BT40-SLK12-75F	41	75	-	48	-	1.3	1.5
BT40-SLK12-135F	41	135	-	108	-	2.1	2.4
BT50-SLK12-75	38	75	65	25	12	4.1	4.4
BT50-SLK12-75F	41	75	65	25	12	4.1	4.4
BT50-SLK12-105F	41	105	65	55	12	4.5	4.8
BT50-SLK12-135F	41	135	65	85	12	5.3	5.7
BT50-SLK12-225	38	225	65	150	37	6.2	6.6
BT50-SLK12-315	38	315	90	150	127	11.5	11.9

DSC SPARE PART

Parts for shrinking chuck

Main Components

Adjust screw



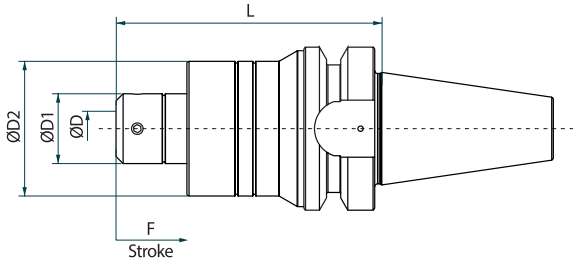
※ Slim type is not connected

Main Components										
Type	DSC6	DSC8	DSC10	DSC12	DSC14	DSC16	DSC18	DSC20	DSC25	DSC32
Adjust screw	M520C		M820C		M1230C					

BT-OFH

Floating holder for brush

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



• For more information on the product features, see **Page 33.** 33P

C This product does not support internal coolant system.

• For more information on ST shank, see **Page 139.** 139P

BT30

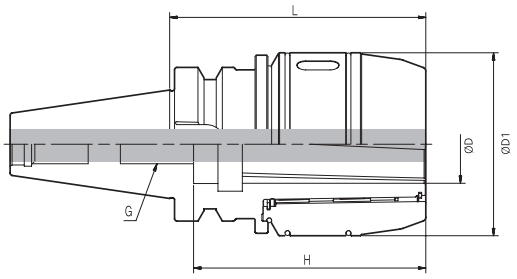
Designation	Sleeve Dia. (ØD)	L	ØD1	ØD2	ØD3	L1	L2	Sleeve stroke(F)	RPM
BT30-OFH6-75	6	75	19.7	38	6	0.7	0.8	6	15,000

BT-CPM

Champion milling chuck

MAS 403-BT | 15㎛ | 130~500 kgf·m | C | Milling | Drilling

Shank | Run-out | Clamping Force | Coolant System | Milling | Drilling



※ CPM Set available.

C Internal coolant system optional.

- For more information on the product features, see **Page 26**. 26P
- For more information on the applicable collet, see **Page 74**. 74P
- For more information on the composition of set, see NPM set on **Page 73**. 73P

BT30, BT40, BT50

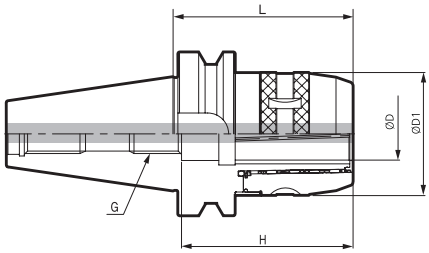
Designation	ØD	L	ØD1	H	G	Applied collet (option)	Kg	Total Weight (Kg)
BT30-CPM20-80	20	80	54	80	M16	DC20, DCS20	1.1	1.2
BT40-CPM20-90	20	90	54	80	M16	DC20, DCS20	1.7	1.9
BT40-CPM32-90	32	90	75	85	M16	DC32, DCS32	2.3	2.5
BT40-CPM32-105	32	105	75	95	M16	DC32, DCS32	2.7	2.9
BT50-CPM32-105	32	105	75	95	M24	DC32, DCS32	4.8	5.2
BT50-CPM32-135	32	135	75	95	M24	DC32, DCS32	5.7	6.1
BT50-CPM32-165	32	165	75	95	M24	DC32, DCS32	6.6	7.0

BT-NPM

New power milling chuck

MAS 403-BT | 15㎛ | 130~500 kgf·m | C | Milling | Drilling

Shank | Run-out | Clamping Force | Coolant System | Milling | Drilling



- For more information on the product features, see **Page 24**. 24P
- For more information on the applicable collet, see **Page 74**. 74P
- For more information on the related parts, see **Page 76**. 76P
- For more information, see **Page 148** for HSK shank and **Page 160** for SK shank. 148,160P
- For more information on NT shank, see **Page 174**. 174P

C Internal coolant system optional.

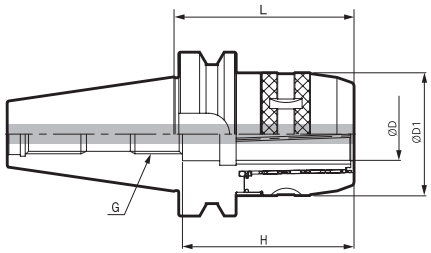
	Designation	ØD	L	ØD1	H	G	COLLET	Kg	Total Weight (Kg)
BT30, BT40	BT30-NPM20-85	20	85	54	85	M16	DC20, DCS20	1.2	1.3
	BT40-NPM20-85	20	85	54	85	M16	DC20, DCS20	2.6	2.8
	BT40-NPM20-100	20	100	54	85	M16	DC20, DCS20	2.3	2.5
	BT40-NPM25-85	25	85	61	85	M16	DC25	1.7	1.9
	BT40-NPM32-90	32	90	75	87	M16	DC32, DCS32	2.3	2.5
	BT40-NPM32-110	32	110	75	95	M16	DC32, DCS32	2.8	3.1
	BT40-NPM32-135	32	135	75	95	M16	DC32, DCS32	3.5	3.8
BT50	BT50-NPM20-95	20	95	54	85	M16	DC20, DCS20	4.3	4.6
	BT50-NPM20-125	20	125	54	85	M16	DC20, DCS20	4.7	5.1
	BT50-NPM20-165	20	165	54	85	M16	DC20, DCS20	5.2	5.6
	BT50-NPM32-110	32	110	75	105	M24	DC32, DCS32	7.1	9.4
	BT50-NPM32-135	32	135	75	105	M24	DC32, DCS32	5.7	6.1
	BT50-NPM32-165	32	165	75	105	M24	DC32, DCS32	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 , it is recommended to use a short cap; use a longer product for heavy cutting.

NPM SET

New power milling chuck SET

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



C Internal coolant system optional.

• HSK, SK / B Set are customizable.

BT40, BT50

Designation	Body	Collet	Spanner
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, 32	92-96

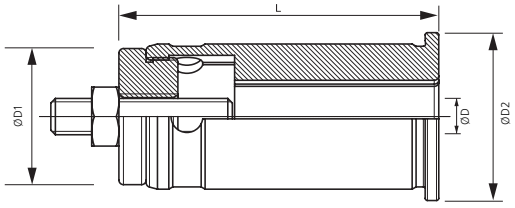
※ B SET includes the items above as well as MT collet and DJT collet.

A Set

B Set

DCS

Straight collet

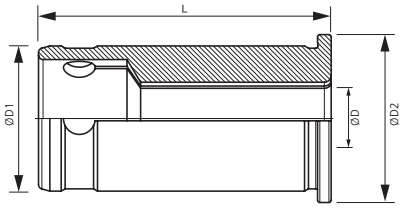


- Users can adjust the length with using adjustment screw.

Designation	ØD	L	ØD1	ØD2	Kg	Total Weight (Kg)
DCS20- 6,8,10,12,16	6,8,10,12,16	57	20	25	0.1	0.2
DCS32- 6,8,10,12,14,16,19,20,25	6,8,10,12,14,16,19,20,25	70.5	32	37	0.3	0.4
DCS42- 6,8,10,12,16,20,25,32	6,8,10,12,16,20,25,32	80	42	47	0.6	0.7

DC

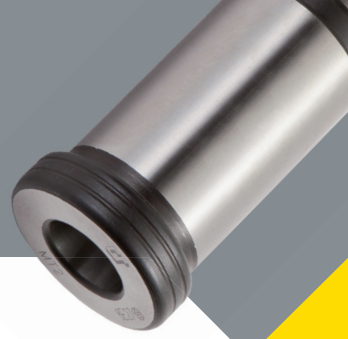
Straight collet

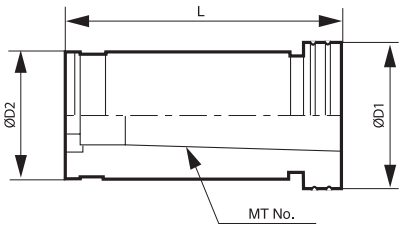


Designation	ØD	L	ØD1	ØD2	Kg	Total Weight (Kg)
DC20- 6,8,10,12,14,16	6,8,10,12,14,16	53	20	25	0.1	0.1
DC25- 6,8,10,12,16,20	6,8,10,12,16,20	61.5	25	29	0.2	0.2
DC32- 6,8,10,12,14,16,19,20,25	6,8,10,12,14,16,19,20,25	64.5	32	37	0.2	0.3
DC42- 6,8,10,12,16,20,25,32	6,8,10,12,16,20,25,32	73	42	47	0.5	0.5

TC

Taper collet



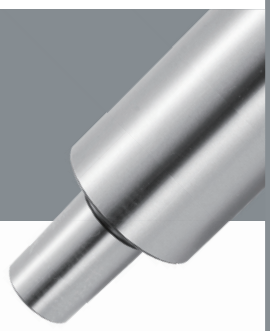


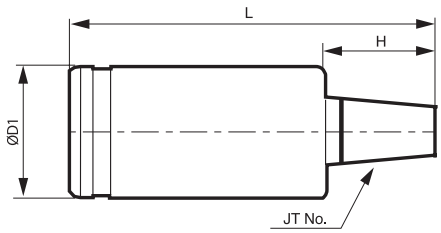
Designation	MT No.	L	ØD2	ØD1	Kg	Total Weight (Kg)
TC20-1	MT1	60	20	26	0.1	0.1
TC20-2	MT2	72	20	26	0.1	0.1
TC25-1	MT1	60	25	32	0.2	0.2
TC25-2	MT2	72	25	32	0.2	0.2
TC32-1	MT1	60	32	38	0.4	0.4
TC32-2	MT2	72	32	38	0.4	0.4

Designation	MT No.	L	ØD2	ØD1	Kg	Total Weight (Kg)
TC32-3	MT3	90	32	38	0.4	0.4
TC42-1	MT1	60	42	48	0.6	0.6
TC42-2	MT2	72	42	48	0.7	0.7
TC42-3	MT3	90	42	48	0.8	0.8
TC42-4	MT4	112.5	42	48	0.8	0.8

DJT

Drill chuck arbor





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

NPM SPARE PART

New power milling chuck

Option (BT/SK)

Spare Part

Components Not Included			
Type	Coolant system (BT/SK)	Collet	Spanner
Images / Designation			
NPM20	CTC20-20	DCS20, DC20	57-60
NPM32	CTC32-32	DCS32, DC32	75-79
NPM42	CTC42-42	DCS42, DC42	92-96

Option (HSK)

Spare Part

Components Not Included	
Coolant tube	

Classification of shank type	
HSK50	HSK50A-CNS
HSK63	HSK63A-CNS
HSK100	HSK100A-CNS

RTJW

Jet coolant disk

Jet coolant Inside coolant

- For more information on the product features, see **Page 29**. 29P
- For more information on the applicable products, see **Page 78**. 78P

※ Product less than Ø5 can't be ordered.

	Designation	ER Size	Inner diameter
RTJW16, RTJW20	RTJW16-6	16	6
	RTJW16-7	16	7
	RTJW16-8	16	8
	RTJW20-6	20	6
	RTJW20-7	20	7
	RTJW20-8	20	8
	RTJW20-9	20	9
	RTJW20-10	20	10
RTJW25	RTJW25-6	25	6
	RTJW25-7	25	7
	RTJW25-8	25	8
	RTJW25-9	25	9
	RTJW25-10	25	10
	RTJW25-11	25	11
	RTJW25-12	25	12
	RTJW25-13	25	13
	RTJW25-14	25	14
	RTJW25-15	25	15
	RTJW25-16	25	16

	Designation	ER Size	Inner diameter
RTJW32	RTJW32-6	32	6
	RTJW32-7	32	7
	RTJW32-8	32	8
	RTJW32-9	32	9
	RTJW32-10	32	10
	RTJW32-11	32	11
	RTJW32-12	32	12
	RTJW32-13	32	13
	RTJW32-14	32	14
	RTJW32-15	32	15
	RTJW32-16	32	16
	RTJW32-17	32	17
	RTJW32-18	32	18
	RTJW32-20	32	20
RTJW40	RTJW40-18	40	18
	RTJW40-19	40	19
	RTJW40-20	40	20
	RTJW40-21	40	21
	RTJW40-22	40	22
	RTJW40-24	40	24

SDC/P NEW

Precision collet chuck for multi-purpose machining

MAS 403-BT (Shank) | Ø26 (Max Dia) | C (Coolant System) | Milling | Drilling | Chamfering

Fig.1

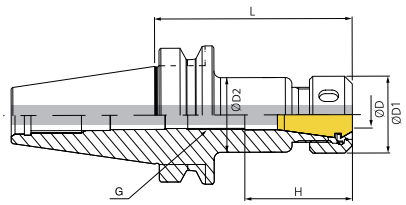


Fig.2

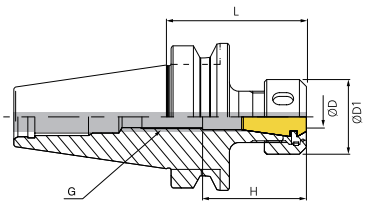
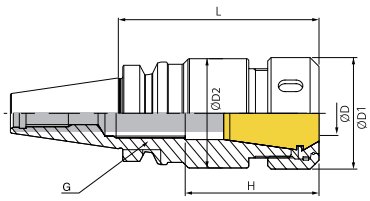


Fig.3



※ Use correct size of collet for coolant-through

C Internal coolant system is optional.

- For more information on the product features, see **Page 28.** 28P
- For more information on the applicable collet, see **Page 62.** 62P
- For more information on the related parts, see **Page 87.** 87P
- For more information, see **Page 149** for HSK shank and **Page 161** for SK shank. 149,161P

	Designation	ØD	L	ØD1	ØD2	H	COLLET/STEP	G	Fig.	Kg	Total Weight (Kg)
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	-	44.5	GERC16/1.0	M10	2	0.5	0.6
	BT30-SDC10P-70	1.0~10.0	70	32	31	44.5	GERC16/1.0	M10	1	0.6	0.6
	BT30-SDC10P-100	1.0~10.0	100	32	31	44.5	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	1.0~16.0	50	42	-	50	GERC25/1.0	M18	2	0.5	0.6
	BT30-SDC16P-70	1.0~16.0	70	42	41	50	GERC25/1.0	M18	1	0.7	0.8
	BT30-SDC16P-100	1.0~16.0	100	42	41	50	GERC25/1.0	M18	1	1.0	1.1
	BT30-SDC20P-60	1.0~20.0	60	50	-	60	GERC32/1.0	M22	2	0.6	0.7
	BT30-SDC20P-90	1.0~20.0	90	50	49	60	GERC32/1.0	M22	3	1.0	1.1
	BT30-SDC20P-120	1.0~20.0	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	44.5	GERC16/1.0	M10	1	1.0	1.2
	BT40-SDC10P-90	1.0~10.0	90	32	31	44.5	GERC16/1.0	M10	1	1.2	1.4
	BT40-SDC10P-130	1.0~10.0	130	32	31	44.5	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	1.0~16.0	70	42	41	50	GERC25/1.0	M18	1	1.1	1.3
	BT40-SDC16P-90	1.0~16.0	90	42	41	50	GERC25/1.0	M18	1	1.3	1.5
	BT40-SDC16P-130	1.0~16.0	130	42	41	50	GERC25/1.0	M18	1	1.7	1.9
	BT40-SDC20P-70	1.0~20.0	70	50	-	60	GERC32/1.0	M22	2	1.1	1.3
	BT40-SDC20P-90	1.0~20.0	90	50	49	60	GERC32/1.0	M22	1	1.4	1.6
	BT40-SDC20P-130	1.0~20.0	130	50	49	60	GERC32/1.0	M22	1	1.9	2.2
	BT40-SDC20P-150	1.0~20.0	150	50	49	60	GERC32/1.0	M22	1	2.2	2.5
	BT40-SDC26P-90	3.0~26.0	90	63	62	71	GERC40/1.0	M28	1	1.7	1.9

SDC/P NEW

Precision collet chuck for multi purpose machining

MAS 403-BT (Shank) | Ø26 (Max Dia) | C (Coolant System) | Milling | **Drilling** | Chamfering

Fig.1

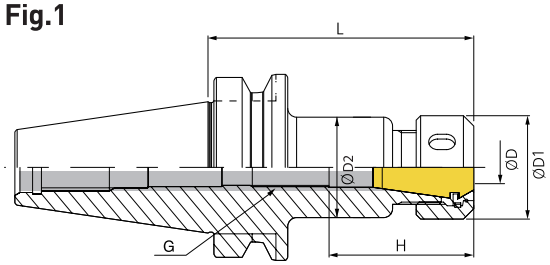
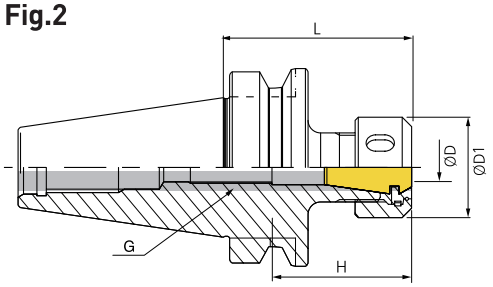


Fig.2



※ Use correct size of collet for coolant-through

C Internal coolant system is optional.

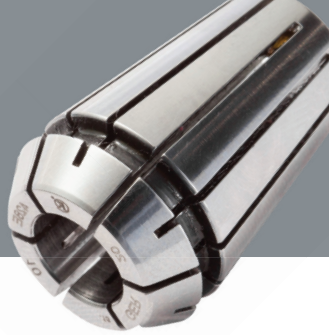
- For more information on the features of product, see **Page 28**. 28P
- For more information on the applicable collet, see **Page 62**. 62P
- For more information on the related parts, see **Page 87**. 87P
- For more information, see **Page 149** for HSK shank and see **Page 161** for SK shank. 149,161P

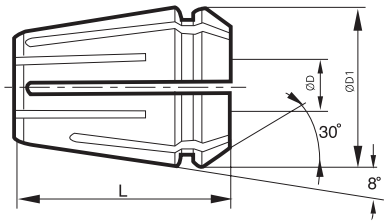
BT50

Designation	ØD	L	ØD1	ØD2	H	COLLET/STEP	G	Fig.	Kg	Total Weight (Kg)
BT50-SDC10P-100	1.0~10.0	100	32	31	44.5	GERC16/1.0	M10	1	3.7	4.0
BT50-SDC10P-120	1.0~10.0	120	32	31	44.5	GERC16/1.0	M10	1	3.7	4.1
BT50-SDC10P-160	1.0~10.0	160	32	31	44.5	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	1.0~16.0	100	42	41	50	GERC25/1.0	M18	1	3.9	4.2
BT50-SDC16P-160	1.0~16.0	160	42	41	50	GERC25/1.0	M18	1	4.3	4.7
BT50-SDC20P-70	1.0~20.0	70	50	-	60	GERC32/1.0	M22	2	3.7	4.0
BT50-SDC20P-100	1.0~20.0	100	50	49	60	GERC32/1.0	M22	1	4.0	4.3
BT50-SDC20P-130	1.0~20.0	130	50	49	60	GERC32/1.0	M22	1	4.3	4.7
BT50-SDC20P-160	1.0~20.0	160	50	49	60	GERC32/1.0	M22	1	4.7	5.1
BT50-SDC20P-180	1.0~20.0	180	50	49	60	GERC32/1.0	M22	1	5.0	5.4
BT50-SDC26P-160	3.0~26.0	160	63	62	71	GERC40/1.0	M28	1	5.5	5.9

GERC COLLET

GERC collet (general type, precision type)





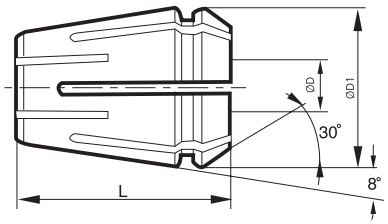
Designation	ER Size	ØD MAX.	L	ØD1	Step	Accuracy	
						General type	Precision type (HP)
GERC11-ØD(HP)	11	7.0	18.0	11.5	0.5	5㎛	2㎛
GERC16-ØD(HP)	16	10.0	27.5	17.0	1.0	5㎛	2㎛
GERC20-ØD(HP)	20	13.0	31.5	21.0	1.0	5㎛	2㎛
GERC25-ØD(HP)	25	16.0	34.0	26.0	1.0	5㎛	2㎛
GERC32-ØD(HP)	32	20.0	40.0	33.0	1.0	5㎛	2㎛
GERC40-ØD(HP)	40	26.0	46.0	41.0	1.0	5㎛	2㎛

※ Example of customization: Order GERC16-4.0 / Order precision-type GERC16-4.0HP

※ Waterproof type can't be ordered.

ER COLLET

ER collet (general type, waterproof type)



Designation	ER Size	ØD MAX.	L	ØD1	Through coolant type MIN. Ø	Step	Accuracy
ER11-ØD	11	7.0	18.0	11.5	X	0.5	10㎛
ER16-ØD(C)	16	10.0	27.5	17.0	4.0	1.0	10㎛
ER20-ØD(C)	20	13.0	31.5	21.0	6.0	1.0	10㎛
ER25-ØD(C)	25	16.0	34.0	26.0	6.0	1.0	10㎛
ER32-ØD(C)	32	20.0	40.0	33.0	8.0	1.0	10㎛

※ Ordering Example : General type ER16-4

Coolant type ER16-4.0C

GERC COLLET SET

GERC collet (general type)

Designation	ØD	Step	Amount of collet	Accuracy	Kg	Total Weight (Kg)
GERC11 1.0-7.0mm/0.5mm	1.0-7.0	0.5	13pcs	5㎛	0.1	0.3
GERC16 1.0-10.0mm/1.0mm	1.0-10.0	1.0	10pcs	5㎛	0.2	0.4
GERC20 2.0-13.0mm/1.0mm	2.0-13.0	1.0	12pcs	5㎛	0.5	0.8
GERC25 2.0-16.0mm/1.0mm	2.0-16.0	1.0	15pcs	5㎛	1.1	1.5
GERC32 3.0-20.0mm/1.0mm	3.0-20.0	1.0	18pcs	5㎛	2.6	3.1
GERC40 4.0-26.0mm/1.0mm	4.0-26.0	1.0	23pcs	5㎛	5.8	6.9

ER COLLET SET

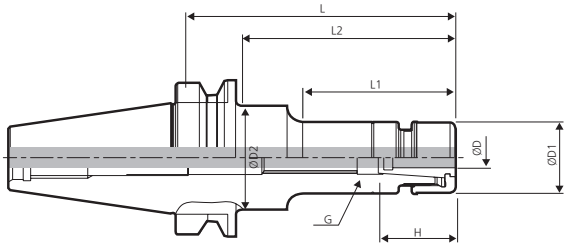
ER collet (general type)

Designation	ØD	Step	Amount of collet	Accuracy	Kg	Total Weight (Kg)
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
ER40(SET)	4.0-26.0	1.0	23pcs	10㎛	5.8	6.9

BT-GSK

Great speed slim collet chuck

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



- For more information on the product features, see **Page 30**. 30P
- For more information on the applicable collet, see **Page 86**. 86P
- For more information on the related parts, see **Page 86**. 86P
- For more information, see **Page 150** for HSK shank and **Page 162** for SK shank. 150,162P

※ Use coolant collet for coolant system

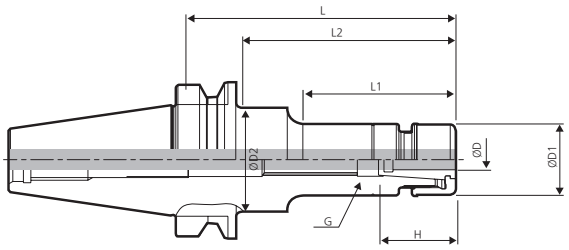
C Internal coolant system is optional.

	Designation	ØD	L	ØD1	ØD2	L1	L2	H	Collet/ Step	G	MAX. RPM	Kg	Total Weight
BT30	BT30-GSK6-60	1.0~6.0	60	19.5	19.5	33	33	31	HC6/1.0	M8	25,000	0.4	0.4
	BT30-GSK6-90	1.0~6.0	90	19.5	32	56	65	31	HC6/1.0	M8	25,000	0.5	0.6
	BT30-GSK10-60	2.0~10.0	60	27	27	35	35	38	HC10/1.0	M12	25,000	0.5	0.6
	BT30-GSK10-90	2.0~10.0	90	27	27	65	65	38	HC10/1.0	M12	25,000	0.6	0.7
	BT30-GSK13-60	3.0~13.0	60	35	35	36	36	43	HC13/1.0	M12	25,000	0.6	0.7
	BT30-GSK16-60	3.0~16.0	60	40	40	37	37	52	HC16/1.0	M12	25,000	0.6	0.7
	BT30-GSK16-90	3.0~16.0	90	40	40	67	67	52	HC16/1.0	M18	25,000	0.8	0.9
	BT30-GSK25-90	16.0~25.0	90	55	55	67.5	67.5	63.5	HC25/1.0	M12	25,000	1.0	1.1
BT40	BT40-GSK6-90	1.0~6.0	90	19.5	32	51	61	31	HC6/1.0	M8	20,000	1.0	1.2
	BT40-GSK6-120	1.0~6.0	120	19.5	32	60	90	31	HC6/1.0	M8	20,000	1.2	1.5
	BT40-GSK6-150	1.0~6.0	150	19.5	25	60	120	31	HC6/1.0	M8	20,000	1.2	1.4
	BT40-GSK10-90	2.0~6.0	90	27	40	48	60	38	HC10/1.0	M12	20,000	1.1	1.3
	BT40-GSK10-120	2.0~6.0	120	27	40	73	90	38	HC10/1.0	M12	20,000	1.3	1.5
	BT40-GSK10-150	2.0~6.0	150	27	34.5	73	118	38	HC10/1.0	M12	20,000	1.4	1.6
	BT40-GSK13-90	3.0~13.0	90	35	35	59	59	43	HC13/1.0	M15	20,000	1.2	1.4
	BT40-GSK16-90	3.0~16.0	90	40	40	58	58	52	HC16/1.0	M18	20,000	1.3	1.5
	BT40-GSK16-120	3.0~16.0	120	40	40	88	88	52	HC16/1.0	M18	20,000	1.5	1.7
	BT40-GSK16-150	3.0~16.0	150	40	40	118	118	52	HC16/1.0	M18	20,000	1.8	2.0
	BT40-GSK20-90	4.0~20.0	90	48	48	60	60	60	HC20/1.0	M22	20,000	1.4	1.6
	BT40-GSK20-120	4.0~20.0	120	48	48	90	90	60	HC20/1.0	M22	20,000	1.8	2.0
	BT40-GSK25-90	16.0~25.0	90	55	55	61	61	63.5	HC25/1.0	M28	20,000	1.6	1.8
	BT40-GSK25-120	16.0~25.0	120	55	55	91	91	63.5	HC25/1.0	M28	20,000	2.0	2.2

BT-GSK

Great speed slim collet chuck

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



- For more information on the features of product, see **Page 30**. 30P
- For more information on the applicable collet, see **Page 86**. 86P
- For more information on the related parts, see **Page 86**. 86P
- For more information, see **Page 150** for HSK shank and **Page 162** for SK shank. 150,162P

※ Use coolant collet for coolant system

C Internal coolant system is optional.

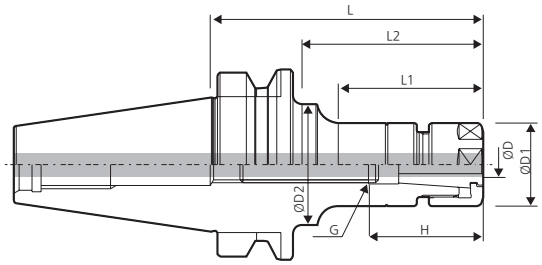
BT50

Designation	ØD	L	ØD1	ØD2	L1	L2	H	Collet/ Step	G	MAX. RPM	Kg	Total Weight
BT50-GSK6-105	1.0~6.0	105	19.5	32	55	64	31	HC6/1.0	M8	15,000	3.6	3.9
BT50-GSK6-135	1.0~6.0	135	19.5	32	60	92	31	HC6/1.0	M8	15,000	3.6	4.0
BT50-GSK6-165	1.0~6.0	165	19.5	32	60	114	31	HC6/1.0	M8	15,000	3.9	4.3
BT50-GSK10-105	2.0~10.0	105	27	27	57	57	38	HC10/1.0	M12	15,000	3.7	4.0
BT50-GSK10-135	2.0~10.0	135	27	32	70	92	38	HC10/1.0	M12	15,000	3.7	4.1
BT50-GSK10-165	2.0~10.0	165	27	36	75	114	38	HC10/1.0	M12	15,000	4.0	4.4
BT50-GSK13-135	3.0~13.0	135	35	35	92	92	43	HC13/1.0	M15	15,000	3.9	4.3
BT50-GSK16-105	3.0~16.0	105	40	40	62	62	52	HC16/1.0	M18	15,000	3.9	4.2
BT50-GSK16-135	3.0~16.0	135	40	40	92	92	52	HC16/1.0	M18	15,000	4.1	4.5
BT50-GSK16-165	3.0~16.0	165	40	50	40	122	52	HC16/1.0	M18	15,000	4.3	4.7
BT50-GSK20-105	4.0~20.0	105	48	-	62	62	60	HC20/1.0	M22	15,000	4.1	4.4
BT50-GSK20-135	4.0~20.0	135	48	-	92	92	60	HC20/1.0	M22	15,000	4.4	4.8
BT50-GSK20-165	4.0~20.0	165	48	-	122	122	60	HC20/1.0	M22	15,000	4.9	5.1
BT50-GSK25-105	16.0~25.0	105	55	55	62	62	63.5	HC25/1.0	M28	15,000	4.2	4.5
BT50-GSK25-135	16.0~25.0	135	55	55	92	92	63.5	HC25/1.0	M28	15,000	4.6	5.0
BT50-GSK25-165	16.0~25.0	165	55	55	122	122	63.5	HC25/1.0	M28	15,000	5.1	5.5

BT-DSK

Slim-type collet chuck

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



※ Use coolant collet for coolant through system

C Internal coolant system is optional.

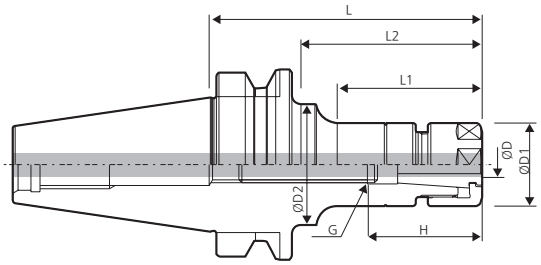
- For more information on the product features, see **Page 32**. 32P
- For more information on the applicable collet, see **Page 86**. 86P
- For more information on the related parts, see **Page 87**. 87P

	Designation	ØD (Clamping Range)	L	ØD1	ØD2	L1	L2	H	Collet/ Step	G	MAX RPM	Kg	Total Weight
BT30	BT30-DSK6-60	1.0~6.0	60	19.5	19.5	33	33	31	HC6/1.0	M8	15,000	0.4	0.5
	BT30-DSK6-90	1.0~6.0	90	19.5	32	56	65	31	HC6/1.0	M8	15,000	0.5	0.6
	BT30-DSK10-60	2.0~10.0	60	27.5	27.5	35	35	38	HC10/1.0	M12	15,000	0.5	0.6
	BT30-DSK10-90	2.0~10.0	90	27.5	27.5	65	65	38	HC10/1.0	M12	15,000	0.6	0.7
	BT30-DSK13-60	3.0~13.0	60	33	33	36	36	43	HC13/1.0	M12	15,000	0.5	0.6
	BT30-DSK16-60	3.0~16.0	60	40	40	37	37	52	HC16/1.0	M12	15,000	0.6	0.7
	BT30-DSK16-90	3.0~16.0	90	40	40	67	67	52	HC16/1.0	M18	15,000	0.8	0.9
	BT30-DSK25-90	16.0~25.0	90	55	55	67.5	67.5	63.5	HC25/1.0	M12	15,000	0.9	1.1
BT40	BT40-DSK6-90	1.0~6.0	90	19.5	32	51	61	31	HC6/1.0	M8	10,000	1.1	1.3
	BT40-DSK6-120	1.0~6.0	120	19.5	32	60	90	31	HC6/1.0	M8	10,000	1.1	1.3
	BT40-DSK6-150	1.0~6.0	150	19.5	25	60	120	31	HC6/1.0	M8	10,000	1.1	1.4
	BT40-DSK10-90	2.0~6.0	90	27.5	40	48	60	38	HC10/1.0	M12	10,000	1.2	1.4
	BT40-DSK10-120	2.0~6.0	120	27.5	40	73	90	38	HC10/1.0	M12	10,000	1.2	1.5
	BT40-DSK10-150	2.0~6.0	150	27.5	34.5	73	118	38	HC10/1.0	M12	10,000	1.4	1.7
	BT40-DSK13-90	3.0~13.0	90	33	33	59	59	43	HC13/1.0	M15	10,000	1.3	1.5
	BT40-DSK16-90	3.0~16.0	90	40	40	58	58	52	HC16/1.0	M18	10,000	1.3	1.5
	BT40-DSK16-120	3.0~16.0	120	40	40	88	88	52	HC16/1.0	M18	10,000	1.5	1.7
	BT40-DSK16-150	3.0~16.0	150	40	40	118	118	52	HC16/1.0	M18	10,000	1.9	2.1
	BT40-DSK20-90	4.0~20.0	90	48.5	48.5	60	60	60	HC20/1.0	M22	10,000	1.5	1.7
	BT40-DSK20-120	4.0~20.0	120	48.5	48.5	90	90	60	HC20/1.0	M22	10,000	1.8	2.0
	BT40-DSK25-90	16.0~25.0	90	55	55	61	61	63.5	HC25/1.0	M28	10,000	1.6	1.8
	BT40-DSK25-120	16.0~25.0	120	55	55	91	91	85	HC25/1.0	M28	10,000	2.0	2.3

BT-DSK

Slim-type collet chuck

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



※ Use coolant collet for coolant through system

C Internal coolant system is optional.

