



PRODUCT GUIDE — TOTAL TOOLING SOLUTIONS
VOL. 2

WHO WE ARE



BIG DAISHOWA designs, manufactures and markets premium high-precision tooling systems and solutions for the automotive, military, aerospace, energy, and micro-technology industries. Our product portfolio is comprised of more than 20,000 precision tools, which adhere to the highest quality standards. Our products are of the utmost quality—manufactured with materials and craftsmanship that enable superior performance. BIG DAISHOWA has grown into a well-recognized global manufacturer with facilities in Japan, Switzerland, Germany and the USA.

You don't compromise and neither will we. Our mission is to find the best solution for you and deliver it with a personal commitment of efficient and measurable performance improvements.

BIG DAISHOWA delivers the most accurate and efficient tooling solutions – guaranteed.



UNITED STATES
BIG DAISHOWA est. in 1990

SWITZERLAND
BIG KAISER est. in 1948

JAPAN
BIG DAISHOWA est. in 1967

GERMANY
BIG DAISHOWA est. in 2010



BIG DAISHOWA — USA



BIG DAISHOWA — JAPAN



BIG KAISER — SWITZERLAND



BIG DAISHOWA — GERMANY

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BIG-PLUS TOOLING SYSTEM

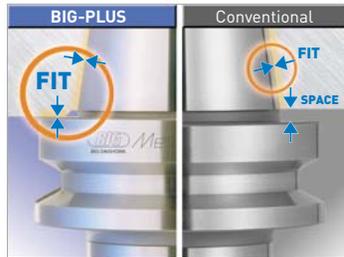
Simultaneous Taper & Flange Fit

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

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



The BIG-PLUS spindle system is based on the most current available standards in ASME B5.50, JIS B6339 and DIN 69871.



BIG-PLUS Spindle System Machine Builders

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

[As of Feb 2022]

BIG CAPTO TOOLING SYSTEM, ISO 26623-1

Polygon tapered dual-contact system (1:20 taper) where the face and taper of a machine spindle and tool holder are in contact. This modular tooling system strengthens the performance of milling and turning operations for MTCs.

The trademark Capto is licensed from Sandvik Coromant.



Variety

A wide variety of rotary tool holders such as the high-precision MEGA CHUCK series are available, as well as a modular turning tool system for MTCs.

Excellent Repeatability

The perfect fit of the polygon taper to drive spindle rotation ensures high repeatability.

Excellent Runout Accuracy

The combination of a self-centering 1:20 taper and the long taper edge ensures stable runout accuracy.



HSK TOOLING SYSTEM

Dual-contact system featuring a 1:10 taper in accordance to ISO & DIN standards. Since HSK is a hollow taper shank, the material plays a critical role for optimum performance. We use carefully selected high-grade alloy steels, and all critical features are finished after heat treatment.



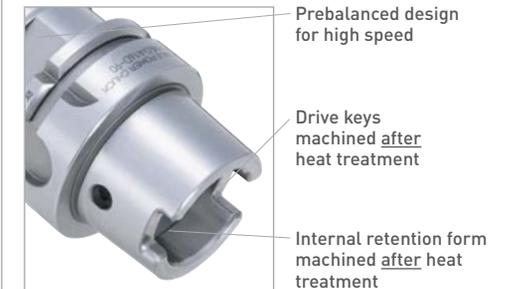
A Variety of HSK Types and Sizes

Form A: 25/32/40/50/63/80/100/125

Form E: 25/32/40/50

Form F: 63/80

Form T: 50/63/100



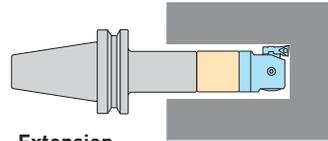
CK MODULAR TOOLING SYSTEM OVERVIEW

Through high-precision modular technology, a wide range of selections are available for rough and fine boring — from micro to large diameter. The modular system also includes tooling solutions for OD turning, drilling, milling, tapping and grooving.

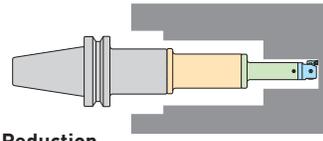


STANDARD COMPONENTS FOR CUSTOM APPLICATIONS

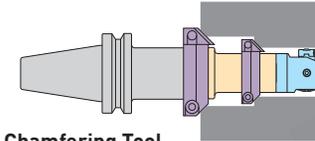
The modular system allows you to assemble standard items to optimize performance for various requirements.



Extension



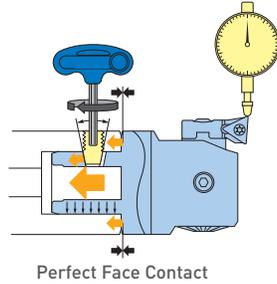
Reduction



Chamfering Tool

CK/CKB CONNECTIONS

AVAILABLE IN
 CV40/45/50, BCV40/50, BT30/40/50, BBT30/40/50,
 HSK-A25/32/40/50/63/80/100/125, HSK-E25/32/40/50/63, HSK-F63/80M & C5/6/8



CK Connection

Consists of a cylindrical male pilot and female receptacle. The connection is made by means of a radial locking screw with a 15 degree taper.

CKB Connection

Derived from the CK connection without loss of all technical and dimensional features or interchangeability and ease of maintenance. The CKB connection is equipped with a floating drive pin which engages on both sides into respective pockets in the mating part.

Shanks

Extensions

Reductions



CKN CONNECTION



AVAILABLE IN
 CV40/50, BCV40/50, BT40/50,
 BBT40/50 & HSK-A63/100

The KCN connection is almost 100% compatible with CKB and is based on a 3-screw connection with double connector steel couplings and aluminium tubes as extensions, allowing the highest torque transmission. By tightening the 3 screws, the slotted male connection expands and gives additional rigidity to the tool connection.

Shanks

Extensions



BORING TOOL APP



App provides precise cutting info to optimize tool assembly & operation and stores tool adjustment records for later use.

