BIG DAISHOWA

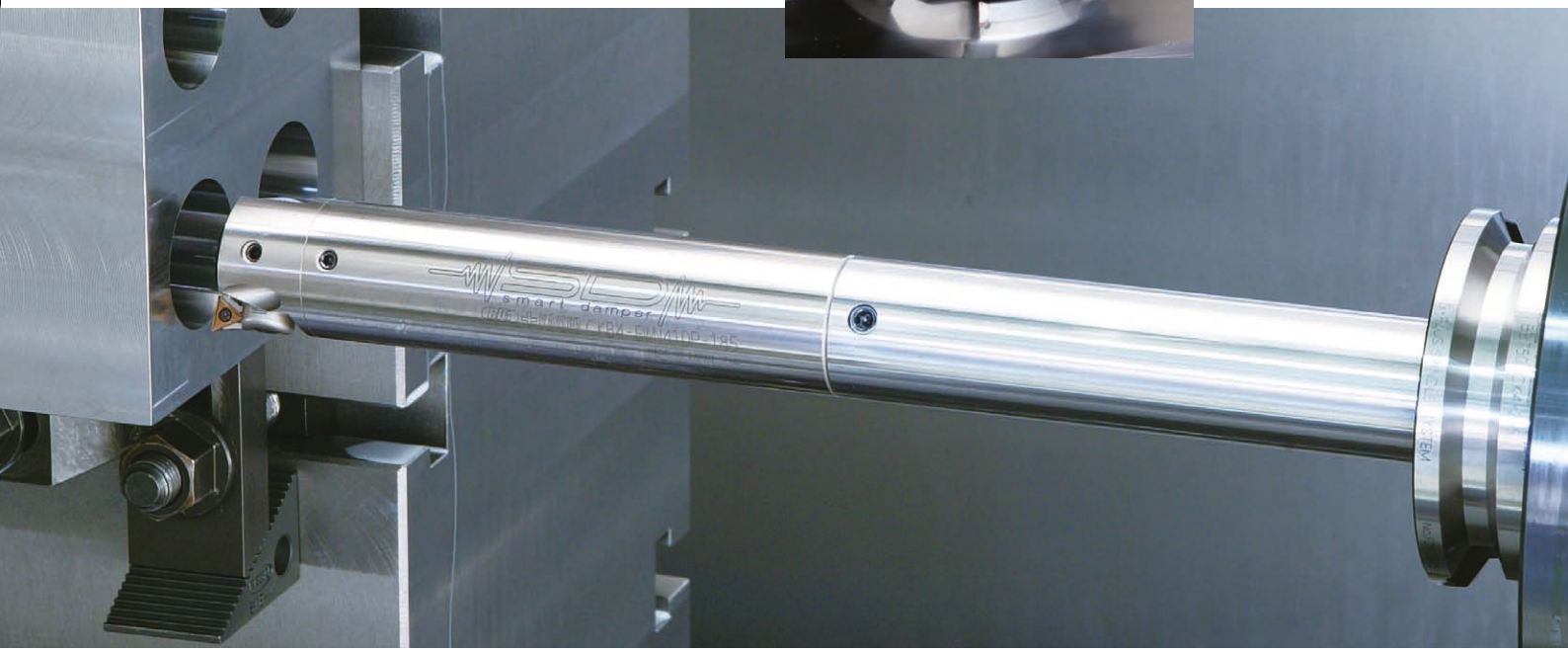
PRODUCT GUIDE

BIG DAISHOWA

BIG DAISHOWA is a comprehensive tooling manufacturer that has been developing, manufacturing, and selling precision tools and systems for the metalworking industry since 1967.

OUR VISION OF **PRECISION**

With decades of experience and uncompromising quality control, we aim to manufacture "high precision" and "high quality" products that satisfy our customers. Additionally, we maintain a robust global network to source the optimal product solutions for our customers' requirements.



BIG DAISHOWA GROUP

Production facilities	**11 in Japan**
CNC machines	**> 750** (>200 grinding machines)
Employees worldwide	**> 1.000**
Production floorspace worldwide	**> 200.000 m²**
Tech Centers	**3** (Japan, Switzerland, USA)

Logistic Centers	**>15.000 m² in total** (Japan, Switzerland, Germany, USA)
Wide product range	CAPTO 3-4-5-6-8 / HSK 15-20-25-32-40-50-63-100-125 Type A-C-E-F-T / BT/BBT30-40-50 DV/BDV30-40-50 CV/BCV30-40-50

MANUFACTURING EXCELLENCE

Combining the latest equipment and the best technology to produce reliable products.

We have established a production system that combines quality with mass production based on our processing know-how accumulating over many years. Our fully automated production lines, in addition to state-of-the-art equipment, allow us to efficiently manufacture a wide variety of products.

In addition, the final grinding process is always conducted in a strictly temperature-controlled machining room to ensure stable quality and accuracy, ensuring that only reliable products are delivered to our customers.

No.9 Factory, Japan

TECHNICAL CENTER

State-of-the-art machinery and equipment for product development and research purposes.

The technical center is used to conduct processing tests to meet customer requirements and to develop new products.

Technical Center, Japan

LOGISTICS CENTER

State-of-the-art distribution center that consolidates inspected products for rapid shipment.

More than 1.5 million products, including tooling, cutting tools, sensors, and accessories, are stocked in our distribution center to fulfill orders from customers worldwide.
Each product undergoes packaging, transportation, picking, and shipping using state-of-the-art systems in every department, ensuring enhanced efficiency and a streamlined process for rapid and precise product delivery.

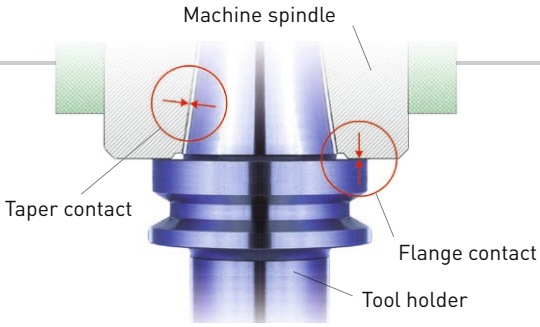
Logistics Center, Japan

BIG PLUS BBT / BDV / BCV

The original simultaneous taper and flange fit spindle system

BIG-PLUS® SPINDLE SYSTEM DUAL CONTACT

The BIG-PLUS spindle system exceeds all other interface concepts thanks to simultaneous taper and face contact between machine spindle and tool holder. Furthermore the system offers full interchangeability with existing machines and tool holders.



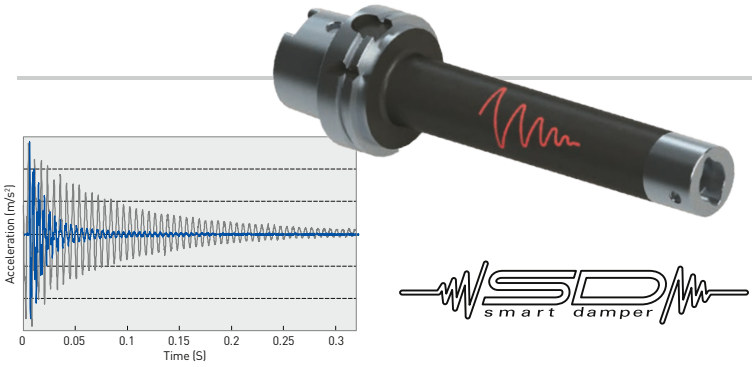
Why BIG-PLUS is better than other spindle systems?

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

The BIG-PLUS Spindle System is based on the most current available standards in JIS B6339(BBT) and DIN 69871(BDV).

Advantages

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



SMART DAMPER

The Smart Damper with its dynamic damping system eliminates vibration and is the key to higher productivity. It provides quiet and vibration-free boring or milling with long tools resulting in better surface finish and higher metal removal rates.

EWE & APP

EWE Digital Fine Boring Heads

The boring heads EWE with digital technology combine all advantages of the analogue boring heads EWN. Thanks to the large display with a resolution of 0.001 mm Ø bores with extremely tight tolerances can be machined.

