

BIG KAISER



A Member of the
BIG DAISHOWA Group



PRODUCT GUIDE



Awaji Factory, Japan



Awaji Factory, Japan



Logistic center, Japan



OUR VISION OF PRECISION

We strive for perfection. This is why our products meet the highest requirements in the industry thanks to uncompromising quality control combined with decades of experience.

Our vision is precision
– our goal is perfection.

BIG KAISER is a member of the Japanese BIG DAISHOWA Group. We manufacture our products exclusively in Japan and Switzerland. Together we produce precision tools and systems for the metalworking industry. Especially for biomedical engineering, automotive, aerospace and watchmaking industries, the quality and precision of our products is indispensable. Around 1000 employees worldwide contribute to the uncompromising quality of the more than 20,000 items in our product range.

EXPERTISE – GLOBALLY GUARANTEED

Our dense network of worldwide contacts guarantees you competent advice on site. Our expert teams will be happy to help you find individual product solutions for your needs.



Heinz Kaiser



Rümlang, Switzerland

TWO STORIES, ONE GOAL

BIG DAISHOWA was founded in 1967 in Osaka, Japan, where it first began producing tool holders to meet the most demanding tool applications. The vision has not changed since then: highest precision with the best quality products enables the greatest possible benefit for production facilities.

BIG KAISER: In 1948, 23-year-old Heinz Kaiser decides to set up his own business. His vision: The development of high-quality tools. His goals: The modern tools produced in his workshop should meet high standards. With his Schaublin 102 TO lathe, he moves into his first own workshop in Rümlang, Switzerland. After decades of partnership, KAISER became a member of the BIG DAISHOWA Group in 2015 and has since become BIG KAISER.



Awaji Factory No.3, Japan

PERFORMANCE PROVIDES PROFIT AND PAYS OFF

You benefit from highly precise and reliable tools in several ways. On the one hand, they guarantee maximum process reliability. On the other hand, they make expensive work steps such as honing or grinding partially redundant. This saves time and cost in the production process without having to sacrifice quality to the highest standards.



INVENTING THE FUTURE



Thanks to decades of experience and continuous investment in research and development, BIG KAISER products today stand for uncompromising quality. We see research and development of innovative products as indispensable to achieve the highest standard in quality and precision. Results of this philosophy are products like the market-leading BIG-PLUS® Spindle System or digital wireless communicable boring tools of the EWE series.

BIG DAISHOWA GROUP

Production facilities	11 in Japan, 1 in Switzerland
CNC machines	> 700 (>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 / BBT30-40-50, BDV40-50

BIG PLUS BBT / BDV / BCV

The original simultaneous taper and flange fit spindle system

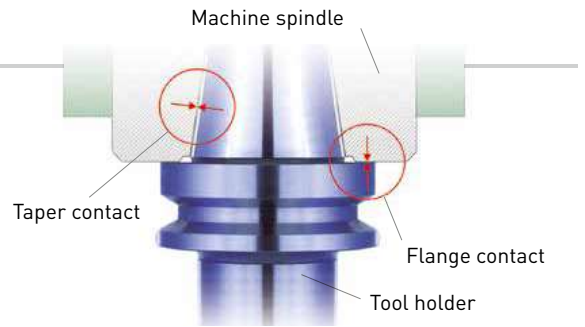


The BIG-PLUS spindle system exceeds all other interface concepts thanks to simultaneous taper and face contact between machine spindle and tool holder. Furthermore the system offers full interchangeability with existing machines and tool holders.

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.

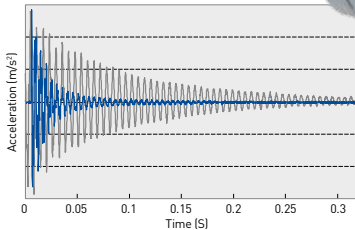
The BIG-PLUS Spindle System is based on the most current available standards in JIS B6339(BBT) and DIN 69871(BDV).



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 & BK 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 App

The new 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

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Rough Boring and Fine Boring

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Fine Boring

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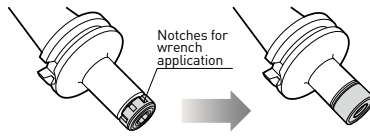


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Collet Chucks

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



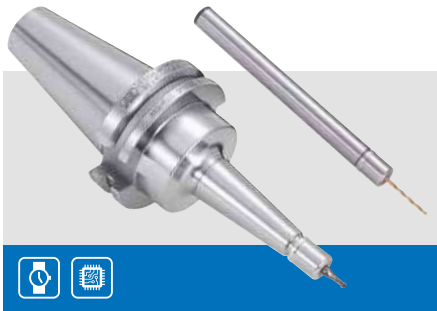
Notch-free design MEGA NUT prevents vibration and reduces noise

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.