- Cutting data calculator
- Tool adjustment calculator
- Easy access to operating manuals
- Communicates with EWE digital boring heads



Settings

Set default language and units of measurement



Tool Overview

Get cutting data that is specific to your application



Application Data

Receive insert recommendation and operating parameters



Tool Tips

Assistance is provided with tool assembly optimization pop-ups

MEGA CHUCK SERIES – Ideal for High-Speed Applications

MEGA CHUCKS are a multi-functional high-speed holder series designed to optimize high speed and precise cutting with drills and end mills. All components, including body, collet, nut and clamping wrench are specifically designed for balanced high speeds.

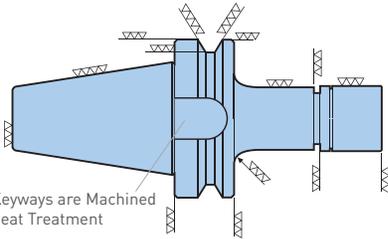


ALL MEGA CHUCKS AVAILABLE IN
BCV, BBT, HSK &
BIG CAPTO



Precision Ground and Balanced for High-Speed Machining

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



Drive Keyways are Machined After Heat Treatment

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



MEGA MICRO CHUCK



MAX
50,000
RPM

Also available in straight shank & N/C lathe type. See pg. 15.

WORLD'S SMALLEST COLLET NUT
Ø.394" (MEGA35)

Clamping Range: Ø.018"-.317"

For micro drill & end mill applications.

Super slim design with Ø.394" nut prevents interference with workpieces and jigs.

Super slim tapered design adds rigidity during micro end milling.

MEGA MICRO SEALED & JET COOLANT NUT

For MEGA MICRO 6S & 8S. Unique design increases sealing performance with higher coolant pressure to create a perfect seal.



World's Smallest Clamping Intervals

MEGA MICRO COLLET

Wide coverage for small shanks is available with clamping intervals of Ø.004" (Ø.1mm).



Compact in size, but excellent clamping force for small precision applications.

WRENCHES



The MEGA WRENCH has a uniquely designed one-way clutch system with a roller bearing and ratchet function that is capable of safely and evenly applying force on the entire nut periphery.

AVAILABLE WITH
DIGITAL READOUT



MEGA NEW BABY CHUCK



MAX
40,000
RPM

Clamping Range: Ø.010"-1.000"

For drills, reamers, taps and finishing end mills.

World's highest precision & multi-purpose collet chuck system is recognized by the market for its high-speed application and guaranteed 1 micron runout.



MAX COOLANT
PRESSURE
1,000
PSI

MEGA PERFECT SEAL

Unique design increases sealing performance with higher coolant pressure. Remove the PS Ring to supply coolant to the cutting tool periphery.

High-Precision Collet



NEW BABY COLLET

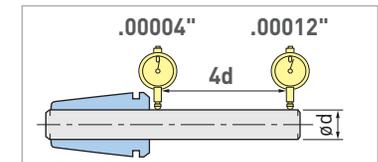
Clamping Range: Ø.010"-1.000" & Ø.5-25.4mm

The world's highest precision collet was developed based on BIG's long experience and know-how, and each collet is inspected twice to guarantee the maximum runout tolerance permitted.

1µm
AT COLLET NOSE
3µm at end of test bar

All BIG Collets are
AA Grade and inspected
twice for accuracy

Guaranteed Max Runout



COLLET CHUCKS



MEGA ER GRIP



Clamping Range: $\varnothing.075$ " - $.787$ "

For drills, reamers, taps and finishing end mills.

The total precision of our collet, nut and body when used together shatter the common standard of ER collet chucks. Incredibly low runout will provide dramatic payback by improving machining capability & reducing production costs.



MAX 33,000 RPM

Also available in N/C lathe type. See pg. 15.



MEGA ER PERFECT SEAL

For two-way coolant supply.

THROUGH TOOLS



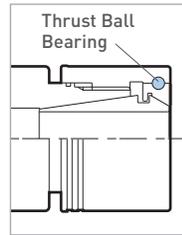
JET THROUGH



MEGA ER NUT

A notch-free nut prevents vibration and noise. Steel balls in the thrust bearing are retained by a mechanism inside the nut designed for high speed operation.

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



MEGA ER SOLID NUT

Slot-free outer diameter increases rigidity of the nut.



ER NUT

Basic nut with surface treatment for friction reduction.

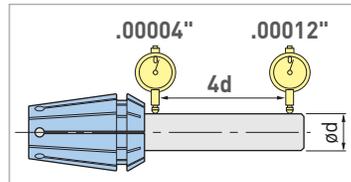
Best Runout Accuracy in The World



ERC COLLET

Each ERC collet is inspected twice (0° and 180°) at four times diameter to guarantee the runout accuracy.

Guaranteed Max Runout

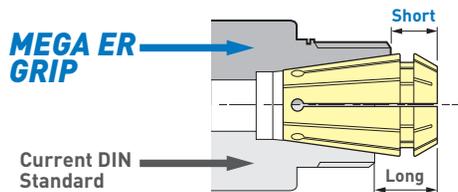


1 μ m AT COLLET NOSE
3 μ m at end of test bar

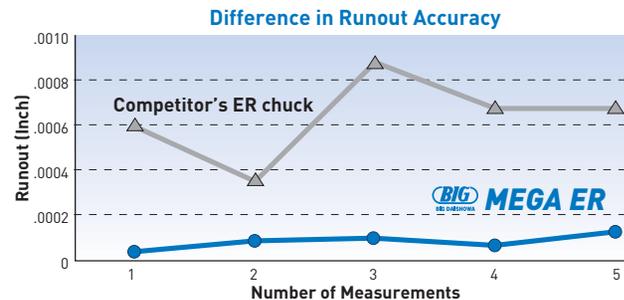
All BIG Collets are AA Grade and inspected twice for accuracy

High Rigidity Body

By increasing the contact length of the internal taper of chuck bodies, the undesired overhang of the collet is reduced. This modification of the current DIN standard improves 3 of the most important requirements a collet chuck: rigidity, runout accuracy & clamping force.



High-precision runout accuracy less than $.00012$ " (3μ m) at $4x$ D improves the workpiece surface finish and extends tool life. Repeatability has less than $.00006$ " (1.5μ m) of variance.



MEGA E CHUCK



Clamping Range: $\varnothing.125$ " - $.500$ "

Exclusively for high-speed finish end milling.

The advanced tapered body technology enhances rigidity to prevent chatter and deflection with precision.