- For more information on the features of product, see **Page 32**. 32P
- For more information on the applicable collet, see **Page 86**. 86P
- For more information on the related parts, see **Page 87**. 87P

BT50

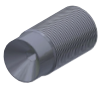
Designation	ØD (Clamping Range)	L	ØD1	ØD2	L1	L2	H	Collet/ Step	G	MAX RPM	Kg	Total Weight
BT50-DSK6-105	1.0~6.0	105	19.5	32	55	64	31	HC6/1.0	M8	8,000	3.6	3.9
BT50-DSK6-135	1.0~6.0	135	19.5	32	60	92	31	HC6/1.0	M8	8,000	3.7	4.1
BT50-DSK6-165	1.0~6.0	165	19.5	32	60	114	31	HC6/1.0	M8	8,000	4.1	4.4
BT50-DSK10-105	2.0~10.0	105	27.5	27.5	57	57	38	HC10/1.0	M12	8,000	3.8	4.1
BT50-DSK10-135	2.0~10.0	135	27.5	32	70	92	38	HC10/1.0	M12	8,000	3.9	4.3
BT50-DSK10-165	2.0~10.0	165	27.5	36	75	114	38	HC10/1.0	M12	8,000	4.1	4.5
BT50-DSK13-135	3.0~13.0	135	33	33	92	92	43	HC13/1.0	M15	8,000	3.8	4.2
BT50-DSK16-105	3.0~16.0	105	40	40	62	62	52	HC16/1.0	M18	8,000	4.0	4.3
BT50-DSK16-135	3.0~16.0	135	40	40	92	92	52	HC16/1.0	M18	8,000	4.2	4.6
BT50-DSK16-165	3.0~16.0	165	40	50	40	122	52	HC16/1.0	M18	8,000	4.6	5.0
BT50-DSK20-105	4.0~20.0	105	48	40	62	62	60	HC20/1.0	M22	8,000	4.2	4.5
BT50-DSK20-135	4.0~20.0	135	48	40	92	92	60	HC20/1.0	M22	8,000	4.5	4.9
BT50-DSK20-165	4.0~20.0	165	48	40	122	122	60	HC20/1.0	M22	8,000	4.9	5.3
BT50-DSK25-105	16.0~25.0	105	55	55	62	62	63.5	HC25/1.0	M28	8,000	4.4	4.7
BT50-DSK25-135	16.0~25.0	135	55	55	92	92	63.5	HC25/1.0	M28	8,000	4.5	4.9
BT50-DSK25-165	16.0~25.0	165	55	55	122	122	63.5	HC25/1.0	M28	8,000	5.2	5.6

GSK SPARE PART

Parts for great speed slim collet chuck

Main Components

Spare Part

Main Components			
Type	Nut	Adjust screw	Device to extract
Images / Designation			
GSK6	GN6	BN0825	DSK-6CE
GSK10	GN10	BN1230	DSK-10CE
GSK13	GN13	BN1230&BN1524F	DSK-13CE
GSK16	GN16	BN1830F	DSK-16CE
GSK20	GN20	BN2238F	DSK-20CE
GSK25	GN25	BN2838F	DSK-25CE

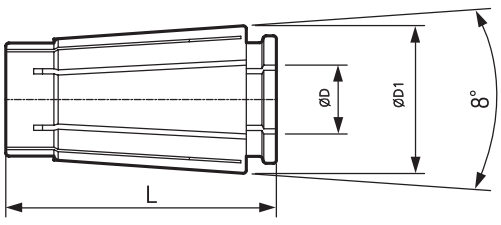
Components Not Included

Spare Part

Components Not Included		
Images	Applied chuck	Spanner Model No.
	GSK6	GSK6 SPANNER
	GSK10	GSK10 SPANNER
	GSK13	GSK13 SPANNER
	GSK16	GSK16 SPANNER
	GSK20	GSK20 SPANNER
	GSK25	GSK25 SPANNER

HC COLLET

HC slim collet (general type, precision type)



Designation	ØD1	L	MAX. ØD	Step	General	Precision (P)
HC6 ØD(P)	10.5	25.0	6.0	1.0	5㎛	3㎛
HC10 ØD(P)	15.6	30.5	10.0	1.0	5㎛	3㎛
HC13 ØD(P)	20.1	39.0	13.0	1.0	5㎛	3㎛
HC16 ØD(P)	24.6	45.0	16.0	1.0	5㎛	3㎛
HC20 ØD(P)	29.2	54.3	20.0	1.0	5㎛	3㎛
HC25 ØD(P)	35.7	57.0	25.0	1.0	5㎛	3㎛

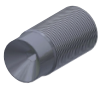
※ Ordering Example : General type HC16-8.0
Precision type HC16-8.0P

DSK SPARE PART

Parts for slim collet chuck

Main Components

Spare Part

Main Components			
Type	Nut	Adjust screw	Device to extract
Images / Designation			
DSK6	DN6	BN0825	DSK-6CE
DSK10	DN10	BN1230	DSK-10CE
DSK13	DN13	BN1230&BN1524F	DSK-13CE
DSK16	DN16	BN1830F	DSK-16CE
DSK20	DN20	BN2230F	DSK-20CE
DSK25	DN25	BN2838F	DSK-25CE

Components Not Included

Spare Part

Components Not Included		
Images	Applied chuck	Spanner Model No.
	DSK6	DSS-6
	DSK10	DSS-10
	DSK13	DSS-13
	DSK16	DSS-16
	DSK20	DSS-20
	DSK25	DSS-25

SDC/P SPARE PART

Parts for ER collet chuck

Spare Part

Main Components		
Type	Sleeve bearing nut	Adjust screw
Images / Designation		
SDC 7P	RN11	BN0716F
SDC 10P	RN16	BN1025F
SDC 13P	RN20	BN1325F
SDC 16P	RN25	BN1830F
SDC 20P	RN32	BN2230F
SDC 26P	RN40	BN2838F

Spare Part

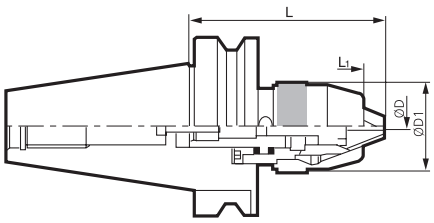
Components Not Included		
Type	Spanner	GERC / ER
Images / Designation		
SDC 7P	20-22	GERC/ER 11-ØD
SDC 10P	32-35	GERC/ER 16-ØD
SDC 13P	35-38	GERC/ER 20-ØD
SDC 16P	42-46	GERC/ER 25-ØD
SDC 20P	48-52	GERC/ER 32-ØD
SDC 26P	62-65	GERC/ER 40-ØD

BT-NPU

Drill chuck

MAS 403-BT | C | Drilling

Shank | Coolant System | Drilling



C This product does not support the internal coolant system.

- For more information on the related parts, see **Page 89**. 89P
- For more information, see **Page 151** for HSK shank and **Page 163** for SK shank. 151,163P

BT30, BT40, BT50

Designation	ØD	L	ØD1	L1	Kg	Total Weight (Kg)
BT30-NPU8-97	0~8	97	38	8.5	0.8	0.9
BT30-NPU13-125	1~13	125	50	12.5	1.4	1.6
BT40-NPU8-87	0~8	87	38	8.5	1.2	1.4
BT40-NPU13-105	1~13	105	50	12.5	1.6	1.9
BT40-NPU13-130	1~13	130	50	12.5	1.9	2.2
BT50-NPU13-130	1~13	130	50	12.5	4.5	4.9
BT50-NPU13-190	1~13	190	50	12.5	5.3	5.7

NPU SPARE PART

Parts for drill chuck

Main Components

Spare Part

Main Components		
Type	Drill chuck head	Bolt
Images / Designation		
NPU8	NPU08	BX0620
NPU13	NPU13	BX0825

Components Not Included

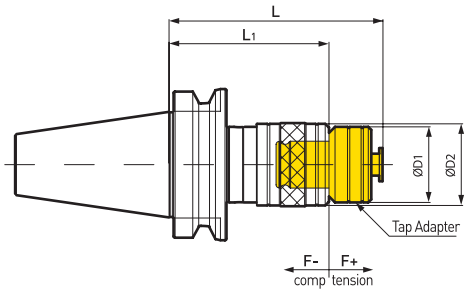
Spare Part

Components Not Included	
Type	Spanner
Images / Designation	
NPU8	NPU0836
NPU13	NPU1348

BT-DTN

Tapping holder

MAS 403-BT — Shank | C — Coolant System | Tapping



- For more information on the product features, see **Page 34**. 34P
- For more information on the applied adapter, see **Page 91**. 91P
- For more information on S and ST shanks, see **Page 144**. 144P
- For more information on SK shank, see **Page 163**. 163P

C This product does not support internal coolant system.

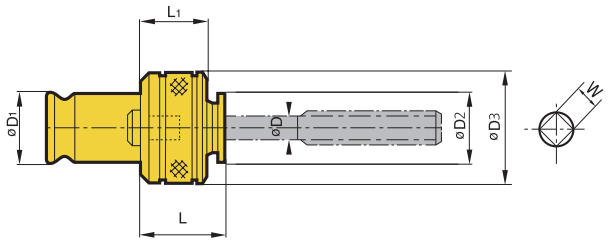
BT30, BT40, BT50

Designation	Tap Size	L	L1	ØD	ØD1	Applied Adapter	F-	F+	Kg	Total Weight (Kg)
BT30-DTN12-85	M3~M12	85	60	32	39	TCA1-M	4	10	0.5	0.7
BT40-DTN12-90	M3~M12	90	65	32	39	TCA1-M	4	10	1.2	1.4
BT40-DTN12-120	M3~M12	120	95	32	39	TCA1-M	4	10	1.5	1.7
BT40-DTN22-130	M8~M24	130	96	50	56	TCA2-M	12.5	12.5	1.7	1.9
BT40-DTN22-160	M8~M24	160	126	50	56	TCA2-M	12.5	12.5	2.2	2.4
BT50-DTN12-100	M3~M12	100	75	32	39	TCA1-M	4	10	3.9	4.2
BT50-DTN12-130	M3~M12	130	105	32	39	TCA1-M	4	10	3.9	4.3
BT50-DTN22-140	M8~M24	140	106	50	56	TCA2-M	12.5	12.5	4.3	4.7
BT50-DTN22-170	M8~M24	170	136	50	56	TCA2-M	12.5	12.5	4.7	5.1
BT50-DTN38-185	M16~M38	185	140	72	81	TCA3-M	20	20	5.7	6.1
BT50-DTN38-215	M16~M38	215	170	72	81	TCA3-M	20	20	6.7	7.1

TCA

Tap adapter

C
Coolant System



※ DIN standard is customizable.

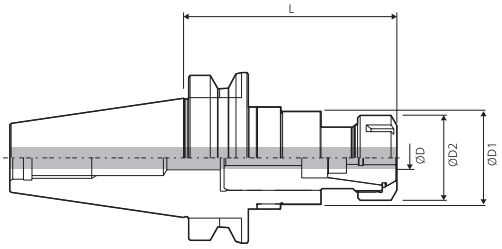
C This product does not support internal coolant system.

	Designation	ØD	ØD1	L	L1	ØD2	ØD3	W	Kg	Total Weight (Kg)
TCA1	TCA1-M3	4	19	24	22	19	32	3.2	0.2	0.2
	TCA1-M4	5	19	24	22	19	32	4	0.2	0.2
	TCA1-M5	5.5	19	24	22	19	32	4	0.2	0.2
	TCA1-M6, 1/4U	6	19	24	22	19	32	4	0.2	0.2
	TCA1-M8	6.2	19	38	22	19	32	5	0.2	0.2
	TCA1-M10, 3/8U	7	19	38	22	19	32	5.5	0.2	0.2
	TCA1-M11	8	19	38	22	19	32	6	0.2	0.2
	TCA1-M12	8.5	19	38	22	19	32	6.5	0.2	0.2
TCA2	TCA2-M8	6.2	31	38	28	30	50	5	0.6	0.6
	TCA2-M10	7	31	38	28	30	50	5.5	0.6	0.6
	TCA2-M12	8.5	31	39	28	30	50	6.5	0.6	0.6
	TCA2-M14, 3/4U	10.5	31	41	28	30	50	8	0.6	0.6
	TCA2-P1/4	11	31	31	28	30	50	9	0.6	0.6
	TCA2-M16	12.5	31	43	28	30	50	10	0.6	0.6
	TCA2-M18, P3/8	14	31	44	28	30	50	11	0.6	0.6
	TCA2-M22	17	31	46	28	30	50	13	0.6	0.6
	TCA2-P1/2	18	31	36	28	30	50	14	0.6	0.6
	TCA2-M24	19	31	46	28	30	50	15	0.6	0.6
TCA3	TCA3-M16	12.5	48	35	37	47	72	10	1.8	1.8
	TCA3-M18	14	48	36	37	47	72	11	1.8	1.8
	TCA3-M20	15	48	37	37	47	72	12	1.8	1.8
	TCA3-M22	17	48	38	37	47	72	13	1.8	1.8
	TCA3-M24	19	48	44	37	47	72	15	1.8	1.8
	TCA3-M27, 1U	20	48	62	37	47	72	15	1.8	1.8
	TCA3-M30, P3/4	23	48	62	37	47	72	17	1.8	1.8
	TCA3-M33	25	48	66	37	47	72	19	1.8	1.8
	TCA3-M36, M38	28	48	68	37	47	72	21	1.8	1.8

BT-DST

High-speed synchro tapping chuck

MAS 403-BT (Shank) | G6.3 (G value) | C (Coolant System) | Tapping



- For more information on the product features, see **Page 35**. 35P
- For more information on TER collet, see **Page 93**. 93P
- For more information on ER collet, see **Page 80**. 80P
- For more information, see **Page 139** for ST shank. 139P
- For more information, see **Page 151** for HSK shank and **Page 164** for SK shank. 151,164P

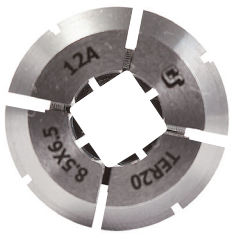
C Internal coolant system is optional.

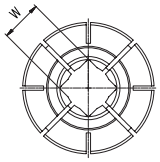
BT30, BT40, BT50

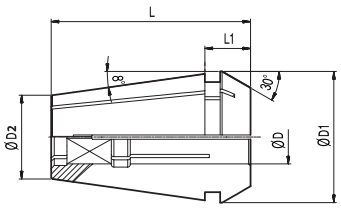
Designation	ØD	L	ØD1	ØD2	Applied Collet	F-	F+	Kg	Total Weight (Kg)
BT30-DST3-70	M1~M3	70	20	19	ER11	0.5	0.5	0.5	0.5
BT30-DST10-100	M3~M10	100	40.4	28	TER16	0.5	0.5	0.8	0.9
BT40-DST3-70	M1~M3	70	20	19	ER11	0.5	0.5	1.0	1.1
BT40-DST10-100	M3~M10	100	40.4	28	TER16	0.5	0.5	1.3	1.4
BT40-DST22-110	M6~M22	110	60	49.5	TER32	0.7	0.7	1.7	2.0
BT50-DST10-110	M3~M10	110	60	49.5	TER16	0.5	0.5	3.8	4.1
BT50-DST22-130	M6~M22	125	60	49.5	TER32	0.7	0.7	4.5	4.9

TER

TER collet





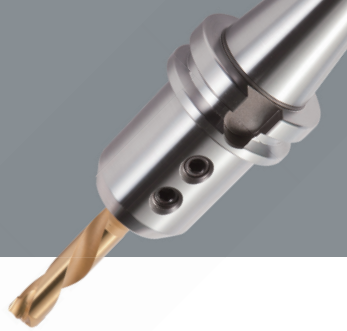


※ Coolant-through taps can be used with RTJW and RUT nuts (only for correct size).

	Designation	Applied Tap	ØD	L	W	ØD1	ØD2	L1	Kg	Total Weight (Kg)
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	0.03	0.03
	TER16-6x4.5	M6,U1/4	6	27.5	4.5	16.74	10.1	6.3	0.03	0.03
	TER16-6.2x5	M7, M8	6.2	27.5	5	16.74	10.1	6.3	0.03	0.03
	TER16-7x5.5	M9, M10, U3/8	7	27.5	5.5	16.74	10.1	6.3	0.03	0.03
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	0.05	0.05
	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	0.05	0.05
	TER20-8.5x6.5	M12	8.5	31.5	6.5	20.74	13.2	7.2	0.05	0.05
TER25	TER25-5x4	M4	5	34	4	25.74	17.6	7.5	0.1	0.1
	TER25-5.5x4.5	M5	5.5	34	4.5	25.74	17.6	7.5	0.1	0.1
	TER25-6x4.5	M6	6	34	4.5	25.74	17.6	7.5	0.1	0.1
	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	0.1	0.1
	TER25-8.5x6.5	M12	8.5	34	6.5	25.74	17.6	7.5	0.1	0.1
TER32	TER32-6x4.5	M6,U1/4	6	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
	TER32-14x11	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
	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
	TER32-9x7	U1/2	9	40	7	32.74	23.1	8.2	0.2	0.2

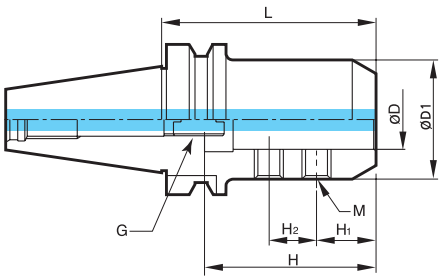
BT-SLA

Side lock arbor



MAS 403-BT | C | Milling | Drilling

Shank | Coolant System | Milling | Drilling



- For more information on the related parts, see **Page 95**. 95P
- For more information, see **Page 152** for HSK shank and **Page 165** for SK shank. 152,165P

C Internal coolant system installed.

BT30, BT40, BT50

Designation	ØD	L	ØD1	H	H1	H2	M	G	Kg	Total Weight (Kg)
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-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-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-SLA32-105	32	105	60	82	25	25	M14	M12	4.5	4.8
BT50-SLA40-105	40	105	90	82	25	20	M16	M12	6.1	6.4
BT50-SLA45-105	45	105	90	82	25	25	M16	M12	5.9	6.2

SLA SPARE PART

Parts for side lock arbor

Main Components

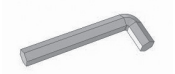
Spare Part

Main Components			
Type	Set screw		Adjust screw
Images / Designation			
	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	BTF1624-1.5	BTF2020 - 1.5	M1230C
SLA42	BTF1624-1.5	BTF2020 - 1.5	M1230C

※ HSK type may use a different adjustable screw.

Components Not Included

Spare Part

Components Not Included		
Type	Wrench	
Images / Designation		
	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

BT-FMA

Facemill arbor

MAS 403-BT | C | Facing

Shank | Coolant System | Facing

Fig.1

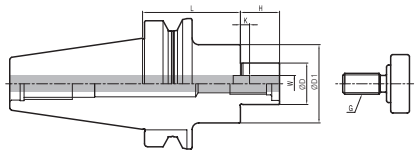


Fig.2

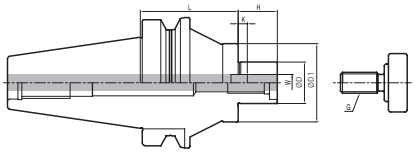


Fig.3

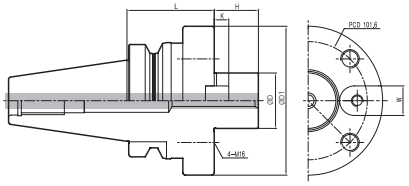
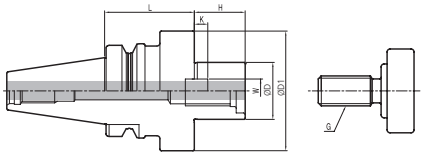


Fig.4



※ The weight of face cutter is not included.

C Internal coolant system is optional.

- For more information on clamp bolt, see **Page 98**. 98P
- For more information on the related parts, see **Page 98**. 98P
- For more information on NT shank, see **Page 176**. 176P

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

BT-FMC

Facemill arbor

MAS 403-BT — Shank | C — Coolant System | Facing

Fig.1

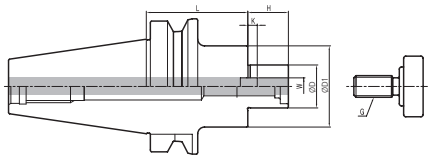


Fig.2

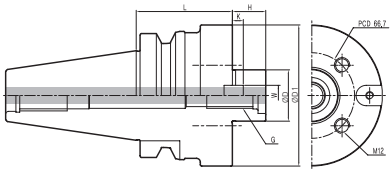
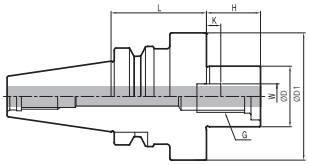


Fig.3



※ Weight of face cutter is not included.

C Internal coolant system is optional.

- For more information on clamp bolt, see **Page 99**. 99P
- For more information on the related parts, see **Page 99**. 99P
- For more information, see **Page 153** for HSK shank and **Page 166** for SK shank. 153,166P

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

FMA SPARE PART

Parts for facemill arbor

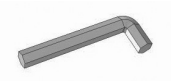
Main Components

Spare Part

Main Components				
Type	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

Components Not Included

Spare Part

Components Not Included	
Type	Wrench
Images / Designation	
FMA25.4	LW-10
FMA31.75	LW-14
FMA38.1	LW-17
FMA50.8	LW-19
S-FMA25.4	LW-10
S-FMA31.75	LW-14

FMC SPARE PART

Parts for face mill arbor

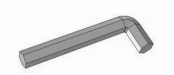
Main Components

Spare Part

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

Components Not Included

Spare Part

Components Not Included	
Type	Wrench
Images / Designation	
FMC16	LW-6
FMC22	LW-8
FMC27	LW-10
FMC32	LW-14
FMC40	LW-17

BT-MD

Modular arbor

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

Fig.1

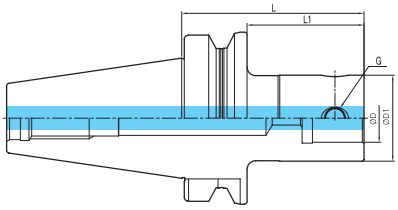
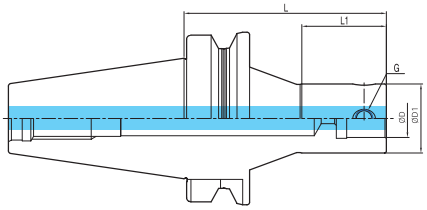


Fig.2



- For more information on the related parts, see **Page 103**. 103P
- For more information, see **Page 154** for HSK shank and **Page 167** for SK shank. 154,167P

C Internal coolant system installed.

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

BT-MD

Modular arbor

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

Fig.1

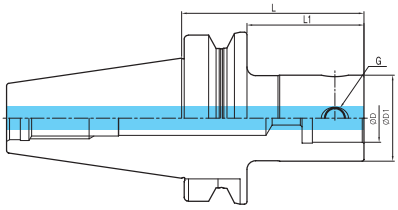
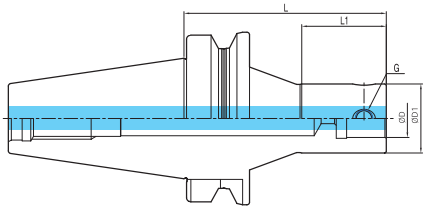


Fig.2



- For more information on the related parts, see **Page 103**. 103P
- For more information, see **Page 154** for HSK shank and see **Page 167** for SK shank. 154,167P

C Internal coolant system installed.

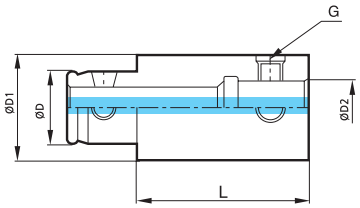
BT50

Designation	ØD	ØD1	L	L1	G	Fig.	Kg	Total Weight (Kg)
BT50-MD19F-85	11	19	85	44	M5	1	3.7	4.0
BT50-MD25F-105	14	25	105	62	M6	1	3.8	4.1
BT50-MD25F-120R	14	25	120	40	M6	2	3.8	4.1
BT50-MD32F-110	18	32	110	67	M8	1	4.0	4.3
BT50-MD32F-115R	18	32	115	45	M8	2	4.1	4.5
BT50-MD32F-235R	18	32	235	115	M8	2	5.5	5.9
BT50-MD40F-60	22	40	60	22	M10	1	3.7	4.0
BT50-MD40F-195	22	40	195	152	M10	1	4.8	5.2
BT50-MD40F-230R	22	40	230	180	M10	2	5.0	5.4
BT50-MD50F-125	28	50	125	82	M12	1	4.6	5.0
BT50-MD50F-225	28	50	225	182	M12	1	6.0	6.4
BT50-MD50F-250R	28	50	250	81	M12	2	7.0	7.4
BT50-MD63F-75	36	63	75	35	M16	1	4.2	4.5
BT50-MD63F-130	36	63	130	87	M16	1	5.3	5.7
BT50-MD63F-195	36	63	195	152	M16	1	6.8	7.2
BT50-MD63F-230	36	63	230	187	M16	1	7.5	7.9
BT50-MD80F-75	45	80	75	36	M16	1	4.3	4.6
BT50-MD80F-110	45	80	110	69	M16	1	5.7	6.0
BT50-MD80F-175	45	80	175	134	M16	1	8.0	8.4
BT50-MD90F-75	45	90	75	34	M16	1	4.8	5.1
BT50-MD90F-145	45	90	145	104	M16	1	7.4	7.8
BT50-MD90F-195	45	90	195	154	M16	1	9.4	9.8

EXT

Extension bar

C Coolant System



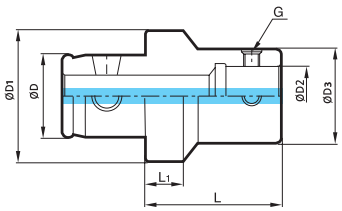
C Internal coolant system installed.

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

RDC

Reducer bar

C Coolant System



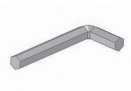
C Internal coolant system installed.

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

MD SPARE PART

Main Components

Spare Part

Main Components		
Type	Taper screw	Wrench
Designcation \ Images		
MD19F	BTT0506F	LW-2.5
MD25F	BTT0608F	LW-3
MD32F	BTT0810F	LW-4
MD40F	BTT1013F	LW-5
MD50F	BTT1215F	LW-6
MD63F	BTT1620F	LW-8
MD80F	BTT1626F	LW-8
MD90F	BTT1631F	LW-8

Components Not Included

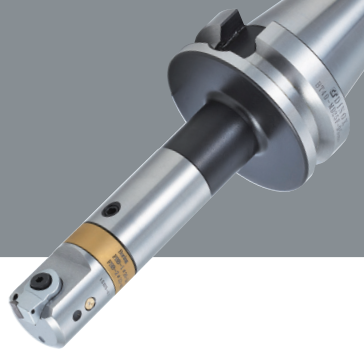
Spare Part

Components Not Included	
Coolant tube	
	
Classification of shank type	
HSK50	HSK50A-CNS
HSK63	HSK63A-CNS
HSK100	HSK100A-CNS

• For more information on the size of taper screw parts, see **page 29**. 29P

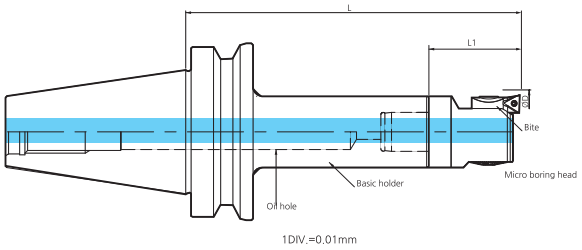
BT-FBH/B

Micro boring bar (balanced type)



G6.3 C

G value | Coolant System | Boring



1DIV.=0.01mm

- For more information on the product features, see **Page 38**. 38P
- For more information on the related parts, see **Page 105**. 105P
- For more information on BT arbor, see **Page 100**. 100P
- For more information, see **Page 154** for HSK arbor and **Page 167** for SK arbor. 154,167P

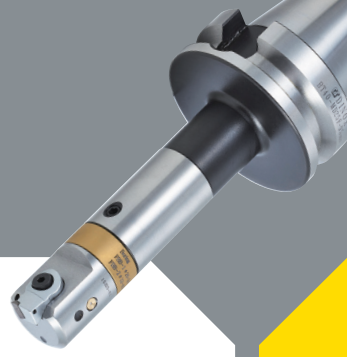
C Internal coolant system installed.