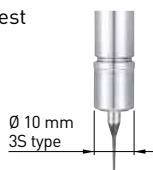
MEGA Micro Chuck

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



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



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.

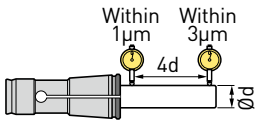
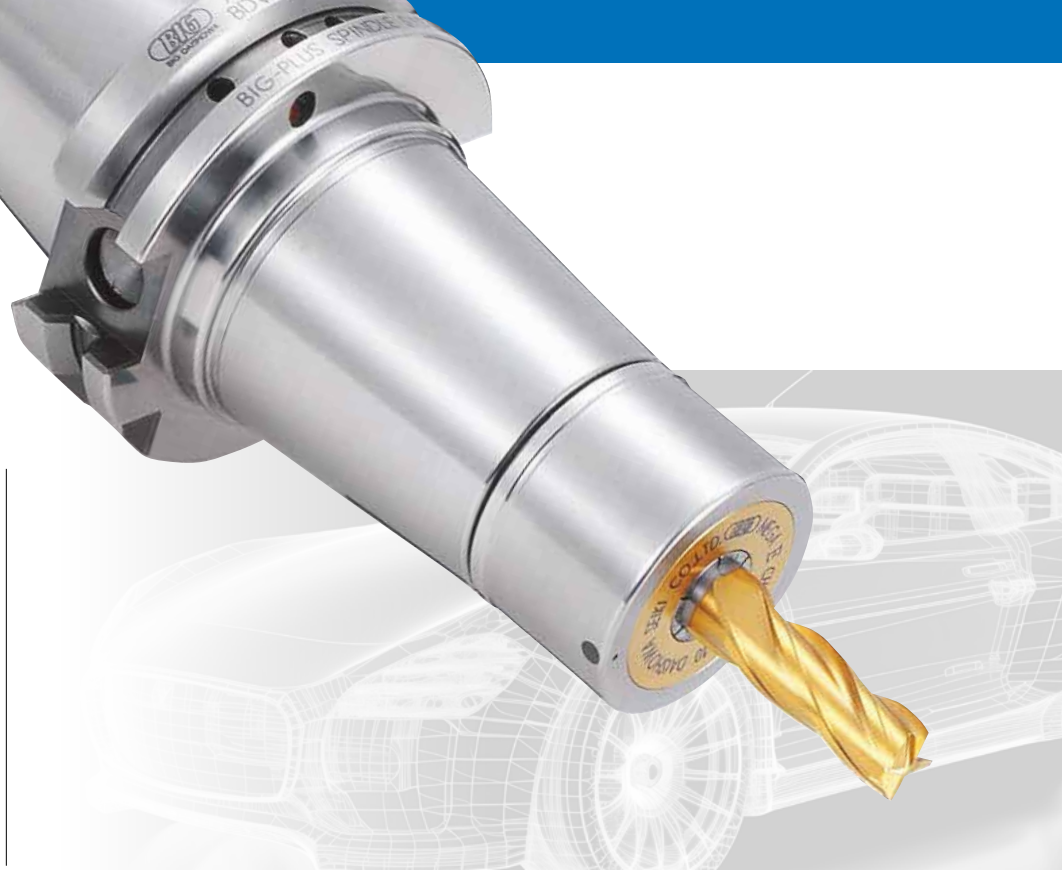
- Max. 45 000 min⁻¹
- Clamping range: Ø 3 - 12 mm



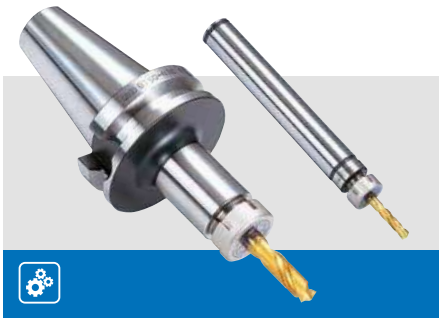
Ideal for burnishing drills and reamers due to extended gripping length.