MAX 35,000 RPM



Slit-through coolant with standard MEGA E NUT

MEGA E PERFECT SEAL

Optional sealed collet nut for coolant through tools. Remove the internal PS Ring to supply coolant to the cutting tool periphery.

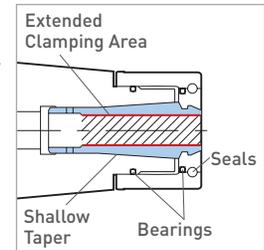
However, by using the standard MEGA E NUT, coolant can still be directed to the cutting tool through slits in the collet, as seen above.

Powerful Clamping Force



MEGA E COLLET

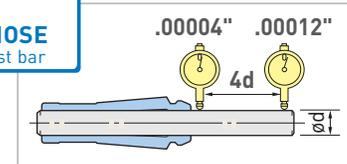
Exact sizes, shallow taper and extended clamping length enhances the clamping and self-centering forces for stable performance.



1 μ m AT COLLET NOSE
3 μ m at end of test bar

All BIG Collets are AA Grade and inspected twice for accuracy

Guaranteed Max Runout



MILLING CHUCKS

NEW Hi-POWER MILLING CHUCK

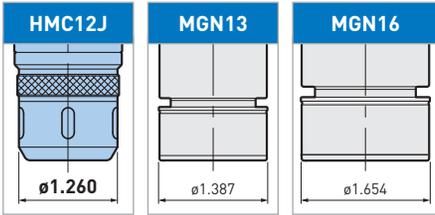


New HSK inch sizes are now available as a standard item.

Clamping Range: \emptyset .500" - 1.500" (12-42mm)
 For heavy-duty end milling.
 The thick wall body and high gripping force ensures high rigidity and stable performance. Fine and narrow slits in the body make the clamping part deform properly to ensure even and strong gripping force and stable runout. Now available in BIG-PLUS as standard.
 See PJC collets on pg. 9 for reduction and coolant delivery options.



HMCJ Type
 Clamping Range:
 Beginning at
 \emptyset .500" (\emptyset 12mm)

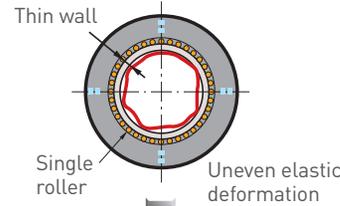


Also available in \emptyset 32mm straight shank type.

Powerful Clamping for Heavy Cutting



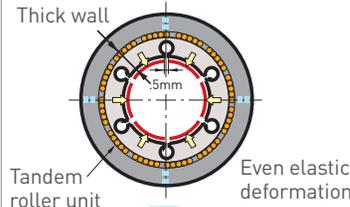
CONVENTIONAL MILLING CHUCKS



Decreased runout accuracy and insufficient gripping force.

No escape route for oil film which causes processing failure. Remaining oil film reduces gripping power and may cause slip.

BIG HMC



Stable runout accuracy and high gripping force.

The narrow slit maintains an escape route for any oil film.

MEGA DOUBLE POWER CHUCK



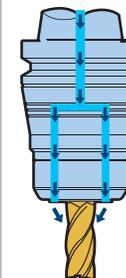
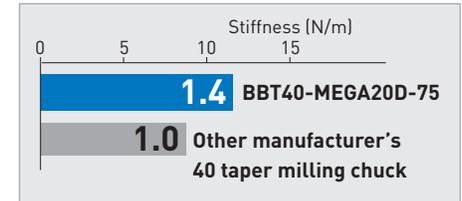
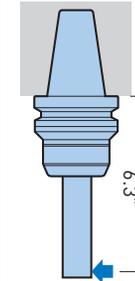
Clamping Range: \emptyset .500" - 1.500" (12-50mm)
 For heavy-duty end milling.
 Complete contact of nut and body achieves high rigidity, close to that of an integral tool to ensure heavy cutting without chatter. Notch-free nut makes high speeds possible.



**MAX
 30,000
 RPM**

Powerful Clamping Force

Deflection test to compare with other manufacturer's milling chuck proves that the MEGA DOUBLE POWER CHUCK has achieved 1.4 times higher rigidity.



Secure Coolant Supply

Designed to delivered the most effective coolant supply.
 Collets available for reduction and more directed coolant delivery. See pg. 9.

Coolant is reliably directed to cutting tool periphery from chuck nose.



Type DS

MEGA PERFECT GRIP MILLING CHUCK



Clamping Range: $\varnothing.750$ " - 1.250 "

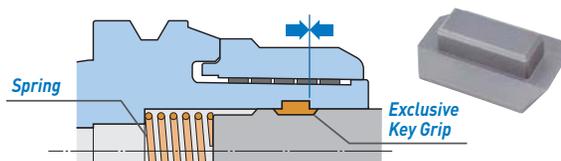
For heavy-duty end milling.

High-performance no-slip, anti-pullout milling chuck for use with standard Weldon flat milling cutters. MEGA PERFECT GRIP combines the cutting performance of heavy-duty milling chucks with security against pullout of solid side lock tool holders. High pressure and high volume, jet-through coolant is a standard feature providing an ideal solution for milling Heat Resistant Super Alloys (HRSA) such as titanium or inconel.



Non-Pullout Mechanism

The Key Grip engages in the groove of the chuck body to ensure no tool pullout and also maintains contact with the stopper pin to prevent slip under high torque.



HYDRAULIC CHUCK



Now available in $\varnothing4$ - 20 mm straight shank type.

High Precision Runout Accuracy Less Than $.00012$ " ($3\mu\text{m}$) at 4xD

Achieve superior workpiece surface finish and longer tool life with high-precision runout accuracy of less than $.00012$ " ($3\mu\text{m}$) at 4xD. Our cutting-edge technology ensures exceptional repeatability of less than $.00006$ " ($1.5\mu\text{m}$).

HYDRAULIC CHUCK

Clamping Range: $\varnothing.250$ " - 1.250 " ($\varnothing3$ - 32 mm)

For machining processes that demand exceptional accuracy and surface finish, our hydraulic chuck is the ideal choice. Whether you're using drills, reamers, ball mills, end mills, diamond reamers or grinding tools, our holder ensures outstanding performance.

HDC JET-THROUGH COOLANT



Available in HSK-A63.