Direct measuring diameter allows corrections in both directions

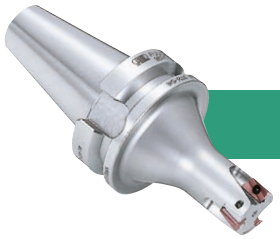
With a direct electronic measuring system on the tool carrier and a resolution of 0.001 mm Ø, the fine boring heads EWE enable diameter corrections with an unmatched accuracy.

Big Kaiser Boring App

App Store
Google Play
Windows 10

The new Big Kaiser Boring App simplifies the assembly and operation of rough and fine boring heads and provides extremely accurate cutting data. The various parameters can be saved in the app for later use, an important building block for workshops that want to get into smart manufacturing. The app currently supports 61 BIG KAISER fine and reaming heads with diameters from 0.4 mm - 620 mm.

Milling and drilling with shaft tools



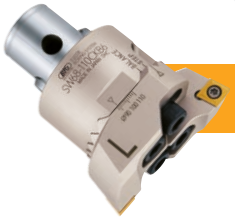
Milling and drilling with insert tools

Modular Machining

Standard Milling Systems

Angle Heads and Air Turbines

Turning Tools



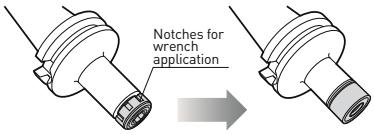
Rough Boring and Fine Boring

Fine Boring

Measuring Instruments

Collet Chucks

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

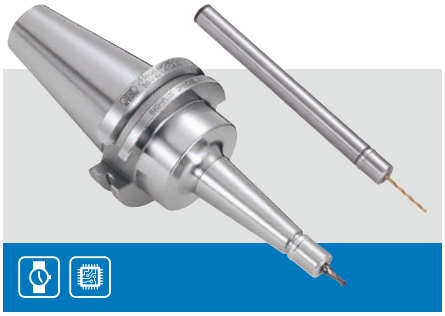


Notch-free design MEGA NUT prevents vibration and reduces noise

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

Easy and firm clamping by the MEGA Wrench

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



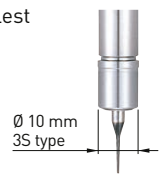
MEGA Micro Chuck

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

- Max. 60 000 min^{-1}
- Clamping range: Ø 0.45 - 8.05 mm

BBT | BDV | HSK | BIG CAPTO | ST

World's smallest

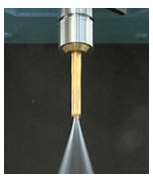


MEGA New Baby Chuck

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

- Max. 50 000 min^{-1}
- Clamping range: Ø 0.25 - 25.4 mm

BBT | BDV | HSK | BIG CAPTO



Through Tools
Tools with holes

Jet Through
Tools without holes

MEGA E Chuck

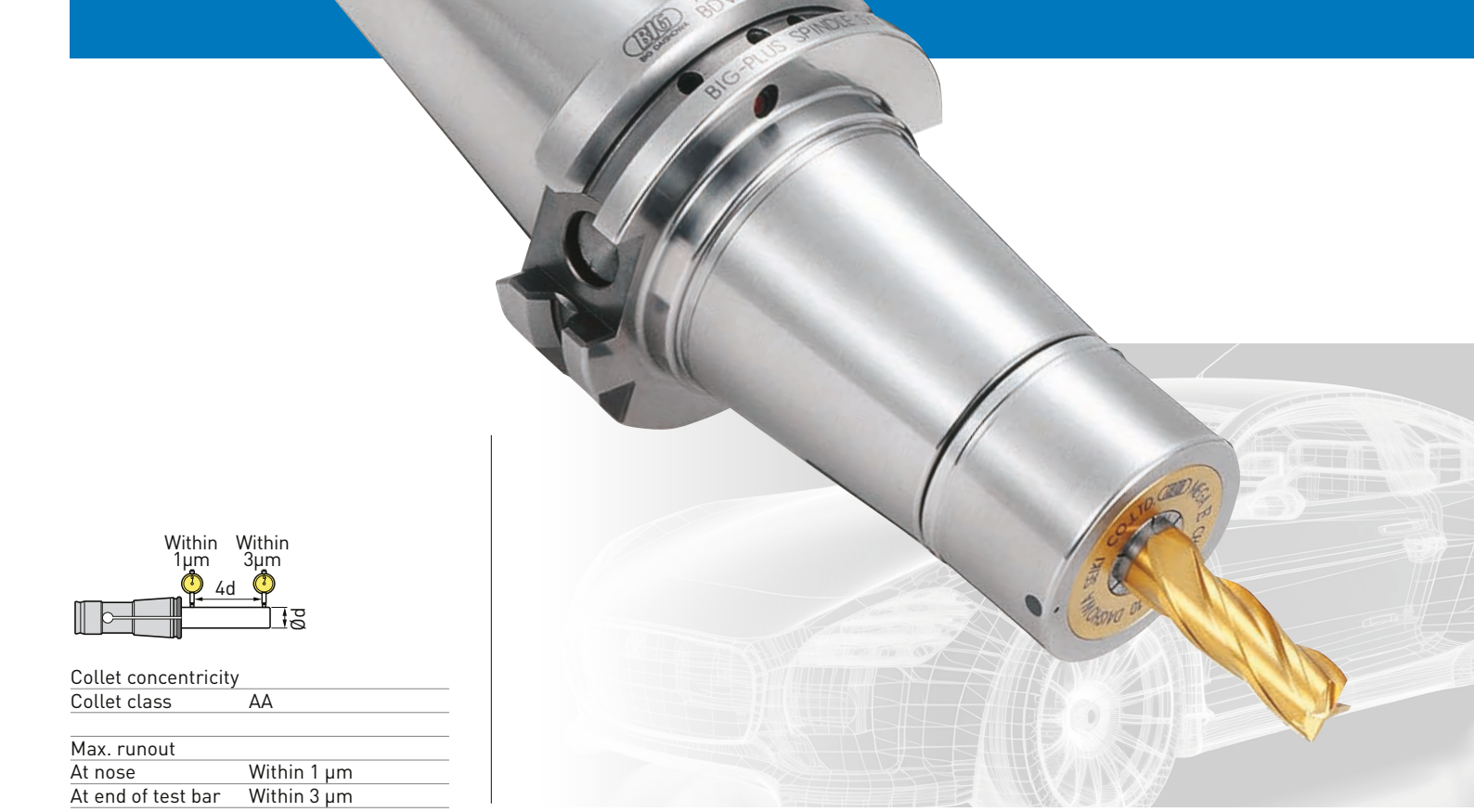
Collet chuck designed exclusively for endmilling up to Ø 12 mm with high concentricity and rigidity.

- Max. 45 000 min^{-1}
- Clamping range: Ø 3 - 12 mm

BBT | BDV | HSK | BIG CAPTO

Ideal for drilling and reaming due to to extended gripping length.

MEGA E
Perfect Seal



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

New Baby Chuck

New Baby Chuck is capable of achieving high spindle speeds as required for drilling and end milling with smaller diameter cutting tools.

- Max. 25 000 min^{-1}
- Clamping range: Ø 0.25 - 20 mm

BT DV HSK ST

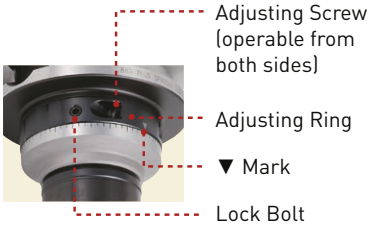
An version for every application

New Baby Chuck NRA

New Baby Chuck is capable of achieving high spindle speeds as required for drilling and end milling with smaller diameter cutting tools.

- Clamping range: Ø 0.5 - 20 mm

BBT HSK



Various collet and nut selection

NBC Standard
For general machining

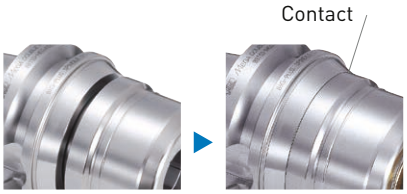
NBC-E collet
For end mills

FONBC collet
For coolant-through tools

NBC-S Collet
High precision Micro Collet

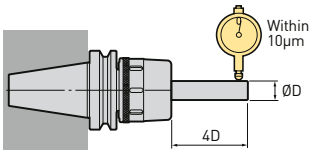
Milling Chucks

The flange-contacting nut, combined with simultaneous taper and flange contact, delivers superior rigidity and enhanced stability during high-performance machining.