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

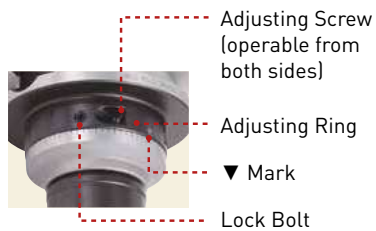


New Baby Chuck NRA

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

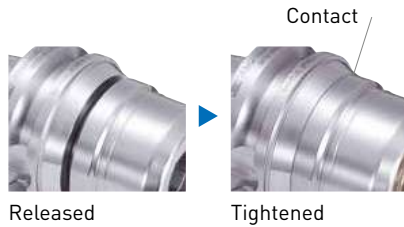


Various collet and nut selection

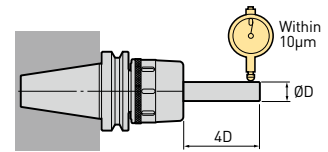


Milling Chucks

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



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

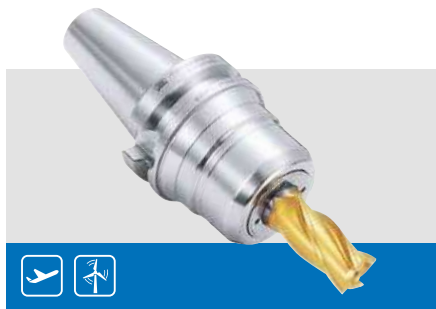
Flange contacting nut and simultaneous taper and flange contact assure highest rigidity.

- Max. 30 000min⁻¹
- Clamping range: Ø 3 - 42 mm

BBT HSK



Type D
Through tools



Mega Double Power Chuck DS

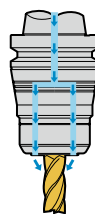
Flange contacting nut assures highest rigidity. Unique coolant supply design ensures efficient coolant supply to the cutting tool peripherally.

- Max. 30 000min⁻¹
- Clamping range: Ø 3 - 42 mm

BBT BDV HSK BIG CAPTO



Type DS
Jet-through



Mega Perfect Grip

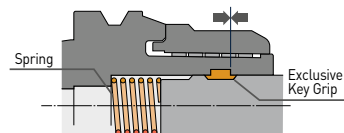
Features 100% security against pulling out the cutting tool under any torque load.

- Max. 18 000min⁻¹
- Clamping range: Ø 16 - 32 mm

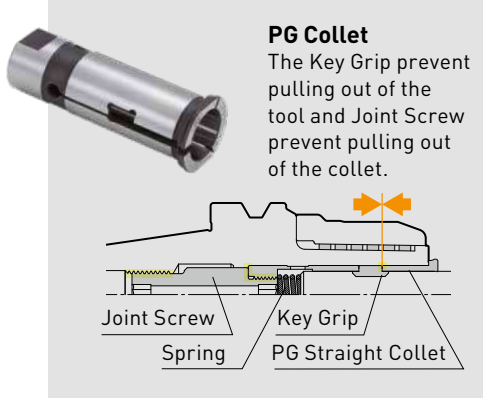
BBT DV HSK

Non-Pullout mechanism

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



Straight collets



Hi Power Milling Chuck Type S

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

- Clamping range: \varnothing 3 - 42 mm



Hi Power Milling Chuck Type HMC12J

Extremely slim and rigid design with jet through coolant.

- Clamping range: \varnothing 6 - 12 mm



Hi Power Milling Chuck Type NRA

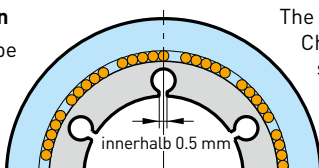
New Hi-Power Milling Chuck with runout adjustable function.

- Clamping range: \varnothing 3 - 32 mm

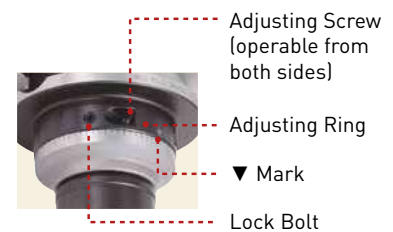


Secure and reliable slit design

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



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



Hydraulic Chucks

Ultra precision hydraulic clamping chuck holder with various additional features.



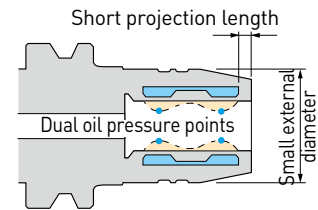
Easy clamping with 1 wrench



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



Jet Through

Coolant or Minimum Quantity Lubrication 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



Super Slim

Ultra precise hydraulic chuck with extremely slim design.

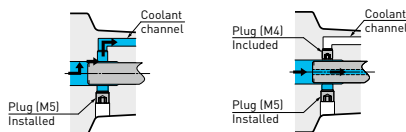
- Max. 45 000min⁻¹
- Clamping range: Ø 3 - 12 mm

BBT BDV HSK BIG CAPTO ST

Cylindrical versions available.



BBT BDV HSK BIG CAPTO

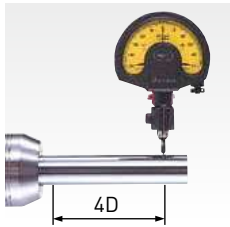


Peripheric

Center Through

BBT BDV HSK ST





**Runout accuracy less than 3 µm /
HDC-UP less than 1 µm**

High precision runout accuracy less than 3µm at 4d improves the workpiece surface finish and extends tool life.