Clamping Range: $\varnothing.250$ " - $.500$ " ($\varnothing4$ - 32 mm)

Three coolant holes directed precisely to the cutting edges increase tool life and improve surface finishes.

HYDRAULIC CHUCK SUPER SLIM

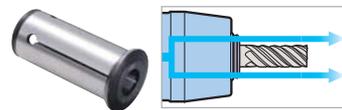


Available in HSK-E25/32/40 for $\varnothing3$ mm shanks.

Clamping Range: $\varnothing.125$ " - $.500$ " ($\varnothing3$ - 12 mm)

Slim design is perfect for 5-axis machining, as it eliminates interference and enables smooth and efficient operation.

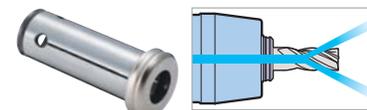
REDUCTION COLLETS



PJC

Clamping Range: $\varnothing.250$ " - 1.000 "
 $\varnothing3$ - 32 mm

For coolant to cutting tool periphery in hydraulic and milling chucks.



PSC

Clamping Range: $\varnothing.250$ " - 1.000 "
 $\varnothing3$ - 25 mm

For coolant-through tools in hydraulic chucks.



Straight Collet

Clamping Range: $\varnothing.250$ " - 1.000 "
 $\varnothing6$ - 40 mm

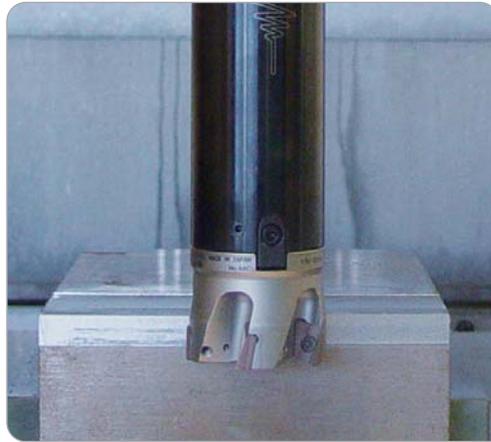
Reduction sleeve for smaller diameter cutters in milling chucks.

SMART DAMPER MILLING



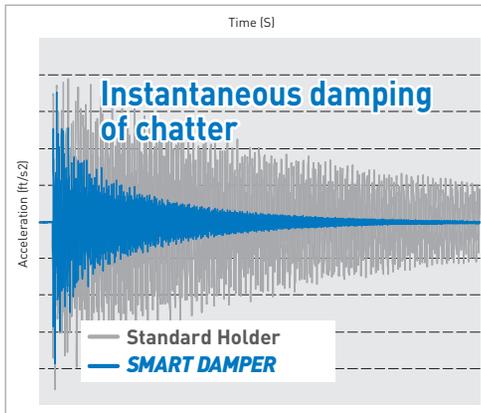
Pilot: Ø22mm, Ø27mm & Ø32mm
Ø.750" & Ø1.000"

AVAILABLE IN
BCV, BBT
& HSK



Integrated Damping System for Milling

During extended reach face milling, a unique dynamic damping system eliminates vibration for higher productivity. Quiet, vibration-free milling with SMART DAMPER long projection tools provides better surface finishes and higher metal removal rates.



RATIO
6:1L/D

Tool Holders with Built-in Damping System

Face Mills: Ø2.500" - 3.000"

PULL STUD BOLTS



Tensile strength is improved by utilizing tool steel (H13) or die steel. Strong centrifugal forces can cause tool holders to be pulled out of the machine spindle at high speeds, but our high tensile strength retention knobs provide essential protection against this. Ensure optimal performance and safety with our top-quality pull stud bolts.

MILLING HOLDERS



End Mill Holder

Clamping Range: Ø.250" - 2.500" (6-50mm)
Gage Length: 3.000" - 8.000"
Tapers: BCV40/50, BBT30/40,
HSK-A40/50/63/100/125 & C6/8



Shell Mill Holder

Pilot Range: Ø.750" - 2.500"
Gage Length: 2.000" - 12.000"
Tapers: BCV40/50, BBT30/40,
HSK-A40/50/63/100/125 & C4/5/6/8



Available in high rigidity type ASME B5.50-2015.



Shrink Fit Holder

Clamping Range: Ø.250" - 1.250" (4-20mm)
Gage Length: 3.500" - 6.500"
Tapers: BCV40/50, BBT40, C5/6/8
HSK-A50/63/100, HSK-E32 & C6



Blank Bar

Body Size: Ø2.500" - 6.000"
Gage Length: 6.000" - 8.000"
Tapers: BCV40/50, BBT30

Also available with metric clamping sizes.

MODULAR HOLDERS



BIG CAPTO SHANK

BCV40: C5/6
BCV50: C5/6/8
BBT40: C3/4/5/6
BBT50: C3/4/5/6/8

The trademark Capto is licensed from Sandvik Coromant.



BIG KAISER CKB & CKN SHANK

For entire modular system overview, see pg. 5.

TAP HOLDERS

MEGA SYNCHRO TAPPING HOLDER



AVAILABLE IN
BCV, BBT, HSK,
BIG CAPTO & CKB

MGT 6-MGT 20

Tapping Range: ANSI: No.2-AU3/4, JIS/DIN/ISO: M1-M36

54 bodies and 276 tap holders available to improve thread quality and tool life during rigid tapping. Reduces thrust loads caused by synchronization errors up to 90%. Super slim nuts and varied length tap holders provide optimal access to confined areas which eliminates the need for special length taps.



Also available in straight shank & N/C lathe type. See pg. 15.