Stabilizing contact between flange and nut provides exceptional rigidity

The expanded contact diameter of the nut of the MEGA Double Power Chuck to the flange provides the highest rigidity as if the chuck and nut were one solid piece.



Precise concentricity

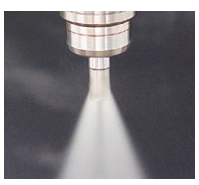
Concentricity is assured by the integral design and clamping by mechanical compression of the annular section by the rolling bearing system. All models are inspected and double checked to meet maximum runout tolerance permitted. (within 10µm at 4D).

Mega Double Power Chuck D

Flange contacting nut and simultaneous taper and flange contact assure highest rigidity.

- Max. 30 000min^{-1}
- Clamping range: Ø 3 - 42 mm

BBT HSK



Type D
Through tools

Mega Double Power Chuck DS

Flange contacting nut assures highest rigidity. Unique coolant supply design ensures efficient coolant supply to the cutting tool peripherally.

- Max. 30 000min^{-1}
- Clamping range: Ø 3 - 42 mm

BBT BDV HSK BIG CAPTO

Type DS
Jet-through

Mega Perfect Grip

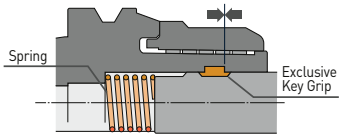
Features 100% security against pulling out the cutting tool under any torque load.

- Max. 18 000min^{-1}
- Clamping range: Ø 16 - 32 mm

BBT DV HSK

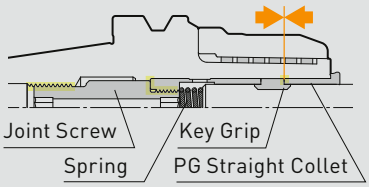
Non-Pullout mechanism

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



Straight collets

PG Collet
The Key Grip prevent pulling out of the tool and Joint Screw prevent pulling out of the collet.



PJC Collets
For coolant to cutting tool periphery.

OCA Collets
For MEGA-D and HMC

PSC Collets
For coolant-through tools.

C Collets and Stopper
Tool projection adjustable straight collet.

Hi-Power Milling Chuck Type S

The original design assures heavy machining with high power and precision.

- Clamping range: Ø 3 - 42 mm

BBT BDV HSK BIG CAPTO CK

Hi-Power Milling Chuck Type HMC12J

Extremely slim and rigid design with jet through coolant.

- Clamping range: Ø 6 - 12 mm

BBT BDV HSK ST

Hi-Power Milling Chuck Type NRA

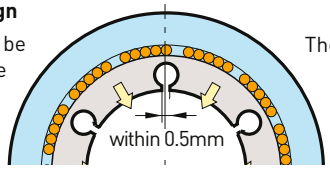
New Hi-Power Milling Chuck with runout adjustable function.

- Clamping range: Ø 3 - 32 mm

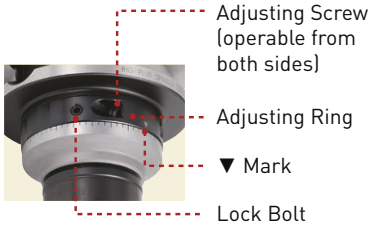
BBT HSK

Secure and reliable slit design

The annular section needs to be substantial in order to provide rigidity but retain the ability to collapse in order to provide sufficient grip.



The section of the Hi-Power Milling Chuck has combine holes and slits at regular intervals in order to combine both requirements.



Hydraulic Chucks

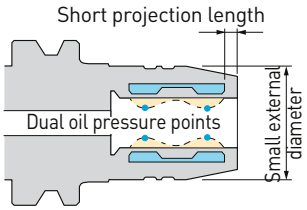
Hydraulic clamping chuck holder engineered for ultra-precision applications, equipped with multiple advanced features for superior machining performance.

Easy clamping with 1 wrench

The cutting tool can be clamped or unclamped easily and securely with just 1 wrench. Extremely good repeatability and runout accuracy are guaranteed.

Integral structure that does not use the O-ring

Compared to the two-piece structure sealed with O-rings, the Hydraulic Chuck gains stable precision and high rigidity. Further, the runout accuracy is greatly improved by short projection length and the dual oil pressure points.



Standard

For high precision machining in automotive, aerospace, medical and die & mold.

- Max. 30 000min^{-1}
- Clamping range: Ø 6 - 32 mm

BBT BDV HSK BIG CAPTO ST

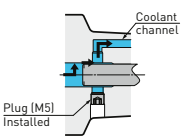
Cylindrical versions available.

Jet Through

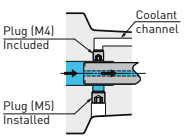
Coolant or Minimum Quantity Lubrification is supplied to cutting edge securely. Maximum performance and high-precision with 5-axis machining.

- Max. 35 000min^{-1}
- Clamping range: Ø 4 - 32 mm

BBT BDV HSK BIG CAPTO



Peripheric coolant



Center Through coolant

Super Slim

Ultra precise hydraulic chuck with extremely slim design.

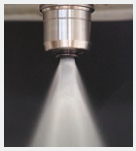
- Max. 45 000min^{-1}
- Clamping range: Ø 3 - 12 mm

BBT BDV HSK ST

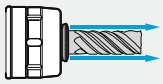
Straight collets

PJC Collets
For coolant to cutting tool periphery.

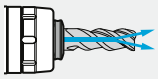
PSC Collets
For coolant-through tools.



Jet Through



Through Tool



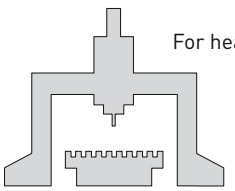
* Accessories are not suitable for all holders.

E Type

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

- Max. 12 000min^{-1}
- Clamping range: Ø 3 - 32 mm

BBT



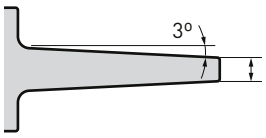
For heavy machining.

Extra Slim

Small and precise hydraulic chuck with slim design, minimises interfering contours and is perfect for micro machining.

- Max. 60 000min^{-1}
- Clamping range: Ø 3 - 6 mm

HSK



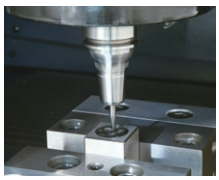
Outer diameter Ø 10 mm

Ultra Precision Type

The most accurate hydraulic chuck made is based on decades of experience and know-how. Guaranteed runout of less than 1µm at 4D.

- Max. 60 000min^{-1}
- Clamping range: Ø 3 - 6 mm

HSK



Amazing runout accuracy within 1µm at 4D. The ultimate precision hydraulic chuck.

Shrink Chucks

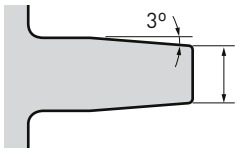
Optimal operation with eliminated workpiece/jig interference is achieved in deep end milling, wall machining and precision mold machining.

Standard

Substantial body provides higher rigidity.

- Max. 40 000min^{-1}
- Clamping range: Ø 4 - 20 mm

BBT BDV HSK



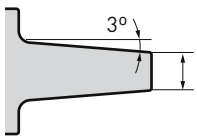
Outer Diameter Ø 10 - 34 mm

Jet Through

Efficient coolant supply to the cutting tool periphery.

- Max. 40 000min^{-1}
- Clamping range: Ø 6 - 12 mm

BBT



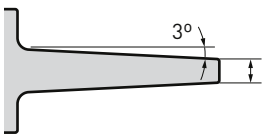
Outer Diameter Ø 16 - 24 mm

Slim

Slim design reduces outer diameter for machining in tight spaces.

- Max. 40 000min^{-1}
- Clamping range: Ø 6 - 12 mm

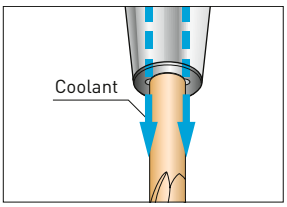
BBT HSK ST



Outer Diameter Ø 10 - 19 mm

Weldon Chucks

The WELDON chuck with simultaneous taper and face contact. The clamping screw of the chuck prevents the tool from twisting or pulling out.



Secure coolant supply to tool periphery

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

Super Slim

Slim design reduces interference contours of the holder.