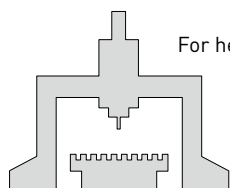


E Type

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.



Ultra Precision Type

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

- Max. 60 000min⁻¹
- Clamping range: Ø 3 - 6 mm

HSK



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

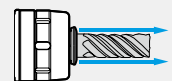
Straight collets



PJC Collets
For coolant to cutting tool periphery.



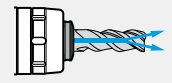
Jet Through



PSC Collets
For coolant-through tools.



Through Tool



Shrink Chucks

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

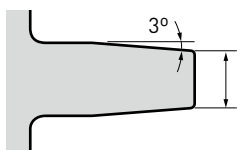


Standard

Substantial body provides higher rigidity.

- Max. 40 000min⁻¹
- Clamping range: Ø 4 - 20 mm

BBT BDV HSK BIG CAPTO



Outer Diameter Ø 10 - 34 mm

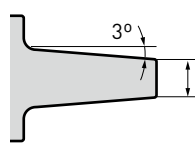


Jet Through

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

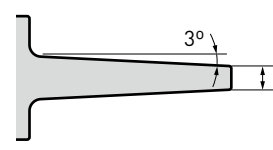


Slim

Slim design reduces outer diameter for machining in tight spaces.

- Max. 40 000min⁻¹
- Clamping range: Ø 4 - 12 mm

BBT HSK BIG CAPTO ST

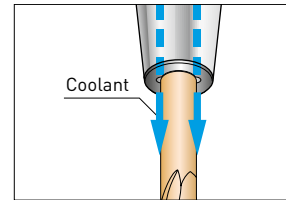


Outer Diameter Ø 10 - 19 mm

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

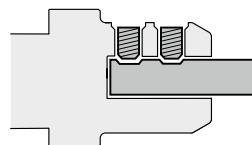


Weldon Chuck

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

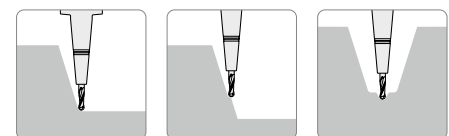


Mold Chuck

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

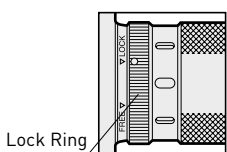
Securely chucks the drill with a simple operation.



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

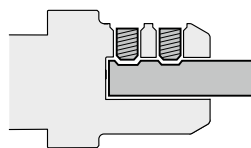


End Mill Holder

For end mills with cylindrical shank and clamping surface according to DIN 1835B (Weldon system) and to DIN 1835E (Whistle notch system).

- Clamping range: \varnothing 6 - 40 mm

CK



Side Lock Holders TSL

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

- Clamping range: \varnothing 16 - 50 mm

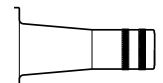
BBT HSK BIG CAPTO

Short



from 75

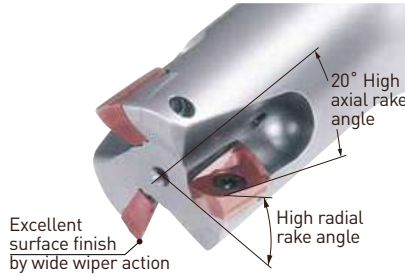
Long



up to 250

Cutting Tools

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



Sharp cutting edge by both high radial and axial rake angles

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

Amazing cutting performance 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



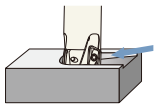
Fullcut Mill FCR

Designed for multi-functional cutting.

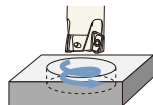
- Max. 40 000min⁻¹
- Ø 16 - 33 mm



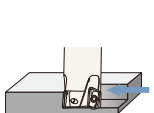
Ramping



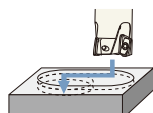
Helical Milling



Shoulder Milling



Peck-drilling



Fullcut Mill FCM

The indexable endmill that combines sharpness and rigidity.

- Max. 40 000min⁻¹
- Ø 16 -100 mm



Application example

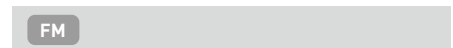
Work material: SUS304
Vertical M/C: No. 40
Cutter dia.: Ø 25 mm
Feed: 0.12 mm/tooth



Speed Finisher

Amazing improvement of surface finish at high speed cutting.

- Max. 20 000min⁻¹
- Ø 50 -160 mm



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.



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.