MGT 3

Tapping Range: ANSI: No.0-No.6, JIS/DIN/ISO: M1-M3



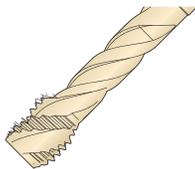
MGT 36

Tapping Range: ANSI: AU13/16-AU1-1/2 / AP3/8-AP1, JIS/DIN/ISO: M20-M36

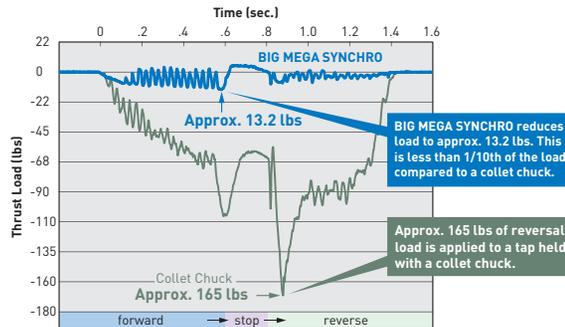
Spiral Tap

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

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



*Measured by Kistler Dynamometer



Coolant Through Center Capability for All Models

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

THROUGH TOOLS



Coolant is Supplied Through Both the Tool and Slits of the Tap Holder

JET THROUGH



Coolant is Supplied Through Slits of the Tap Holder



Secure Drive

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



AVAILABLE IN
BCV, BBT, HSK



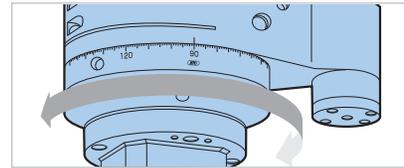
Innovative Sealing Method

The advanced non-contact sealing method prevents coolant and particle contamination better than any other sealing method.



Cutter Head Adjustable 360°

All cutter heads are adjustable a full 360°. Reference faces are provided on both sides for easy setting of cutter direction.



Wide range of compact and rigid heads, from fixed 90° milling chuck types to universal angle types, suitable for all types of machining applications to eliminate multiple setups.

A Variety of Compact and Rigid Heads Suitable for All Types of Machining Applications

AG90 NBS TYPE

∅.010"-.787"
High-precision collet chuck system

AG90 TWIN HEAD

∅.059"-.394"

AG90 LONG TYPE

∅.010"-.787"

AGU UNIVERSAL TYPE

∅.098"-.787"
Angle adjustment by 1° increments

AGU30 TYPE

∅.098"-.787"
30° limited version

AG90 HMC TYPE

∅.250"-1.250"
(∅32mm)
High power design

AG90 BUILD-UP TYPE

Interchangeable adapter system

AG90 COMPACT TYPE

∅.098"-.512"
For drilling/tapping

AG45 NBS TYPE

∅.060"-.512"
45° spindle angle

AG90 SLENDER DRIVE

∅.118"-.236"
Min. ∅1.18" bore

SPECIAL VERSIONS AVAILABLE

HI-JET HOLDER



MAX COOLANT PRESSURE
284
PSI

MAX
10,000
RPM



Coolant inducer designed with the bearings in a separate housing from the coolant. This eliminates coolant leakage into the bearings and wear damage to the body, extending the life of the tool.

Four Types of HI-JET HOLDERS



NEW BABY Chuck

TG Collet Chuck



Side Lock

CKB Shank

SPEED INCREASERS



AIR POWER SPINDLE



AVAILABLE IN
BCV, BBT, HSK

RBX5
MAX 50,000 RPM

RBX7
MAX 80,000 RPM



No Need to Rotate Machine Spindle

Clamping Range: $\varnothing.018$ " - $.159$ "

Super precise air-driven spindle technology enables high-speed micro machining on existing machining centers.

RBX Type

For small diameter drills and end mills. Air supplied via stop block or through the machine spindle. All models have variable speed.

World's Smallest Clamping Intervals



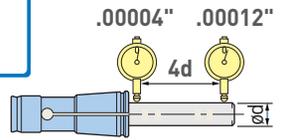
MEGA MICRO COLLET

- Wide coverage for small shanks is available with clamping intervals of $\varnothing.004$ " ($\varnothing.1$ mm)
- Compact in size; excellent clamping force for small precision applications



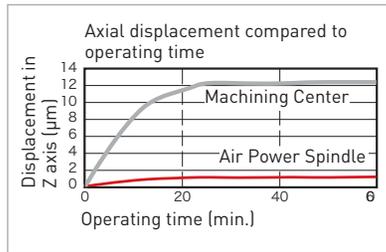
All BIG Collets are AA Grade and inspected twice for accuracy

Guaranteed Max Runout



Minimal Thermal Displacement

The air turbine drive prevents thermal expansion of the spindle, which is essential for die sinking and high accuracy micro machining.



Drastic Time Reduction and Superior Surface Finish



Machining Time: **450 Min.**

Drastic time reduction!
Improved surface finish!

Machining Time: **120 Min.**

with machining center
20,000 RPM

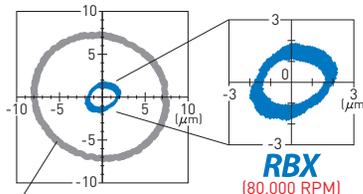
with AIR POWER SPINDLE
80,000 RPM

Map of Japan milled with R .004" ball nose end mill.
Material: Prehardened Steel HRC40

Dynamic Runout Accuracy

High runout accuracy with the MEGA MICRO COLLET, even at high speeds of 80,000 RPM.

Plotted position of a test bar at the max. spindle speed



Machining Center
(30,000 RPM)

RBX
(80,000 RPM)

HIGH SPINDLE



MAX 20,000 RPM



Clamping Range: $\varnothing.059$ " - $.630$ "

Multiplies existing machining center spindle speed 4, 5 or 6 times.

Higher speed machining increases productivity with greater accuracy and superior finishes.



High Precision Collet NEW BABY COLLET

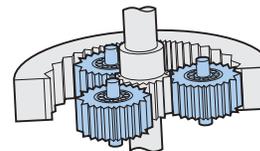
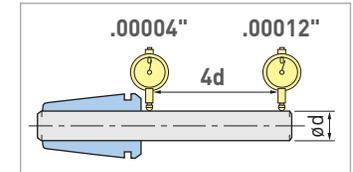
Clamping Range: $\varnothing.010$ " - 1.000 " & $\varnothing.5$ - 25.4 mm

The world's highest precision collet was developed based on BIG's long experience and know-how. Each collet is inspected twice to guarantee the maximum runout tolerance permitted.



All BIG Collets are AA Grade and inspected twice for accuracy

Guaranteed Max Runout



Reinforced Gear Driving System

The planetary gears achieve smooth operation with minimal heat generation and high torque transmission.