	Designation			Boring range		L	L1	MAX. boring depth	Kg	Total Weight (Kg)
	Head model no.	Bite model No.	Body model No.	MIN.	MAX.					
BT30	FBH1920B	FBB20N-□-□□	BT30-MD19F-70	20(24)	26(30)	105.4	31.7	60	0.2	0.2
	FBH2526B	FBB26N-□-□□	BT30-MD25F-90	26(32)	34(40)	130.9	37	80	0.2	0.2
	FBH3233B	FBB33N-□-□□	BT30-MD32F-80	33(40)	43(50)	120.9	38	80	0.3	0.3
	FBH4042B	FBB42N-□-□□	BT30-MD40F-80	42(50)	54(62)	130.5	46.5	96	0.5	0.5
	FBH5053B	FBB53N-□-□□	BT30-MD50F-70	53(65)	70(82)	128.4	54	97	0.8	0.9
BT40	FBH1920B	FBB20N-□-□□	BT40-MD19F-70	20(24)	26(30)	105.4	31.7	45	0.2	0.2
	FBH2526B	FBB26N-□-□□	BT40-MD25F-95	26(32)	34(40)	135.9	37	59	0.2	0.2
	FBH3233B	FBB33N-□-□□	BT40-MD32F-100	33(40)	43(50)	140.9	38	77	0.3	0.3
	FBH4042B	FBB42N-□-□□	BT40-MD40F-115	42(50)	54(62)	165.5	46.5	107	0.5	0.5
	FBH5053B	FBB53N-□-□□	BT40-MD50F-105	53(65)	70(82)	163.4	54	135	0.8	0.9
	FBH6368B	FBB68N-□-□□	BT40-MD63F-110	68(90)	100(122)	190.6	76	154	2.1	2.3
	FBH6398B	FBB68N-□-□□	BT40-MD63F-135	98(120)	150(172)	235.6	96	179	3.6	3.8
	FBH8098B	FBB68N-□-□□	BT40-MD80F-100	98(120)	150(172)	200.6	69	144	4.8	5.1
BT50	FBH1920B	FBB20N-□-□□	BT50-MD19F-85	20(24)	26(30)	120.4	31.7	80	0.2	0.2
	FBH2526B	FBB26N-□-□□	BT50-MD25F-105	26(32)	34(40)	145.9	37	59	0.2	0.2
	FBH3233B	FBB33N-□-□□	BT50-MD32F-110	33(40)	43(50)	150.9	38	77	0.3	0.3
	FBH4042B	FBB42N-□-□□	BT50-MD40F-195	42(50)	54(62)	245.5	46.5	130	0.5	0.5
	FBH5053B	FBB53N-□-□□	BT50-MD50F-225	53(65)	70(82)	283.4	54	182	0.8	0.9
	FBH6368B	FBB68N-□-□□	BT50-MD63F-230	68(90)	100(122)	295.6	76	220	2.1	2.3
	FBH6398B	FBB68N-□-□□	BT50-MD63F-195	98(120)	150(172)	310.6	96	191	3.6	3.8
	FBH8098B	FBB68N-□-□□	BT50-MD80F-175	98(120)	150(172)	275.6	96	208	4.8	5.1

- The user can adjust the depth of boring with a combination of MD arbors and extension bars.
  For more information, see the page on MD arbor.
- FBB Bite is largely divided into general-type FBB□□N and extended-type FBB□□N-1,
  and is available as FBB□□N-□-C09, T11 depending on the insert.
  FBBOON, FBBOON-1 : TPGT, TPGW0802□□L
  FBBOON-□-C : CCMT,CCGT0602□□L
  FBBOON-□-C09 : CCMT,CCGT09T3□□L
  FBBOON-□-T11 : TPGT1103□□L

FBH/B SPARE PART

Parts for micro boring (balanced type)



Main Components

Spare Part

Type (FBH)	Lock screw	Clamp screw
FBH1920B	BTF0404	BXC0304
FBH2526B	BTF0505	BXC0405
FBH3233B	BTF0606	BXC0506
FBH4042B	BTF0808	BXC0610
FBH5053B	BTF0812	BXC0610
FBH6368B	BTF1016	BXC0810
FBH6398B	BTF1012	BXC0810
FBH8098B	BTF1014	BXC0810

FBB Bite

Designation

FBB	–	20	N	–	1
FBH Bite		Head No.	New Type		Non : General type 1 : Expansion type

Spare Part

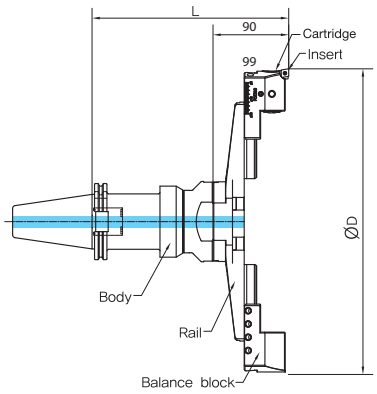
Designation	Boring Range	Insert	Insert screw	Clamp bolt
FBB15C	Ø15 ~ Ø18mm	CCET0301-□□L	BFTX01604N	BFTX02506N
	Ø18 ~ Ø22mm	CCET0301-□□L	BFTX01604N	BFTX02506N
FBB20N	Ø20 ~ Ø26mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0304
FBB20N-C	Ø20 ~ Ø26mm	CCET0401□□L	FTNA0238	BXC0304
FBB20N-1	Ø24 ~ Ø30mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0304
FBB20N-1-C	Ø24 ~ Ø30mm	CCET0401□□L	FTNA0238	BXC0304
FBB26N	Ø26 ~ Ø34mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0405
FBB26N-C	Ø26 ~ Ø34mm	CCET0401□□L	FTNA0238	BXC0405
FBB26N-1	Ø32 ~ Ø40mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0405
FBB26N-1-C	Ø32 ~ Ø40mm	CCET0401□□L	FTNA0238	BXC0405
FBB33N	Ø33 ~ Ø43mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0506
FBB33N-C	Ø33 ~ Ø43mm	CCMT0602□□,CCGT0602□□	BFTX02506N	BXC0506
FBB33N-1	Ø41~ Ø50mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0506
FBB33N-1-C	Ø41~ Ø50mm	CCMT0602□□,CCGT0602□□L	BFTX02506N	BXC0506
FBB42N	Ø42~ Ø54mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0610
FBB42N-C	Ø42~ Ø54mm	CCMT0602□□CCGT0602□□L	BFTX02506N	BXC0610
FBB42N-11	Ø42~ Ø54mm	TPGT1103□□L	BFTX0307A	BXC0610
FBB42N-1	Ø50~ Ø62mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0610
FBB42N-1-C	Ø50~ Ø62mm	CCMT0602□□,CCGT0602□□L	BFTX02506N	BXC0610
FBB42N-1-T11	Ø50~ Ø62mm	TPGT1103□□L	BFTX0307A	BXC0610
FBB53N	Ø53~ Ø70mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0610
FBB53N-C	Ø53~ Ø70mm	CCMT09T3□□,CCGT09T3□□L	BFTX02506N	BXC0610
FBB53N-11	Ø53~ Ø70mm	TPGT1103□□L	BFTX0307A	BXC0610
FBB53N-1	Ø65~ Ø82mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0610
FBB53N-1-C	Ø65~ Ø82mm	CCMT0602□□CCGT0602□□L	BFTX02506N	BXC0610
FBB53N-1-C09	Ø65~ Ø82mm	CCMT09T3□□,CCGT09T3□□L	BFTX0409N	BXC0610
FBB53N-1-T11	Ø65~ Ø82mm	TPGT1103□□L	BFTX0307A	BXC0610
FBB68N	Ø68~ Ø100mm /Ø98~ Ø150mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0810
FBB68N-C	Ø68~ Ø100mm/Ø98~ Ø150mm	CCMT09T3□□,CCGT09T3□□L	BFTX0409N	BXC0810
FBB68N-11	Ø68~ Ø100mm /Ø98~ Ø150mm	TPGT1103□□L	BFTX0307A	BXC0810
FBB68N-1	Ø90~ Ø122mm/ Ø120~ Ø172mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0810
FBB68N-1-C09	Ø90~ Ø122mm / Ø120~ Ø172mm	CCMT09T3□□,CCGT09T3□□L	BFTX0409N	BXC0810
FBB68N-1-T11	Ø90~ Ø122mm / Ø120~ Ø172mm	TPGT1103□□L	BFTX0307A	BXC0810

BT-FBC

Wide diameter balance cut tool for fine boring

MAS 403-BT | C

Shank | Coolant System



※ Body and head sets are sold separately.

C Internal coolant system installed.

- For more information on the product features, see **Page 37**. 37P
- For more information on the related parts, see **Page 108**. 108P
- For more information on SK shank, see **Page 170**. 170P

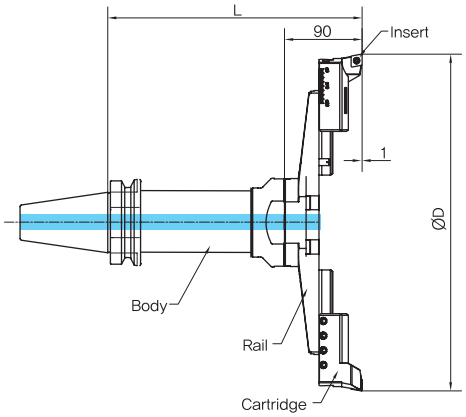
BT50

Designation					ØD	
Body	Kg	Finishing Boring(FBC)				
		TBC HEAD SET (rail+cartridge)	L	Kg	MIN.	MAX.
BT50-FMD50-85	5.9	FBC130S(TBR130+FCC130+FCB310)	182	3.8	130	180
BT50-FMD50-155	7.9	FBC130S(TBR130+FCC130+FCB310)	252	3.8	130	180
BT50-FMD50-205	9.7	FBC130S(TBR130+FCC130+FCB310)	302	3.8	130	180
BT50-FMD50-255	10.4	FBC130S(TBR130+FCC130+FCB310)	352	3.8	130	180
BT50-FMD50-85	5.9	FBC175S(TBR175+FCC130+FCB310)	182	4.1	175	225
BT50-FMD50-155	7.9	FBC175S(TBR175+FCC130+FCB310)	252	4.1	175	225
BT50-FMD50-205	9.7	FBC175S(TBR175+FCC130+FCB310)	302	4.1	175	225
BT50-FMD50-255	10.4	FBC175S(TBR175+FCC130+FCB310)	352	4.1	175	225
BT50-FMD50-85	5.9	FBC220S(TBR220+FCC130+FCB310)	182	4.5	220	270
BT50-FMD50-155	7.9	FBC220S(TBR220+FCC130+FCB310)	252	4.5	220	270
BT50-FMD50-205	9.7	FBC220S(TBR220+FCC130+FCB310)	302	4.5	220	270
BT50-FMD50-255	10.4	FBC220S(TBR220+FCC130+FCB310)	352	4.5	220	270
BT50-FMD50-85	5.9	FBC265S(TBR265+FCC130+FCB310)	182	4.6	265	315
BT50-FMD50-155	7.9	FBC265S(TBR265+FCC130+FCB310)	252	4.6	265	315
BT50-FMD50-205	9.7	FBC265S(TBR265+FCC130+FCB310)	302	4.6	265	315
BT50-FMD50-255	10.4	FBC265S(TBR265+FCC130+FCB310)	352	4.6	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	10.4	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	10.4	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	10.4	FBC460S(TBR460+FCC310+FCB310)	352	12.8	460	540

BT-TBC

Wide diameter balance cut tool for rough boring

MAS 403-BT Shank | C Coolant System



※ Body and head sets are sold separately.

C Internal coolant system installed.

- For more information on the product features, see **Page 36**. 36P
- For more information on the related parts, see **Page 108**. 108P
- For more information on SK shank, see **Page 170**. 170P

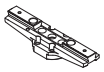
Designation					ØD	
Body	Kg	Rough Boring(TBC)				
		TBC HEAD SET (rail+cartridge)	L	Kg	MIN.	MAX.
BT50-FMD50-85	5.9	TBC130S(TBR130+BCC1348)	175	3.5	130	180
BT50-FMD50-155	7.9	TBC130S(TBR130+BCC1348)	245	3.5	130	180
BT50-FMD50-205	9.7	TBC130S(TBR130+BCC1348)	295	3.5	130	180
BT50-FMD50-255	10.4	TBC130S(TBR130+BCC1348)	345	3.5	130	180
BT50-FMD50-85	5.9	TBC175S(TBR175+BCC1348)	175	3.9	175	225
BT50-FMD50-155	7.9	TBC175S(TBR175+BCC1348)	245	3.9	175	225
BT50-FMD50-205	9.7	TBC175S(TBR175+BCC1348)	295	3.9	175	225
BT50-FMD50-255	10.4	TBC175S(TBR175+BCC1348)	345	3.9	175	225
BT50-FMD50-85	5.9	TBC220S(TBR220+BCC1348)	175	4.3	220	270
BT50-FMD50-155	7.9	TBC220S(TBR220+BCC1348)	245	4.3	220	270
BT50-FMD50-205	9.7	TBC220S(TBR220+BCC1348)	295	4.3	220	270
BT50-FMD50-255	10.4	TBC220S(TBR220+BCC1348)	345	4.3	220	270
BT50-FMD50-85	5.9	TBC265S(TBR265+BCC1348)	175	4.5	265	315
BT50-FMD50-155	7.9	TBC265S(TBR265+BCC1348)	245	4.5	265	315
BT50-FMD50-205	9.7	TBC265S(TBR265+BCC1348)	295	4.5	265	315
BT50-FMD50-255	10.4	TBC265S(TBR265+BCC1348)	345	4.5	265	315
BT50-FMD50-85	5.9	TBC310S(TBR310+BCC1354)	175	5.5	310	390
BT50-FMD50-155	7.9	TBC310S(TBR310+BCC1354)	245	5.5	310	390
BT50-FMD50-205	9.7	TBC310S(TBR310+BCC1354)	295	5.5	310	390
BT50-FMD50-255	10.4	TBC310S(TBR310+BCC1354)	345	5.5	310	390
BT50-FMD50-85	5.9	TBC385S(TBR385+BCC1354)	175	5.8	385	465
BT50-FMD50-155	7.9	TBC385S(TBR385+BCC1354)	245	5.8	385	465
BT50-FMD50-205	9.7	TBC385S(TBR385+BCC1354)	295	5.8	385	465
BT50-FMD50-255	10.4	TBC385S(TBR385+BCC1354)	345	5.8	385	465
BT50-FMD50-85	5.9	TBC460S(TBR460+BCC1354)	175	12.8	460	540
BT50-FMD50-155	7.9	TBC460S(TBR460+BCC1354)	245	12.8	460	540
BT50-FMD50-205	9.7	TBC460S(TBR460+BCC1354)	295	12.8	460	540
BT50-FMD50-255	10.4	TBC460S(TBR460+BCC1354)	345	12.8	460	540

BT50

FBC/TBC SPARE PART

Parts for wide diameter balance cut tool

Spare Part

Type	Main Components								
	Rail	Cartridge (TBC)	Cartridge (FBC)	Clamp Bolt	Clamp Bolt	Balance Block	Wrench	Clamp Screw	Torx Wrench
Head Set									
TBC130S	TBR130	BCC1348	-	BX0820	BT0645	-	LW-3	BFTX0511N	TRX26
TBC175S	TBR175	BCC1348	-	BX0820	BT0645	-	LW-3	BFTX0511N	TRX26
TBC220S	TBR220	BCC1348	-	BX0820	BT0645	-	LW-3	BFTX0511N	TRX26
TBC265S	TBR265	BCC1348	-	BX0820	BT0645	-	LW-3	BFTX0511N	TRX26
TBC310S	TBR310	BCC1354	-	BX0820	BT0660	-	LW-3	BFTX0511N	TRX26
TBC385S	TBR385	BCC1354	-	BX0820	BT0660	-	LW-3	BFTX0511N	TRX26
TBC460S	TBR460	BCC1354	-	BX0820	BT0660	-	LW-3	BFTX0511N	TRX26
FBC130S	TBR130	-	FCC130	BX0820	BT0645	FCB130	LW-3	-	-
FBC175S	TBR175	-	FCC130	BX0820	BT0645	FCB130	LW-3	-	-
FBC220S	TBR220	-	FCC130	BX0820	BT0645	FCB130	LW-3	-	-
FBC265S	TBR265	-	FCC130	BX0820	BT0645	FCB130	LW-3	-	-
FBC310S	TBR310	-	FCC310	BX0820	BT0660	FCB310	LW-3	-	-
FBC385S	TBR385	-	FCC310	BX0820	BT0660	FCB310	LW-3	-	-
FBC460S	TBR460	-	FCC310	BX0820	BT0660	FCB310	LW-3	-	-

FBB

FBB bite (for FBC)

Designation	Insert
FBB130-C09	CCMT09T3□□, CCGT09T3□□
FBB130-C12	CCMT1204□□
FBB130-T11	TPMT1103□□, TPGT1103□□

BT-DBC

Balance cut tool for rough boring

C Coolant System Boring

Fig.1

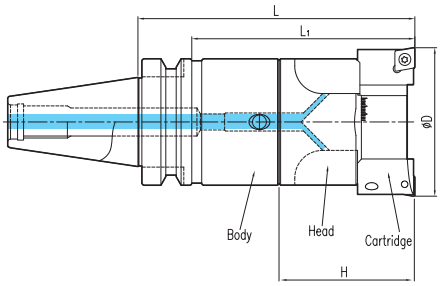
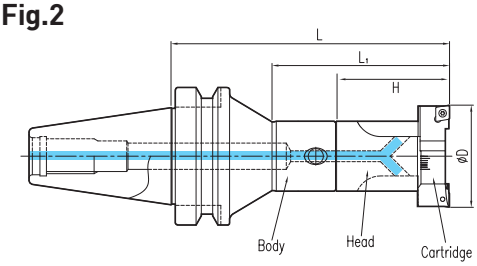


Fig.2



- For more information on BT arbor, see **Page 100**. 100P
- For more information, see **Page 154** for HSK arbor and **Page 167** for SK arbor. 154,167P

C Internal coolant system installed.

	Designation				ØD		L	MAX. boring depth (L1)	H	Fig.
	Head set model No.	Kg	Body model No.	Kg	MIN.	MAX.				
BT30	DBC2528S	0.3	BT30-MD25F-90	0.4	28	35	150	93	60	1
	DBC3235S	0.4	BT30-MD32F-80	0.4	35	46	145	114	65	1
	DBC4046S	0.6	BT30-MD40F-80	0.5	46	58	150	119	70	1
	DBC5058S	1.1	BT30-MD50F-70	0.8	58	74	150	128	80	1
BT40	DBC2528S	0.3	BT40-MD25F-105R	1.9	28	35	165	100	60	2
	DBC3235S	0.4	BT40-MD32F-115R	2.4	35	46	180	110	65	2
	DBC4046S	0.6	BT40-MD40F-110R	2.7	46	58	180	130	70	2
	DBC5058S	1.1	BT40-MD50F-105	2.7	58	74	185	130	80	1
	DBC6374S	2.0	BT40-MD63F-110	3.6	74	94	200	150	90	1
	DBC8094S	3.5	BT40-MD80F-100	4.8	94	120	200	173	100	1
BT50	DBC2528S	0.3	BT50-MD25F-120R	4.7	28	35	180	100	60	2
	DBC3235S	0.4	BT50-MD32F-235R	5.3	35	46	300	180	65	2
	DBC4046S	0.6	BT50-MD40F-230R	5.6	46	58	300	250	70	2
	DBC5058S	1.1	BT50-MD50F-250R	6.5	58	74	330	280	80	2
	DBC6374S	2.0	BT50-MD63F-230	8.4	74	94	320	280	90	1
	DBC8094S	3.5	BT50-MD80F-175	9.5	94	120	275	225	100	1
	DBC120S	5.3	BT50-MD80F-175	9.5	120	175	275	235	100	1

- User can adjust the depth of boring with a combination of MD arbors and extension bars.

For more information, see the page of MD arbor.

DBC SPARE PART

Parts for DBC

Main Components

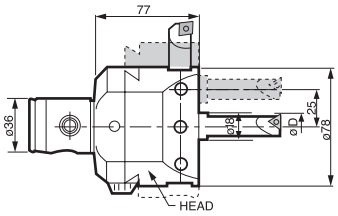
Spare Part

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

BT-KMB

Micro boring

C Coolant System Boring



1DIV = ø0.02mm

C This product does not support the internal coolant system.

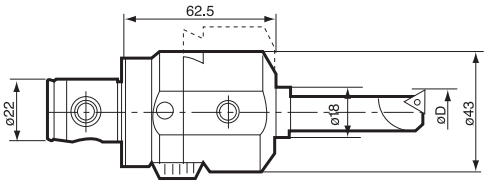
- For more information on the boring range, see **Page 114**. 114P
- For more information on the related parts, see **Page 115**. 115P
- For more information, see **Page 154** for HSK arbor and **Page 167** for SK arbor. 154,167P

Boring head	Bite	Designation	L (length of head)	Kg
KMB6336	BB18-□(S)	BT□□-MD63F	77	2.2

BT-SMB

Small micro boring bar

C Coolant System Boring



1DIV = ø0.02mm

C This product does not support the internal coolant system.

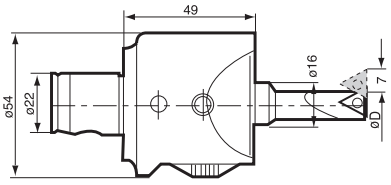
- For more information on the boring range, see **Page 114**. 114P
- For more information on the related parts, see **Page 115**. 115P
- For more information, see **Page 154** for HSK arbor and **Page 167** for SK arbor. 154,167P

Boring head	Bite	Designation	L(length of head)	Kg
SMB4022	BB18-□(S)	BT□□-MD40F	62.5	0.6

BT-SMH

Small micro boring bar (precision type)

C Coolant System Boring



1DIV = ø0.01mm

C This product does not support the internal coolant system.

- For more information on the boring range, see **Page 114**. 114P
- For more information on the related parts, see **Page 115**. 115P
- For more information, see **Page 154** for HSK arbor and **Page 167** for SK arbor. 154,167P

Boring head	Bite	Designation	L(length of head)	Kg
SMH4022	BB16-□(S)	BT□□-MD40F	49	0.7

SMH SET

Small micro boring Set

SMH(SET1)

SMH(SET2)

SMHW(SET3)

SMH(SET4)

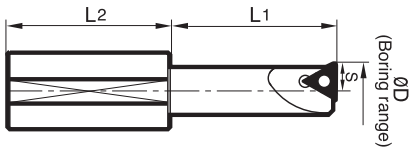
SET NUMBER

Type	Designation	SMH (SET1)	SMH (SET2)	SMHW (SET3)	SMH (SET4)	Applicable insert
Boring head	SMH4022	1	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	TPG080202L
BB Bite (STEEL)	BB16-1253(S)	1	1		1	TPG080202L
BB Bite (STEEL)	BB16-1668(S)	1	1		1	TPG110304L
BB Bite (STEEL)	BB16-2083(S)	1	1		1	TPG110304L
BB Bite (STEEL)	BB16-2590(S)	1	1		1	TPG110304L
BB Bite (STEEL)	BB16-3090(S)	1	1		1	TPG110304L
Carbide tool bite	JB8-1S			1		
Carbide tool bite	JB8-4S			1		
Carbide tool bite	CB6-5S95			1		WBGT060102L
Carbide tool bite	CB8-9S-115			1		TPGT080202L
Carbide tool bite	SCB12-14S-140			1		TPGT080304L
Carbide tool bite	CB16-19S-175			1		TPGT080304L
Sleeve	SMH-CS06			1		
Sleeve	SMH-CS08			1		
Sleeve	SMH-CS12			1		
Screw	BFTX0203A	2	2	2	2	
Screw	BFTX0204A	2	2	2	2	
Screw	BFTX0307A	2	2	2	2	
Wrench	LW-3	1	1	1	1	
Wrench	LW-5	1	1	1	1	
Wrench	TRX06	1	1	1	1	
Wrench	TRX10	1	1	1	1	

BB BITE

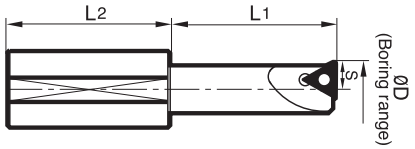
BB Bite (for SMB, SMH, KMB)

Boring Bite: BB type (for KMB)



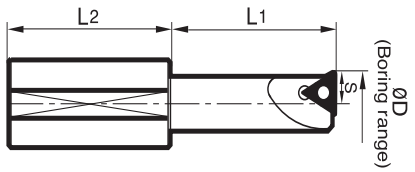
Designation	Boring range (center)		Boring range (flank)		L1	L2	S	Applied insert	Insert screw
	MIN.	MAX.	MIN.	MAX.					
BB18-7(S)	7	40	43	91	30	30	3.5	TBGT0601□□L	BFTX0204A
BB18-9(S)	9	42	45	93	40	30	4.5	TPGT0802□□L	BFTX0204A
BB18-11(S)	11	44	47	95	45	30	5.5	TPGT1103□□L	BFTX0307A
BB18-13(S)	13	46	49	97	45	40	6.5	TPGT1103□□L	BFTX0307A
BB18-15(S)	15	48	51	99	50	40	7.5	TPGT1103□□L	BFTX0307A
BB18-17(S)	17	50	53	101	50	40	8.5	TPGT1103□□L	BFTX0307A

Boring Bite: BB type (for SMB)



Designation	Boring range		L1	L2	S	Applied insert	Insert screw
	MIN.	MAX.					
BB18-7(S)	7	27	30	30	3.5	TBGT0601□□L	BFTX0204A
BB18-9(S)	9	29	40	30	4.5	TPGT0802□□L	BFTX0204A
BB18-11(S)	11	31	45	30	5.5	TPGT1103□□L	BFTX0307A
BB18-13(S)	13	33	45	40	6.5	TPGT1103□□L	BFTX0307A
BB18-15(S)	15	35	50	40	7.5	TPGT1103□□L	BFTX0307A
BB18-17(S)	17	37	50	40	8.5	TPGT1103□□L	BFTX0307A

Boring Bite : BB type(for SMH)



Designation	Boring range		L1	L2	S	Applied insert	Insert screw	Wrench
	MIN.	MAX.						
BB16-5(S)	5.5	19	20	34	2.75	WBGT0601□□L	BFTX0203A	TRX06
BB16-7(S)	7	21	30	34	3.5	TBGT0601□□L	BFTX0204A	TRX06
BB16-9(S)	9	23	40	34	4.5	TPGT0802□□L	BFTX0204A	TRX06
BB16-11(S)	11	25	45	34	5.5	TPGT1103□□L	BFTX0307A	TRX10
BB16-15(S)	15	29	50	34	7.5	TPGT1604□□L	BFTX0307A	TRX10
BB16-19(S)	19	33	34	60	9.5	TPGT1103□□L	BFTX0410A	TRX15

KMB SPARE PART

Parts for micro boring

Spare Part

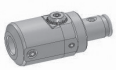
Type	Main Components			Components Not Included	
	Boring head	Taper screw	Wrench	Boring bite	MD arbor
Images / Designation					
KMB	KMB6336	BTT1620F	LW-4.0	BB18	MD63F

- By default, taper screw is connected to arbor.

SMB SPARE PART

Parts for small micro boring bar

Spare Part

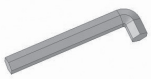
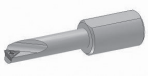
Type	Main Components			Components Not Included	
	Boring head	Taper screw	Wrench	Boring bite	MD arbor
Images / Designation					
SMB	SMB4022	BTT1013F	LW-2.5	BB18	MD40F

- By default, taper screw is connected to arbor.

SMH SPARE PART

Parts for small micro boring bar (precision type)

Spare Part

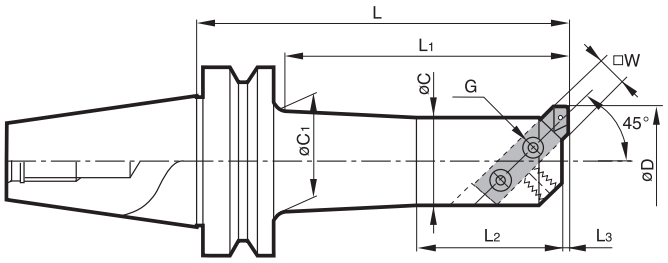
Type	Main Components			Components Not Included	
	Boring head	Taper screw	Wrench	Boring bite	MD arbor
Images / Designation					
SMH	SMH4022	BTT1013F	LW-3.0	BB16	MD40F

- By default, taper screw is connected to arbor.

BT-BSA

Square boring bar

MAS 403-BT (Shank) | C (Coolant System) | Boring



※ Bite is sold separately.

C This product does not support the internal coolant system.

- For more information on the related parts, see **Page 118**. 118P
- For more information on the exclusive bite, see **Page 119**. 119P

BT40

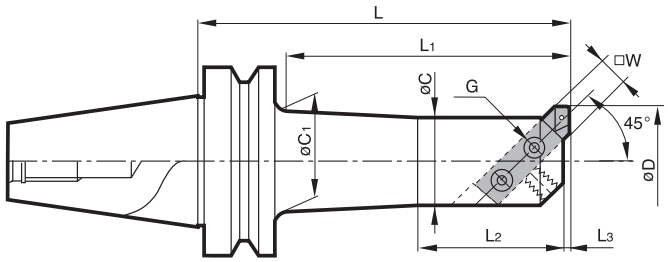
Designation	ØD MIN.	ØD MAX.	L	ØC	L1	L2	L3	ØC1	W	G	Kg	Total Weight (Kg)
BT40-BSA25-135	25	38	135	20	103	35	1	22	8	M6	1.2	1.5
BT40-BSA30-135	30	42	135	24	103	40	1.6	26	8	M6	1.3	1.6
BT40-BSA38-165	38	52	165	30	133	50	2.6	33	10	M8	1.7	1.9
BT40-BSA42-180	42	56	180	34	150	60	2	37	10	M8	2.1	2.3
BT40-BSA50-165	50	65	165	40	133	65	3	44	13	M10	2.2	2.5
BT40-BSA50-210	50	65	210	40	178	65	3	44	13	M10	2.8	3.0
BT40-BSA62-165	62	90	165	50	133	80	2	50	16	M10	2.8	3.0

BT-BSA

Square boring bar

MAS 403-BT | C | Boring

Shank | Coolant System | Boring



※ Bite is sold separately.

C This product does not support internal coolant system.

- For more information on the related parts, see **Page 118**. 118P
- For more information on the exclusive bite, see **Page 119**. 119P

BT50

Designation	ØD MIN.	ØD MAX.	L	ØC	L1	L2	L3	ØC1	W	G	Kg	Total Weight (Kg)
BT50-BSA25-135	25	38	135	20	92	35	1	22	8	M6	3.8	4.2
BT50-BSA30-165	30	42	165	24	122	40	1.6	26	8	M6	4.1	4.5
BT50-BSA38-180	38	52	180	30	137	50	2.6	33	10	M8	4.5	4.9
BT50-BSA42-210	42	56	210	34	167	60	2	37	10	M8	4.9	5.3
BT50-BSA50-180	50	65	180	40	137	65	3	46	13	M10	5.1	5.5
BT50-BSA50-240	50	65	240	40	197	65	3	44	13	M10	5.8	6.2
BT50-BSA62-195	62	90	195	50	152	80	2	56	16	M10	5.9	6.3
BT50-BSA62-270	62	90	270	50	227	80	2	56	16	M10	7.4	7.8
BT50-BSA72-195	72	110	195	60	152	95	2.4	66	19	M12	6.8	7.2
BT50-BSA72-285	72	110	285	60	242	95	2.4	66	19	M12	9.1	9.5
BT50-BSA90-210	90	125	210	75	167	110	4	80	19	M12	9.1	9.5
BT50-BSA105-195	105	160	195	90	154	130	3	-	25	M12	10.3	10.7

BSA SPARE PART

Parts for BSA

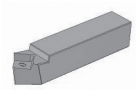
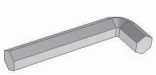
Main Components

Spare Part

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

Components Not Included

Spare Part

Type	Components Not Included	
	Bite	Wrench
Images / Designation		
BSA25	BH408	LW-3
BSA30	BH408	LW-4
BSA38	BH410	LW-4
BSA42	BH410	LW-5
BSA50	BH413	LW-5
BSA62	BH416	LW-5
BSA72	BH419	LW-5
BSA90	BH419	LW-6
BSA105	BH425	LW-6

BH

Square boring bite for BSA

Boring

BH400 series for BSA

Fig.1

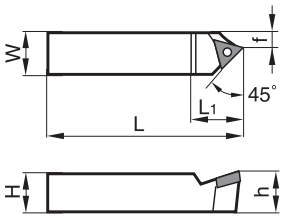
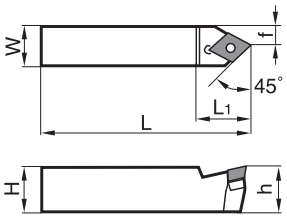


Fig.2



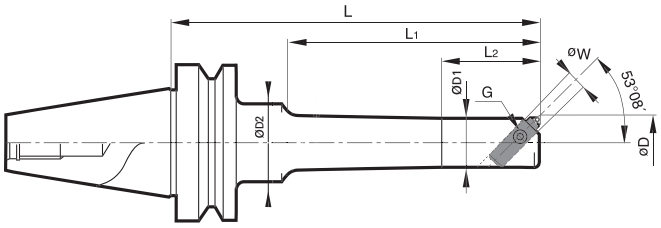
Designation	Fig.	W=H	H	L	L1	F	Applied insert	Insert screw	Insert wrench
BH408	1	8	7.8	40	9	3.2	TPGT0802□□L	BFTX0204A	TRX06
BH410	2	10	9.8	50	10	4.2	CPMT0602□□	BFTX02056N	TRX08
BH413	2	13	12.8	60	14	6.2	CPMT0803□□	BFTX0307N	TRX10
BH416	2	16	15.8	80	18	7.3	CPMT0903□□	BFTX0407A	TRX15
BH419	2	19	18.8	95	22	10.3	CPMH1204□□	BFN0511T	TRX20
BH425	2	25	24.8	125	26	14.2	CPMH1604□□	BFX0611R	LW-3.0

BT-BKA

FZ Micro boring bar

MAS 403-BT | C | Boring

Shank | Coolant System | Boring



※ For more information on the boring range and applied insert, see the FZ unit Table.

C This product does not support the internal coolant system.

- Boring unit is sold separately.
- For more information on the related parts, see **Page 122**. 122P
- For more information on the unit, see **Page 123**. 123P

BT30, BT40

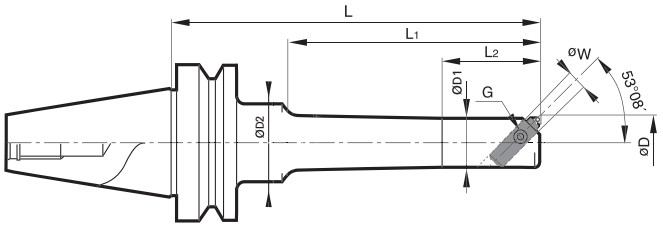
Designation	ØD	L	L1	L2	ØD1	ØD2	W	G	Kg	Total Weight (Kg)
BT30-BKA28-150	FZ10-□□-3(S)	150	123	-	25	-	10	M6	0.9	1.0
BT30-BKA36-150	FZ12-□□-3(S)	150	125	-	32	-	12	M8	1.2	1.3
BT30-BKA45-150	FZ16-□□-3(S)	150	128	-	40	-	16	M10	1.6	1.7
BT40-BKA23-150	FZ8-□□-3	150	95	40	20	22	8	M6	1.6	1.9
BT40-BKA23-225	FZ8-□□-3	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	3.0	3.2
BT40-BKA56-165	FZ20-□□-3(S)	165	-	70	50	54	20	M12	3.0	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	4.0	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	7.0

BT-BKA

FZ Micro boring bar

MAS 403-BT | C | Boring

Shank | Coolant System | Boring



※ For more information on boring range and applied insert, see FZ unit Table.