R-Cutter

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

- Radius: 0.5 - 4 mm

ST CK



ST CK



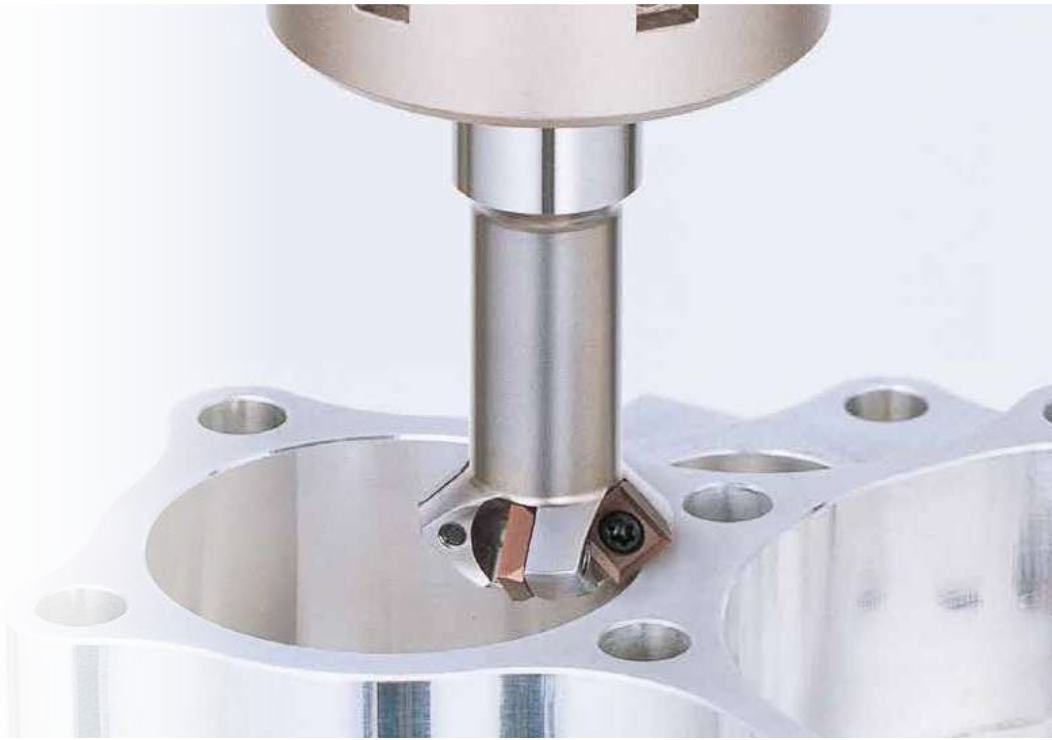
ST CK





C-Cutter Boy

Carbide guide allows stable cutting.



BF-Cutter

Selected spot facing diameters suitable for cap screws.



Surface Mill

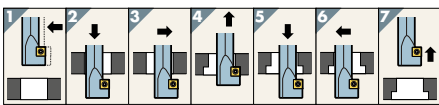
For superior surface finishing.

- Ø 80 mm

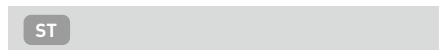


Center-Boy

Accurate centering and chamfering in one single operation.



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



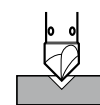
Versatility of the insert
Sharp cutting edge of C-Cutter Mini insert make superior surface finish.



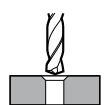
Surface Mill Rz = 1.42
Material = C50
V = 200 m/min
Fz = 0.2 mm/min
Ap = 3
Ad = 75



Center Boy



Drill



Highly accurate and replaceable bit



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.



Inserts



Inserts for C-Cutter Standard Type



Indexable Inserts for C-Cutter Mini



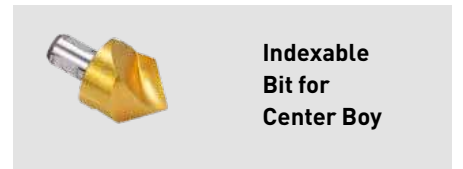
Indexable Inserts for R-Cutter



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

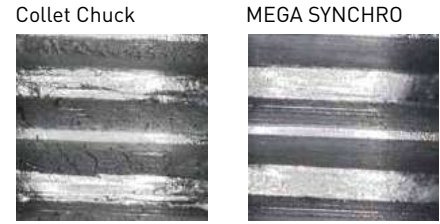
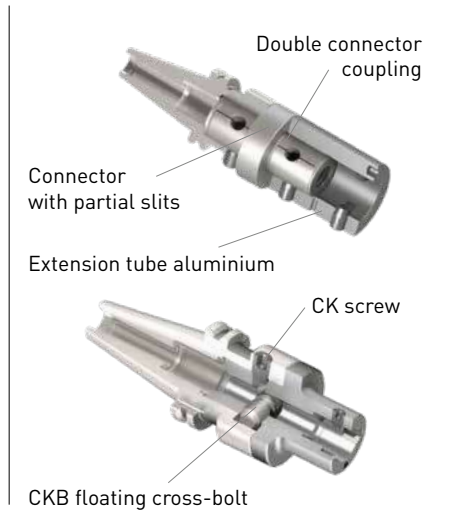
ST