Multi-Directional Coolant Supply

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

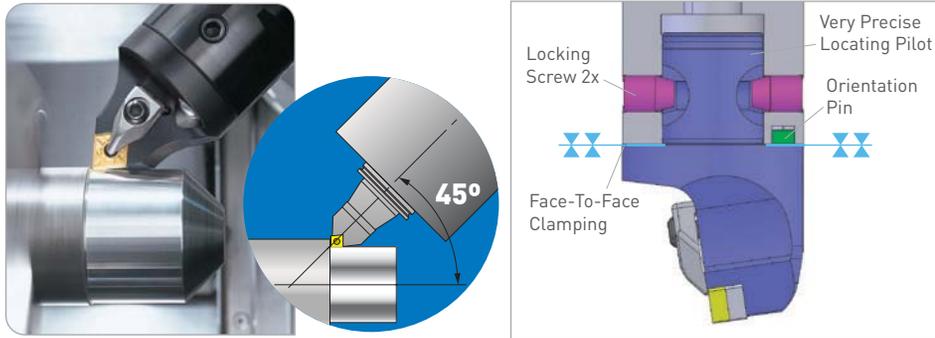


Revolutionary

The first modular tooling system for turning applications on MTCs (Mill-Turn Centers). This system offers improved efficiency, heat treatment, material selection, and optimal tool lengths. Replacing broken inserts is now a hassle-free and cost-effective process.



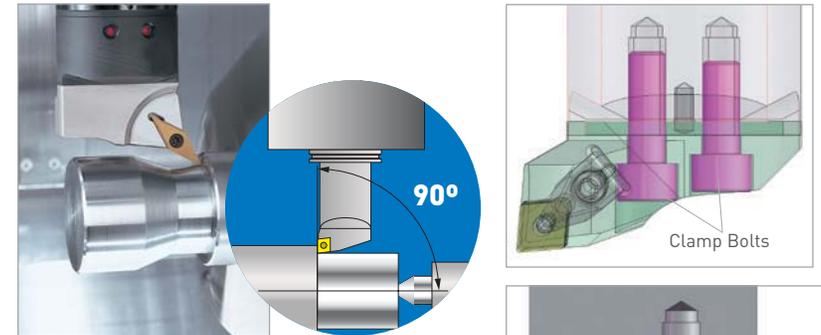
DUAL-CONTACT 45° TILT STYLE TYPE S FOR MTC



Secure and Rigid Clamping

Type S Cartridges are located in the basic holder by means of a precision ground pilot and secured by two opposing radial screws with a 15° taper. With a slight offset to locating sockets, high face-to-face clamping force of the two components is generated. To maintain precise locations and orientation, an additional locating pin is included for positive transfer of cutting torque.

DUAL-CONTACT 90° RIGHT ANGLE STYLE TYPE F FOR MTC



Simple and Positive Clamping

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



BCV40/50
BBT40/50

C5/C6/C8

HSK-T50/63/100

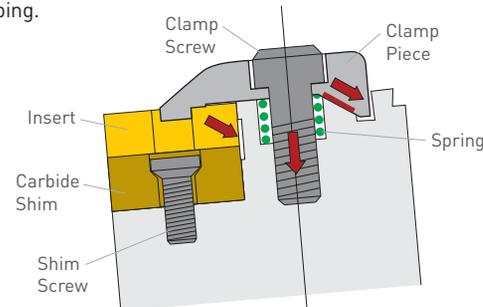
15 Cartridges for 45° Tilt Style Type S



This MTC turning tool program offers cartridges for right-hand, left-hand, and neutral use, as well as integral models. Additionally, square tool holders and boring bar holders are available.

Safe and Easy Clamping of Inserts

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



BCV40/50
BBT40/50

C5/C6/C8

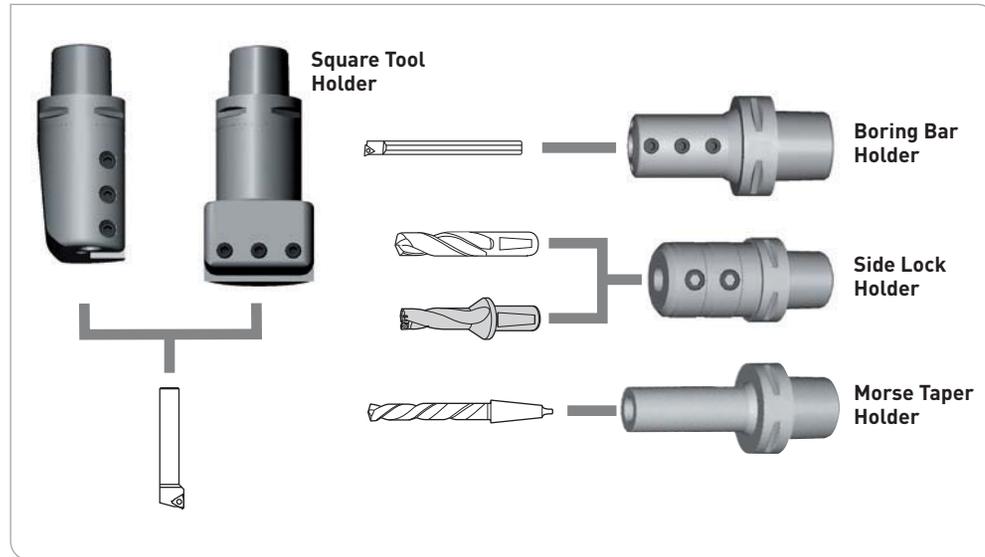
HSK-T63/100

24 Cartridges for 90° Right Angle Style Type F



This MTC turning tool program offers cartridges for right-hand and left-hand. Additionally, square tool holders and boring bar holders are available.

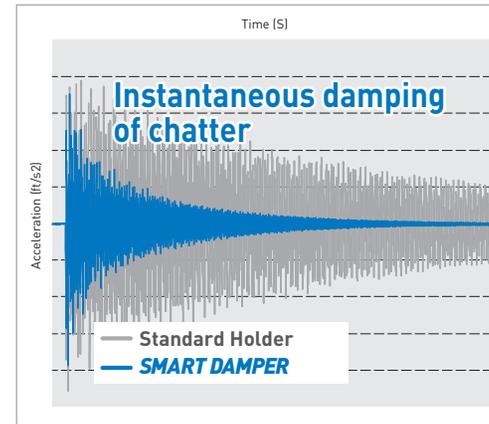
BASIC ARBORS FOR MTC



N/C LATHE



SMART DAMPER TURNING



Tool holders with an Integrated Damping System for Turning

Unprecedented machining depths without chatter is made possible with this heavyweight, strengthened dynamic damper.