C This product does not support internal coolant system.

- Boring unit is sold separately.
- For more information on the related parts, see **Page 122.** 122P
- For more information on the unit, see **Page 123.** 123P

BT50

Designation	ØD	L	L1	L2	ØD1	ØD2	W	G	Kg	Total Weight (Kg)
BT50-BKA23-150	FZ8-□□-3	150	95	40	20	22	8	M6	4.2	4.6
BT50-BKA23-225	FZ8-□□-3	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	197	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

BKA SPARE PART

Parts for BKA

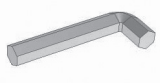
Main Components

Spare Part

Type / Images / Designation	Main Components
	Set screw
	
BKA23	BTF0606
BKA28	BTF0606
BKA36	BTF0808
BKA45	BTF1010
BKA56	BTF1212
BKA72	BTF1616
BKA90	BTF2020
BKA110	BTF2020

Components Not Included

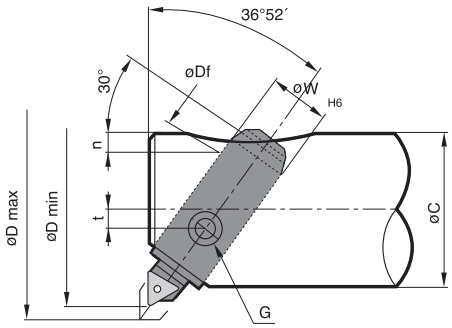
Spare Part

Type / Images / Designation	Components Not Included		
	Bite		Wrench
			
BKA23	FZ 8-23-3(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

FZ UNIT

FZ unit Inclined mounting type

C Coolant System Boring



※ Ø0.02mm for each gradation.

C This product does not support internal coolant system.

• For more information on the insert, see **Page 125**. 125P

FZ8, FZ10, FZ12, FZ16, FZ20, FZ25, FZ32

Designation	ØD		Insert holder	Insert	ØC	n	ØDf	t	G	W	Kg	Total Weight (Kg)
	MIN.	MAX.										
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
FZ10-28-3(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
FZ12-36-3(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
FZ16-45-3(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
FZ20-56-3(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
FZ25-72-3(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
FZ32-90-3(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

FZ UNIT SPARE PART

Parts for FZ unit

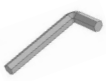
Main Components

Spare Part

Type	Main Components		
	Housing	Spindle	Insert screw
Images / Designation			
FZ8-23, 26-3, P10	8-23, 26-3	8Z3(P10)	-
FZ8-23, 26-3, K10	8-23, 26-3	8Z3(P10)	-
FZ10-28, 32-3(S)	10-28, 32-3	U10Z3(S)	BFTX0204A
FZ12-36, 40-3(S)	12-36, 40-3	U12Z3(S)	BFTX0204A
FZ16-45, 50-3(S)	16-45, 50-3	U16Z3(S)	BFTX0204A
FZ20-56, 64-3(S)	20-56, 64-3	U20Z3(S)	BFTX0204A
FZ25-72, 80-3(S)	25-72, 80-3	U25Z3(S)	BFTX0307A
FZ32-90, 100, 110, 125-3(S)	32-90, 100-3	U32Z3(S)	BFTX0307A

Components Not Included

Spare Part

Type	Components Not Included		
	Torx wrench	L-wrench	Torx wrench
Images / Designation			
FZ8-23, 26-3, P10	-	LW-1.5	R0/N0
FZ8-23, 26-3, K10	-	LW-1.5	R0/N0
FZ10-28, 32-3(S)	TRX6	LW-2.0	R2/N1
FZ12-36, 40-3(S)	TRX6	LW-2.5	R2A/N2
FZ16-45, 50-3(S)	TRX6	LW-3.0	N3
FZ20-56, 64-3(S)	TRX6	LW-4.0	R4/N4
FZ25-72, 80-3(S)	TRX10	LW-4.0	ZV25
FZ32-90, 100, 110, 125-3(S)	TRX10	LW-5.0	R5/N5

INSERT

FZ unit, FF unit

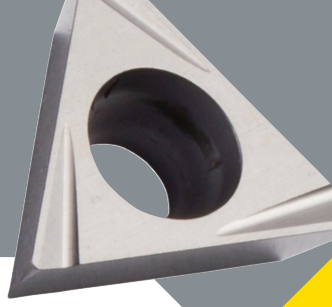
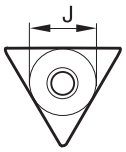
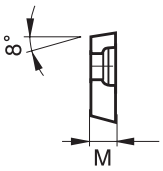


Fig. 1
(With Chip Breaker)

Fig. 2
(Without Chip Breaker)





Insert Screw

Fig.	Grade of Insert	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

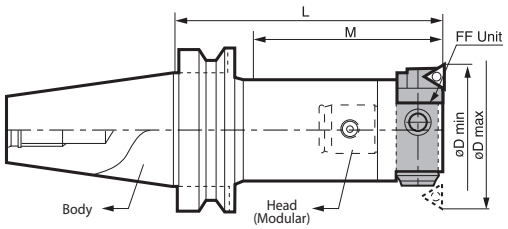
General Inserts complying with ISO Standard

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

BT-BCF

Micro boring bar

MAS 403-BT — Shank | C — Coolant System | Boring



※ Body, boring unit, and head sets are sold separately.

C This product does not support internal coolant system.

- For more information on the insert, see **Page 128**. 128P
- For more information on BT arbor, see **Page 100**. 100P
- For more information, see **Page 154** for HSK arbor and **Page 167** for SK arbor. 154,167P

BCF

Designation		ØD		L	Kg	Basic holder	Boring depth	Kg
Head	Boring unit	MIN.	MAX.					
BCF2530	FF10-30(S)	29.5	42	140	0.3	BT30-MD25F-90	93	0.6
BCF3239	FF12-39(S)	39	50	140	0.4	BT30-MD32F-80	99	0.7
BCF4047	FF16-47(S)	47	66	170	0.6	BT30-MD40F-80	109	0.9
BCF5058	FF20-58(S)	58	83	125	1.0	BT30-MD50F-70	98	0.9
BCF2530	FF10-30(S)	29.5	42	145	0.3	BT40-MD25F-95	72	1.1
BCF3239	FF12-39(S)	39	50	160	0.4	BT40-MD32F-100	96	1.1
BCF4047	FF16-47(S)	47	66	175	0.6	BT40-MD40F-115	120	1.6
BCF5058	FF20-58(S)	58	83	175	1.0	BT40-MD50F-105	143	1.8
BCF6379	FF25-79(S)	79	108	180	1.7	BT40-MD63F-110	148	2.4
BCF100	FF32-100(S)	100	141	200	3.8	BT40-MD80F-100	168	2.9
BCF2530	FF10-30(S)	29.5	42	155	0.3	BT50-MD25F-105	72	3.8
BCF3239	FF12-39(S)	39	50	170	0.4	BT50-MD32F-110	96	4.0
BCF4047	FF16-47(S)	47	66	255	0.6	BT50-MD40F-195	143	4.8
BCF5058	FF20-58(S)	58	83	295	1.0	BT50-MD50F-225	195	6.0
BCF6379	FF25-79(S)	79	108	265	1.6	BT50-MD63F-195	222	6.8
BCF100	FF32-100(S)	100	141	275	3.8	BT50-MD80F-175	232	8.0

BT-BCF

Micro boring bar

MAS 403-BT | C | Shank | Coolant System | Boring

Fig.1

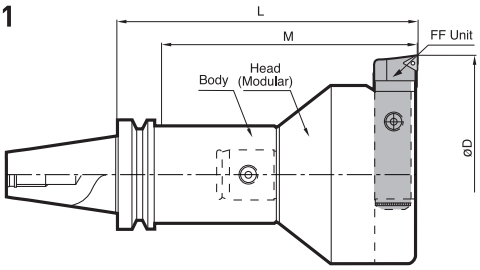
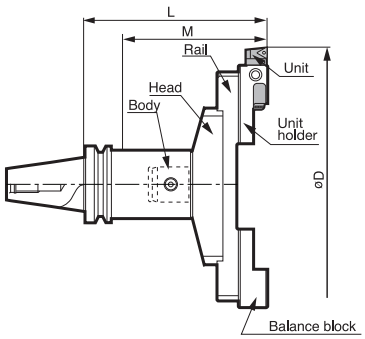


Fig.2



1DIV. = Ø0.02mm

※ Body, boring unit and head sets are sold separately.

C This product does not support internal coolant system.

- For more information on the insert, see **Page 128**. 128P
- For more information on BT-MD arbor, see **Page 100**. 100P
- For more information, see **Page 154** for HSK arbor and see **Page 167** for SK arbor. 154,167P

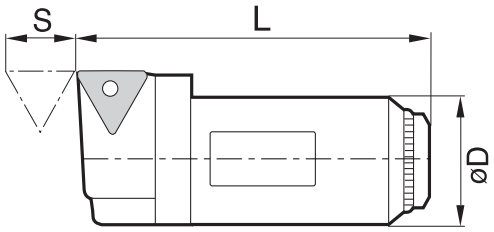
BCF

Designation		ØD		Length of head	MD No.	Fig.	Kg
Head	Boring unit	MIN.	MAX.				
BCF138	FF32-138(S)	138	159	100	BT50-MD90F-□□□	1	5.0
BCF150	FF32-138(S)	150	171	100	BT50-MD90F-□□□	1	5.1
BCF170	FF32-138(S)	170	191	100	BT50-MD90F-□□□	1	5.3
BCF190	FF32-138(S)	190	211	100	BT50-MD90F-□□□	1	5.7
BCF210	FF32-138(S)	210	231	100	BT50-MD90F-□□□	1	5.9
BCF230	FF32-138(S)	230	251	100	BT50-MD90F-□□□	1	6.1
BCF250FS	FF25-79(S)	250	355	107	BT50-MD90F-□□□	2	9.0
BCF350FS	FF25-79(S)	355	450	107	BT50-MD90F-□□□	2	9.8

FF

FF unit_micro boring unit

C Coolant System Boring



C This product does not support internal coolant system.

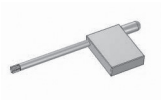
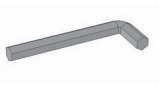
Designation	ØD	L	S	Applied insert
FF10-30(S)	10	28.5	3.5	TBGT0601☐☐L
FF12-39(S)	12	37.5	3.5	TBGT0601☐☐L
FF16-47(S)	16	45	5	TPGT0802☐☐L
FF20-58(S)	20	56	7	TPGT0802☐☐L
FF25-79(S)	25	77.5	8	TPGT1103☐☐L
FF32-100(S)	32	97	11	TPGT1103☐☐L
FF32-138(S)	32	131	11	TPGT1103☐☐L

FF UNIT SPARE PART

Parts for FF unit

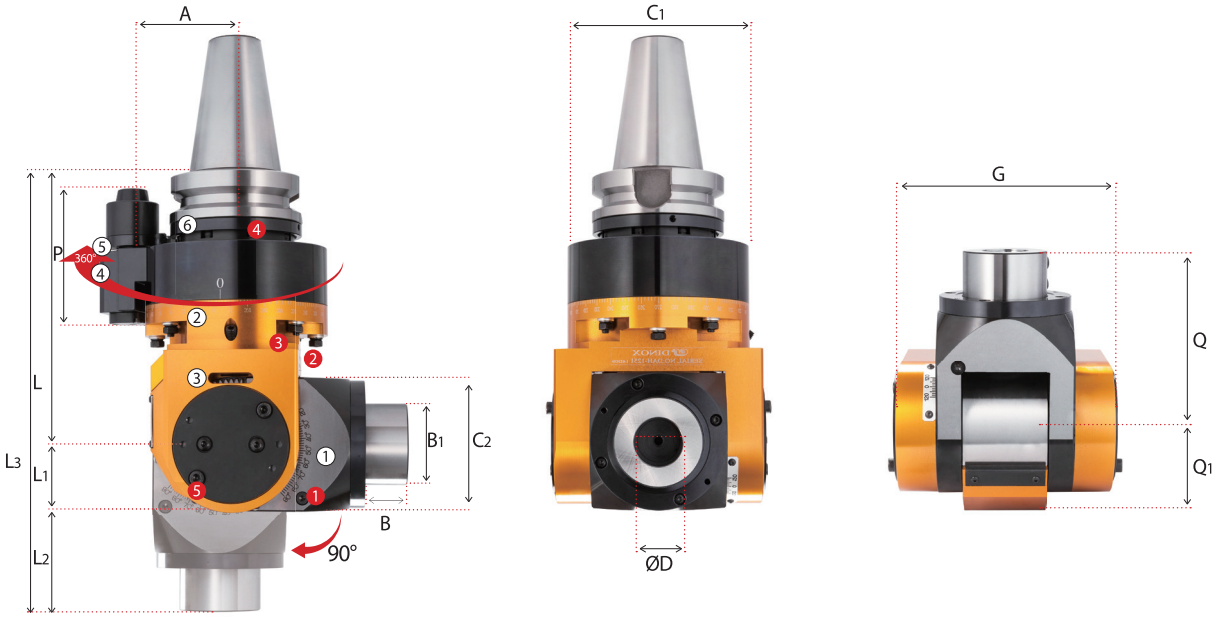
Main Components

Spare Part

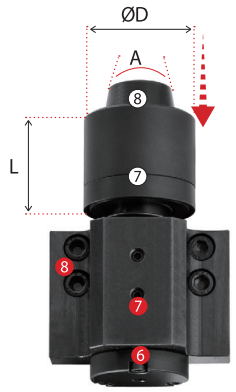
Type	Main Components		
Images / Designation	Clamp screw	Torx wrench	Wrench
			
FF10-30(S)	BFTX0204A	TRX06	LW-2
FF12-39(S)	BFTX0204A	TRX06	LW-2.5
FF16-47(S)	BFTX0204A	TRX06	LW-3
FF20-58(S)	BFTX0204A	TRX06	LW-4
FF25-79(S)	BFTX0307A	TRX10	LW-4
FF32-100(S)	BFTX0307A	TRX10	LW-5

BT-MAH

Universial Angular Head_Rigidity-reinforced side-lock type



POSITIONING PIN



Shank size	L	A	ØD
BT50	56.5	20°	Ø40

No.	Name
①	Tilt angle graduation (0~90°, vertical)
②	Rotation angle graduation (360°)
③	Head
④	Positioning pin part
⑤	Encounter key
⑥	Positioning ring
⑦	Positioning cover
⑧	Positioning pin

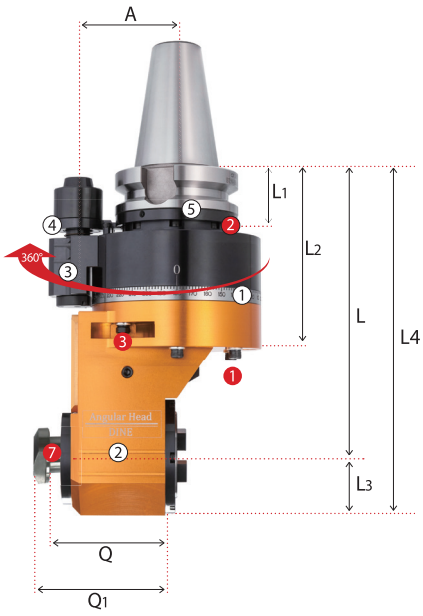
No.	Names of Parts Parts	Designation
1	Tilt angle graduation screw	BT1216
2	Head captive bolts	BT0645
3	Rotation angle graduation screw	BT0640
4	Positioning ring set screw	MSST5-12
5	Tilt axis captive bolts	BH0616
6	Positioning pin height adjust screw	BT0516
7	Positioning pin set screw	BT0512
8	Body position block set bolt	BX0516

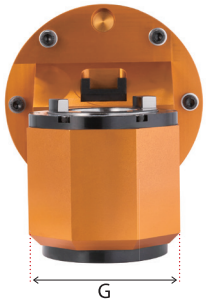
Designation	ØD	L	L1	L2	L3	C	C1	G	C2	Q	Q1	B	B1	P	A	MAX. RPM	Installation of tool	Kg	Total Weight (Kg)
BT50-MAH32-200	32	200	47	78	325	136	95	54	95	125	63	31	60	95	80	3,000	SIDE LOCK	19.6	32.0

- For more information on A/H, see **Page 39**. 39P
- For more information on positioning block, see **Page 208**. 208P

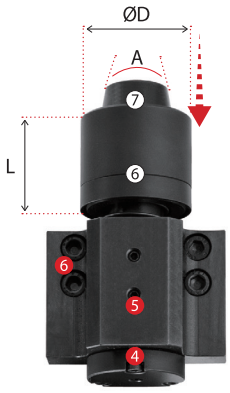
BT-HRAG

90° Angular Head_Rigidity-reinforced interchangeable adapter type





POSITIONING PIN



Shank size	L	A	ØD
BT50	56.5	20°	Ø40

No.	Name
①	Rotation angle graduation (360°)
②	Head
③	Positioning pin part
④	Encounter key
⑤	Positioning ring
⑥	Positioning cover
⑦	Positioning pin

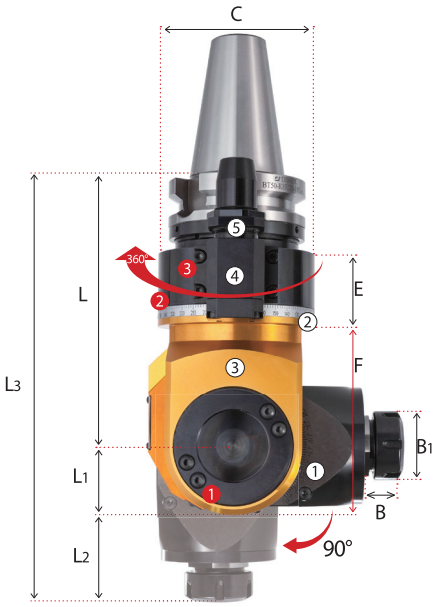
No.	Name of Parts	Designation
1	Head captive bolts	BX0660
2	Positioning ring set screw	MSST5-12
3	Rotation angle graduation screw	BT0648
4	Positioning pin height adjust screw	BT0516
5	Positioning pin set screw	BT0512
6	Body position block set screw	BX0516
7	BT / NT bolts	

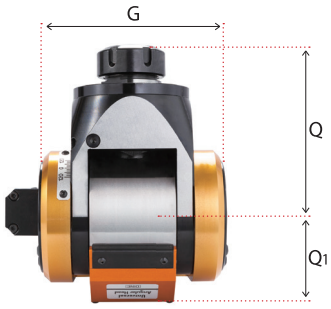
Designation	L	L1	L2	Q	Q1	A	G1	G	MAX. RPM	Mounting tool shank	Kg	Total Weight (Kg)
BT50-HRAG40-230	230	56.5	145	89	101	80	136	93	3,000	BT/NT40	18.2	30.6

- For more information on A/H, see **Page 39**. 39P
- For more information on positioning block, see **Page 208**. 208P

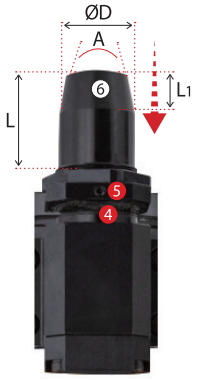
BT-KHU

Universial Angular Head_Collet chuck type





POSITIONING PIN



Shank Designation	L	L1	A	ØD
BT40	Max : 32 Min : 26	10	20°	Ø19.6
BT50	Max : 35 Min : 29	15	20°	Ø28

No.	Name
①	Tilt angle graduation (0~90°, vertical)
②	Rotation angle graduation (360°)
③	Head
④	Positioning pin part
⑤	Encounter key
⑥	Height-adjusting wrench hole

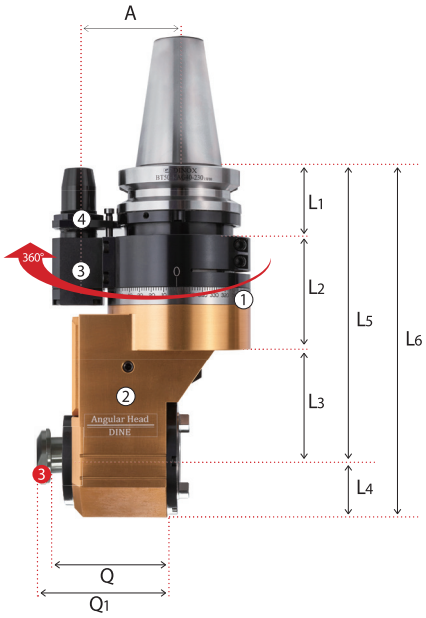
No.	Name of Parts	Designation
1	Tilt axies captive bolts	BH0630
2	Bracket angle captive bolts	BX0630
3	Position block, captive bolts	BX0512
4	Set screw	BT0404
5	Captive bolts	BX05630

Designation	ØD (Clamping Range)	B	B1	C	E	F	C2	L1	L2	L3	L	ØD1	A	G	Q	Q1	Gear ratio	compared to spindle Rotation direction	MAX. RPM	Applied Collet	Kg	Total Weight (Kg)
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-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	1.0~20.0	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

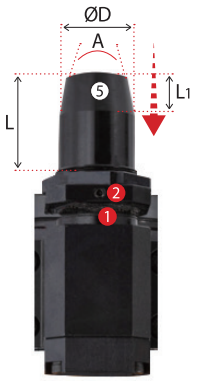
- For more information on A/H, see **Page 39**. 39P
- For more information on positioning block, see **Page 208**. 208P

BT-KAG

90° Angular Head_Interchangeable adapter type



POSITIONING PIN



Shank Designation	L	L1	A	ØD
BT40	Max : 32 Min : 26	10	20°	Ø19.6
BT50	Max : 35 Min : 29	15	20°	Ø28

No.	Name
①	Rotation angle graduation (360°)
②	Head
③	Positioning pin part
④	Encounter key
⑤	Height adjusting wrench hole

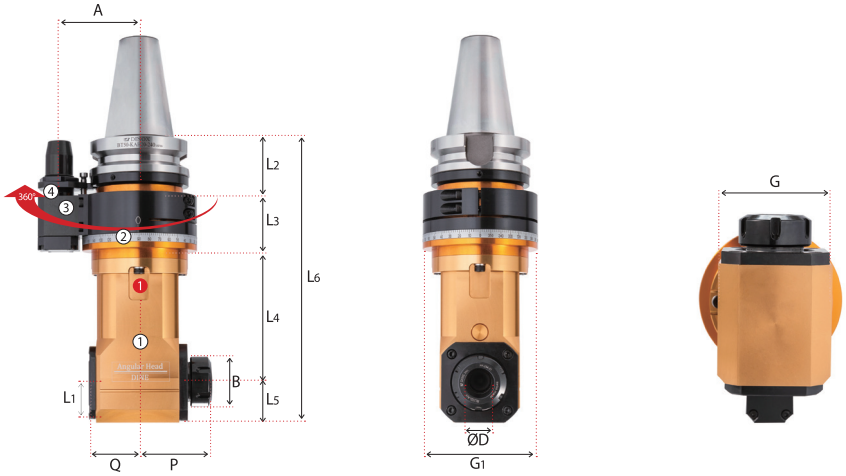
No.	Name of Parts	Designation
1	Set screw	BT0404
2	Captive bolts	BX50630
3	BT / NT bolts	

Designation	L	L1	L2	L3	Q	Q1	A	C	G	Gear ratio	compared to spindle Rotation direction	MAX. RPM	Mounting holder Shank	Kg	Total Weight (Kg)
BT40-KAG30-195	195	44	86	65	66	70	65	96	75	1:1	Normal rotation	4,000	BT/NT30	7.2	14.0
BT50-KAG40-230	230	57	88	85	89	94	80	114	93	1:1	Normal rotation	3,000	BT/NT40	15.7	28.1

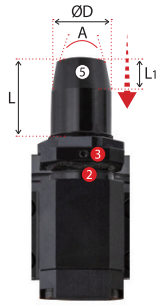
- For more information on A/H, see **Page 39**. 39P
- For more information on positioning block, see **Page 208**. 208P

BT-KAH

Modular Angular Head_Fixed 90°



POSITIONING PIN



Shank Designation	L	L1	A	ØD
BT40	Max : 32 Min : 26	10	20°	Ø19.6
BT50	Max : 35 Min : 29	15	20°	Ø28

No.	Name
①	Head
②	Rotation angle graduation (360°)
③	Positioning pin part
④	Encounter key
⑤	Height adjusting wrench hole

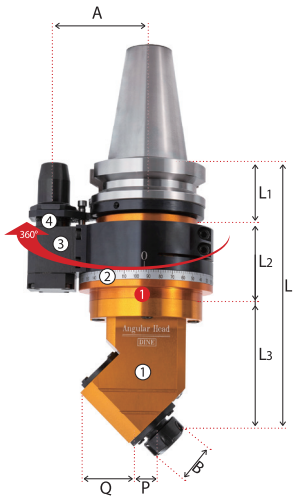
No.	Name of Parts	Designation
1	Head captive bolts	BX0618
2	Set screw	BT0404
3	Captive bolts	BX50630

Designation	ØD	L	L1	L2	L3	L4	L5	L6	B	A	P	Q	G	G1	Gear ratio	MAX. RPM	Applied collet	Kg
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	4.6
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	5.8
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	5.7
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	6.7
BT50-KAH07-220	1.0~7.0	220	20	57	54	109	20	240	19	80	37	24.5	40	96	1:1	5,000	GERC11	9.8
BT50-KAH10-215	1.0~10.0	215	25	57	54	104	25	240	28	80	46	32	58	96	1:1	5,000	GERC16	10.7
BT50-KAH10-260	1.0~10.0	260	25	57	54	149	25	285	28	80	46	32	58	96	1:1	5,000	GERC16	11
BT50-KAH13-260	1.0~13.0	260	28	57	54	149	28	288	35	80	53	35	60	96	1:1	5,000	GERC20	11.2
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	50	80	71	49	76	96	1:1	3,500	GERC32	12.4

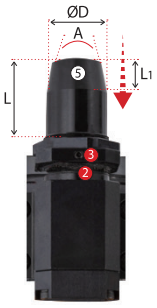
- For more information on A/H, see **Page 39**. 39P
- For more information on positioning block, see **Page 208**. 208P

BT-KAC

Modular Angular Head_Fixed 45°



POSITIONING PIN



Shank Designation	L	L1	A	ØD
BT40	Max : 32 Min : 26	10	20°	Ø19.6
BT50	Max : 35 Min : 29	15	20°	Ø28

No.	Name
①	Head
②	Rotation angle graduation (360°)
③	Positioning pin part
④	Encounter key
⑤	Height adjusting wrench hole

No.	Name of Parts	Designation
1	Head captive bolts	BX0618
2	Set screw	BT0404
3	Captive bolts	BX50630

Designation	ØD (Clamping Range)	L	L1	L2	L3	B	G	G1	P	Q	A	MAX. RPM	Applied Collet	Kg
BT40-KAC10-220	1.0~10.0	220	44	71	105	28	60	96	25	54	65	5,000	GERC16	5.3
BT40-KAC13-220	1.0~13.0	220	44	71	105	28	60	96	25	54	65	5,000	GERC20	5.5
BT40-KAC20-230	2.0~20.0	230	44	71	115	50	72	96	30	60	65	3,500	GERC32	6.8
BT50-KAC10-240	1.0~10.0	240	57	54	129	28	60	96	25	54	80	5,000	GERC16	10.2
BT50-KAC13-240	1.0~13.0	240	57	54	129	28	60	96	25	54	80	5,000	GERC20	10.4
BT50-KAC20-250	2.0~20.0	250	57	54	139	50	72	96	30	60	80	3,500	GERC32	11.7

- For more information on A/H, see **Page 39**. 39P
- For more information on positioning block, see **Page 208**. 208P

BT-SAH NEW

Slim angular head

3,500 Max RPM

Drilling

Features

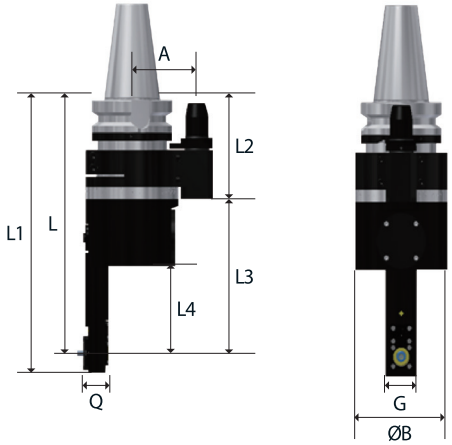
- Angular head for tight space
(MIN. inner diameter of workpiece: Ø40, MIN. width 32mm)
- MAX. 3,500RPM, Spindle : applied rotation ratio 1:1.37
- Clamping range: Ø3, Ø4, Ø6

Designation

BT50 – SAH 6 – 277

BT50: Spindle; SAH: Slim Angular head; 6: Tool Dia.; 277: Length

Details



Machining Features

Min. Ø40 hole
(except tool length)

Min. 32mm gap
(except tool length)

Designation	L	L1	L2	L3	L4	A	Q	G	ØB	Rotation ratio (IN:OUT)	Rotating direction	MAX RPM	Weight (Kg)
BT50-SAH6-277	277	298	183.5	166.5	93.5	80(110)	31.5	40	76	1:1.37	CW:CW	3,500	14

Clamping Force

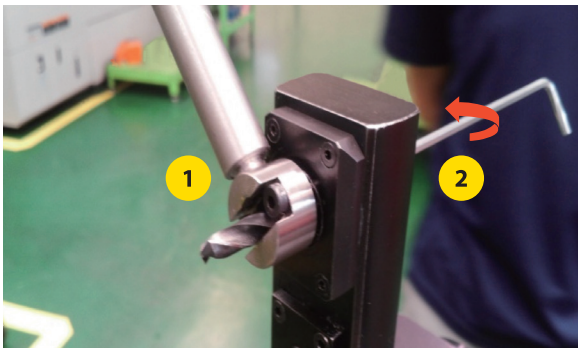
	Measurement	Readings (N-m)			
Clamp torque	2	2.5	3	3.5	4
Clamping Force	Not measurable	5.5	6.5	7	7

※ The moderate clamp torque of collet is 3.5N-m.

Exclusive collet

Designation	Clamping Range
SAH6-C3	3
SAH6-C4	4
SAH6-C6	6

How to Clamp



1. Connect tool with SAH-exclusive collet
2. Insert the tool in SAH and fix with -couple-dedicated tightening jig
3. Clamping by turning the bolt using a wrench.

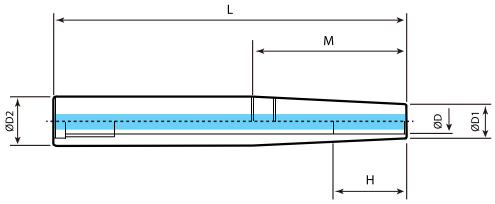
• BT : 136P

S,ST Shank

DINOX NC TOTAL TOOLING SYSTEM

ST-DSC/M

Straight shank shrinking chuck



- For more information on the product features, see **Page 23**. 23P
- For more information on the related parts, see **Page 70**. 70P
- For more information on BT shank, see **Page 66**. 66P
- For more information, see **Page 147** for HSK shank and **Page 159** for SK shank. 147,159P

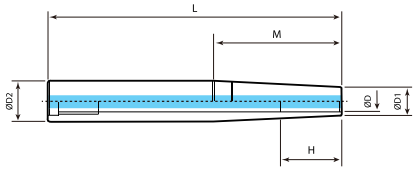
C Internal coolant system installed.

ST16, ST20, ST25, ST32

Designation	ØD	L	ØD1	ØD2	M	H	Kg	Total Weight (Kg)
ST16-DSC6M-115	6	115	10	16	50	95	0.0	0.1
ST16-DSC6M-140	6	140	10	16	60	120	0.1	0.2
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-DSC8M-175	8	175	13	25	105	155	0.4	0.5
ST25-DSC10M-145	10	145	16	25	75	45	0.3	0.4
ST25-DSC10M-175	10	175	16	25	105	45	0.4	0.5
ST25-DSC12M-120	12	120	19	25	50	45	0.3	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-DSC20M-175	20	175	29	32	50	55	0.8	0.9

ST-DSC/S

Straight shank shrinking chuck



- For more information on the product features, see **Page 23**. 23P
- For more information on BT shank, see **Page 67**. 67P

C Internal coolant system installed.