Capable of both spot drilling and chamfering



Boring / General machining / Tapping

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



Spiral tap M5 / Material: SNCM420

Boring



CK interfaces

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

General machining



Capto interfaces

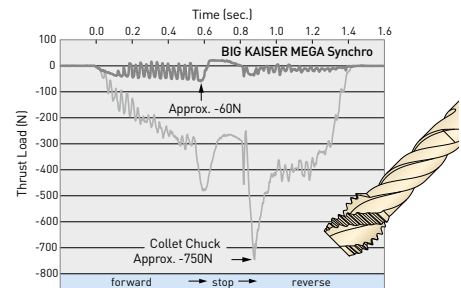
Sandvik Coromant developed a triangular polygon shaped taper dual contact system. BIG DAISHOWA launched licensed production in 2000. Polygon taper eliminates clearance, making it an ideal interface for turning.

Tapping



MEGA Synchro Tapping Holder

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

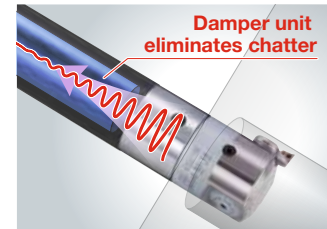


Tapping: M6 V: 20 m/min (1060 min⁻¹)

Cutter Heads / Screw in heads

Interchangeable dampers, heads and extensions 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



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

Cutter heads



FMH

For cutters that have a coolant bore through the face.



SDF with Smart damper

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

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

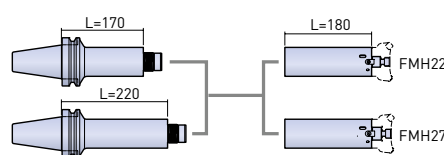


Caution

If attaching both a Basic Holder and damper head, note that the damper head cannot be removed once it has been used for work.

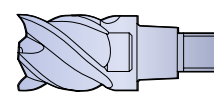
BBT BDV HSK

Combination examples



BBT BDV HSK

For metric milling heads



Circular sawing / Morse

Circular sawing

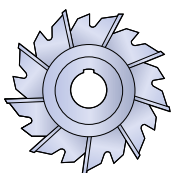


Side Cutter Arbors

Side mill arbor capable of securely supplying coolant/air to cutting edges.

- Length: 75 - 135 mm

BBT BIG CAPTO



Shaft size:
25,4 - 38,1 mm

Morse

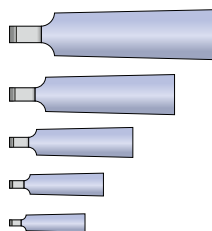


Morse Taper Holder

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.



Chip Fan in Action
See accessories in
main Catalogue A8

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





Typ New Baby Chuck Compact / BBT30

Significantly reduces work time through systematized multilateral machining.

BBT



New Baby Chuck Type

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

BBT BDV HSK



New Baby Chuck Type Extra Long Type

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

BBT



Twin Head Type

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

BBT HSK



OAG Type

Jacket 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.

BBT HSK



BBT30 Light Weight Type

Weight under 2 kg. Clears ATC weight restrictions BBT30 Lightweight Type.

BBT

Angle Heads



Angle Head Compact Type

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

BBT BDV



Small Bore Type

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

BBT BDV HSK



HMC Type

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

BBT



Build-Up Type

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.

BBT HSK



Universal Type

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

BBT HSK



AGU30 Type

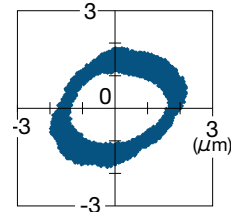
Spindle angle is adjustable from 0° to 30° . Large swivel flange assures high rigidity.

BBT

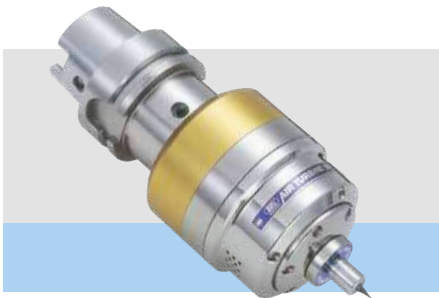


Air Turbines

The ultra-precision spindle enables challenging micromachining.



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.