- Max. 40 000min^{-1}
- Clamping range: Ø 4 - 6 mm

ST

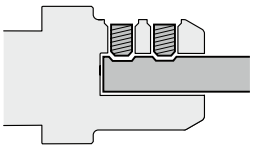
Outer Diameter Ø 7 - 15 mm

Weldon Chuck

The holder is suitable for clamping tools with straight shank DIN 1835B and DIN 6535HB.

- Max. 12 000min^{-1}
- Clamping range: Ø 6 - 50 mm

BBT BDV HSK BIG CAPTO

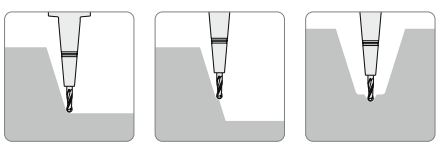


Mold Chuck

Slim and tapered design reduces outer diameter and improves stability. Ideal for machining moulds with weldon tools.

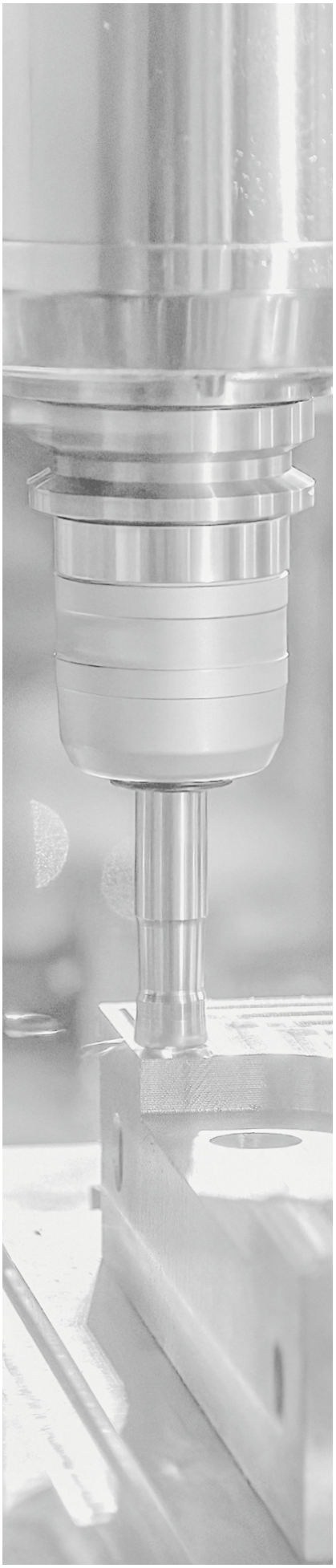
- Max. 40 000min^{-1}
- Clamping range: Ø 3 - 20 mm

BBT HSK



Close to wall | Wall machining | Groove milling

Drill Chucks / Side Lock



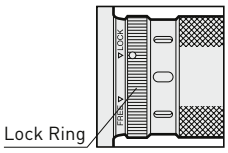
Safe clamping of the tool
with simple handling.

Super Keyless Chuck

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

- Runout accuracy within 0.05mm
- 0.5 -13 mm

BBT HSK



Side Lock Holders TSL

For end mills with cylindrical shank.
Not compatible with
Weldon DIN 1835 B / DIN 6535 HB.

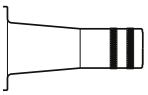
- Clamping range: Ø 16 - 50 mm

BBT HSK BIG CAPTO

Short

from 75

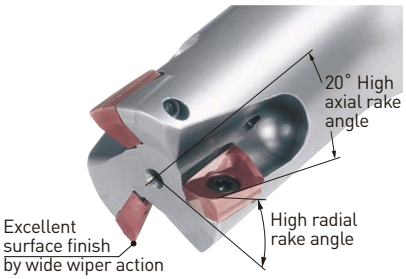
Long



up to 250

Cutting Tools

Indexable insert end mills combining exceptional sharpness and toughness, delivering performance comparable to solid carbide end mills.

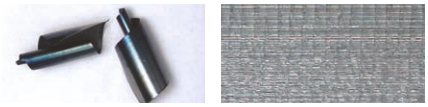


Sharp cutting edge by both high radial and axial rake angles

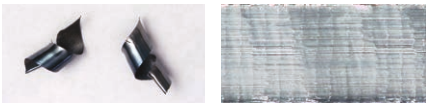
Positive high rake cutting edge for both radial and axial directions achieves smooth and quiet endmilling.

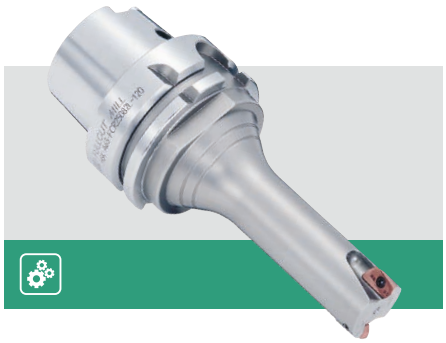
Amazing cutting perfomance even on #40 taper machine

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



Excellent surface





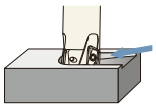
Fullcut Mill FCR

Designed for multi-functional cutting.

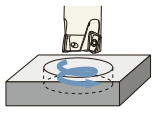
- Max. 40 000min^{-1}
- Ø 16 - 33 mm

BBT BDV HSK ST

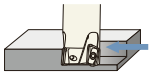
Ramping



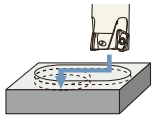
Helical Milling



Shoulder Milling



Peck-drilling



Fullcut Mill FCM

The indexable endmill that combines sharpness and rigidity.

- Max. 40 000min^{-1}
- Ø 12 -100 mm

BBT BDV HSK BIG CAPTO ST FM

Application example

Work material: SUS304
Vertical M/C: No. 40
Cutter dia.: Ø 25 mm
Feed: 0.12 mm/tooth

Speed Finisher

Amazing improvement of surface finish at high speed cutting.

- Max. 20 000min^{-1}
- Ø 50 -160 mm

FM

Quick adjustment of cutting edge height

After clamping the insert, lifting screw lifts up the insert directly by revolving the lifting nut from its side. Simple construction aids easy adjusting operation. Fine pitch thread of the lifting screw ensures precise adjustment.

Chamfer Mills

One C-Cutter to cover a wide chamfering range.

R-Cutter
Front & back R-chamfering are available.
4 inserts multiply feed rate.

BF-Cutter
Back spot facing tool for cap bolt.

C-Cutter

Chamfering mill with indexable inserts for efficient and vibration-free chamfering.

ST CK

C-Cutter Mini

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

ST CK

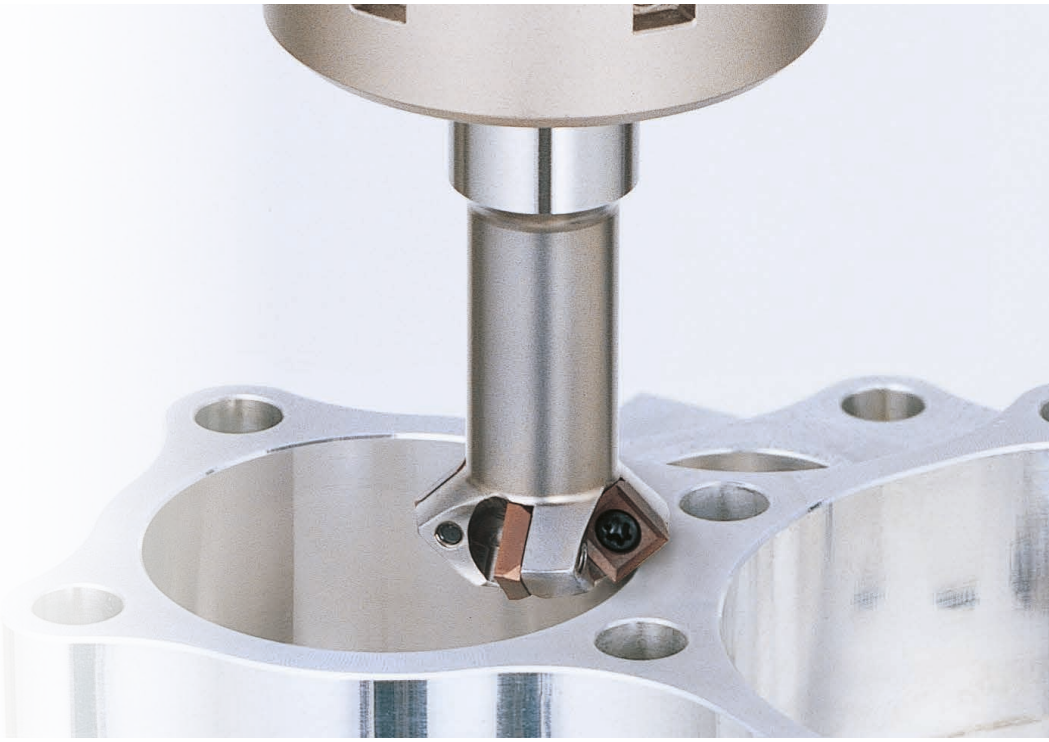
R-Cutter

The R-Cutter is a high performance tool for chamfering, back chamfering and face milling.