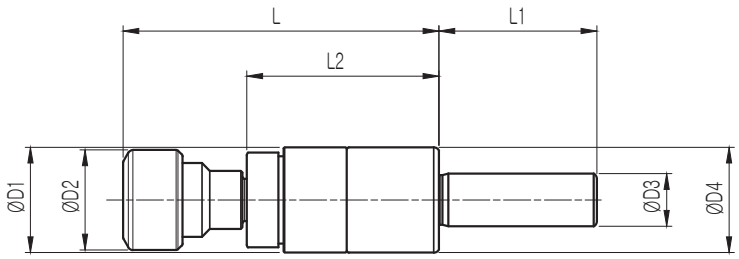
ST16, ST20, ST32

Designation	ØD	L	ØD1	ØD2	M	H
ST16-DSC6S-115	6	115	9	16	55	95
ST16-DSC6S-140	6	140	9	16	70	120
ST16-DSC8S-115	8	115	11	16	50	95
ST20-DSC6S-175	6	175	9	20	105	155
ST20-DSC8S-175	8	175	11	20	85	155
ST20-DSC10S-145	10	145	13	20	75	77
ST20-DSC12S-120	12	120	15	20	50	52
ST32-DSC12S-315	12	315	15	32	185	295

ST-DST

High-speed synchro tapping chuck

MAS 403-BT (Shank) | G6.3 (G value) | C (Coolant System) | Tapping



- For more information on the product features, see **Page 35**. 35P
- For more information on TER collet, see **Page 93**. 93P
- For more information on ER collet, see **Page 80**. 80P
- For more information on SK shank, see **Page 139**. 139P
- For more information, see **Page 151** for HSK shank and **Page 164** for SK shank. 151,164P

C This product does not support internal coolant system.

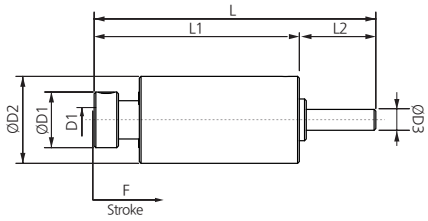
ST10

Designation	ØD	L	ØD1	ØD2	ØD3	ØD4	L1	L2	Applied collet	F-	F+	Kg	Total Weight (Kg)
ST10-DST3-60	M1~M3	60	20	19	10	20	30	36.5	ER11	0.5	0.5	0.1	0.2

ST-OFH

Floating holder for brush

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



C This product does not support internal coolant system.

- For more information on the features of product see **Page 33**. 33P
- For more information on BT shank, see **Page 70**. 70P

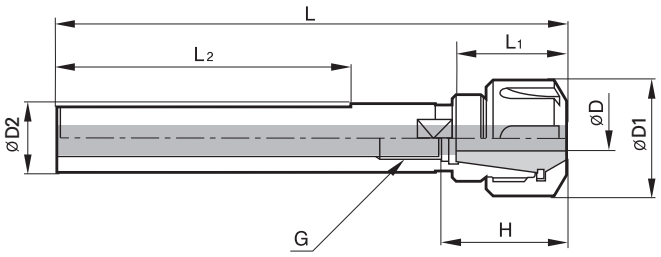
ST06

Designation	Sleeve Dia. (ØD)	L	ØD1	ØD2	ØD3	L1	L2	Sleeve stroke(F)	RPM
ST06-OFH6-60	6	81	16	25	6	59	20	6	15,000

S-SDC

Straight shank collet chuck

Ø20 Shank Dia. | C Coolant System | Milling | **Drilling** | Chamfering | Tapping



C Internal coolant system optional.

- For more information on the collet, see **Page 80**. 80P
- For more information on the related parts, see **Page 87**. 87P

	Designation	ØD	L	ØD1	ØD2	L1	L2	H	Collet/step	G	Kg	Total Weight (Kg)
S16, S20	S16-SDC7-120M	1.0~7.0	120	19	16	-	75	33	GERC11/0.5	M7	0.1	0.2
	S16-SDC7-120T	1.0~7.0	120	19	16	-	73	33	GERC11/0.5	M7	0.1	0.2
	S16-SDC10-150T	1.0~10.0	150	28	16	46.5	83	34.5	GERC16/1.0	M10	0.2	0.3
	S20-SDC10-150M	1.0~10.0	150	28	20	26.5	83	34.5	GERC16/1.0	M10	0.2	0.3
	S20-SDC10-150T	1.0~10.0	150	28	20	26.5	83	34.5	GERC16/1.0	M10	0.2	0.3
	S20-SDC13-150M	1.0~13.0	150	35	20	50	83	49	GERC20/1.0	M13	0.3	0.4
	S20-SDC13-150T	1.0~13.0	150	35	20	50	83	49	GERC20/1.0	M13	0.3	0.4
S25, S32	S25-SDC10-150M	1.0~10.0	150	28	25	-	83	34.5	GERC16/1.0	M10	0.4	0.5
	S25-SDC10-150T	1.0~10.0	150	28	25	-	83	34.5	GERC16/1.0	M10	0.4	0.5
	S25-SDC13-150M	1.0~13.0	150	35	25	-	83	49	GERC20/1.0	M13	0.4	0.5
	S25-SDC13-150T	1.0~13.0	150	35	25	-	83	49	GERC20/1.0	M13	0.4	0.5
	S32-SDC13-150M	1.0~13.0	150	35	32	-	83	49	GERC20/1.0	M13	0.7	0.8
	S32-SDC13-150T	1.0~13.0	150	35	32	-	83	49	GERC20/1.0	M13	0.7	0.8
	S32-SDC20-165M	2.0~20.0	165	50	32	-	83	60	GERC32/1.0	M22	0.9	1.0
	S32-SDC20-165T	2.0~20.0	165	50	32	-	83	60	GERC32/1.0	M22	0.9	1.0

S-SDC/S

Straight shank collet chuck slim type

Fig.1

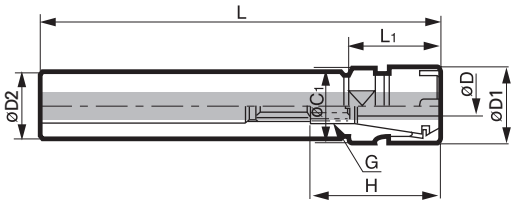
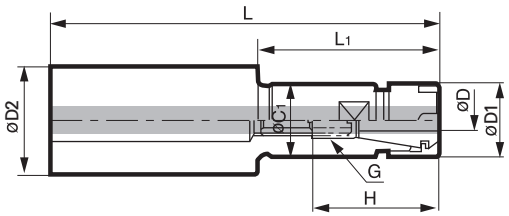


Fig.2



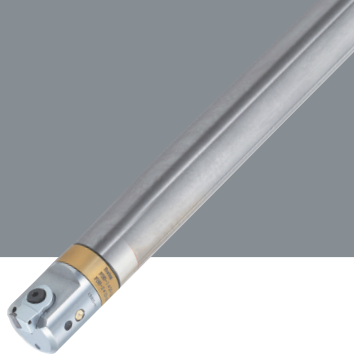
C Internal coolant system optional.

• For more information on the collet, see **Page 80.** 80P

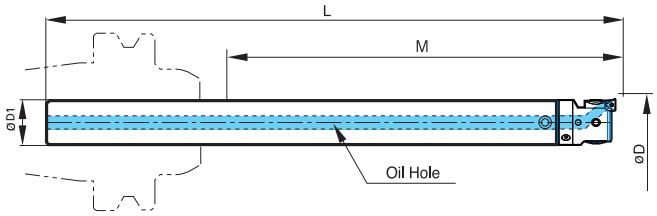
	Designation	ØD	L	ØD1	ØD2	L1	H	Collet/step	G	Kg	Total Weight (Kg)
S16, S20	S16-SDC7S-100M	1.0~7.0	100	16	16	21	33	GERC11/0.5	M7	0.1	0.2
	S16-SDC7S-150M	1.0~7.0	150	16	16	21	33	GERC11/0.5	M7	0.1	0.2
	S16-SDC10S-100M	1.0~10.0	100	22	16	50	44.5	GERC16/1.0	M10	0.1	0.2
	S16-SDC10S-150M	1.0~10.0	150	22	16	50	44.5	GERC16/1.0	M10	0.1	0.2
	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	44.5	GERC16/1.0	M10	0.1	0.2
	S20-SDC10S-150M	1.0~10.0	150	22	20	50	44.5	GERC16/1.0	M10	0.2	0.3
	S20-SDC10S-200M	1.0~10.0	200	22	20	50	44.5	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, S32	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	44.5	GERC16/1.0	M10	0.2	0.3
	S25-SDC10S-150M	1.0~10.0	150	22	25	80	44.5	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	1.0~16.0	100	35	25	50	50	GERC25/1.0	M18	0.3	0.4
	S25-SDC16S-150M	1.0~16.0	150	35	25	50	50	GERC25/1.0	M18	0.4	0.5
	S25-SDC16S-200M	1.0~16.0	200	35	25	50	50	GERC25/1.0	M18	0.6	0.7
	S32-SDC16S-120M	1.0~16.0	120	35	32	50	50	GERC25/1.0	M18	0.5	0.6
	S32-SDC16S-150M	1.0~16.0	150	35	32	50	50	GERC25/1.0	M18	0.6	0.7

S-FBH/B

Micro boring bar with carbide/steel



C Coolant System Boring



- For more information on the features of product see **Page 38**. 38P
- For more information on the related parts, see **Page 105**. 105P
- For more information, see **Page 104** for BT shank and **Page 169** for SK shank. 104,169P

C Internal coolant system installed.

S19W, S25W, S32W, S19, S25, S32

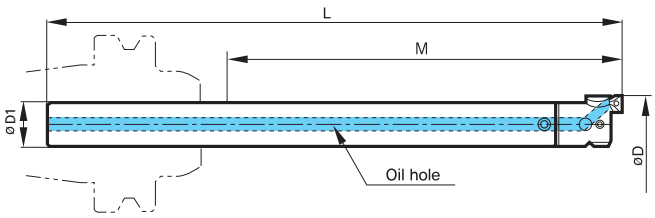
Designation	ØD		L	ØD1	M (MAX. boring depth)	Detailed model no.			Kg	Total Weight (Kg)
	MIN.	MAX.				Shank	Boring head	Bite		
S19W-FBH20B-120	20	26	192.35	19	120	S19W-MD19F-157	FBH1920B	FBB20N	0.6	0.7
S19W-FBH20B-140	20	26	212.35	19	140	S19W-MD19F-177	FBH1920B	FBB20N	0.7	0.8
S19W-FBH20B-160	20	26	232.35	19	160	S19W-MD19F-197	FBH1920B	FBB20N	0.8	0.9
S25W-FBH26B-150	26	34	238.35	25	150	S25W-MD25F-197.5	FBH2526B	FBB26N	1.4	1.5
S25W-FBH26B-175	26	34	263.35	25	175	S25W-MD25F-222.5	FBH2526B	FBB26N	1.6	1.7
S25W-FBH26B-200	26	34	288.35	25	200	S25W-MD25F-247.5	FBH2526B	FBB26N	1.8	1.9
S32W-FBH33B-180	33	43	279.9	32	180	S32W-MD32F-239	FBH3233B	FBB33N	2.7	2.8
S32W-FBH33B-240	33	43	339.9	32	240	S32W-MD32F-299	FBH3233B	FBB33N	2.9	30
S19-FBH20B-40	20	26	112.35	19	40	S19-MD19F-77	FBH1920B	FBB20N	0.1	0.2
S19-FBH20B-80	20	26	152.35	19	80	S19-MD19F-117	FBH1920B	FBB20N	0.2	0.3
S25-FBH26B-50	26	34	138.35	25	50	S25-MD25F-97.5	FBH2526B	FBB26N	0.4	0.5
S25-FBH26B-100	26	34	188.35	25	100	S25-MD25F-147.5	FBH2526B	FBB26N	0.6	0.7
S32-FBH33B-90	33	43	189.9	32	90	S32-MD32F-149	FBH3233B	FBB33N	1.1	1.2
S32-FBH33B-120	33	43	219.9	32	120	S32-MD32F-179	FBH3233B	FBB33N	1.2	1.3

* S□□W: Carbide shank
* S□□: Steel shank

S-FBH

Small micro boring bar with carbide/steel

C Coolant System Boring



C Internal coolant system installed.

• For more information on the related parts, see **Page 105.** 105P

Designation	ØD		L	ØD1	M (MAX. boring depth)	Detailed model no.			Kg	Total Weight (Kg)
	MIN.	MAX.				Shank	Boring head	Bite		
S14W-FBH15-85	15	18	155	14	85	S14W-M6-123	FBH15	FBB15-C	0.2	0.3
S14W-FBH15-110	15	18	180	14	110	S14W-M6-148	FBH15	FBB15-C	0.3	0.4
S16W-FBH18-95	18	22	165	16	95	S16W-M8-128	FBH18	FBB15-C	0.4	0.5
S16W-FBH18-125	18	22	195	16	120	S16W-M8-158	FBH18	FBB15-C	0.5	0.6
S14-FBH15-40	15	18	110	14	40	S14-M6-78	FBH15	FBB15-C	0.1	0.2
S16-FBH18-45	18	22	115	16	45	S16-M8-78	FBH18	FBB15-C	0.1	0.2

S14, S16

* S□□W: Carbide shank
* S□□: Steel shank

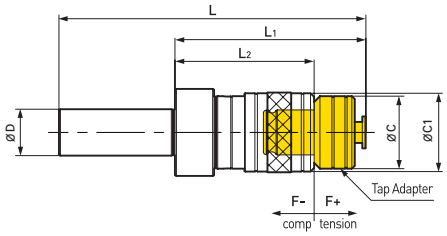
Spare Part

Type (FBH)	Lock screw	Type (FBB)	Clamp screw
FBH15	BT02503	FBB15-C	BFTX02505N
FBH18	BT02503	FBB15-C	BFTX02505N

S-DTN

Straight shank tapping holder

C Coolant System Tapping



- For more information on the features of product see **Page 34**. 34P
- For more information on the tap adapter (TCA), see **Page 91**. 91P
- For more information, see **Page 90** for BT shank and **Page 163** for SK shank. 90,163P

C This product does not support internal coolant system.

S32

Designation	Tap Boring Range	ØD	L	L1	L2	ØC	ØC1	F-	F+	Applied Adapter	Kg	Total Weight (Kg)
S32-DTN12-90	M3-M12	32	170	90	65	32	39	4	10	TCA1	1.0	1.1
S32-DTN22-130	M8-M24	32	210	130	96	50	56	12.5	12.5	TCA2	1.8	1.9

HSK Shank

DINOX NC TOTAL TOOLING SYSTEM

HSK-DHE

Hydraulic expansion chuck

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

Fig.1

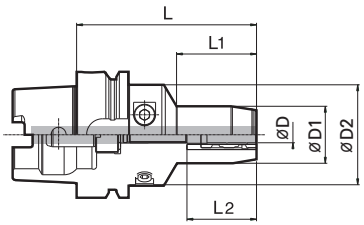
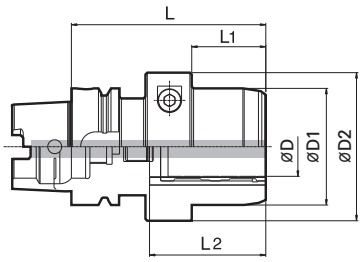


Fig.2



- **L2**: Depth of tool insertion (Min. ~ Max.)

C Internal coolant system optional.

- For more information on the product features, see **Page 22**. 22P
- For more information on the applicable collet, see **Page 62**. 62P
- For more information on the related parts, see **Page 63**. 63P
- For more information, see **Page 60** for BT shank and **Page 158** for SK shank. 60,158P

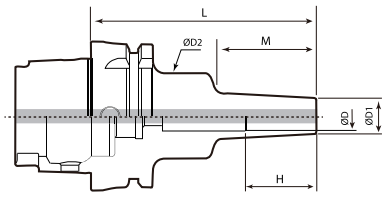
HSK63A, HSK100A

Designation	ØD	L	ØD1	ØD2	L1	L2	ADJ SCREW	Fig.	MAX. RPM	Kg	Total Weight (Kg)
HSK63A-DHE6-75	6	75	29	50	34	30~39.8	M5	1	10,000	1.0	1.2
HSK63A-DHE8-75	8	75	31	50	34	30~39.8	M5	1	10,000	1.0	1.2
HSK63A-DHE10-85	10	85	33	50	40	35~44.8	M5	1	10,000	1.2	1.4
HSK63A-DHE12-90	12	90	35	50	40	41~50.8	M5	1	10,000	1.2	1.4
HSK63A-DHE16-95	16	95	40	50	45	46~55.8	M10	1	10,000	1.3	1.5
HSK63A-DHE20-100	20	100	44	50	50	49~58.8	M10	1	10,000	1.4	1.7
HSK63A-DHE20-150	20	150	44	50	50	49~58.8	M10	1	10,000	2.2	2.4
HSK63A-DHE25-110	25	110	50	70	48	56~67.8	M16	2	10,000	2.0	1.9
HSK63A-DHE32-110	32	110	63	80	48	56~67.8	M16	2	10,000	2.0	2.3
HSK100A-DHE20-105	20	105	44	50	50	49~58.8	M10	1	8,000	2.9	3.2
HSK100A-DHE25-115	25	115	50	63	62	58~67.8	M16	1	8,000	3.2	3.6
HSK100A-DHE32-115	32	115	63	75	62	58~67.8	M16	1	8,000	3.8	4.2

HSK-DSC/M MONO TYPE

Shrinking chuck

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



※ This product does not support adjustable screw.

C Internal coolant system optional.

- For more information on the features of product, see **Page 23**.
- For more information on BT shank, see **Page 66**.
- For more information, see **Page 138** for ST shank and **Page 159** for SK shank.

23P ↗
66P ↗
138,159P ↗

HSK63A

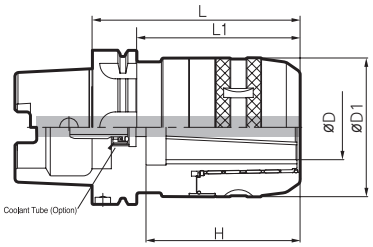
Designation	ØD	L	ØD1	ØD2	M	H	MAX. RPM	Kg	Total Weight (Kg)
HSK63A-DSC6M-95	6	95	10	26	42	73	20,000	0.6	0.8
HSK63A-DSC8M-95	8	95	13	36	42	39	20,000	0.8	1.0
HSK63A-DSC10M-120	10	120	16	36	67	45	20,000	0.8	1.0
HSK63A-DSC12M-120	12	120	19	36	67	45	20,000	0.9	1.1
HSK63A-DSC16M-120	16	120	24	50	67	47	20,000	1.1	1.3

HSK-NPM

New power milling chuck

DIN 69893-1 | 15㎛ | C | Milling | Drilling

Shank | Run-out | Coolant System | Milling | Drilling



- For more information on the features of product, see **Page 24**. 24P
- For more information on the related parts, see **Page 76**. 76P
- For more information, see **Page 72** for BT shank and **Page 160** for SK shank. 72,160P
- For more information on NT shank, see **Page 174.** 174P

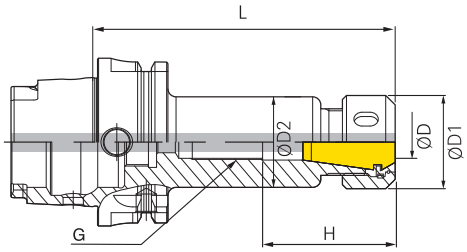
C Internal coolant system optional.

HSK63A, HSK100A

Designation	ØD	L	ØD1	L1	H	COLLET	Kg	Total Weight (Kg)
HSK63A-NPM20-100	20	100	54	74	75	DC20, DCS20	2.5	1.8
HSK63A-NPM32-120	32	110	75	84	90	DC32, DCS32	2.9	2.8
HSK100A-NPM32-130	32	130	75	101	90	DC32, DCS32	4.0	4.9

HSK-SDC/P

Collet chuck



- For more information on the product features, see **Page 28**. 28P
- For more information on the applicable collet, see **Page 80**. 80P
- For more information on the related parts, see **Page 87**. 87P
- For more information, see **Page 72** for BT shank and **Page 160** for SK shank. 78,161P

※ Use standard size of collet for oil hole type.

C Internal coolant system optional.

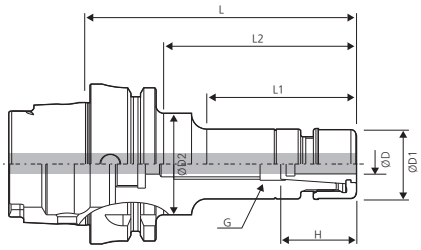
HSK63A, HSK100A

Designation	ØD	L	ØD1	ØD2	H	G	COLLET/STEP	Kg	Total Weight (Kg)
HSK63A-SDC10P-100	1.0~10.0	100	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	1.0	1.2
HSK63A-SDC16P-100	1.0~16.0	100	42	41	50	M7	GERC25/1.0	1.2	1.4
HSK63A-SDC20P-110	1.0~20.0	110	50	49	60	M7	GERC32/1.0	1.5	1.7
HSK100A-SDC16P-110	1.0~16.0	110	42	41	50	M13	GERC25/1.0	2.6	2.9
HSK100A-SDC20P-120	1.0~20.0	120	50	49	60	M10	GERC32/1.0	2.9	3.3

HSK-GSK

Great speed slim collet chuck

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



- For more information on the product features, see **Page 30**. 30P
- For more information on the applicable collet, see **Page 86**. 86P
- For more information on the related parts, see **Page 86**. 86P
- For more information, see **Page 82** for BT shank and **Page 162** for SK shank. 82,162P

※ Use coolant collet for coolant system.

C Internal coolant system is optional.

HSK63A, HSK100A

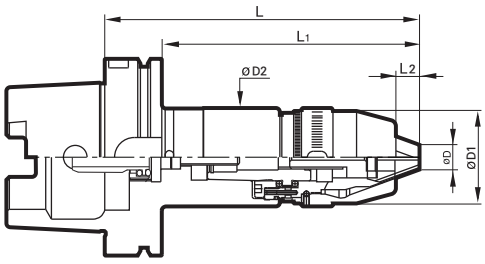
Designation	ØD (Clamping Range)	L	ØD1	ØD2	L1	L2	H	COLLET/ STEP	G	MAX. RPM	Kg	Total Weight (Kg)
HSK63A-GSK6-100	1.0~6.0	100	19.5	32	51	71	31	HC6/1.0	M8	20,000	0.8	1.0
HSK63A-GSK10-105	2.0~6.0	105	27	34.5	59	76	38	HC10/1.0	M12	20,000	0.9	1.2
HSK63A-GSK16-120	3.0~16.0	120	40	40	89	89	52	HC16/1.0	M18	20,000	1.3	1.5
HSK63A-GSK20-120	4.0~20.0	120	48	48	93	93	60	HC20/1.0	M22	20,000	1.6	1.8
HSK100A-GSK6-120	1.0~6.0	120	19.5	32	69	86	31	HC6/1.0	M8	15,000	2.2	2.6
HSK100A-GSK10-120	2.0~10.0	120	27	27	69	86	38	HC10/1.0	M12	15,000	2.3	2.7
HSK100A-GSK16-140	3.0~16.0	140	40	40	106	106	52	HC16/1.0	M18	15,000	2.7	3.1
HSK100A-GSK25-155	16.0~25.0	155	55	55	121	121	63.5	HC25/1.0	M28	15,000	3.6	4.0

HSK-NPU

Drill chuck

DIN 69893-1 | C | Drilling

Shank | Coolant System



C This product does not support internal coolant system.

- For more information on the related parts, see **Page 89**. 89P
- For more information, see **Page 88** for BT shank and **Page 163** for SK shank. 88,163P

HSK63A, HSK100A

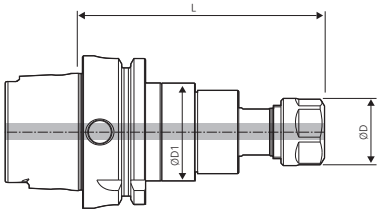
Designation	ØD(Clamping Range)	L	ØD1	L1	L2	Kg	Total Weight (Kg)
HSK63A-NPU13-175	1~13	175	50			2.4	2.6
HSK100A-NPU13-180	1~13	180	50			3.6	4.0

HSK-DST

High-speed synchro tapping chuck

DIN 69893-1 | G6.3 | C | Tapping

Shank | G value | Coolant System



- For more information on the product features, see **Page 35**. 35P
- For more information on TER collet, see **Page 93**. 93P
- For more information on ER collet, see **Page 80**. 80P
- For more information on BT shank, see **Page 92**. 92P
- For more information, see **Page 139** for ST shank and **Page 164** for SK shank. 139,164P

C Internal coolant system is optional.

HSK63A

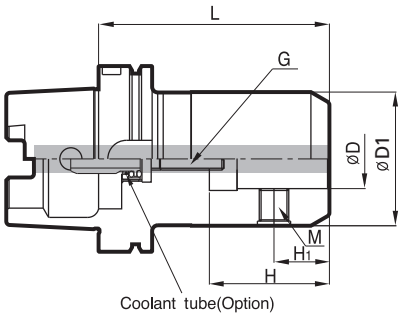
Designation	ØD	L	ØD1	Applied Collet	Boring Range	F-	F+	Kg	Total Weight (Kg)
HSK63A-DST3-80	19	80	20	ER11	M1~M3	0.5	0.5	0.7	0.8
HSK63A-DST10-100	28	100	40.4	TER16	M3~M10	0.5	0.5	0.9	1.2
HSK63A-DST22-130	49.5	130	60	TER32	M6~M22	0.7	0.7	1.8	2.0

HSK-SLA

Side lock arbor

MAS 403-BT | C | Milling | Drilling

Shank | Coolant System | Milling | Drilling



C Internal coolant system is optional.

• For more information, see **page 94** for BT shank and **page 165** for SK shank.

94,165P

HSK63A, HSK100A

Designation	ØD	L	ØD1	H	H1	M	G	Kg	Total Weight (Kg)
HSK63A-SLA20-100	20	100	52	51	25	M8	M12	1.6	1.8
HSK63A-SLA25-105	25	105	65	59	25	M8	M12	3.1	3.4
HSK63A-SLA32-105	32	105	72	63	30	M5	M12	2.3	2.6
HSK100A-SLA20-105	20	105	52	51	25	M16	M12	3.1	3.4
HSK100A-SLA25-110	25	110	65	59	25	M18	M12	3.7	4.0
HSK100A-SLA32-125	32	125	72	63	30	M20	M12	4.4	4.8

HSK-FMC

Face mill arbor

MAS 403-BT — Shank | C — Coolant System | Facing

Fig.1

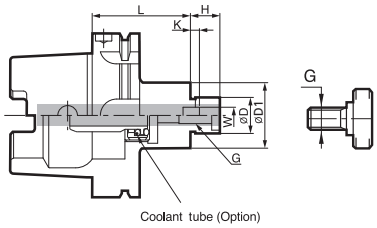


Fig.2

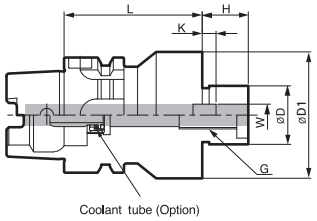
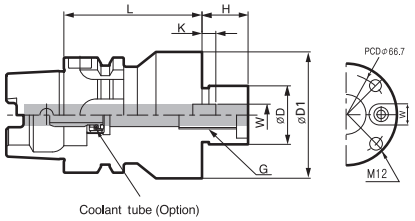


Fig.3



※ The weight of face cutter is not included.

C Internal coolant system is optional.

- For more information on the related parts, see **Page 99**.
- For more information, see **Page 97** for BT shank and **Page 166** for SK shank.

99P
97,166P

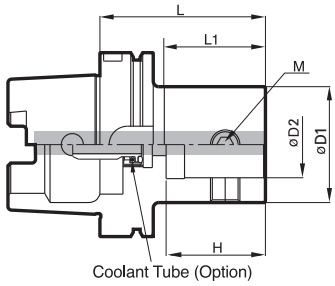
HSK50A, HSK63A

Designation	Cutter diameter	ØD	L	ØD1	H	W	K	G	Fig.	Kg	Total Weight (Kg)
HSK50A-FMC16-40	40	16	40	38	17	8	5	M8	1	0.4	0.7
HSK50A-FMC22-50	50/63	22	50	48	19	10	5.6	M10	1	0.4	0.9
HSK63A-FMC16-50	40	16	50	38	17	8	5.0	M8	1	0.8	1.0
HSK63A-FMC22-50	50/63	22	50	48	19	10	5.6	M10	1	1.0	1.2
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	1.8	1.9
HSK63A-FMC40-60	125/160	40	60	89	27	15.87	8.0	M20	3	2	2.5

HSK-MD

Basic holder

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



C Internal coolant system is optional.

- For more information on the related parts, see **Page 103**.
- For more information, see **Page 100** for HSK arbor and **Page 167** for SK arbor.

103P
100,167P

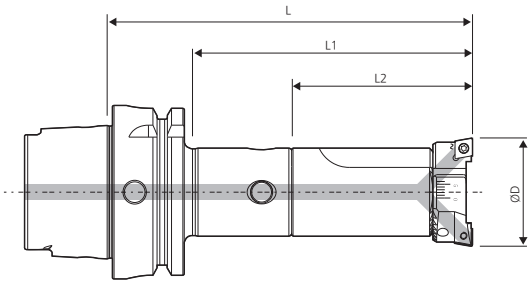
HSK63A

Designation	ØD1	L	ØD2	L1	H	M	Kg	Total Weight (Kg)
HSK63A-MD19F-60	19	60	11	31	15.5	M5	0.7	0.9
HSK63A-MD25F-60	25	60	14	31	18.5	M6	0.7	0.9
HSK63A-MD32F-65	32	65	18	36	23.5	M8	0.8	1.0
HSK63A-MD40F-70	40	70	22	41	29	M10	0.9	1.1
HSK63A-MD50F-85	50	85	28	58	36	M12	1.3	1.5
HSK63A-MD63F-95	63	95	36	69	46	M16	1.7	1.9

HSK-DBC

Balance cut tool (Modular type)

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



- For more information on the related parts, see **Page 111.**
- For more information, see **Page 110** for HSK arbor and **Page 171** for SK arbor.

111P
110,171P

C Internal coolant system is optional.

HSK63A

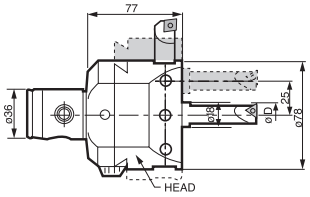
Designation				Boring range		L	MAX. boring depth(L1)	L2
Head set model No.	Kg	Body model No.	Kg	MIN.	MAX.			
DBC2528S	0.3	HSK63A-MD25F-60	1.8	28	35	120	90	60
DBC3235S	0.4	HSK63A-MD32F-65	2.3	35	46	130	100	65
DBC4046S	0.6	HSK63A-MD40F-70	2.6	46	58	140	110	70
DBC5058S	1.1	HSK63A-MD50F-85	2.7	58	74	165	135	80
DBC6374S	2.0	HSK63A-MD63F-95	3.3	74	94	185	155	90

HSK-KMB

Micro boring

DIN69871 -1A/B | C

Shank | Coolant System | Boring



1DIV = ø0.02mm

- For more information on the boring range, see **Page 114**. 114P
- For more information on the related parts, see **Page 115**. 115P
- For more information, see **Page 100** for BT arbor and **Page 167** for SK arbor. 100,167P

C This product does not support internal coolant system.

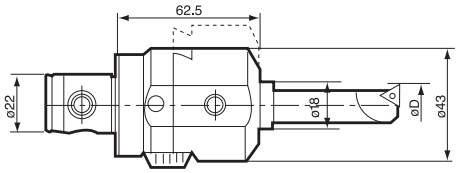
Boring head	Bite	ØC	L	Kg
KMB6336	BB18-□(S)	HSK□□-MD63F	77	2.2

HSK-SMB

Small micro boring bar_Small micro boring bar

DIN69871 -1A/B | C

Shank | Coolant System | Boring



1DIV = ø0.02mm

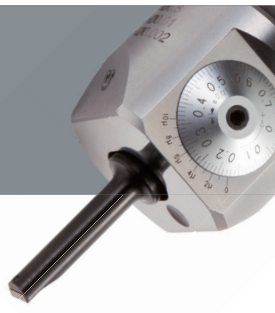
- For more information on boring range, see **Page 114** . 114P
- For more information on the related parts, see **Page 115**. 115P
- For more information, see **Page 100** for BT arbor and see **Page 167** for SK arbor. 100,167P

C This product does not support internal coolant system.

Boring head	Bite	ØC	L	Kg
SMB4022	BB18-□(S)	HSK□□-MD40F	62.5	0.6

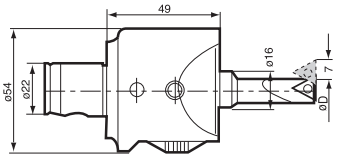
HSK-SMH

Small micro boring bar_Small micro boring bar (precision type)



DIN69871 -1A/B | C

Shank | Coolant System | Boring



1DIV = ø0.01mm

- For more information on boring range, see **Page 114**. 114P
- For more information on the related parts, see **Page 115**. 115P
- For more information, see **Page 100** for BT arbor and see **Page 167** for SK arbor. 100,167P

C This product does not support internal coolant system.