- Machining Dia.: $\emptyset 1.57$ or more
- Protrusion: L/D $\emptyset 7$ xd
- Six cartridge geometries



HYDRAULIC CHUCKS FOR SWISS-TYPE AUTOMATIC LATHES

Safe and Quick Operation

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



Three Types For Different Tool Posts



SW 319, Ø.787"-8.000"

CKB1-CKB7 & CKN6-CKN7

Range: Ø.787"-8.000"

Designed with ultimate performance and versatility in mind. Balanced or stepped cutting by simply switching mounting locations of the insert holders which feature varied heights.



AVAILABLE IN ALUMINUM FOR REDUCED WEIGHT



SMART DAMPER BORING SW

CKB4-CKB7

Range: Ø1.614"-7.992"

The well-established dynamic damper eliminates chatter in heavy work loads.



Versatile Tool

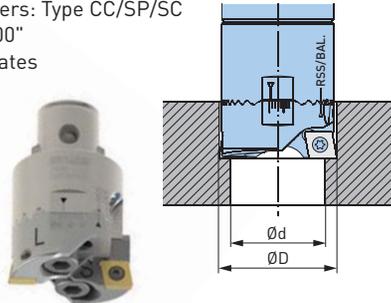
Insert holders for back boring, chamfering or face grooving.



APPLICATION EXAMPLES

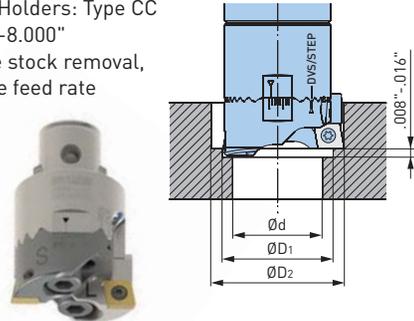
BALANCE

Insert Holders: Type CC/SP/SC
Ø.787"-8.000"
High feed rates



STEP

Insert Holders: Type CC
Ø.787"-8.000"
Double stock removal,
half the feed rate



MW



MW 'Mini' Twin Rough Boring Tool

Range: Ø.630"-.827" (Ø16-21mm)

Adjustable twin cutter boring tool on a Ø20mm shank — ideal solution for rough and semi-fine boring of small die cast holes.



Center-Through

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



SERIES 112, Ø.016"-6.000"



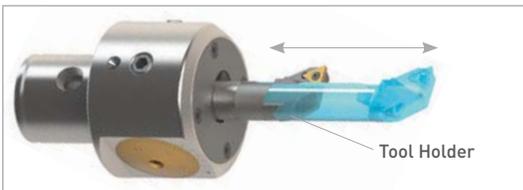
EWB — Auto-Balance Type

An integrated counterweight leads to precision balancing of your tool assembly. This improves bore quality, surface finish, and tool lifespan. Maximize cutting speeds and feeds and achieve your goals more efficiently.



Variable Tool Length Adjustment of the Tool Holder

The EWN features variable length adjustment of the tool holders which ensures the shortest and, therefore, most rigid tool assembly.



High-Precision Fine Boring Heads

Designed for precision production boring on machining centers, jig mills, boring mills, transfer machines and high-speed milling machines. Their fully enclosed, compact and rugged design allows reliable operation, even under extreme cutting conditions.



EWN

Setting Accuracy of .0001"/Ø

Modular and integral centric boring bars are designed for precise and high-performing boring operations.



INTEGRAL SHANKS AVAILABLE IN
CV40, BT40, HSK-A63 & C6

EWE

Digital display and direct electronic measuring system on the tool carrier, feature absolute setting accuracy. The boring heads are designed for ultra precise boring operations.



Wireless



Body Protection Grade: IP 69K

Guarantees protection against corrosion. It effectively shields the electronics from dust and high-pressure spray water.

Digital Display Resolution of .00005"/Ø

Automatic off function which always stores the last displayed value and integrated power management for optimized battery life.

Electronic Components — Made by BIG KAISER

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



BIG KAISER Boring Tool App — Convenience at Your Fingertips!



- Cutting data calculator
- Calculator for adjusting tools
- Access to operating manuals
- Tool overview
- Application data
- Store favorites
- Tool tips
- Metric and imperial units



SERIES 310, Ø.590"-8.000"



EW x M6 & M10
Threaded Micro Head

EWN

EWN
Smart Damper

EWN

Setting Accuracy of .0001"/Ø

The EWN 310 series of precision boring heads covers a range of Ø.590"-8.000" with only seven precision boring heads. Due to the optimized balance over the whole adjustment range, cutting speeds up to 4,000 SFM are possible.

Precision boring heads EWN and EWE series 310 feature equal boring ranges and body dimensions and allow the use of the same accessories.



Back Boring

Insert holder can be mounted in opposite direction for an easy changeover to back boring.



Versatile Tool

Insert holders for many types of inserts (TP/TC, CC and different angles), as well as accessories for face grooving are available.



EWE

The EWE 310 series of boring heads with digital technology includes the advantages of the EWN analog boring heads. Thanks to the large display with a resolution of .00005"/Ø, bores with extremely tight tolerances can be machined.



EWB Auto-Balance Type

Experience a significant boost in your cutting speeds and feeds with the assistance of an integrated counterweight that provides accurate balancing of the tool assembly. This leads to impressive improvements in bore quality, surface finish, and tool life. It is possible to achieve cutting speeds of up to 6,600 SFM.

EWB-UP

Sets new standards for accuracy and balance.



BIG KAISER Boring Tool App — Convenience at Your Fingertips!



- Cutting data calculator
- Calculator for adjusting tools
- Access to operating manuals
- Tool overview
- Application data
- Store favorites
- Tool tips
- Metric and imperial units



Allows Corrections In Both Directions

A direct electronic measuring system on the tool carrier and a resolution of .00005"/Ø enable diameter corrections with unmatched accuracy.