- Radius: 0.5 - 4 mm

ST CK

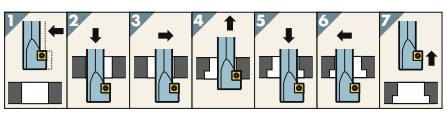
C-Cutter Boy
Carbide guide allows stable cutting.



BF-Cutter

Selected spot facing diameters suitable for cap screws.

ST



Easy programming by simply offsetting the centers between machine spindle and hole.

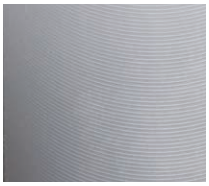
Surface Mill

For superior surface finishing.

• Ø 50 -100 mm

ST

Versatility of the insert
Sharp cutting edge of C-Cutter Mini insert make superior surface finish.

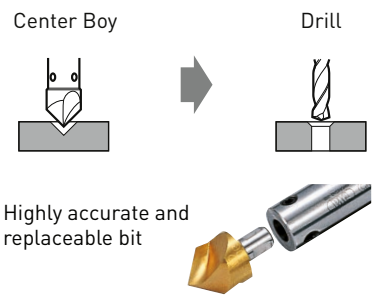


Surface Mill Rz = 1.42
Material = C50
V = 200 m/min
Fz = 0.2 mm/min
Ap = 3
Ad = 75

Center Boy

Accurate centering and chamfering in one single operation.

ST



Chamfer Mills / Inserts

Negative insert tip shape dramatically improves the life.

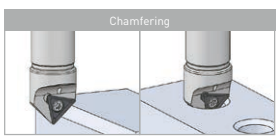
Effective for traverse chamfering (3-insert type)
3-insert type with maximum chamfering width of C9. Effectively reduces machining time.

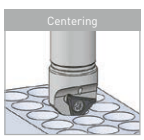
C-Centering Cutter

A multifunction cutter capable of both spot drilling and chamfering.

ST

Capable of both spot drilling and chamfering





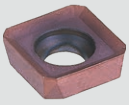
Inserts

Inserts for C-Cutter Standard Type

Indexable Inserts for C-Cutter Mini

Indexable Inserts for R-Cutter

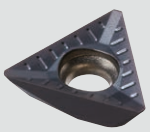
Indexable Inserts for BF-Cutter



Indexable Inserts for Surface Mill

Indexable Bit for Center Boy

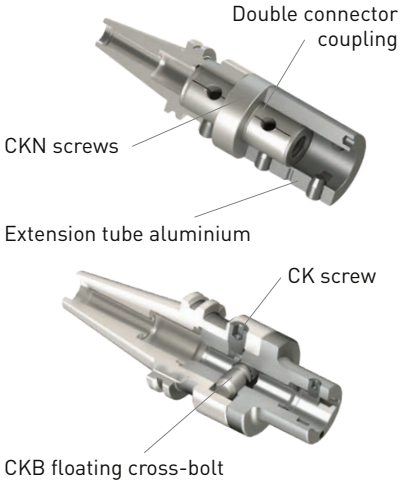
Indexable Insert for C-Cutter Boy



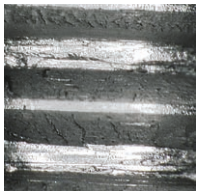
Inserts for C-Centering Cutter

Boring / General machining / Tapping

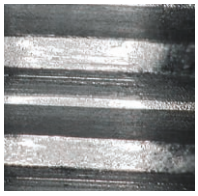
Three different types of CK connections are available. “CK” is the original KAISER modular system



Collet Chuck



MEGA SYNCHRO



Spiral tap M5 / Material: SNCM420

Boring

CK interfaces

The CK interface is the most reliable and accurate modular tooling system im the world. By using the unique modular connection all combinations and lengths are possible.

BBT | BDV | HSK | BIG CAPTO | CK

Reductions

Extensions

Connectors

Holders

General machining

Capto interfaces

Sandvik Coromant developed a triangular polygon shaped taper dual contact system. BIG DAISHOWA launched licensed production in 2000. Polygon taper eliminates clearance, making it an ideal interface for turning.

BIG CAPTO | BBT

Reductions

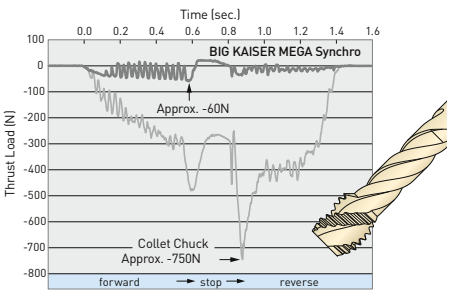
BBT to BIG CAPTO

Tapping

MEGA Synchro Tapping Holder

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

BBT | BDV | HSK | BIG CAPTO | CK | ST



Tapping: M6 V: 20 m/min (1 060 min^{-1})

Cutter Heads

Interchangeble dampers, heads and extentions enable use on various basic holders.

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

Cutter heads

FMH

For cutters that have a coolant bore through the face.

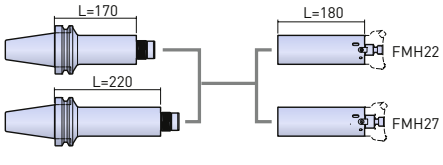
BBT BDV

SDF with Smart damper

The Smart Damper incorporates a damping mechanism and reduces chatter instantly.

BBT BDV HSK

Combination examples

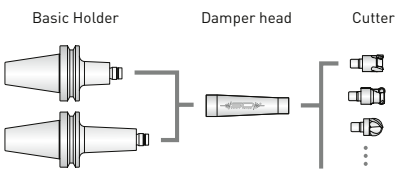


SDF with Smart damper Type T

The Smart Damper incorporates a damping mechanism and reduces chatter instantly.

BBT BDV HSK

For metric milling heads

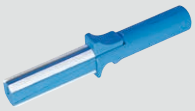


Screw in heads / Circular sawing / Morse

α Wiper Cleaners

Pullstud Bolts

Coolant Pipes Type A/E



TK Cleaners

α Tooling Cleaners

Wrenches

Screw on heads

Holders for Screw-On Cutter

General metric screw-on type cutting tools can be used with these models.

• Attachment: M8 - M16

BBT BDV HSK

For metric screw-on cutters

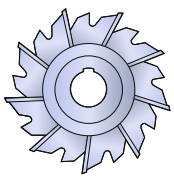
Circular sawing

Side Cutter Arbors

Metric screw on type cutting tools can be used with this models.

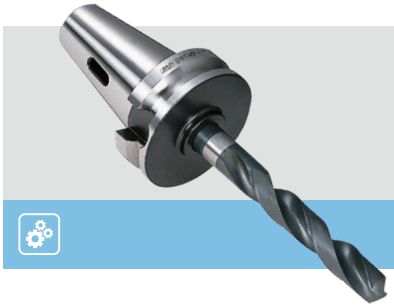
• Length: 75 - 135 mm

BBT BIG CAPTO



Shaft size: 25,4 - 38,1 mm

Morse

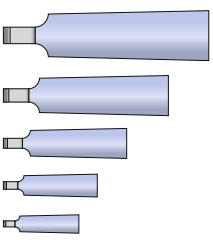


Morse Taper Holder

Precise finish of inner taper guarantees high concentricity.