Boring head	Bite	ØC	L	Kg
SMH4022	BB16-□(S)	HSK□□-MD40F	49	0.7

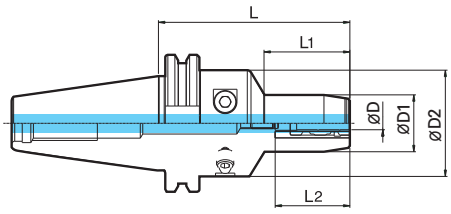
SK Shank

DINOX NC TOTAL TOOLING SYSTEM

SK-DHE

Hydraulic expansion chuck

DIN69871 -1A/B	G6.3	15,000	5㎛	C			
Shank	G value	Max RPM	Run-out	Coolant System	Milling	Reaming	Chamfering



- For more information on the product features, see **Page 22**. 22P
- For more information on the applicable collet, see **Page 62**. 62P
- For more information on the related parts, see **Page 63**. 63P
- For more information, see **Page 60** for BT shank and **Page 146** for HSK shank. 60,146P

- **L2**: Depth of tool insertion (Min.~Max.)

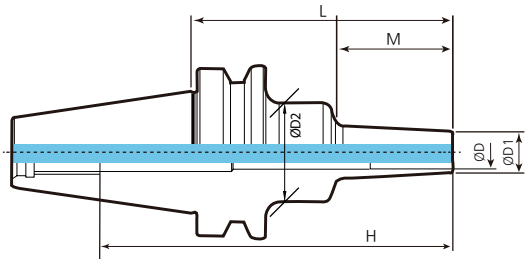
C Internal coolant system installed.

	Designation	ØD	L	ØD1	ØD2	L1	L2	ADJ SCREW	Fig.	MAX. RPM	Kg	Total Weight (Kg)
SK40	SK40-DHE6-90	6	90	29	50	40	30-39.8	M5	1	10,000	1.4	1.5
	SK40-DHE8-90	8	90	31	50	40	30-39.8	M5	1	10,000	1.4	1.5
	SK40-DHE10-90	10	90	33	50	40	35-44.8	M5	1	10,000	1.5	1.6
	SK40-DHE12-90	12	90	35	50	40	41~50.8	M10	1	10,000	1.5	1.7
	SK40-DHE12-140	12	140	35	50	40	41~50.8	M10	1	10,000	2.1	2.3
	SK40-DHE12-90	12	90	35	50	40	41~50.8	M10	1	10,000	1.5	1.7
	SK40-DHE12-140	12	140	35	50	40	41~50.8	M10	1	10,000	2.1	2.3
	SK40-DHE14-90	14	90	36	50	40	43~52.8	M10	1	10,000	1.4	1.6
	SK40-DHE16-90	16	90	40	50	45	46~55.8	M5	1	10,000	1.5	1.7
	SK40-DHE18-90	18	90	42	50	45	49~58.8	M5	1	10,000	1.5	1.7
	SK40-DHE20-90	20	90	44	50	50	49~58.8	M10	1	10,000	1.5	1.7
	SK40-DHE20-140	20	140	44	50	50	49~58.8	M10	1	10,000	2.1	2.4
SK50	SK50-DHE12-90	12	90	35	50	40	41~50.8	M10	1	8,000	3.2	3.5
	SK50-DHE14-90	14	90	36	50	40	43~52.8	M10	1	8,000	3.2	3.5
	SK50-DHE16-90	16	90	40	50	45	46~55.8	M10	1	8,000	3.3	3.5
	SK50-DHE18-90	18	90	42	50	40	49~58.8	M10	1	8,000	3.2	3.5
	SK50-DHE20-90	20	90	44	50	47	49~58.8	M10	1	8,000	3.2	3.5

SK-DSC/M MONO TYPE

Shrinking chuck

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



※ This product does not support adjust screw.

C Internal coolant system installed.

- For more information on the product features, see **Page 23**.
- For more information, see **Page 66** for BT shank and **Page 147** for HSK shank.

23P
66,147P

SK40

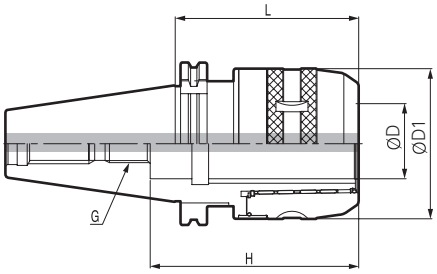
Designation	ØD	L	ØD1	ØD2	M	H	MAX. RPM	Kg	Total Weight (Kg)
SK40-DSC6M-95	6	95	10	26	42	131	20,000	0.8	1.0
SK40-DSC6M-120	6	120	10	26	67	156	20,000	0.8	1.1
SK40-DSC8M-95	8	95	13	36	42	131	20,000	1.4	1.6
SK40-DSC8M-120	8	120	13	36	67	156	20,000	1.0	1.2
SK40-DSC10M-95	10	95	16	36	42	131	20,000	1.0	1.2
SK40-DSC10M-120	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	1.0	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	1.3	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

SK-NPM

New power milling chuck

DIN69871 -1A/B | 15㎛ | 130~500 kgf·m | C | Milling | Drilling

Shank | Run-out | Clamping Force | Coolant System | Milling | Drilling



- For more information on the product features, see **Page 24**. 24P
- For more information on the applied collet, see **Page 74**. 74P
- For more information on the related parts, see **Page 76**. 76P
- For more information, see **Page 72** for BT shank and **Page 148** for HSK shank. 72,148P
- For more information on NT shank, see **Page 174**. 174P

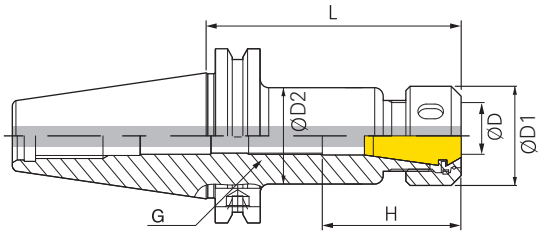
C Internal coolant system is optional.

SK40, SK50

Designation	ØD	L	ØD1	H	G	COLLET	Kg	Total Weight (Kg)
SK40-NPM20-95	20	95	54	85	M16	DC20, DSC20	2.7	2.9
SK40-NPM32-95	32	90	75	85	M16	DC32, DCS32	2.7	2.9
SK40-NPM32-110	32	110	75	95	M16	DC32, DCS32	2.7	3.0
SK40-NPM32-135	32	135	75	95	M16	DC32, DCS32	3.2	3.5
SK50-NPM20-100	20	100	54	85	M16	DC20, DSC20	3.6	3.9
SK50-NPM32-100	32	100	75	105	M24	DC32, DCS32	4.3	4.6
SK50-NPM32-130	32	130	75	105	M24	DC32, DCS32	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	6.0	6.4

SK-SDC/P

Precision collet chuck for multi purpose machining



※ Use correct size of collet for coolant-through.

C Internal coolant system optional.

- For more information on the product features, see **Page 28**. 28P
- For more information on the applicable collet, see **Page 80**. 80P
- For more information on the related parts, see **Page 87**. 87P
- For more information, see **Page 78** for BT shank and **Page 149** for HSK shank. 78,149P

SK40

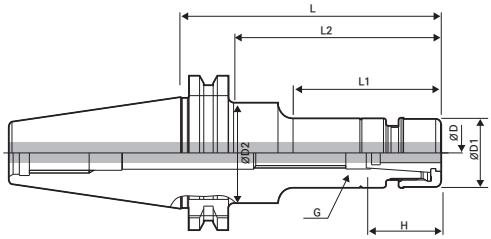
Designation	ØD	L	ØD1	ØD2	H	COLLET/STEP	G	Kg	Total Weight (Kg)
SK40-SDC10P-90	1.0~10.0	90	32	31	44.5	GERC16/1.0	M10	1.1	1.2
SK40-SDC13P-90	1.0~13.0	90	35	34	49	GERC20/1.0	M13	1.2	1.3
SK40-SDC13P-120	1.0~13.0	120	35	34	49	GERC20/1.0	M13	1.3	1.5
SK40-SDC16P-90	1.0~16.0	90	42	41	50	GERC25/1.0	M18	1.4	1.5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

SK-GSK

Great speed slim collet chuck

DIN69871 -1A/B | G2.5 | Ø25 | C | Milling | Drilling

Shank | G value | Max Dia | Coolant System | Milling | Drilling



※ Use coolant collet for coolant system.

C Internal coolant system is optional.

- For more information on the features of product, see **Page 30**.
- For more information, see **Page 82** for BT shank and **Page 150** for HSK shank.

30P ↗
82,150P ↗

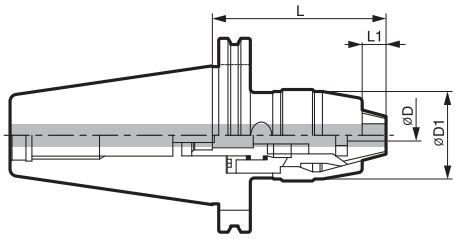
	Designation	ØD	L	ØD1	ØD2	L1	L2	H	Collet/Step	G	MAX. RPM	Kg	Total Weight (Kg)
SK40	SK40-GSK6-60	2.8~6.0	60	19.5	32	-	-	31	HC6/1.0	M8	20,000	0.8	1.0
	SK40-GSK6-90	2.8~6.0	90	19.5	32	51	61	31	HC6/1.0	M8	20,000	1.0	1.2
	SK40-GSK10-90	1.75~10.0	90	27	40	48	60	38	HC10/1.0	M12	20,000	1.1	1.3
	SK40-GSK10-150	1.75~10.0	150	27	34.5	73	118	38	HC10/1.0	M12	20,000	1.3	1.6
	SK40-GSK16-90	2.75~16.0	90	40	40	58	58	52	HC16/1.0	M18	20,000	1.2	1.4
	SK40-GSK16-150	2.75~16.0	150	40	40	118	118	52	HC16/1.0	M18	20,000	1.7	2.0
	SK40-GSK20-90	3.6~20.0	90	48	48	60	60	60	HC20/1.0	M22	20,000	1.3	1.5
	SK40-GSK25-90	7.6~25.0	90	55	55	61	61	63.5	HC25/1.0	M28	20,000	1.3	1.5
SK50	SK50-GSK6-105	2.8~6.0	105	19.5	32	55	64	31	HC6/1.0	M8	15,000	3.1	3.4
	SK50-GSK6-165	2.8~6.0	165	19.5	32	60	114	31	HC6/1.0	M8	15,000	3.3	3.7
	SK50-GSK10-105	1.75~10.0	105	27	27	57	57	38	HC10/1.0	M12	15,000	3.2	3.5
	SK50-GSK10-165	1.75~10.0	165	27	36	75	114	38	HC10/1.0	M12	15,000	3.4	3.8
	SK50-GSK16-105	2.75~16.0	105	40	40	62	62	52	HC16/1.0	M18	15,000	3.4	3.7
	SK50-GSK16-165	2.75~16.0	165	40	50	40	122	52	HC16/1.0	M18	15,000	3.9	4.3
	SK50-GSK20-105	1.75~10.0	105	48	40	62	62	60	HC20/1.0	M22	15,000	3.6	3.9
	SK50-GSK20-165	1.75~10.0	165	48	40	122	122	60	HC20/1.0	M22	15,000	4.3	4.7
	SK50-GSK25-105	7.6~25.0	105	55	55	62	62	63.5	HC25/1.0	M28	15,000	3.7	4.0
	SK50-GSK25-165	7.6~25.0	165	55	55	122	122	63.5	HC25/1.0	M28	15,000	4.6	5.0

SK-NPU

Drill chuck

DIN69871 -1A/B | C | Drilling

Shank | Coolant System



C This product does not support internal coolant system.

- For more information on the related parts, see **Page 89**.
- For more information, see **Page 88** for BT shank and **Page 151** for HSK shank.

89P
88,151P

SK40, SK50

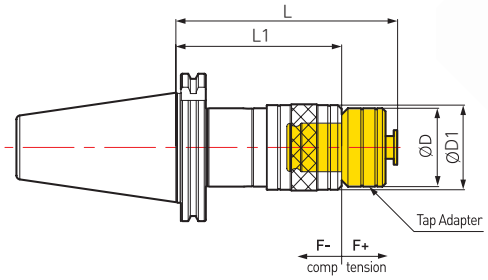
Designation	ØD	ØD1	L	L1	Kg	Total Weight (Kg)
SK40-NPU13-105	1~13	50	105	12.5	1.6	1.8
SK50-NPU13-111	1~13	50	111	12.5	3.6	3.9

SK-DTN

Tapping holder

DIN69871 -1A/B | C | Tapping

Shank | Coolant System



C This product does not support internal coolant system.

- For more information on the product features, see **Page 34**.
- For more information on the applied adapter, see **Page 91**.
- For more information, see **Page 90** for BT shank and **Page 144** for S shank.

34P
91P
90,144P

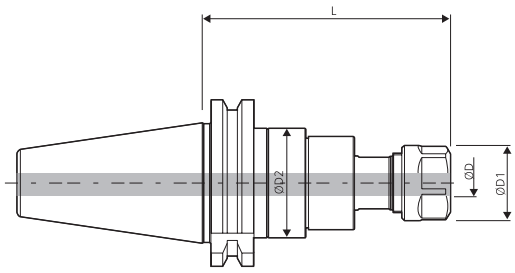
SK40, SK50

Designation	Tap Size	L	L1	ØD	ØD1	Applied Adapter	F-	F+	Kg	Total Weight (Kg)
SK40-DTN12-90	M3~M12	90	65	32	39	TCA1-M	4	10	1.0	1.2
SK40-DTN22-130	M8~M22	130	96	50	56	TCA2-M	12.5	12.5	1.6	1.8
SK50-DTN12-100	M3~M12	100	75	32	39	TCA1-M	4	10	2.9	3.2
SK50-DTN22-140	M8~M22	140	106	50	56	TCA2-M	12.5	12.5	3.5	3.9

SK-DST

High speed synchro tapping chuck

DIN69871 -1A/B (Shank) | G6.3 (G value) | C (Coolant System) | Tapping



- For more information on the features of product, see **Page 35**. 35P
- For more information on TER collet, see **Page 93**. 93P
- For more information on ER collet, see **Page 80**. 80P
- For more information on BT shank, see **Page 92**. 92P
- For more information, see **Page 139** for ST shank and **Page 151** for HSK shank. 139,151P

C Internal coolant system is optional.

SK30, SK40, SK50

Designation	ØD	ØD1	L	ØD2	Applied Collet	F-	F+	Kg	Total Weight (Kg)
SK30-DST3-70	M1~M3	19	70	20	ER11	0.2	0.2	0.4	0.5
SK40-DST3-70	M1~M3	19	70	20	ER11	0.2	0.2	1.0	1.1
SK40-DST10-110	M3~M10	28	110	35	TER16	0.5	0.5	1.2	1.4
SK40-DST22-120	M6~M22	50	120	54	TER32	0.7	0.7	1.8	2.1
SK50-DST10-110	M3~M10	28	110	35	TER16	0.5	0.5	2.9	3.3
SK50-DST22-120	M6~M22	50	120	54	TER32	0.7	0.7	3.6	4.0

SK-SLA

Side lock arbor

DIN69871 -1A/B | C | Milling | Drilling

Shank | Coolant System | Milling | Drilling

Fig.1

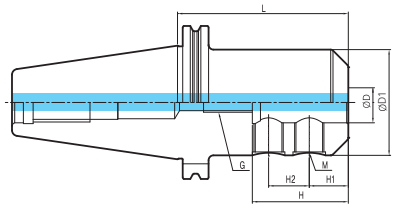
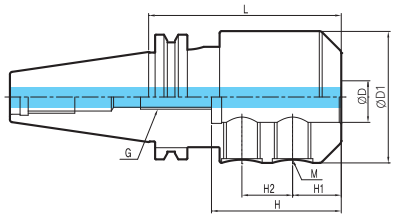


Fig.2



- For more information on the related parts, see **Page 95**. 95P
- For more information, see **Page 94** for BT shank and **Page 152** for HSK shank. 94,152P

C Internal coolant system installed.

SK40, SK50

Designation	ØD	L	ØD1	H	H1	H2	M	G	Fig.	Kg	Total Weight (Kg)
SK40-SLA16-75	16	75	48	49	24	-	M14	M12	-	1.4	1.6
SK40-SLA20-75	20	75	52	51	25	-	M16	M12	-	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	2.7	2.9
SK50-SLA16-90	16	90	48	49	24	-	M14	M12	-	3.3	3.5
SK50-SLA20-90	20	90	52	51	25	-	M16	M12	-	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	5.5	5.9

SK-FMC

Facemill arbor

C Coolant System

Facing

Fig.1

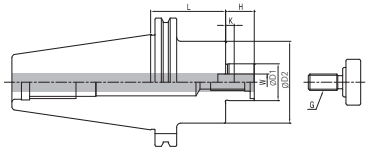


Fig.2

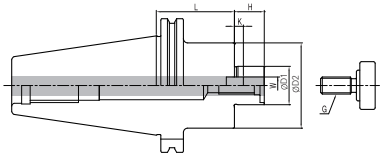
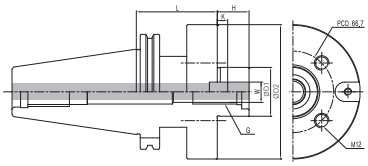


Fig.3



※ Weight of face cutter is not included.

C Internal coolant system is optional.

- For more information on the related parts, see **Page 99**.
- For more information, see **Page 97** for BT shank and **Page 153** for HSK shank.

99P
97,153P

	Designation	Cutter diameter	ØD1	L	ØD2	H	W	K	G	Fig.	Kg	Total Weight (Kg)
SK30, SK40	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-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

SK-MD

Basic holder

DIN69871 -1A/B (Shank) | G6.3 (G value) | C (Coolant System)

Fig.1

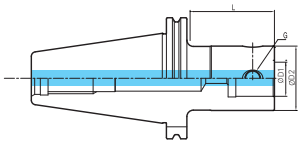


Fig.2

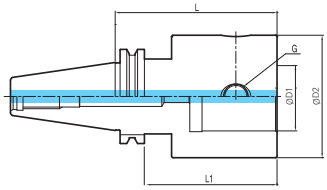
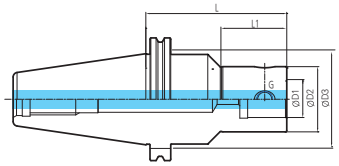


Fig.3



C Internal coolant system installed.

- For more information on the related parts, see **Page 102**. 102P
- For more information, see **Page 100** for BT shank and **Page 154** for HSK shank. 100,154P

	Designation	ØD1	L	ØD2	ØD3	L1	G	Fig.	Kg	Total Weight (Kg)
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	-	80	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

SK-MTA

Morse taper arbor

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

Fig.1

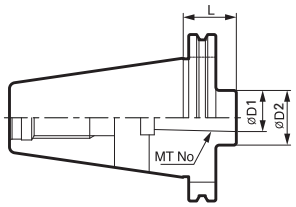
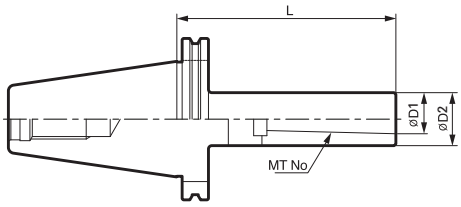


Fig.2



C This product does not support the internal coolant system.

- Morse taper shank tool (holder for drill) and reamer.

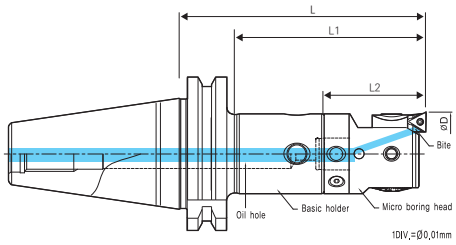
SK50

Designation	MT No.	L	ØD1	ØD2	Kg	Fig.	Kg	Total Weight (Kg)
SK50-MTA3-45	3	45	23.825	40	3.8	1	2.7	3.0
SK50-MTA3-150	3	150	23.825	40	4.6	2	3.6	4.0
SK50-MTA4-75	4	75	31.267	50	3.9	1	2.9	3.2

SK-FBH/B

Micro boring bar (balanced type)

DIN69871 -1A/B (Shank) | G6.3 (G value) | C (Coolant System) | Boring



- For more information on the product features, see **Page 38**. 38P
- For more information on the related parts, see **Page 105**. 105P
- For more information, see **Page 104** for BT shank and **Page 142** for S shank. 104,142P

C Internal coolant system installed.

	Designation			Boring range		L	L1	L2	Kg (Head)	Total Weight (Kg) (Head)
	Head model No.	Bite model No.	Body model No.	MIN.	MAX.					
SK40	FBH1920B	FBB20N-□-□□	SK40-MD19F-80R	20(24)	26(30)	115.35	47.35	31.7	0.2	0.2
	FBH2526B	FBB26N-□-□□	SK40-MD25F-80R	26(32)	34(40)	120.85	62.85	37	0.2	0.2
	FBH3233B	FBB33N-□-□□	SK40-MD32F-115R	33(40)	43(50)	155.9	76.9	38	0.3	0.3
	FBH4042B	FBB42N-□-□□	SK40-MD40F-100	42(50)	54(62)	150.5	129.4	46.5	0.5	0.5
	FBH5053B	FBB53N-□-□□	SK40-MD50F-100	53(65)	70(82)	158.35	139.25	54	0.8	0.9
	FBH6368B	FBB68N-□-□□	SK40-MD63F-70	68(90)	100(122)	150.6	131.5	76	2.1	2.3
	FBH6398B	FBB68N-□-□□	SK40-MD63F-70	98(120)	150(172)	170.6	151.5	96	3.6	3.8
SK50	FBH1920B	FBB20N-□-□□	SK50-MD19F-85R	20(24)	26(30)	120.35	47.35	31.7	0.2	0.2
	FBH2526B	FBB26N-□-□□	SK50-MD25F-105R	26(32)	34(40)	145.85	62.85	37	0.2	0.2
	FBH3233B	FBB33N-□-□□	SK50-MD32F-110	33(40)	43(50)	150.9	128.8	38	0.3	0.3
	FBH4042B	FBB42N-□-□□	SK50MD40F-145	42(50)	54(62)	195.5	171.4	46.5	0.5	0.5
	FBH5053B	FBB53N-□-□□	SK50-MD50F-240R	53(65)	70(82)	298.35	183.35	54	0.8	0.9
	FBH6368B	FBB68N-□-□□	SK50-MD63F-130	68(90)	100(122)	210.6	188.5	76	2.1	2.3
	FBH6398B	FBB68N-□-□□	SK50-MD63F-130	98(120)	150(172)	230.6	211.5	96	3.6	3.8
	FBH8098B	FBB68N-□-□□	SK50-MD80F-150	98(120)	150(172)	250.6	231.5	96	4.5	4.8

- The user can adjust the depth of boring with a combination of MD extension bars. For more information, see EXT page.
- FBB Bite is largely divided into general-type FBB□□N and extended-type FBB□□N-1 and is available as FBBOON-□-C09, T11 depending on the insert.

FBB□□ N, FBB□□N-1: TPGT, TPGW0802□□L

FBB□□N-□-C: CCMT,CCGT0602□□L

FBB□□N-□-C09:CCMT,CCGT09T3□□L

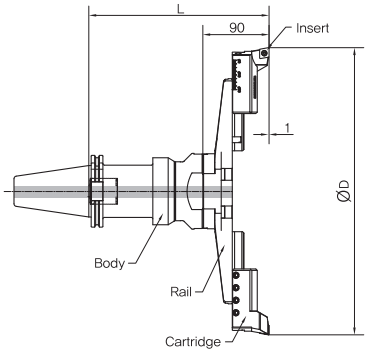
FBB□□N-□-T11:TPGT1103□□L

SK-FBC,TBC

Balance cut tool for rough boring

DIN69871 -1A/B — Shank

C — Coolant System



- For more information on the product features, see **Page 36**. 36P
- For more information on the related parts, see **Page 108**. 108P
- For more information on BT arbor, see **Page 106**. 106P

C Internal coolant system is optional.

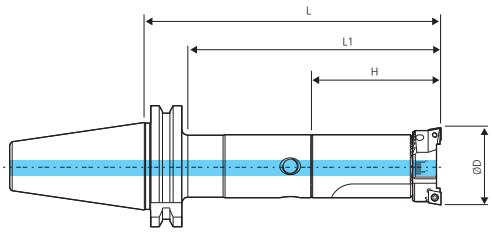
Designation								Boring range	
Body	Kg	Rough boring(TBC)			Finishing boring(FBC)				
		TBC HEAD SET (rail+cartridge)	L	Kg	FBC HEAD SET (rail+cartridge+balancing block)	L	Kg	MIN.	MAX.
SK50-FMD50-155	7.9	TBC130S (TBR130+BCC1348)	245	3.5	FBC130S (TBR130+FCC130+FCB130)	252	3.8	130	180
SK50-FMD50-255	10.4	TBC130S (TBR130+BCC1348)	345	3.5	FBC130S (TBR130+FCC130+FCB130)	352	3.8	130	180
SK50-FMD50-155	7.9	TBC175S (TBR175+BCC1348)	245	3.9	FBC175S (TBR175+FCC130+FCB130)	252	4.1	175	225
SK50-FMD50-255	10.4	TBC175S (TBR175+BCC1348)	345	3.9	FBC175S (TBR175+FCC130+FCB130)	352	4.1	175	225
SK50-FMD50-155	7.9	TBC220S (TBR220+BCC1348)	245	4.3	FBC220S (TBR220+FCC130+FCB130)	252	4.5	220	270
SK50-FMD50-255	10.4	TBC220S (TBR220+BCC1348)	345	4.3	FBC220S (TBR220+FCC130+FCB130)	352	4.5	220	270
SK50-FMD50-155	7.9	TBC265S (TBR265+BCC1348)	245	4.5	FBC265S (TBR265+FCC130+FCB130)	252	4.6	265	315
SK50-FMD50-255	10.4	TBC265S (TBR265+BCC1348)	345	4.5	FBC265S (TBR265+FCC130+FCB130)	352	4.6	265	315
SK50-FMD50-155	7.9	TBC310S (TBR310+BCC1354)	245	5.5	FBC310S (TBR310+FCC310+FCB310)	252	5.5	310	390
SK50-FMD50-255	10.4	TBC310S (TBR310+BCC1354)	345	5.5	FBC310S (TBR310+FCC310+FCB310)	352	5.5	310	390
SK50-FMD50-155	7.9	TBC385S (TBR385+BCC1354)	245	5.8	FBC385S (TBR385+FCC310+FCB310)	252	5.8	385	465
SK50-FMD50-255	10.4	TBC385S (TBR385+BCC1354)	345	5.8	FBC385S (TBR385+FCC310+FCB310)	352	5.8	385	465
SK50-FMD50-155	7.9	TBC460S (TBR460+BCC1354)	245	12.8	FBC460S (TBR460+FCC310+FCB310)	252	12.8	460	540
SK50-FMD50-255	10.4	TBC460S (TBR460+BCC1354)	345	12.8	FBC460S (TBR460+FCC310+FCB310)	352	12.8	460	540

SK-DBC

Balance cut tool (Modular type)

DIN69871 -1A/B | C | Boring

Shank | Coolant System | Boring



※ The user can adjust the depth of boring with a combination of MD arbors and extension bars.

C Internal coolant system installed.

- For more information on the related parts, see **Page 111**.
- For more information, see **Page 110** for BT arbor and **Page 155** for HSK arbor.

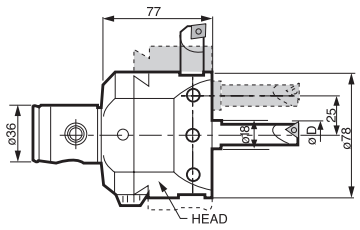
111P
110,155P

Designation				Boring range		L	MAX. boring depth (L1)	H
Head set model No.	Kg	Body model No.	Kg	MIN.	MAX.			
DBC2528S	0.3	SK40-MD25F-80R	1.8	28	35	130	82	60
DBC3235S	0.4	SK40-MD32F-115R	2.3	35	46	180	91	65
DBC4046S	0.6	SK40-MD40F-100R	2.6	46	58	170	130	70
DBC5058S	1.1	SK40-MD50F-100	2.7	58	74	180	158	80
DBC2528S	0.3	SK50-MD25F-105R	4.7	28	35	155	82	60
DBC3235S	0.4	SK50-MD32F-110R	5.1	35	46	175	101	65
DBC4046S	0.6	SK50-MD40F-145	5.3	46	58	215	190	70
DBC5058S	1.1	SK50-MD50F-240R	6.8	58	74	320	205	80
DBC6374S	2	SK50-MD63F-130	5.8	74	94	220	197	90
DBC8094S	3.5	SK50-MD80F-150	9.5	94	120	250	229	100
DBC120S	5.3	SK50-MD80F-150	9.5	120	175	250	229	100

SK-KMB

Micro boring

C Coolant System Boring



1DIV = ø0.02mm

C This product does not support internal coolant system.

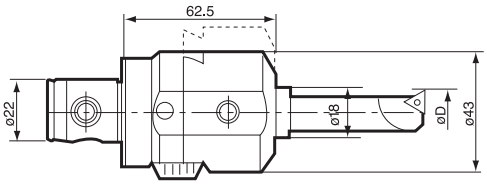
- For more information on boring range, see **Page 114**. 114P
- For more information on the related parts, see **Page 115**. 115P
- For more information, see **Page 112** for BT arbor and **Page 156** for HSK arbor. 112,156P

Boring head	Bite	Designation	L(length of head\)	Kg
KMB6336	BB18-□(S)	SK□□-MD63F	77	2.2

SK-SMB

Small micro boring bar

C Coolant System Boring



1DIV = ø0.02mm

C This product does not support internal coolant system.

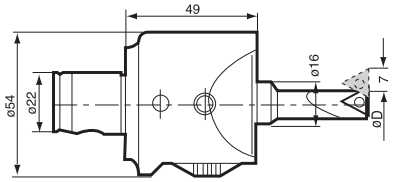
- For more information on boring range, see **Page 114**. 114P
- For more information on the related parts, see **Page 115**. 115P
- For more information, see **Page 112** for BT arbor and **Page 156** for HSK arbor. 112,156P

Boring head	Bite	Designation	L(length of head)	Kg
SMB4022	BB18-□(S)	SK□□-MD40F	62.5	0.6

SK-SMH

Small micro boring bar (precision type)

C Coolant System Boring



1DIV = ø0.01mm

C This product does not support internal coolant system.

- For more information on boring range, see **Page 114**. 114P
- For more information on the related parts, see **Page 115**. 115P
- For more information, see **Page 112** for BT arbor and **Page 156** for HSK arbor. 112,156P

Boring head	Bite	Designation	L(length of head)	Kg
SMH4022	BB16-□(S)	SK□□-MD40F	49	0.7

NT Shank

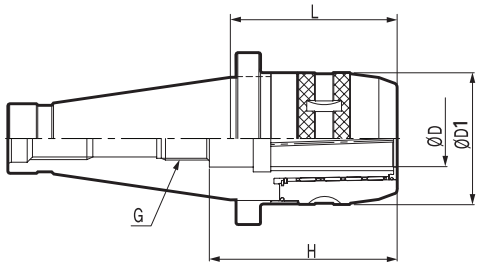
DINOX NC TOTAL TOOLING SYSTEM

NT-NPM

New power milling chuck

DIN2080 JISB6101 | 15㎛ | C | Drilling | Milling

Shank | Run-out | Coolant System



- For more information on the product features, see **Page 24**. 24P
- For more information on the applicable collet, see **Page 74**. 74P
- For more information on the related parts, see **Page 77**. 77P
- For more information on BT shank, see **Page 72**. 72P
- For more information, see **Page 148** for HSK shank and **Page 160** for SK shank. 148,160P

C This product does not support the internal coolant system.

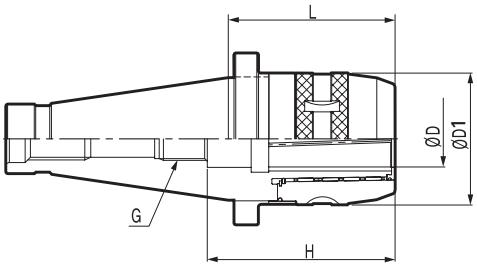
Designation	ØD	L	ØD1	G	COLLET	Kg	Total Weight (Kg)
NT40-NPM32-95	32	95	75	U5/8"-11	DC32,DCS32	2.7	2.9
NT50-NPM32-95	32	95	75	U1"-8	DC32,DCS32	4.3	4.6
NT50M-NPM32-95	32	95	75	M24	DC32,DCS32	4.4	4.7
NT50-NPM42-95	42	95	90	U1"-8	DC42,DCS42	4.8	5.1
NT50M-NPM42-95	42	95	90	M24	DC42,DCS42	4.9	5.2

NT-NPM SET

New power milling chuck set.

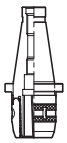
DIN2080 JISB6101 | 15㎛ | C | Drilling | Milling

Shank | Run-out | Coolant System | Drilling | Milling



C This product does not support internal coolant system.