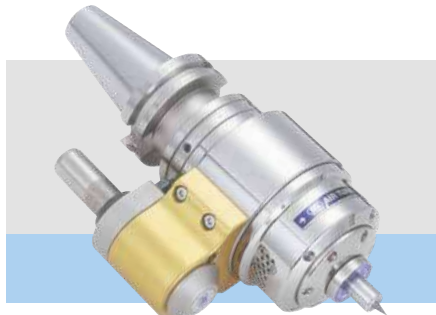


Air Turbine Spindle Center Through Type

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



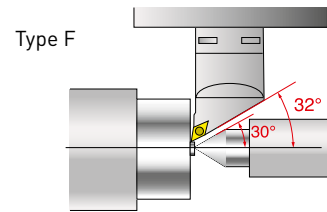
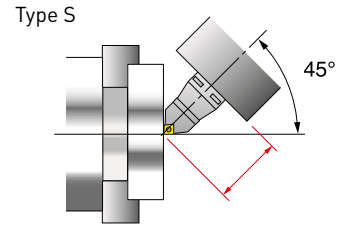
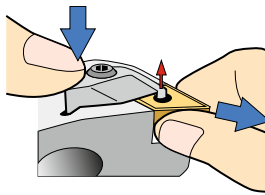
Compressed air regulator/filter required for the air turbine

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.



Basic Holder Type S

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



Square Tool Holder

For various operations including external turning, grooving and threading.



Boring Bar Holder

Application: boring and thread cutting.

BBT HSK BIG CAPTO



Cartridges Type S

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

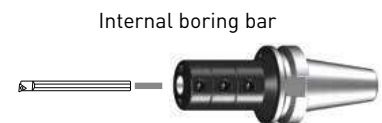
BBT HSK BIG CAPTO



Square tool

Square Tool Holder

BBT HSK BIG CAPTO



Internal threading tool

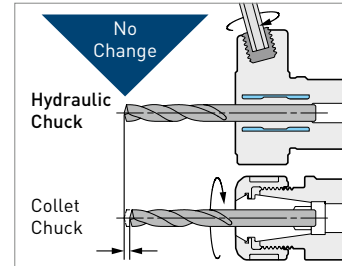
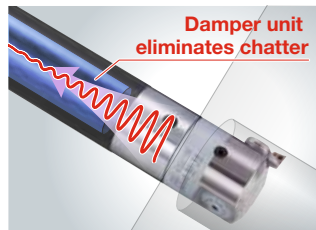
Side Lock Holder for Boring Bar

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-pending 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.



Holder Smart Damper

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

- Length 120 - 520 mm



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



Cartridges Type F

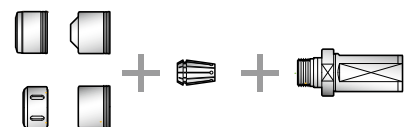


Cartridges



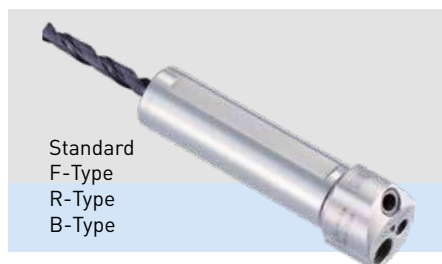
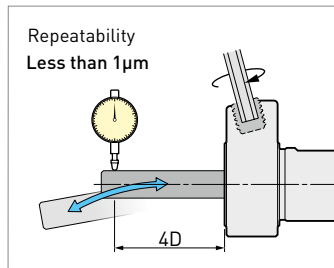
Positive

Negative



±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 PAT.



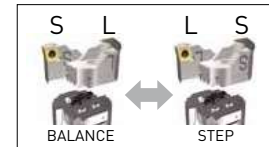
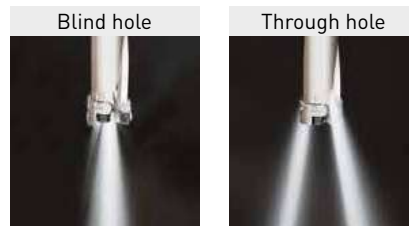
Basic holder can be used with both right- and left-hand cartridges.



Insert Drills / Boring Heads

The BIG KAISER indexable insert drills series are made with different flutes forms. These designs guarantee chip evacuation and high radial and torsional rigidity.

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



Rough Boring Balance

High feed rates

Rough Boring Step

Double stock removal, half the feed rate



Indexable Insert Drill

Indexable insert drills for 2xD and 3xD with CKB tool interface.



MW std /carbide

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



SW

Super-versatile rough boring head for highest cutting performance: Thanks to its clever design, the SW can be used for stepped and balances roughing by simply switching the insert holders. Various accessories are available for chamfering, back boring and face grooving.

CK



Drill holders with for stepless diameter adjustment of BIG KAISER insert drills with CKB6 tool interface.