• MT size: 1 - 5
• Length: 45 - 250 mm

BBT HSK BIG CAPTO

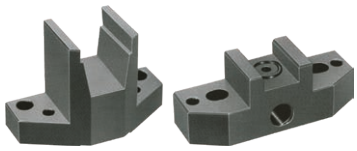


Available in standard MT sizes.

Angle Heads

Angle Heads eliminate multiple set-ups, combine vertical, horizontal and angular operations on one machine.

- Max. 6000min^{-1}
- Coolant-through from the locating pin or the spindle.



Stop blocks are needed for installation

Lightweight New Baby Chuck

Weight less than 2 kg.
Lightweight version for tool changer.
BBT30 Lightweight type for general machining.

Lightweight Tapping Typ

Weight less than 2 kg.
Lightweight version for tool changer.
BBT30 Lightweight type for tapping.

Type BBT30 Light Weight

Weight less than 2 kg.
Lightweight version for tool changer.
BBT30 Lightweight type for cross holes.

Type Angle Head Compact

Compact and lightweight while fully equipped with the functions and accuracy required in drilling.

Type New Baby Chuck Compact / BBT30

Significantly reduces work time through systematized multilateral machining.

Type New Baby Chuck

The Angle Head has an integrated New Baby Chuck, resulting in high precision. Available in various sizes to meet specific production requirements.

Type New Baby Chuck Extra Long

For drilling and key slotting in deep cavities of large workpieces.

Type Twin Head

Twin spindle head with a compact design. Symmetrical machining can be performed using one unit, contributing to the reduction of the number of magazines.

Type OAG

Nozzle allows coolant coming through stop block to be efficiently directed to the tool cutting edge while simultaneously cooling the Angle Head. Newly introduced OAG Type supplies coolant through the cutting tool.

Angle Heads

Type Build-Up

Designed for greater rigidity by having the face of the spindle bore in line with the center of the machine spindle. Also helps minimize interference problems with ATC and storage problems within the magazine.

Type HMC

Improved versatility is achieved from the 32 mm Milling Chuck by using parallel reduction collets and other accessories.

Type New Baby Chuck 45 °

An extremely versatile New Baby Chuck type with a 45-degree housing enables highly precise diagonal machining.

Type Universal

Suitable for cutting angles between 0˚and 90˚. In addition to that the cutter head can be rotated a full 360˚, increasing flexibility!

Type AGU30

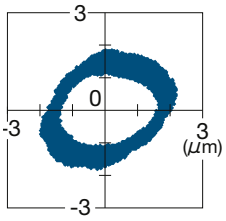
Spindle angle is adjustable from 0˚ to 30˚. Large swivel flange assures high rigidity.

Type Small Bore

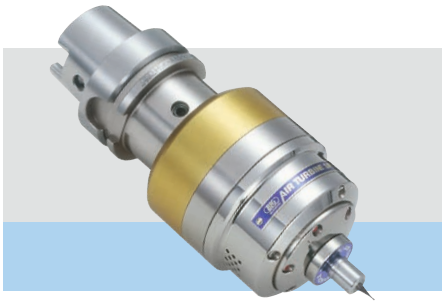
Angular operation in a Ø 30 mm bore (min.) is possible. Modular heads enhance versatility. Head is aligned with spindle center for easy programing.

Air Turbines

The ultra-precision spindle enables high-performance micromachining, even in the most demanding applications.



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

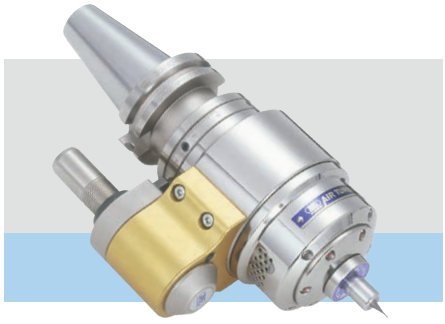


Air Turbine Spindle Center Through Type

Achieves efficient and accurate micromachining with excellent runout accuracy in the max. spindle speed range.

- Max. 40 000 - 80 000min^{-1}
- Tool size 0.45 - 4.05 mm

BBT BDV HSK



Air Turbine Spindle Side Through Type

ATC is available by supplying air via Stop Block. This enables unmanned operation.

- Max. 40 000 - 80 000min^{-1}
- Tool size 0.45 - 4.05 mm

BBT BDV HSK

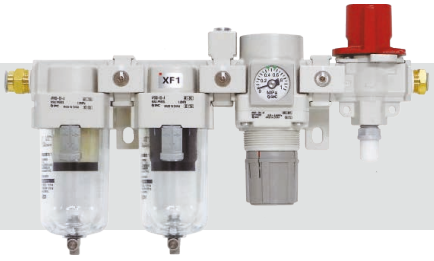
Air Turbine Spindle Manual Type

Easy installation as Stop Block is not needed.

- Max. 40 000 - 80 000min^{-1}
- Tool size 0.45 - 4.05 mm

BBT BDV HSK

Stop blocks are needed for installation



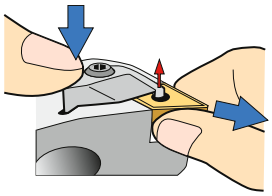
Compressed air regulator/filter required for the air turbine

Millturn Tooling

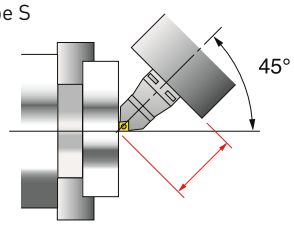
Revolutionary modular system for turning.

Easy attachment and removal of inserts

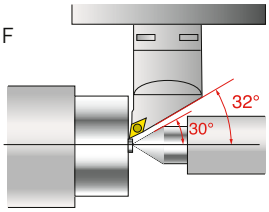
Insert attachment and removal can be performed easily by the built-in spring. Loosen the clamping screw one full rotation, lightly press the clamp piece with a finger, and its tip will pop up.



Type S



Type F



Basic Holder Type S

45° incline avoids interference with the chuck. Tool length can be minimized.

BBT HSK BIG CAPTO

Cartridges Type S

A total of 15 types of cartridges are available to support various applications

Square Tool Holder Multi Type

For various operations including external turning, grooving and threading.

BBT HSK BIG CAPTO

Tool Holder 180°

Square tool — Square Tool Holder

Available as standard square holder and multi-type.

Boring Bar Holder

Application: boring and thread cutting.

BBT HSK BIG CAPTO

Internal boring bar

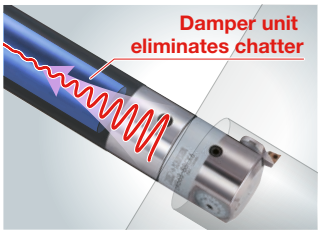
Internal threading tool — Side Lock Holder for Boring Bar.

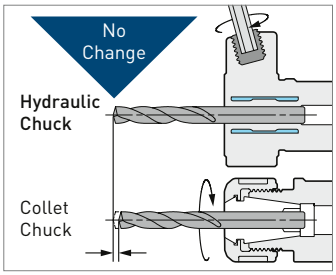
Millturn Tooling

Turning tool series ideal for millturn machines

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

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





No change in tool protrusion

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

Basic Holders Type F

A series of "near-center" type cartridges are available, eliminating interference with the tailstock.

BBT HSK BIG CAPTO

Cartridges Type F

Holders Smart Damper

Unprecedented machining depth without chatter is made possible with this heavy weight, strengthened dynamic damper.

• Length 120 - 520 mm

BIG CAPTO ST HSK

Cartridges

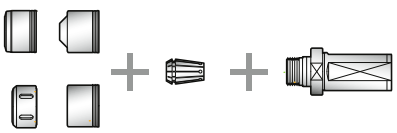
Positive Negative

New Baby Chuck, MEGA ER MEGA Micro Chuck

The ultra-slim nut enables installation from the back of the tool post too, for small lathes with limited space.