- For more information on the features of product, see **Page 24**. 24P
- For more information on BT shank, see **Page 73**. 73P

Designation	Body	Collet	MT collet	DJT	Spanner	Kg	Total Weight (Kg)
							
NT40-NPM32-95(B)	NT40-NPM32-95	DC32-6, 8, 10, 12, 16, 20, 25	TC32-MT1,2,3	DJT32-6	75-79	6.4	7.1
NT50-NPM32-95(B)	NT50-NPM32-95	DC32-6, 8, 10, 12, 16, 20, 25	TC32-MT1,2,3	DJT32-6	75-79	7.7	10.0
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	12.7	15.2

NT-FMA

Face mill arbor

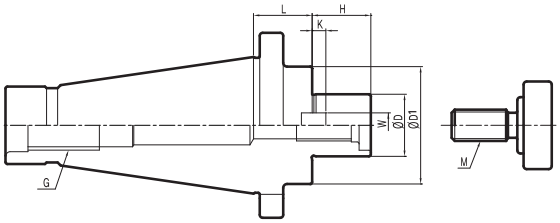
DIN2080
JISB6101

Shank

C

Coolant System

Facing



※ The weight of face cutter is not included.

C This product does not support internal coolant system.

• For more information on BT shank, see **Page 96**. 96P

NT40, NT50

Designation	Cutter diameter	ØD	L	ØD1	H	M	W	K	G	Kg	Total Weight (Kg)
NT40-FMA25.4-25	80	25.4	25	50	22	M12	9.5	5	M16	1.1	1.3
NT40-FMA31.75-25	100	31.75	25	60	30	M16	12.7	7	M16	1.2	1.4
NT40U-FMA38.1-25	125	38.1	25	80	34	M20	15.87	9	M16	1.8	2.0
NT40U-FMA50.8-25	160	50.8	25	100	36	M24	19.05	10	M16	2.8	3.0
NT50-FMA25.4-25	80	25.4	23.2	50	22	M12	9.5	5	M24	3.0	3.3
NT50-FMA31.75-30	100	31.75	26.2	60	30	M16	12.7	7	M24	3.2	3.5
NT50-FMA38.1-30	125	38.1	25.2	80	34	M20	15.87	9	M24	3.5	3.8
NT50-FMA50.8-30	160	50.8	27.2	100	36	M24	19.05	10	M24	4.2	4.5
NT50U-FMA47.625-25	200	47.625	27.2	128	38	-	25.4	12.5	M24	5.3	5.6

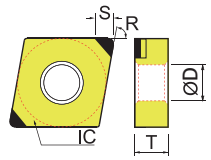
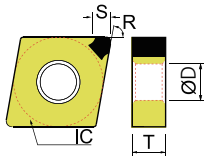
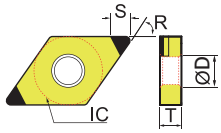
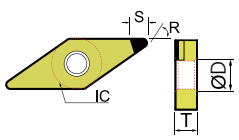
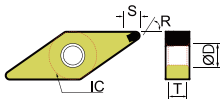
cBN
PCD

DINOX NC TOTAL TOOLING SYSTEM

cBN Series

cBN Multi-corner type (negative/positive)

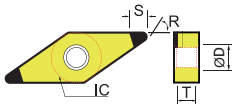
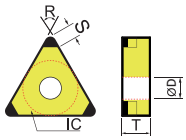
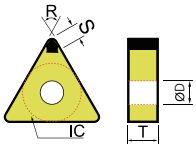
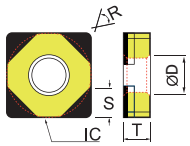
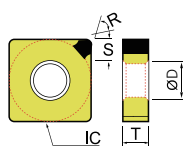
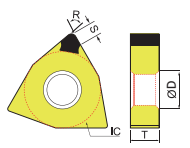
※ T-2NU-□□□□△△△△△△model no. means packing unit (10ea).

Shape	Designation	Grade														S (Length of Cutting Edge)	IC (Inscribed Circle)	T (Thickness)	R (NoseR)	ØD (Hole dia.)	g	Packing Unit
		DNC100	DNC250	DNC350	DNC400	KB1000	KB2000	KB320	KB335	KB350	KB360	KB370	KB400	KB410	KB420	KB425							
	T-2NU-CNGA120404		●														2.6	12.7	4.76	0.4	5.16	9.9	10
	2NU-CNGA120404		●	●								●					2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CNGA120404F		●														2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CNGA120404T		●														2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CNGA120404W		●														2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CNGA120404WF		●														2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CNGA120408		●	●				●				●					2.6	12.7	4.76	0.8	5.16	9.9	1
	T-2NU-CNGA120408		●	●													2.6	12.7	4.76	0.8	5.16	9.9	10
	2NU-CNGA120408F		●														2.6	12.7	4.76	0.8	5.16	9.9	1
	2NU-CNGA120408T		●														2.6	12.7	4.76	0.8	5.16	9.9	1
	2NU-CNGA120408W		●	●													2.6	12.7	4.76	0.8	5.16	9.9	1
	2NU-CNGA120412		●	●								●					2.6	12.7	4.76	1.2	5.16	9.9	1
	2NU-CNGA120412F		●														2.6	12.7	4.76	1.2	5.16	9.9	1
	2NU-CNGA120412T		●														2.6	12.7	4.76	1.2	5.16	9.9	1
	2NU-CNGA120412W		●														2.6	12.7	4.76	1.2	5.16	9.9	1
	2NU-CNGA120412WF		●														2.6	12.7	4.76	1.2	5.16	9.9	1
	2NU-CNMA120408							●									2.6	12.7	4.76	1.2	5.16	9.9	1
	2NS-CNGA120408				●												2.6	12.7	4.76	1.2	5.16	9.9	1
	2NU-DNGA150404		●	●								●					2.6	12.7	4.76	0.4	5.16	12.3	1
	2NU-DNGA150404F		●														2.6	12.7	4.76	0.4	5.16	12.3	1
	2NU-DNGA150404T		●														2.6	12.7	4.76	0.4	5.16	12.3	1
	2NU-DNGA150408		●	●								●					2.2	12.7	4.76	0.8	5.16	12.3	1
	2NU-DNGA150408F		●														2.2	12.7	4.76	0.8	5.16	12.3	1
	2NU-DNGA150408T		●														2.2	12.7	4.76	0.8	5.16	12.3	1
	2NU-DNGA150412		●	●													2.5	12.7	4.76	1.2	5.16	12.3	1
	2NU-DNGA150412F		●														2.5	12.7	4.76	1.2	5.16	12.3	1
	2NU-DNGA150412T		●														2.5	12.7	4.76	1.2	5.16	12.3	1
	VNGA160404														●		3.5	9.525	4.76	0.4	3.18	10.2	1
	2NS-VNGA160408				●												2.6	9.525	4.76	0.8	3.81	10.2	1

cBN Series

cBN Multi-corner type (negative/positive)

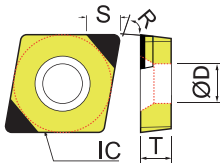
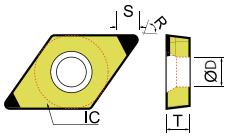
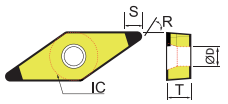
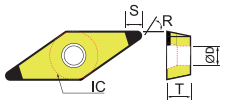
※ T-2NU-□□□□△△△△△△model no. means packing unit (10ea).

Shape	Designation	Grade														S (Length of Cutting Edge)	IC (Inscribed Circle)	T (Thickness)	R (NoseR)	ØD (Hole dia.)	g	Packing Unit
		DNC100	DNC250	DNC350	DNC400	KB1000	KB2000	KB320	KB335	KB350	KB360	KB370	KB400	KB410	KB420	KB425							
	2NU-VNGA160404		●	●								●					3.5	9.525	4.76	0.4	3.81	10.2	1
	2NU-VNGA160404F		●														3.5	9.525	4.76	0.4	3.81	10.2	1
	2NU-VNGA160404T		●														3.5	9.525	4.76	0.4	3.81	10.2	1
	T-2NU-VNGA160408		●														2.6	9.525	4.76	0.8	3.81	10.2	10
	2NU-VNGA160408		●	●				●									2.6	9.525	4.76	0.8	3.81	10.2	1
	2NU-VNGA160408F		●														2.6	9.525	4.76	0.8	3.81	10.2	1
	2NU-VNGA160408T		●														2.6	9.525	4.76	0.8	3.81	10.2	1
	3NU-TNGA160404		●	●													2.5	9.525	4.76	0.4	3.81	7.2	1
	3NU-TNGA160404F		●														2.5	9.525	4.76	0.4	3.81	7.2	1
	3NU-TNGA160404T		●														2.5	9.525	4.76	0.4	3.81	7.2	1
	3NU-TNGA160408		●	●								●				●	2.3	9.525	4.76	0.8	3.81	7.2	1
	3NU-TNGA160408F		●														2.3	9.525	4.76	0.8	3.81	7.2	1
	3NU-TNGA160408T		●														2.3	9.525	4.76	0.8	3.81	7.2	1
	3NU-TNGA160412			●													2.0	9.525	4.76	1.2	3.81	7.2	1
	2NS-TNGA160408				●												2.3	9.525	4.76	0.8	3.81	7.2	1
	4NU-SNGA120404		●														3.1	12.7	4.76	0.4	5.16	9.9	1
	4NU-SNGA120408		●														3.1	12.7	4.76	0.8	5.16	9.9	1
	2NS-SNGA120408				●												3.1	12.7	4.76	0.8	5.16	9.9	1
	2NS-WNGA080408				●												2.4	12.7	4.76	0.8	5.16	10.0	1

cBN Series

cBN Multi-corner type (negative/positive)

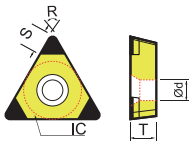
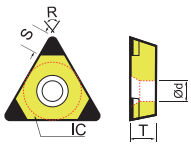
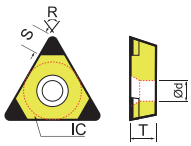
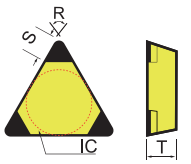
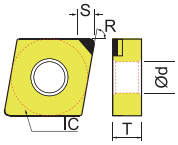
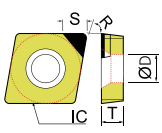
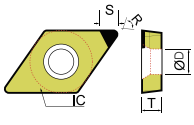
※ T-2NU-□□□□△△△△△△model no. means packing unit (10ea).

Shape	Designation	Grade															S (Length of Cutting Edge)	IC (Inscribed Circle)	T (Thickness)	R (NoseR)	ØD (Hole dia.)	g	Packing Unit
		DNC100	DNC250	DNC350	DNC400	KB1000	KB2000	KB320	KB335	KB350	KB360	KB370	KB400	KB410	KB420	KB425							
	2NU-CCGW060202		●														2.6	12.7	4.76	0.4	5.16		10
	2NU-CCGW060202F		●														2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CCGW060202T		●														2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CCGW060204		●									●					2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CCGW060204F		●														2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CCGW060204T		●														2.7	12.7	4.76	0.4	5.16	9.9	1
	2NU-CCGW09T304		●	●													2.6	12.7	4.76	0.8	5.16	9.9	1
	2NU-CCGW09T304F		●														2.6	12.7	4.76	0.8	5.16	9.9	10
	2NU-CCGW09T304T		●														2.6	12.7	4.76	0.8	5.16	9.9	1
	2NU-CCGW09T308		●	●													2.6	12.7	4.76	0.8	5.16	9.9	1
	2NU-CCGW09T308F		●														2.6	12.7	4.76	0.8	5.16	9.9	1
	2NU-CCGW09T308T		●														2.6	12.7	4.76	1.2	5.16	9.9	1
	2NU-CCGW09T308W		●														2.6	12.7	4.76	1.2	5.16	9.9	1
	2NU-CCGW09T308WF		●														2.6	12.7	4.76	1.2	5.16	9.9	1
																	2.6	12.7	4.76	1.2	5.16	9.9	1
																	2.6	12.7	4.76	1.2	5.16	9.9	1
																	2.6	12.7	4.76	1.2	5.16	9.9	1
	T-2NU-DCGW11T304		●														2.6	9.525	3.97	0.4	4.4	4.8	10
	2NU-DCGW11T304		●	●								●					2.6	9.525	3.97	0.4	4.4	4.8	1
	2NU-DCGW11T304F		●														2.6	9.525	3.97	0.4	4.4	4.8	1
	2NU-DCGW11T304T		●														2.6	9.525	3.97	0.4	4.4	4.8	1
	T-2NU-DCGW11T308		●	●													2.2	9.525	3.97	0.8	4.4	4.8	10
	2NU-DCGW11T308		●	●													2.2	9.525	3.97	0.8	4.4	4.8	1
	2NU-DCGW11T308F		●														2.2	9.525	3.97	0.8	4.4	4.8	1
	2NU-DCGW11T308T		●																				
	2NU-VBGW160404		●	●				●									3.5	9.525	4.76	0.4	4.4	8.6	1
	2NU-VBGW160404F		●														3.5	9.525	4.76	0.4	4.4	8.6	1
	2NU-VBGW160408		●	●													2.6	9.525	4.76	0.8	4.4	8.6	1
	2NU-VBGW160408F		●														2.6	9.525	4.76	0.8	4.4	8.6	1
	T-2NU-VBGW160408			●													2.6	9.525	4.76	0.8	4.4	8.6	10
	T-2NU-VCGW160404		●														3.5	9.525	4.76	0.4	4.4	8.6	10
	2NU-VCGW160404		●	●													3.5	9.525	4.76	0.4	4.4	8.6	1
	2NU-VCGW160404F		●														3.5	9.525	4.76	0.4	4.4	8.6	1
	2NU-VCGW160404T		●														3.5	9.525	4.76	0.4	4.4	8.6	1
	T-2NU-VCGW160408		●														2.6	9.525	4.76	0.8	4.4	8.6	10
	2NU-VCGW160408		●														2.6	9.525	4.76	0.8	4.4	8.6	1
	2NU-VCGW160408T		●														2.6	9.525	4.76	0.8	4.4	8.6	1
	2NU-VCGW160408F		●														2.6	9.525	4.76	0.8	4.4	8.6	1

cBN Series

cBN Multi-corner type (negative/positive)

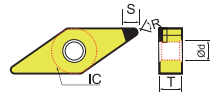
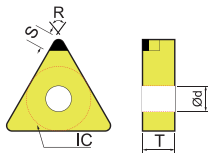
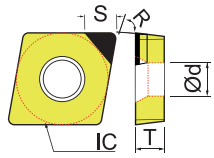
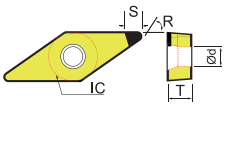
※ T-2NU-□□□□△△△△△△model no. means packing unit (10ea).

Shape	Designation	Grade														S (Length of Cutting Edge)	IC (Inscribed Circle)	T (Thickness)	R (NoseR)	ØD (Hole dia.)	g	Packing Unit
		DNC100	DNC250	DNC350	DNC400	KB1000	KB2000	KB320	KB335	KB350	KB360	KB370	KB400	KB410	KB420	KB425							
	3NU-TCGW090204		●														2.5	5.56	2.38	0.4	2.5	1.6	1
	3NU-TCGW090204F		●														2.5	5.56	2.38	0.4	2.5	1.6	1
	3NU-TCGW090204T		●														2.5	5.56	2.38	0.4	2.5	1.6	1
	3NU-TPGW110304		●	●													2.5	6.35	3.18	0.4	3.4	2.3	1
	3NU-TPGW110304F		●														2.5	6.35	3.18	0.4	3.4	2.3	1
	3NU-TPGW110304T		●														2.5	6.35	3.18	0.4	3.4	2.3	1
	3NU-TPGW110308		●	●													2.3	6.35	3.18	0.8	3.4	2.3	1
	3NU-TPGW110308F		●														2.3	6.35	3.18	0.8	3.4	2.3	1
	3NU-TPGW110308T		●														2.3	6.35	3.18	0.8	3.4	2.3	1
	3NU-TPGB110304		●														2.3	6.35	3.18	0.4	3.4	2.3	1
	3NU-TPGB110304T		●														2.3	6.35	3.18	0.4	3.4	2.3	1
	3NU-TPGB110308		●														2.3	6.35	3.18	0.8	3.4	2.3	1
	3NU-TPGB110308F		●														2.3	6.35	3.18	0.8	3.4	2.3	1
	3NU-TPGB110308T		●														2.3	6.35	3.18	0.8	3.4	2.3	1
	3NU-TPGN160304		●	●													2.5	9.525	3.18	0.8	-	4.8	1
	3NU-TPGN160308		●														2.3	9.525	3.18	0.8	-	4.8	1
	CNMA120404							●									4.3	12.7	4.76	0.4	5.16	9.9	1
	CNMA120412							●									4.1	12.7	4.76	1.2	5.16	9.9	1
	NU-CNMA120404							●									2.7	12.7	4.76	0.4	5.16	9.9	1
	NU-CNMA120408							●			●			●	●		2.7	12.7	4.76	0.8	5.16	9.9	1
	NU-CNMA120412							●									2.7	12.7	4.76	1.2	5.16	9.9	1
	NU-CCGW060204							●									2.7	6.35	2.38	0.4	2.8	0.9	1
	NU-DCGW11T304							●									2.6	9.525	3.97	0.4	4.4	4.8	1

cBN Series

cBN Multi-corner type (negative/positive)

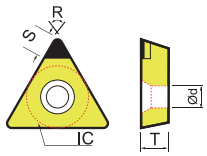
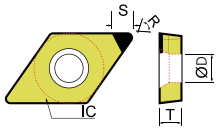
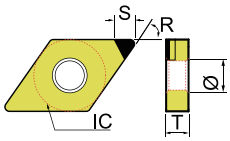
※ T-2NU-□□□□△△△△△△model no. means packing unit (10ea).

Shape	Designation	Grade															S (Length of Cutting Edge)	IC (Inscribed Cirde)	T (Thickness)	R (NoseR)	ØD (Hole dia.)	g	Packing Unit
		DNC100	DNC250	DNC350	DNC400	KB1000	KB2000	KB320	KB335	KB350	KB360	KB370	KB400	KB410	KB420	KB425							
	NU-VNMA160404							●									5.8	9.525	4.76	0.4	3.81	12.9	1
	NU-TNMA160408							●									3.5	9.525	4.76	0.8	3.81	7.2	1
	NU-CCMW060202							●									2.9	6.35	2.38	0.2	2.8	0.9	1
	NU-CCMW060204							●									2.7	6.35	2.38	0.4	2.8	0.9	1
	NU-CCMW09T304							●						●			2.6	9.525	3.97	0.4	4.4	4.5	1
	CCMW09T308							●									4.3	9.525	3.97	0.8	4.4	4.5	1
	VBMW160408							●									4.9	9.525	4.76	0.8	4.4	8.6	1
	NU-VBMW160408							●							●		2.5	9.525	4.76	0.8	4.4	8.6	1
	NU-VBMW160404														●		2.5	9.525	3.97	0.4	4.4	8.6	1
	NU-VBMW160402														●		2.5	9.525	3.97	0.2	4.4	8.6	1
	NU-VBMW110202														●		2.5	6.35	2.38	0.2	2.8	4.8	1

cBN Series

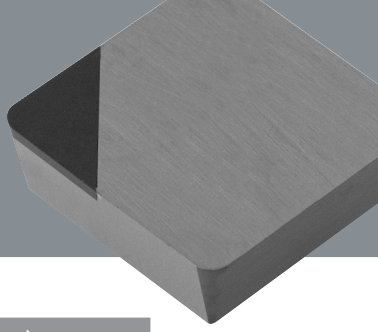
cBN Multi-corner type (negative/positive)

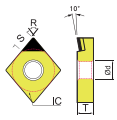
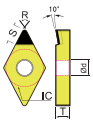
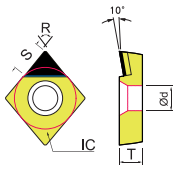
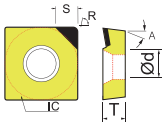
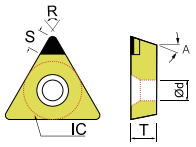
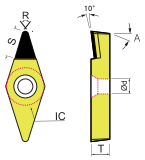
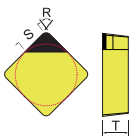
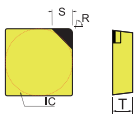
※ T-2NU-□□□□△△△△△△model no. means packing unit (10ea).

Shape	Designation	Grade														S(Length of Cutting Edge)	IC (Inscribed Circle)	T (Thickness)	R (NoseR)	ØD (Hole dia.)	g	Packing Unit
		DNC100	DNC250	DNC350	DNC400	KB1000	KB2000	KB320	KB335	KB350	KB360	KB370	KB400	KB410	KB420	KB425							
	NU-TPGW110304							●									2.5	6.35	3.18	0.4	3.4	2.3	1
	DCMW11T304							●									3.2	9.525	3.97	0.4	4.4	4.8	1
	NU-DCMW11T304							●							●		2.6	9.525	3.97	0.4	4.4	4.8	1
	NU-DCMW11T302							●									2.6	9.525	3.97	0.2	4.4	4.8	1
	NU-DCMW070202							●							●		2.6	6.35	2.38	0.2	2.8	1.3	1
	NU-DCMW070204							●							●		2.6	6.35	2.38	0.4	2.8	1.3	1
	DNMA150408							●									3.5	12.7	4.76	0.8	5.16	12.3	1
	NU-DNMA150408							●									2.6	12.7	4.76	0.8	5.16	12.3	1
	NU-DNMA150604T														●		2.6	12.7	4.76	0.4	5.16	12.3	1

PCD (Positive)

PCD insert (negative/positive)



Geomethy	Designation	Grade			g	Measurement (mm)			
		DP90	DP150	DP200		IC (Inscribed Circle)	T (Thickness)	R (Nose R)	ØD (Hole dia.)
	CNMM120404		●		9.9	12.7	4.76	0.4	5.16
	CNMM120408		●		9.9	12.7	4.76	0.8	5.16
	DNMM150404		●		12.2	12.7	4.76	0.4	5.16
	DNMM150408		●		12.2	12.7	4.76	0.8	5.16
	CCMT060202		●		0.9	6.35	2.38	0.2	3.81
	CCMT060204		●		0.9	6.35	2.38	0.4	3.81
	CCMT09T304		●		3.4	9.525	3.97	0.4	4.40
	CCMT09T308		●		3.4	9.525	3.97	0.8	4.40
	DCMT070202		●		1.2	6.35	2.38	0.2	2.80
	DCMT070204		●		1.2	6.35	2.38	0.4	2.80
	DCMT11T304		●		4.5	9.525	3.97	0.4	4.40
	DCMT11T308		●		4.5	9.525	3.97	0.8	4.40
	TPGW090204		●		0.9	5.56	2.38	0.4	2.5
	TPGW090208		●		0.9	5.56	2.38	0.8	2.5
	TPGW110304		●		1.4	6.35	3.18	0.4	3.4
	TPGW110308		●		1.4	6.35	3.18	0.8	3.4
	VCMT110304		●		2.3	9.525	3.18	0.4	4.4
	VCMT110308		●		2.3	9.525	3.18	0.8	4.4
	VCMT160404		●		8.29	9.525	4.76	0.4	4.4
	VCMT160408		●		8.29	9.525	4.76	0.8	4.4
	VBMT160404		●		8.29	9.525	4.76	0.4	4.4
	VBMT160404		●		8.29	9.525	4.76	0.8	4.4
	VBMT110304		●		2.5	6.35	3.18	0.4	4.4
	VBMT110308		●		2.5	6.35	3.18	0.8	4.4
	TPGN110304		●		1.9	6.35	3.18	0.4	-
	TPGN110308		●		1.9	6.35	3.18	0.8	-
	SPGN090304		●		2.6	9.525	3.18	0.4	-

Other

DINOX NC TOTAL TOOLING SYSTEM

ROT

Run-out tester

ISO

Shank

200mm=3㎛

Product Features

- Compatible with various shanks, provides diverse lineups
  - Affordable general type compliant with ISO30~ISO50 (ISO: BT, SK, NT, CAT), and multi-type can measure the height of cutting edge and outer diameter simultaneously

Designation

ROTS	ROTM
ROTS-ISO30	ROTM-ISO30
ROTS-ISO40	ROTM-ISO40
ROTS-ISO50	ROTM-ISO50

Description

Main Components				Sold separately		
Shank	Body	Housing	Retainer	Test bar	arm	Indicator
ISO50	ROTM-BD (Multi-type) ROTS-BD (General type)	ROT-HS-ISO50	ROT-RTB-ISO50	BTN50-50-300	MB -1030-2	DIAL GAUGE (0.002mm)
ISO40		ROT-HS-ISO40	ROT-RTB-ISO40	BTN40-50-300		
ISO30		ROT-HS-ISO30	ROT-RTB-ISO30	BTN30-30-200		

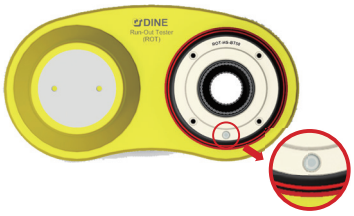
Easy measurement

Measure run-out easily by inserting and turn the tool

① Insert the tool.

② Turn the tool and check R/O.

Convenient horizontal control (ROTM)



The user can check the horizontality using the installed inclinometer.

ROTS-General type (~Ø150)

Retainer

Housing

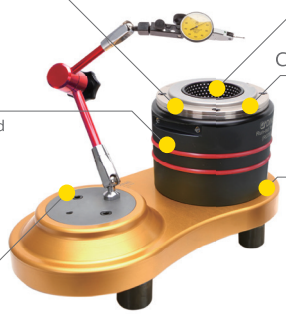
Circular Inclinometer

Plate

Body

Body made of resin (POM)
Prevents slipping by adopting O-ring

ROTM-Multi-type (~Ø400)



Housing

Prevents rust and damage by nickel plating

Retainer

Improves R/O by adopting G5-grade equipment

Circular Inclinometer

The user can check the horizontality of the environment to be measured

Sleeve

Improves appearance and prevents slipping by adopting O-ring Prevents damage of thread by assembling heli-coil

Body

Streamlined design

Plate

TOOL MASTER

Made/Produced in switzerland

Tool Master is a tool presetter of EVOSET, the Swiss company with over 25 years' experience in the field.

Tool Presetter : Device to measure the adjustment value of the tool's length before installation

Advantage : Reduces cost and improves productivity by decreasing the time for setting and stopping the device.

the smart way of tool presetting!

Formula to recover investment

With Tool Master, the setting time is reduced by about 3 minutes per tool.
For example, when you have to reset 20 tools 4 times weekly, you'll have extra 240 minutes to produce in a week. It will be 192 hours in a year. You can calculate Tool Master's cost reduction effect by multiplying the time above by your hourly production cost. Based on it, you can calculate the period for recovering your investment.
If you have many devices and tools, or if you have to set tools frequently, you must consider Tool Master.

70 seconds

Tool Master 0

250 seconds

Tool Master X

TOOL MASTER's Lineups

	TOOL MASTER Lite	TOOL MASTER Quadra	TOOL MASTER 5
Version	Economical Type	General Type	For large tools
Measuring range Norm. (Ømm/Lmm) MAX. (Ømm/Lmm)	X250 / Z0. .. Z300	400 / 40 ... 400 400 / 40 ... 600	400 / 0 ... 400 1000 / 0 ... 1000
Rapid Feedrate	Manual (by hand)	Press the handle button	Using the joystick
Fine turning handle	Only to fine-tune the X axis	Use the fine-tuning handle	Using the joystick
Tool Port	Needle Bearing ISO40/50	Needle Bearing ISO40/50 or ISO40/50 KV Spindle (air suction spindle)	Needle Bearing ISO40/50 or ISO40/50 KV Spindle (air suction spindle)
Measurement type	Digital Reader	*EYERAY*® BUZZARD OR HAWK *TIPRAY* WITH DIAL INDICATOR	*EYERAY*® BUZZARD OR HAWK

TOOL MASTER LITE

Made/Produced in switzerland

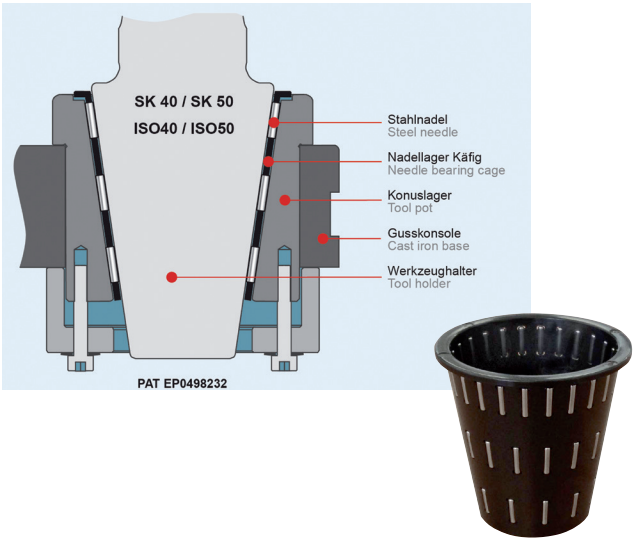
TM Lite is an economical tool presetter with a simpler design. It can measure only simple diameter and length of tool.

Features

- Reduces tool setting time
- Provides good quality compared to the price (economical type)
- Simple structure for easy operation
- Patented needle bearing tool port
- Digital reader(unit: 0.01mm)
- Doesn't require electricity and air.
- Weight: 23KG
- Size: 410 x 150 x h540
- AA battery

Product Name	Measurement Range	
	X-Axis (Ø)	Z-Axis (mm)
TM Lite	250	300

Patent: Needle Bearing (Needle Bearing)



Features

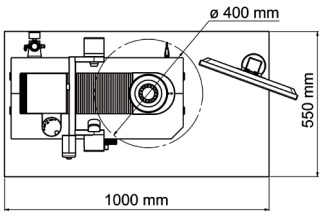
- Prevents large measurement error because it is not affected by the surface of the tool's taper.
- Compared to ball bearing, harder to wear by contact pressure.
- Compared to the surface contact tool port, provides better center alignment.
- The gap removes oil and dust for more accurate measurement.
- Easy to clean, does not require maintenance cost.
- Easy to replace damaged needle bearing (by ordering a new one)

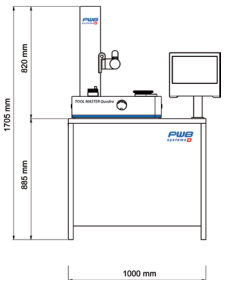
TOOL MASTER QUADRA

Made/Produced in switzerland

TM Quadra is an affordable recommended tool presetter providing various measurement methods based on the customer's need.

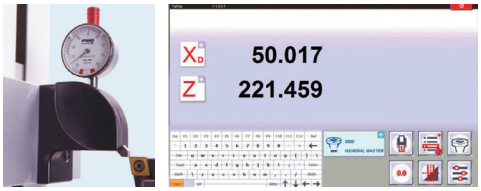
Including label printer and table
(TipRay is optional, however.)



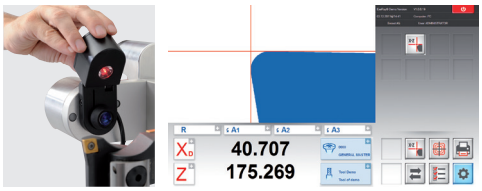


Applicable measurement methods

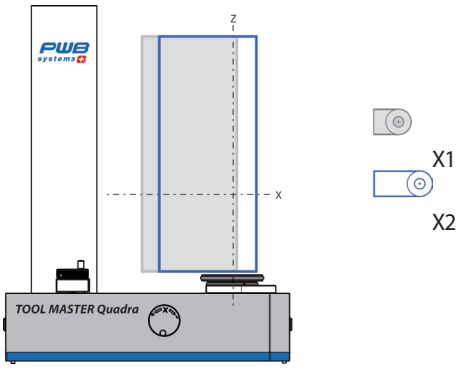
TIPRAY : Contact type
(Cemented carbide tip+Indicator)
Measures only diameter and height



EYERAY HAWK : Non-contact type (Vision)_Basic
EYERAY BUZZARD : Non-contact type (Vision)_Advanced
- Measurement of diameter/height/angle,
actual inspection, Danal measurement, etc.