ST



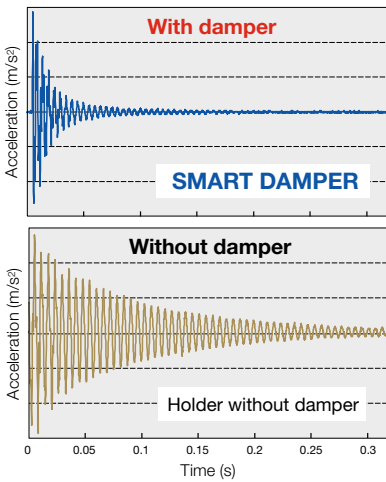
High efficiency small diameter rough boring with 2 inserts. Carbide shank for enhanced deep hole boring performance.

CK BIG CAPTO

Back Boring Chamfering Face Grooving



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.

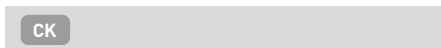
The diameter of a fine boring tool can be adjusted within microns with a high precision mechanism.

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



SW Smart Damper

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.



EWA

intelligent,
fully automatic
fine boring

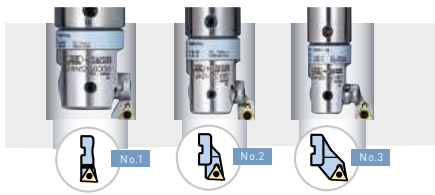
The EWA is an intelligent, fully automatic fine boring tool, which performs closed-loop boring operations. With the EWA there is no need to stop the machine tool to take measurements and manually adjust the boring tool, resulting in considerable time savings. By eliminating human interaction, the likelihood 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 \varnothing 68 mm to \varnothing 3000 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.



Back Boring



Pin Turning



Peripheral Boring Heads

The single cutter boring tool program for fine boring covers a range of $\varnothing 20 - 203$ 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.



Face Grooving



Pin Turning



Combi Boring Heads

Fine boring heads with centric boring bars and peripheral insert holder for accurate, high performance operations. The head comes with variable length adjustment of the boring bar.

Analogue and digital versions available.



Versatile tool insert options



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



Measuring Tools for Machines

Next to tool holders and cutting tools big also produces a high end line of measuring instruments to optimize machine performance.



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.



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.



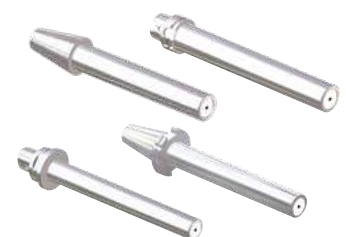
Dyna Test

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

BBT HSK ST

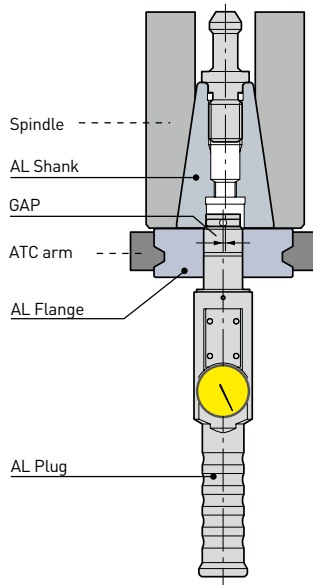
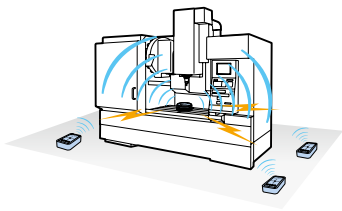


BBT BDV HSK BIG CAPTO ISO



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.

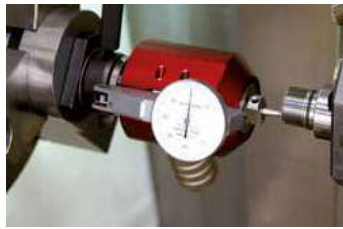


Measuring Tools for Machines

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.



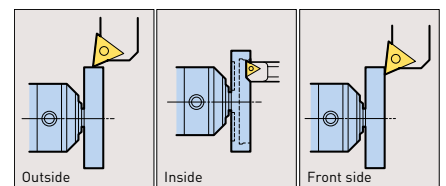
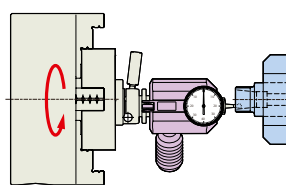
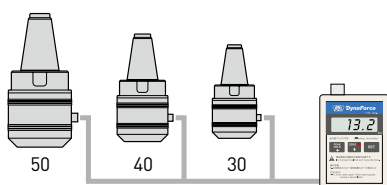
Centering Tool

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 setting without measuring cut.





The BIG KAISER catalogue is constantly being updated with new products. To keep up to date with the latest news, check the online catalogue on our website www.bigkaiser.eu or subscribe to our newsletter and you will always be kept up to date with new products.