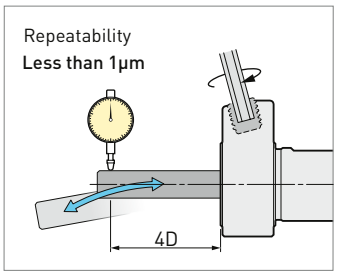
• Range 0.45 - 20 mm

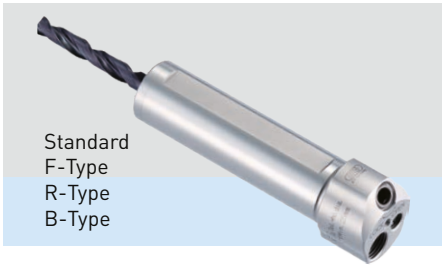
ST



±1µm repeatability

Even after tool-change, the repeatability at 4D is stable at ±1µm or less. In addition, since the tightening is completed when the clamping screw hits the bottom, no torque wrenches are needed.





Hydraulic Chucks

Most popular designs available for various tool posts. 1/8 piping thread preparation for coolant through tool. Adjusting Screw can be used with some models.

• Range 3 - 12 mm

ST

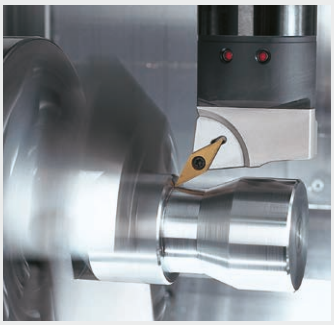
Safe and quick operation.

Changing cutting tools with a single T-wrench drastically reduces the down time for tool change. It also reduces the need to work in limited spaces and improves operator safety.

45° (Tilt Type) **S Type**

Tilting the "B" axis 45° minimizes the cutting forces transmitted to the machine spindle.

90° (Right Angle Type) **F Type**



Basic holder can be used with both right- and left-hand cartridges.

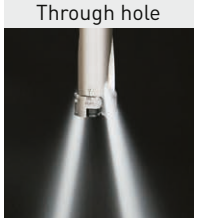
Boring Heads

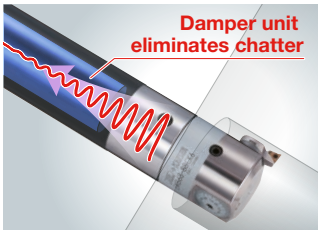
Designed for high-efficiency hole preparation, rough boring heads cover diameters from 16 to 270 mm.

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

Blind hole

Through hole





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

MW std /carbide

Small and powerful rough boring head: The MW comes with cylindrical shank and permits extremely fast roughing of small holes.

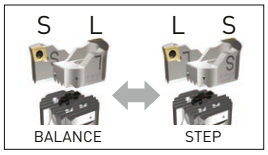
ST

High efficiency small diameter rough boring with 2 inserts. Carbide shank for enhanced deep hole boring performance.

SW

The solution for vibration-free rough boring. Its built-in patented Smart Damper technology is located close to the cutting edge and lifts the performance of rough boring on a new level.

CK



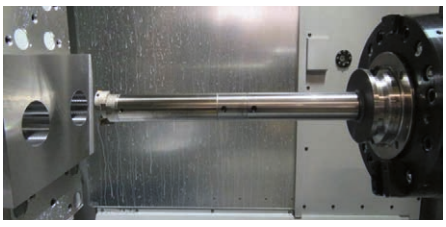
Rough Boring Balance
High feed rates

Rough Boring Step
Double stock removal, half the feed rate

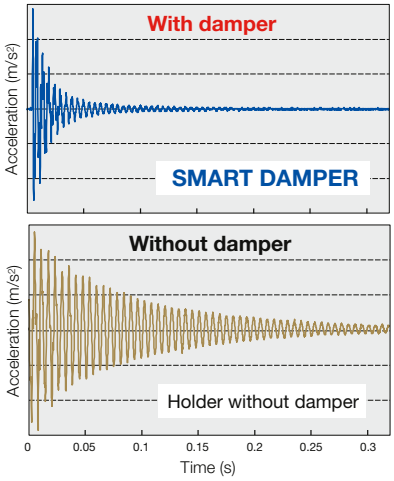
SW Smart Damper

Fusing a lightweight aluminium slide with a built in smart damper for rough boring

CK



Fine Boring Heads



Comparison of oscillatory waveforms with and without dampers

Fine boring operations are performed to complete an existing predrilled hole.

This is done to achieve a close hole tolerance and correct positioning with high quality and surface finish.

Boring is carried out with small cutting depths, generally below 0.5 mm.

Single-edge fine boring is used for finishing operations with small cutting depths when close tolerance (IT6 to IT8) or high-quality surface finish is required.

The diameter of a fine boring tool can be adjusted within microns with a high precision mechanism.

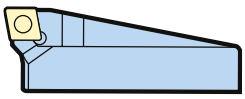
The boring tools can be adjusted manually readout via a vernier, digitally via a display, or completely automatically with our ground breaking EWA product.

Combi Boring Heads

Fusing a lightweight aluminium slide with a built in smart damper for rough boring

• ØD 200 - 340

CK



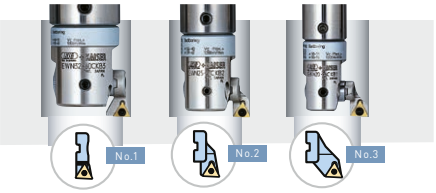
Standard WP holder, available in four other versions available.

The EWA is an intelligent, fully automatic fine boring tool, which performs closed-loop boring operations. With the EWA there is no need to stop the machine tool to take measurements and manually adjust the boring tool, resulting in considerable time savings. By eliminating human interaction, the likelihood of scrapping expensive workpieces is minimized. This reduces costs and improves accuracy, enables handling of multiple bore sizes and repeatable bores, and avoids time-consuming manual wear-out compensation.

Developed solely by BIG KAISER, the EWA system is capable to fulfill bores from Ø 68 mm to Ø 620 mm.

Fine Boring Heads

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



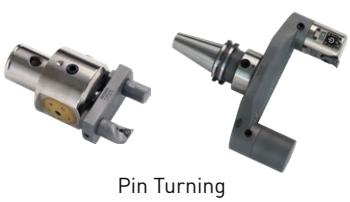
Back boring available as standard. Supports back boring by simply reversing the insert holder.

Centric Boring Heads

Fine boring head with centric boring bar in integral, modular and screw-on versions for precise machining. Developed for the use on machine tools for small to large spindles as well as on lathe machines with driven tools.

Analogue and digital versions available.

ER ST CK



Pin Turning

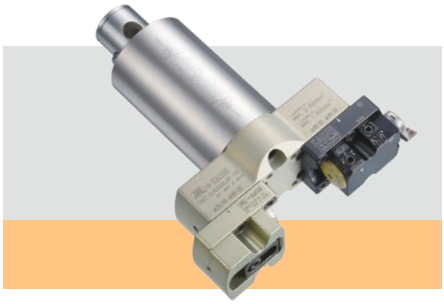
Pheripheral Boring Heads

The single cutter boring tool program for fine boring covers a range of Ø 20 - 203 mm with only 7 precision boring heads. Due to the optimized balance over the whole adjustment range, cutting speeds up to 1200 m/min are permitted.

Analogue and digital versions available.

CK

Versatile tool insert options



Combi Boring Heads

Combination of a lightweight aluminium intermediate soleplate with an integrated Smart-Damper for fine boring from 200 to 340 mm.