Measurement Scope



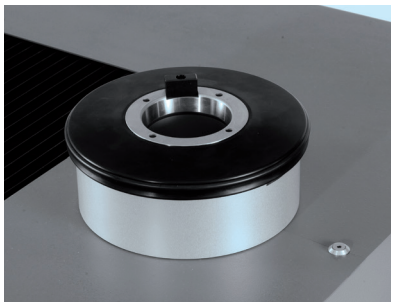
Product Name	Measurement Range	
	X-Axis (Ø)	Z-Axis (mm)
TM Quadra TipRay	-10~410	40~405
TM Quadra EyeRay Hawk	-10~410/600	40~405/605
TM Quadra EyeRay Buzzard	-10~410/600	40~405/605

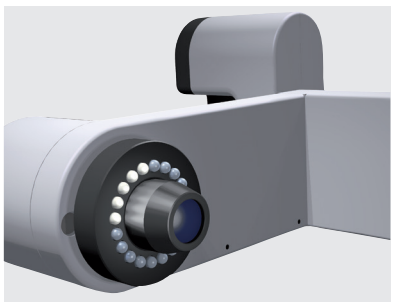
If you want the measurement range of the Z axis (Z40~Z605), indicate Z6 at the end of the product name.
ex) TM Quadra EyeRay Hawk Z605

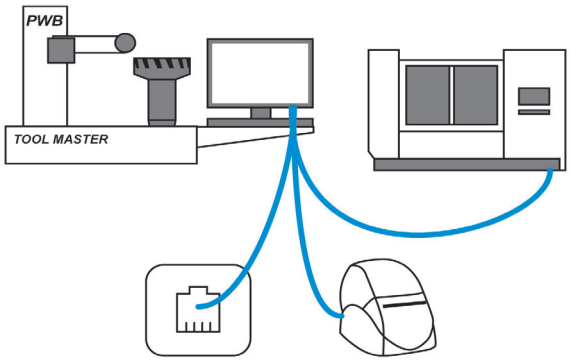
Comparison of components and option by machine

Made/Produced in switzerland

Components and option	TM Lite	TM Quadra (Basic)		TM 5
		EyeRay	Tip Ray	EyeRay
PWB needle bearing spindle	○	○	○	○
KV spindle ISO50 (air suction)	×	Option	Option	Option
- Rotation locked (air pressure)	×	Option	Option	Option
- Air suction fixed	×	Option	Option	Option
- Air bearing	×	Option	Option	Option
- HSK insert clamping tool	×	Option	Option	Option
Spindle ISO60	×	×	×	Option
Integral type PC 15.6" PC (general specification)	×	○	○	×
Integral type PC 19.0" PC (advanced specification)	×	×	×	○
Mouse	×	○	○	○
Keyboard	×	Option	Option	○
Label Printer (Dymo)	×	○	○	○
Table	×	○	Option	×
Tool Cabinet (TM5table)	×	×	×	Option
Tool Stand (3 holes)	×	Option	Option	×
Plain A4 Paper Printer Stand	×	Option	Option	×
Table Extension Tray(PC location)	×	Option	Option	×
Basic Front LED Light	×	○	×	○
Data Transmission	×	Option	Option	Option
Data transmission via ID CHIP	×	Option	Option	Option
Max. measurable tool weight	20Kg	50kg		80kg
Voltage 90-264 VAC50/60 HZ	Unnecessary	Necessary		
Air 4~6 Bar + Ø6 Air Hose	Unnecessary	Necessary		







ADAPTER

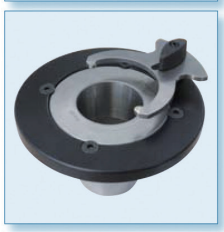
Made/Produced in switzerland

Reduction ISO50 / 40 : ISO available for ISO 10 / 15 / 20 / 25 / 30 / 35 / 40 / 45 / 50	
TOOL MASTER Quadra	***TOOL MASTER 5***

Reduction ISO50 / 40 : HSK (Form A to F) available for HSK 25 / 32 / 40 / 50 / 63 / 80 / 100 / 125	
TOOL MASTER Quadra	***TOOL MASTER 5***

Reduction ISO50 / 40 : VDI with clamp lever available for VDI 16 / 20 / 25 / 30 / 40 / 50 / 60	
TOOL MASTER Quadra	***TOOL MASTER 5***

Reduction ISO50 / 40 : VDI with index (4x90°) available for VDI 16 / 20 / 25 / 30 / 40 / 50 / 60 / 80	
TOOL MASTER Quadra	***TOOL MASTER 5***



Reduction ISO50 : Capto 'easy' available for Capto C3 / C4 / C5 / C6 / C8 / C10	
TOOL MASTER Quadra	***TOOL MASTER 5***

Clamp insert K-HSK available for HSK 40 / 50 / 63 / 80 / 100	
TOOL MASTER Quadra	***TOOL MASTER 5***

Adapter ISO60 : ISO50 with needle bearing	
	TOOL MASTER 5

TOOL BOY MODULAR

Made/Produced in switzerland

PWB Tool Mounting Device

Tool Boy (replacement type)

Tool Boy Lite (integral type)

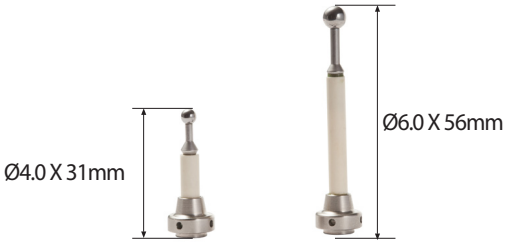
Features

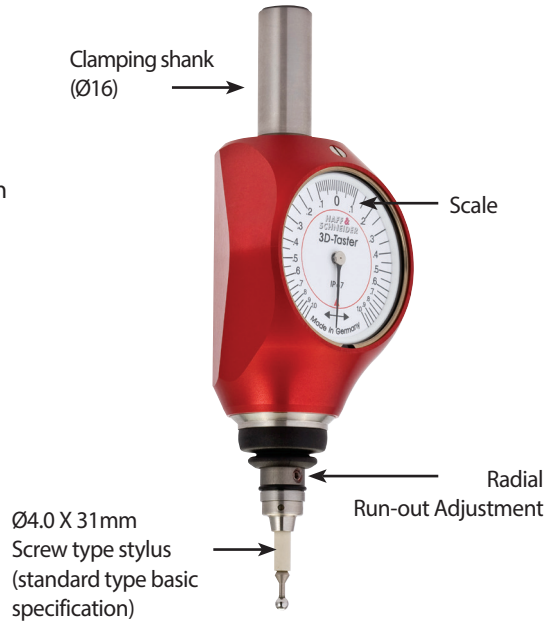
- Simple and sophisticated design
- Improved tool protection through Delrin Insert
- Compatible with all tool holders

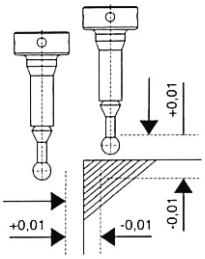
DIN 69871/DIN 2080 JIS B 6339(MAS-BT) ANSI CATV-Flange	DIN 69893 HSK-(FORM A-F)	SANDVIK Capto	DIN 69880 VDI 3425	KENNAMETAL Widia/Tizit
ISO 30	HSK-A32	Capto C3	VDI 20	KM 32
ISO 35	HSK-A40	Capto C4	VDI 25	KM 40
ISO 40	HSK-A50	Capto C5	VDI 30	KM 50
ISO 45	HSK-A63	Capto C6	VDI 40	KM 63
ISO 50	HSK-A80	Capto C8	VDI 50	
	HSK-A100			

NEW 3D-Tester

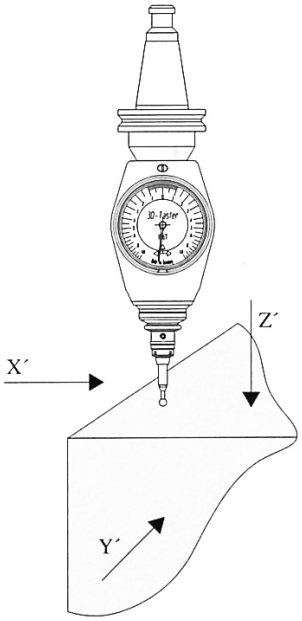
- High measurement accuracy: 0.01mm
- Perfect water- and dust-proof structure
- Screw-type stylus
  Prevents detachment of stylus caused by vibration and shock
- Simple and accurate radial run-out measurement
  Measures radial run-out directly at the bottom of the scanning arm
- The user can perform radial and axial measurements with one graduation meter
- Standard is M8 bolt; provides washer for under M6



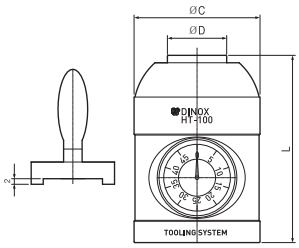




Axis	Allowable value
X	(+/-)0.01
Y	(+/-)0.01
Z	(+/-)0.01



HT HEIGHT TOUCH SETTER



Designation	ØD	ØC	L
HT - 100	32	68	100

Features

- Easy to set the length of tool from the CNC Machining center.
- Safe work without interference of tools in Height Touch Setter
- Location accuracy: ±0.003mm

DOP DINE OPTICAL EDGE FINDER

Designation	G.W.WEIGHT KGS	ACCURACY	LxWxH/UNIT:mm
DOP-20B	0.3kgs	±0.005	158X20X10

Features

- Applied waterproof treatment, doesn't rust for a long time.
- Caution: Light laser-type edge finder is not suitable for rotation.
- If you touch, it will sound an alarm.

DZH DINE Z AXIAL HEIGHT GAUGE

Designation	HEIGHT	G.W.WEIGHT KGS	LxWxH/UNIT:mm
DZH-50	50.00±0.005mm	1.2kgs	50X63X63

Features

- To set the cutter length of MCT/Turning
- Design height: 50.00±0.005mm
- Provides wide measurement area, easy to operate
- Suppresses bounce of spring, and prevents fracture of milling cutter and bite
- Can be set fast and easily using the polished parallel plate
- High parallelization and fast and accurate use
- The user can adjust the height of adjustment stand fast using a hex key wrench
- The user can adjust the height to 0 using a hex key wrench
- Magnetic-attached type

DZP DINE Z AXIAL SETTING HEIGHT GAUGE

Designation	HEIGHT	G.W.WEIGHT KGS	LxWxH/UNIT:mm
DZP-100	±0.005	0.73kgs	100X50X50

Features

- To set the cutter length of MCT/Turning
- Design height: 100.00±0.005mm
- Provides wide measurement area, and easy to operate
- Magnetic-attached type
- Suppresses bounce of spring, prevents fracture of milling cutter and bite
- Can be set fast and easily using the polished parallel plate
- High parallelization and fast and accurate use

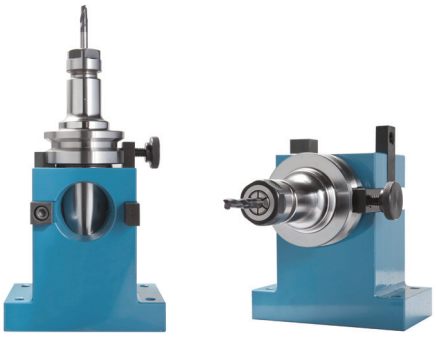
DZOP DINE Z AXIAL P RESET GAUGE

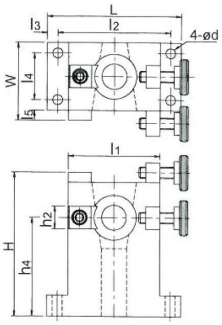
Designation	HEIGHT	G.W.WEIGHT KGS	LxWxH/UNIT:mm
DZOP-50	50	0.6kgs	50X53X53

Features

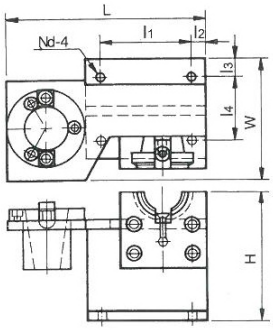
- To set the cutter length of MCT/Turning
- Design height: 50.00
- Provides wide measurement area, and easy to operate
- Suppresses bounce of spring, and prevents fracture of milling cutter and bite
- Can be set easily using the polished parallel plate
- High parallelization and fast and accurate use
- Lights up when touched
- Magnetic-attached type

NTSS NEW TOOL SETTING STAND

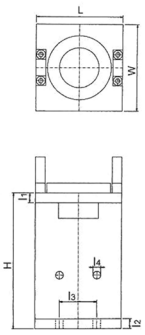




Designation	Type	L	l1	l2	l3	l4	H	W	G.W
NTSS-30	30	95	65	80	7.5	33	100	58	1kg
NTSS-40	40	118	77	99	9.2	44	130	75	1.7kg



Designation	Type	L	l1	l2	l3	l4	H	W	G.W
NTSS-50	BT50	275	113	20	24	105	200	150	11.4kg



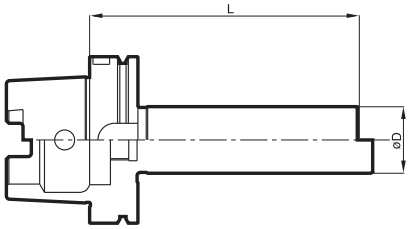
Designation	Type	L	l1	l2	l3	l4	H	W	G.W
NTSS-HSK63A	HSK63A	106	11	11	50	9	160	106	4.1kg

Features

- Made of aluminum alloy
- Can be used as vertical or horizontal type. BT, CAT, SK All available

TB

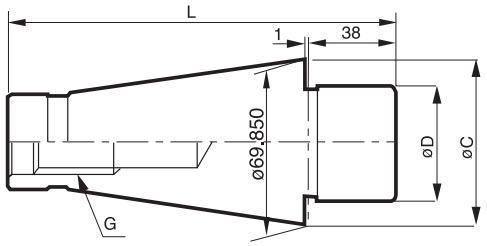
Test bar



Designation	ØD	L
HSK63A-TB40-300	40	300
HSK100A-TB40-350	40	350
BTN30-TB30-200	30	200
BTN40-TB50-300	50	300
BTN50-TB50-300	50	300

KCP

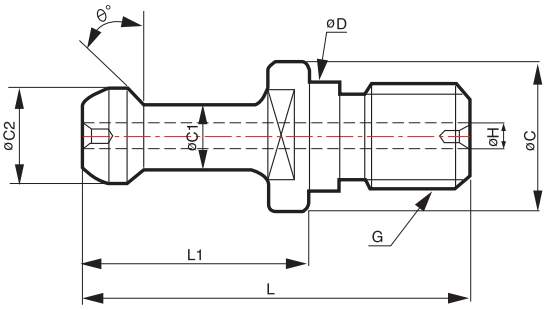
Centering plug



Designation	Taper	ØD	ØD	ØC	L	G
NTN 50 - KCP60	NT50	200(Over 8")	60	69.55	164.00	M24

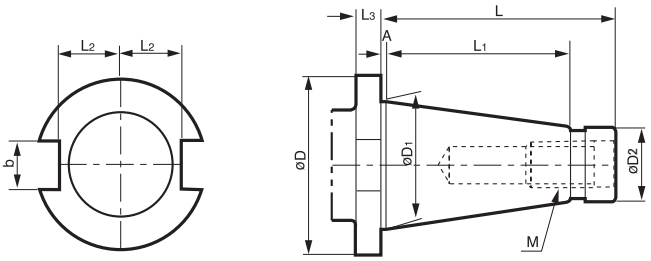
Pull Stud Bolt

Pull stud bolt



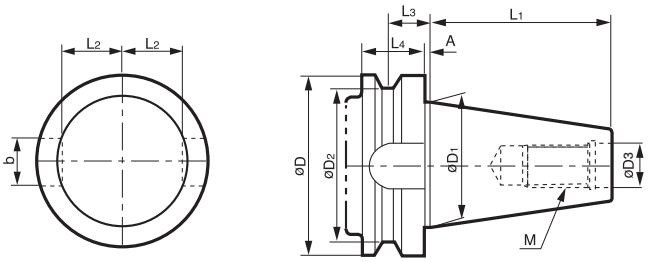
Designation	ØD	ØC	ØC1	ØC2	L1	L	θ	G	ØH
P20T-1	8.5	12	6	8.5	17.5	31.5	15°	M8	
P30T-1	12.5	16.5	7	11	23	43	45°	M12	
P30T-1(Ø2.5)	12.5	16.5	7	11	23	43	45°	M12	Ø2.5
P30T-2	12.5	16.5	7	11	23	43	30°	M12	
P30T-2(2.5)	12.5	16.5	7	11	23	43	30°	M12	Ø2.5
P40T-1	17	23	10	15	35	60	45°	M16	
P40T-1(3)	17	23	10	15	35	60	45°	M16	Ø3
P40T-2	17	23	10	15	35	60	30°	M16	
PS40-3F	17	23	10	15	35	60	0°	M16	
PS-G51	17	22	12.45	18.8	19.11	44.11	45°	M16	Ø7
DIN69872-A40	17	23	14	19	26	54	15°	M16	Ø7
DIN69872-B40	17	23	14	19	26	54	15°	M16	
JISB6339-A40(PS806)	17	23	14	19	29	54	15°	M16	Ø7
JISB6339-B40(PS-805)	17	23	14	19	29	54	15°	M16	
P50T-1	25	38	17	23	45	85	45°	M24	
P50T-1(7)	25	38	17	23	45	85	45°	M24	Ø7
P50T-2	25	38	17	23	45	85	30°	M24	
PS50-1F	25	38	17	23	45	85	0°	M24	
PS50-1FH	25	38	17	23	45	85	0°	M24	Ø8
PS-G41	25	37	20.83	28.96	25.2	65.2	45°	M24	Ø10
DIN69872-A50	25	36	21	28	34	74	15°	M24	Ø11.5
P50T-1HS	25	38	17	23	45	85	45°	M24	Ø5.7

DIN 2080, JIS B 6101, ISO 297 : 1988(E)



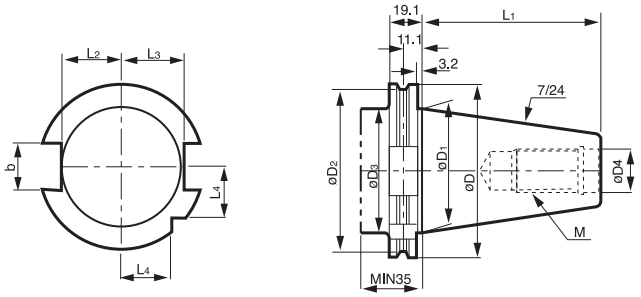
TAPER	ØD	ØD1	ØD2	L	L1	L2	L3	A	B	M
NT30	46	31.75	17.4	68.4	48.4	16.2	10	1.6	16.1	UNC 1/2-13
NT40	63	44.45	25.3	93.4	65.4	22.5	10	1.6	16.1	UNC 5/8 -11
NT50	100	69.85	39.6	126.8	101.8	35.3	14	3.2	25.7	UNC 1 - 8
NT60	155	107.95	60.2	206.8	161.8	60	15	3.2	25.7	UNC 1,1/4 -7

BOTTLE GRIP TAPER MAS403-BT



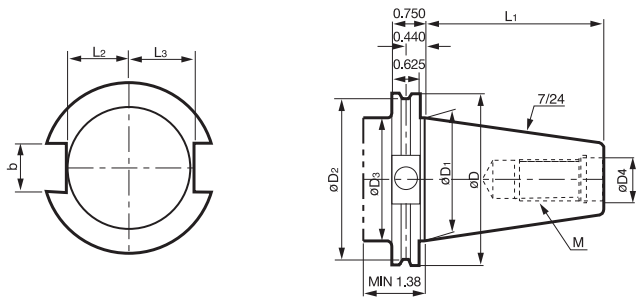
TAPER	ØD	ØD1	ØD2	ØD3	L1	L2	L3	L4	A	B	M
BT30	46	31.75	38	12.5	48.4	16.3	13.6	20	2	16.1	M12 x 1.75
BT40	63	44.45	53	17	65.4	22.6	16.6	25	2	16.1	M16 x 2
BT50	100	69.85	85	25	101.8	35.4	23.2	35	3	25.7	M24 x 3
BT60	155	107.95	135	31	161.8	60.1	28.2	45	3	25.7	M30 x 3.5

DIN 69871-1 A/B, ISO 7388/1 : 1983(E)



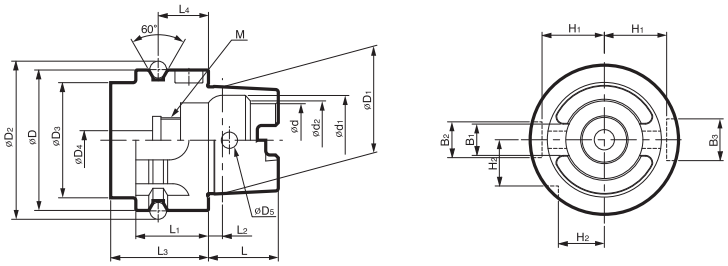
TAPER	ØD	ØD1	ØD2	ØD3	ØD4	L1	L2	L3	L4	B	M
SK30	50	31.75	44.3	45	13	47.8	16.4	19	15	16.1	M12 x 1.75
SK40	63.55	44.45	56.25	50	17	68.4	22.8	25	18.5	16.1	M16 x 2.0
SK50	97.5	69.85	91.25	80	25	101.75	35.5	37.7	30	25.7	M24 x 3.0

CAT SHANK (ANSI/ASME B5.50-1985)



TAPER	ØD	ØD1	ØD2	ØD3	ØD4	L1	L2	L3	B	M
CAT30	1.812	1.250	1.531	1.250	0.516	1.875	0.640	0.735	0.645	UNC 0.500-13
CAT40	2.500	1.750	2.219	1.750	0.641	2.687	0.890	0.985	0.645	UNC 0.625-11
CAT50	3.875	2.750	3.594	2.750	1.031	4.000	1.390	1.485	1.020	UNC 1.000-8
CAT60	5.500	4.250	5.219	4.250	1.281	6.375	2.140	2.235	1.020	UNC 1.250-7

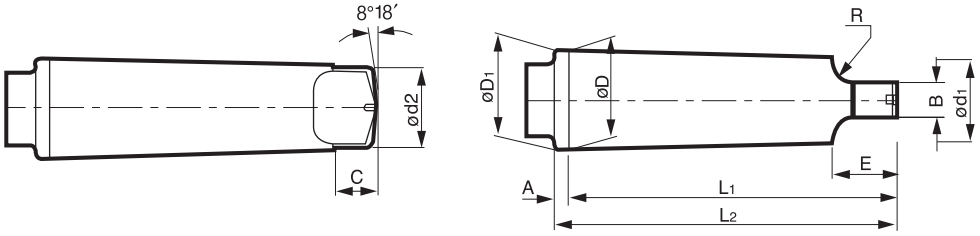
HSK SHANK DIN 69893-1, ISO 12164-1 : 2001



TAPER	ØD	ØD1	ØD3	ØD2	ØD4	ØD5	L	L1	L2	L3	L4
HSK 40A	40	30	34	45	5.0	4.6	20	20	4.0	35	16
HSK 50A	50	38	42	59.3	6.8	6.0	25	26	5.0	42	18
HSK 63A	63	48	53	72.3	8.4	7.5	32	26	6.3	42	18
HSK100A	100	75	88	109.75	12.0	12.0	50	29	10.0	45	20

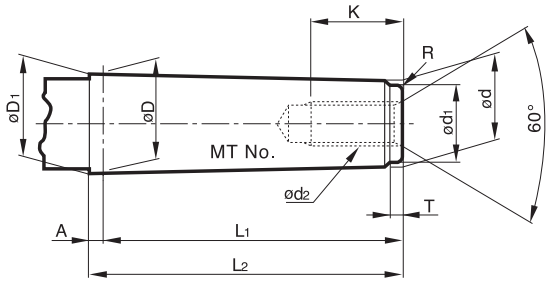
TAPER	Ød	Ød1	Ød2	B1	ØD4	ØD5	H1	H2	M
HSK 40A	21	25.5	23	8.05	11	9	17.0	12.0	M12×1.0
HSK 50A	26	32.0	29	10.54	14	12	21.0	15.5	M16×1.0
HSK 63A	34	40.0	37	12.54	18	16	26.5	20.0	M18×1.0
HSK 100A	53	63.0	58	20.02	22	20	44.0	31.5	M24×1.5

MORSE TAPER (TANG TYPE)



TAPER	Taper	Taper Angle(α)	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	6.0	3.9	6.5	10.5	4	1
MT1	1/20.047	1°25'43"	12.065	3.5	12.240	8.972	62.0	65.5	8.7	5.2	8.5	13.5	5	1.2
MT2	1/20.020	1°25'50"	17.780	5	18.030	14.034	75.0	80.0	13.5	6.3	10	16	6	1.6
MT3	1/19.922	1°26'16"	23.825	5	24.076	19.107	94.0	99.0	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	124.0	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	156.0	35.7	15.9	19	29	10	3
MT6	1/19.180	1°29'36"	63.348	8	63.765	52.399	210.0	218.0	51.0	19.0	27	40	13	4
MT7	1/19.231	1°29'22"	83.058	10	83.578	68.186	286.0	296.0	66.8	28.6	35	54	19	5

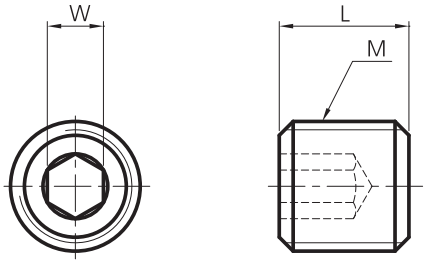
MORSE TAPER (SCREW TYPE)



TAPER	Taper	Taper Angle(α)	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	70.0	M33	80	18.5	5

SPARE PARTS

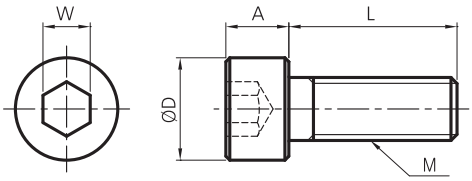
Set screw (BSA, BKA, FZ, FF, SLA, SMH)



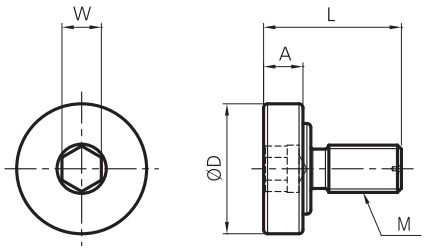
Designation	M	L	W
BTF0505	M5x0.8	5	2.5
BTF0606	M6x10	6	3
BTF0608	M6x1.0	8	3
BTF0808	M8x1.25	8	4
BTF0812	M8x1.25	12	4
BTF1010	M10x1.5	10	5
BTF1012	M10x1.5	12	5
BTF1016	M10x1.5	16	5
BTF1060	M10x1.5	60	5
BTF1212	M12x1.75	12	6
BTF1212-1.5	M12x1.5	12	6
BTF1414-1.5	M14x1.5	14	6
BTF1216	M12x1.75	16	6
BTF1220	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

SPARE PARTS

Clamp bolt (FMA, FMC, TBC, FBC, DBC)



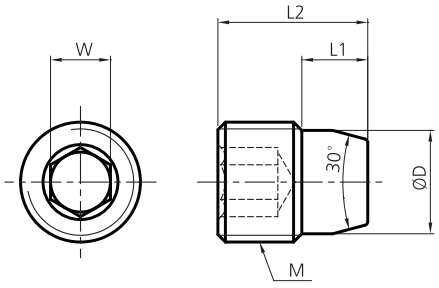
Designation	M	A	L	ØD	W
BX0310	M3x0.5	3	10	5.5	2.5
BX0412	M4x0.7	4	12	7	3
BX0416	M4x0.7	4	16	7	3
BX0515	M5x0.8	5	15	8.5	4
BX0516	M5x0.8	5	16	8.5	4
BX0616	M6x1.0	6	16	10	5
BX0620	M6x1.0	6	20	10	5
BX0625	M6x1.0	6	25	10	5
BX0630	M6x1.0	6	30	10	5
BX0820	M8x1.25	8	20	13	6
BX0825	M8x1.25	8	25	13	6
BX0830	M8x1.25	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



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	10
MBA-M16	M16x2.0	10	50	40	14
MBA-M20	M20x2.5	14	54	50	17
MBA-M24	M24x3.0	14	62	65	19

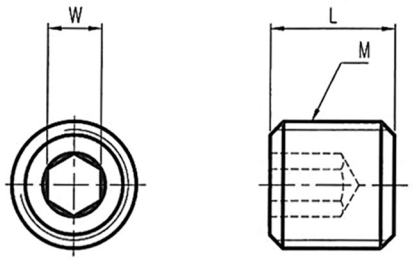
SPARE PARTS

TAPER SCREW(BASIC HOLDER) (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	3
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

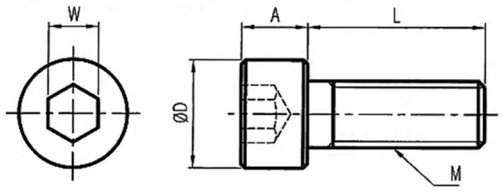
Set screw (TBC/FBC)



Designation	M	L1	W
BT0645	M6x1.0	45	3
BT0660	M6x1.0	60	3

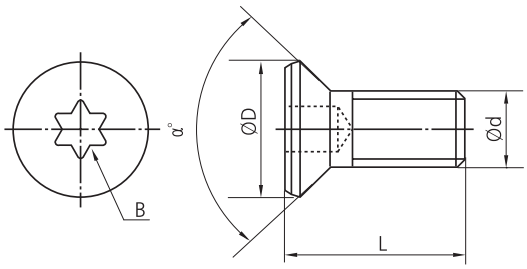
SPARE PARTS

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

Insert screw

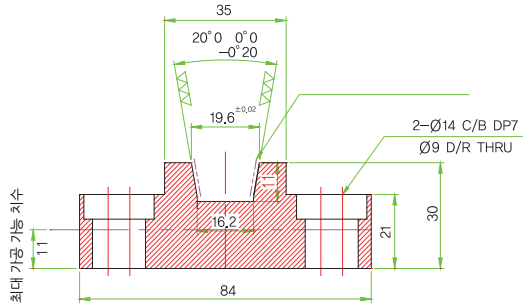


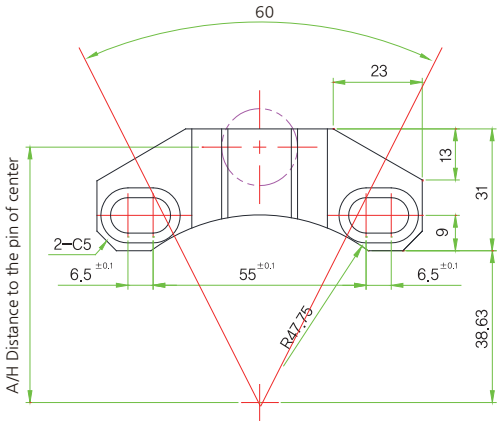
Designation	M	L	ØD	B	α°	(N·m)
BFTX0203A	2×0.4	3.0	2.7	T6	90	0.5
BFTX0204A	2×0.4	4.3	2.7	T6	90	0.5
BFTX0307A	3×0.5	6.8	4.3	T10	90	2.0
BFTX0410A	4×0.7	10.3	5.6	T15	90	3.4
BFTX02506N	2.5×0.45	5.5	3.45	T8	60	1.5

POSITIONING BLOCK

Positioning block

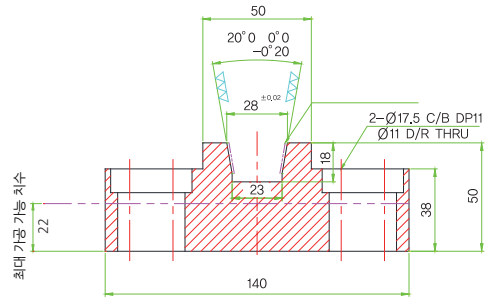
General type-A (60°) - ISO40

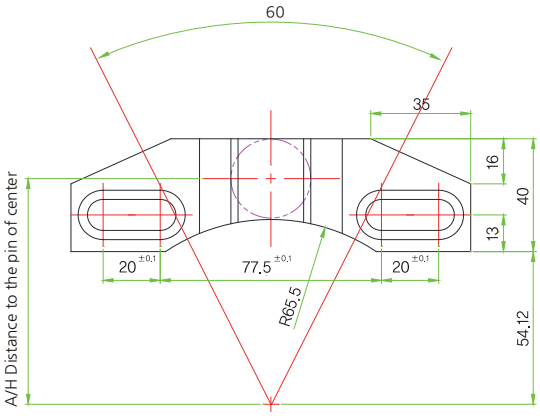




- MIN. height of block: 19mm (based on the upper side)
- Standard is M8 bolt; Provides washer for under M6.

General type-A (60°) - ISO50





- MIN. height of block: 28mm (based on the upper side)
- Standard is M8 bolt; Provides washer for under M6.

- Semi-finishing: Requires block height machining
  - To prevent interference, customer should decide the height and process the bottom of the block him/herself

INDEX

INDEX

Number

A

B

C

D

INDEX

INDEX

E

F

INDEX

INDEX

DINE

Head Office (15118) 24, MTV 26-ro, Siheung-si, Gyeonggi-do, Korea Tel. +82-31-488-6203 Fax. +82-31-432-0583

Branch Office in China : 21F, Building A, Minghui International 39 Shiling Road, Laoshan District, Qingdao, China Tel. +86-532-8588-8907 Fax. +86-532-8588-5082

Branch Office in Vietnam : 4F, Tower B, Golden Palace Building, Me Tri ward, Nam Tu Liem district, Hanoi Mr. Shwan +84-94-468-2500 Mr.Philip +84-12-5330-1225

Homepage : www.dine.co.kr E-mail : dine@dine.co.kr facebook : www.facebook.com/DINE0701

DX0618-TC-M-ENG-V1