CK

Fine boring head

counterweight

Large Diameters

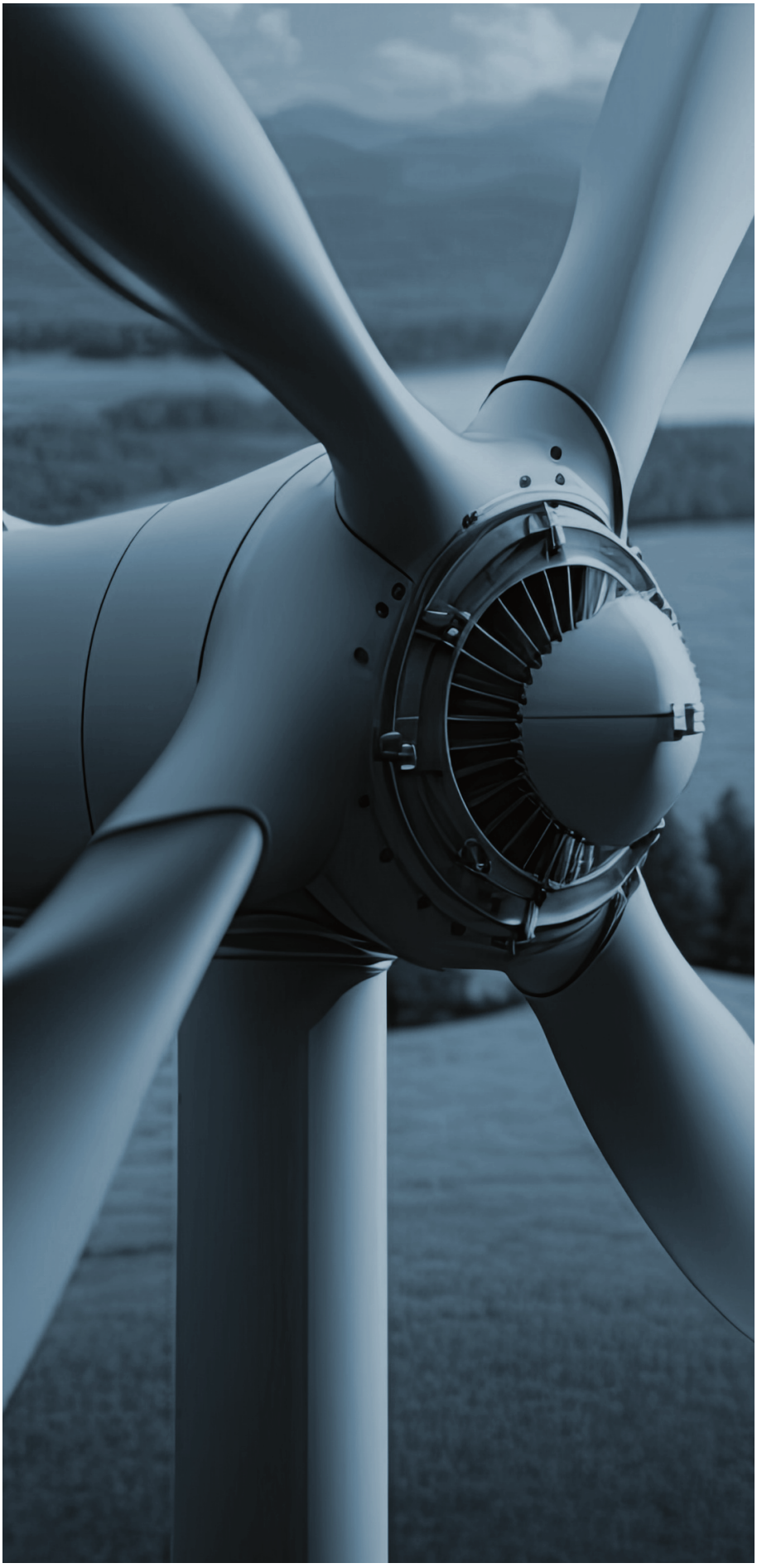
The system is based on extension slides of different lengths, which support a variety of components for roughing and finishing tool assemblies.

Bridges

The mounting components are secured with steel bolts. The precise positioning of the components on the slide along with incremental adjustment scales for insert holders permit diameter and length setting.

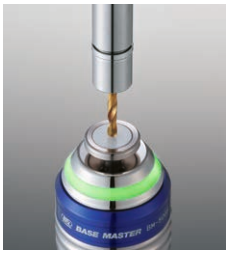
- Range 200 - 3000 mm

CK



Measuring Tools for Machines

Alongside its range of tool holders and cutting tools, BIG offers high-end measuring instruments engineered to enhance machining precision and operational efficiency.



Quick detection of workpiece offset and tip position. Available for various tool materials and diameters.
Repeatability within 1µm.

A machine maintenance tool of highest quality for use as a precision measurement instrument. Calibration certificate and traceability diagram available upon request. Repeatability within 1µm.

Point Master

Point Master Pro Series is a precision 3-D touch sensor operating in non-conductive as well as conductive applications, resin, ceramic or coated workpieces, machines with ceramic spindle taper or bearings can all be accommodated.

BBT HSK ST

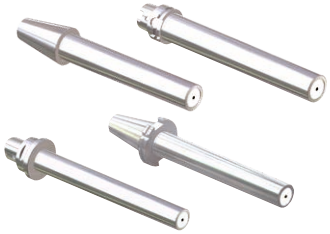
Base Master

The Base Master Series are precision touch sensors to determine workpiece offsets and tool length. The LED lamp illuminates immediately when the cutting edge touches the sensor plate and the position is detected. The most popular Base Master model with 1µm accuracy functions with a conductive system.

Dyna Test

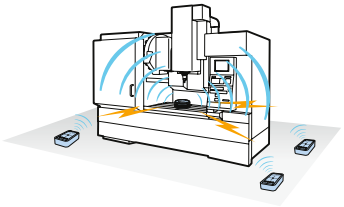
Periodic inspection of the machine spindle to control production stability. Shorter models are ideal for measuring ATC repeatability.

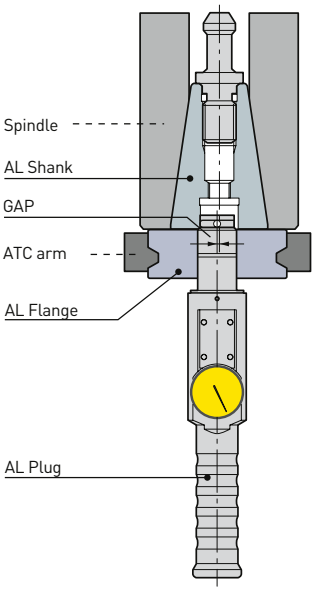
BBT BDV HSK BIG CAPTO ISO



Remote Work solution Wireless Type

Easy and quick leveling with a single operator.





Using the correct torque to clamp shaft tools in BIG KAISER holders is of utmost importance for the run-out.

- The digital display makes sure that you reach the proper torque for that specific toolholder combination.
- Tightening values for BIG KAISER collet chuck series data are preset.
- The Torque Fit machine beeps and shows the proper tightening on the display.
- There is also a user mode for the customized torque values (other brands of tool holders).
- Error LED lights up at over-tightening.
- Replaceable adaptors available for all current machine interfaces.

Level Master

2-axis simultaneous detection leveler. LED displays level conditions for both axis simultaneously. LED and buzzer indication when leveling is completed.

ATC

For maintenance of machine tool spindles. Equipment to measure misalignment between the ATC arm and machine tool spindle or magazine pot center.

Torque Fit

Controlling tightening torque for BIG KAISER Tool assembly station with integrated torque measuring system.

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

BT DV

Exclusive storage case.

BT DV HSK BIG CAPTO

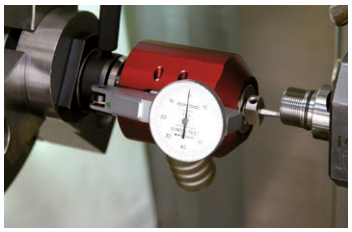
With Torque Fit standard wrenches can be used as usually.

Measuring Tools for Machines

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

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

Easy Centering with Static Dial Gauge



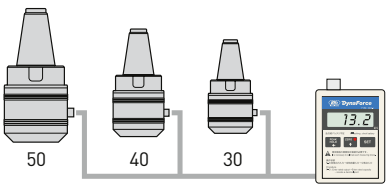
Quick detection of the cutting edge position.

Effective in reducing setup time for NC Lathes. Detectable with various tool bits for external, internal and face turning.

Dyna Force

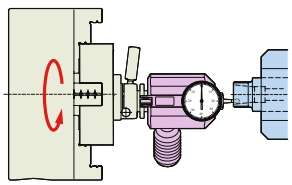
Measuring device for pulling force of machine tool spindle.

ISO



Centering Tool

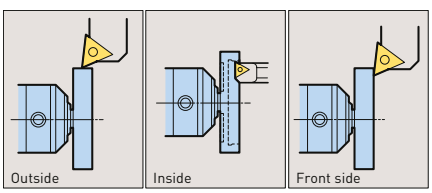
Centering the tool holder while seeing the dial gauge is possible, as the dial position is static at front. Easy setting with fine adjustment mechanism. Magnet base allows for flexible mounting positions.



Lathe Master

Tool seting without measuring cut.

ST



The complete product overview and accessories
can be found in the BIG DAISHOWA main catalogue.
www.bigdaishowa.eu

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