SERIES 318, Ø7.87"-118.00"



This system is made of lightweight aluminum and can be used for both rough and fine boring, as well as OD turning and grooving applications. It can operate at high speeds of up to 6,600 SFM, and is designed to be completely safe with pinned-to-fit mounting. Additionally, the system comes equipped with coolant supply through all components direct to the cutting edge.



**UP TO
6,600
SFM**

Larger Machines Up to Ø118"



**AVAILABLE IN
DIGITAL**



Large Diameter Face Grooving Up To Ø80"



TURNING ADAPTERS



CKB ER Collet Adapters

ER25 in CKB1 & ER32 in CKB1/2

Allows for the use of all BIG KAISER precision boring heads that are of the corresponding sizes on ER collet chucks in machining or turning centers.

HEAVY METAL SOLID BAR



CKB

CKB1, CKB2, CKB3 and CKB4

Tool combinations with heavy metal boring bars give higher rigidity and damping of vibration over conventional steel shank tools when machining long bores over 5:1.

OD TURNING SYSTEMS

Enables the turning attachment to be placed in a concentric location, resulting in a balanced assembly.



SERIES 112

Small Diameter System

Short, lightweight turning adapter for use with EWN 2-50XL heads. Through-tool coolant to insert holder.

- Balanced tool assembly for entire work range of Ø.039" - 1.260" (Ø1-32mm)



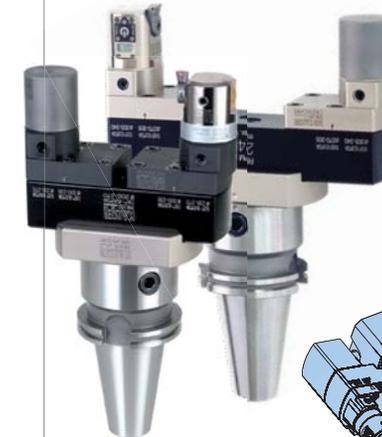
SERIES 310/315

Intermediate Diameter System

CKB5 and CKB6 modular adapters accepting CKB3-CKB5

EWN and TWN heads.

- Simple and cost effective execution
- Through-tool coolant supply
- Modular construction, extendable, for long work pieces

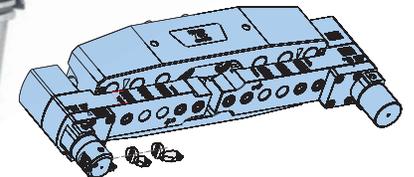


SERIES 318

Large Diameter System

Turning adapter for use with EWN/TWN x CKB5 heads.

- Turning adapter with CK5 connection
- Can be mounted on any extension slide



X-Large Diameter System

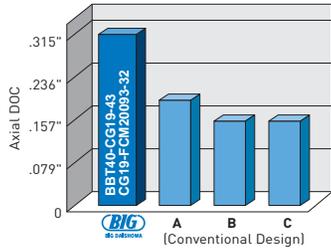
Bridge tool holder for x-large diameter pin turning.

FULLCUT MILL—FCM Type

FCM Slot Milling • Shoulder Milling

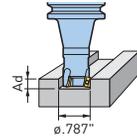
Cutter Dia.: $\varnothing.625$ "-2.000"

Our end mills are designed for optimal efficiency and minimal cutting resistance. Our exclusive radial feed design combines sharp edges with rigidity, making it unmatched in performance.



Cutting Conditions

Machine: BBT40 (BIG-PLUS)
Work Material: Carbon Steel
Cutter Speed: 495 SFM
Feed Rate: .004 IPT



BIG-PLUS CAT & BT Integral Shank



HSK Integral Shank



BIG CAPTO Integral Shank



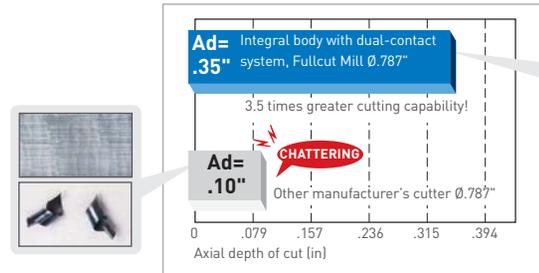
Cylindrical Shank



Face Mill
Cutter Dia.: $\varnothing50/63/80/100$ mm



Excellent Cutting Performance Even with #40 Taper Machine Tools



Excellent surface finish even under difficult cutting conditions.



Cutting Conditions

Machine Tool: BBT40 (BIG-PLUS)
Cutter: $\varnothing.787$ "
Work Material: Tool Steel
Spindle Speed: 2,400 RPM
Cutting Speed: 480 SFM
Feed Rate: .005 IPT



SPEED FINISHER

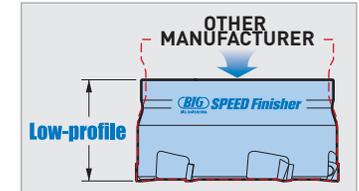
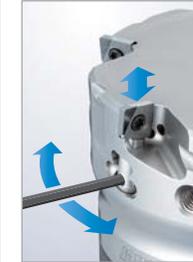


High-Speed Cutter for Aluminum and Cast Iron

Each cutting edge height is adjustable to within $1\mu\text{m}$ of each other.

Quick Adjustment of Cutting Edge Height

After clamping the insert, the lifting screw lifts up the insert directly by revolving the lifting nut from the side. Simple construction aids in easy adjustment and the fine pitch thread of the lift screw ensures precise adjustment.



Lightweight and High Rigidity

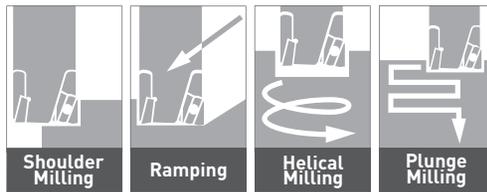
The cutter body has a low profile that improves rigidity and reduces vibration and distortion, resulting in a more even surface. Its lighter weight also benefits small machine tools like BT30 spindles, improving their performance.

FULLCUT MILL—FCR Type

FCR Ramping • Helical Milling • Plunge Milling Slot Milling • Shoulder Milling

Cutter Dia.: $\varnothing.750$ "-1.250"

Innovative rigid insert enables powerful and stable ramping.



BIG-PLUS CAT & BT Integral Shank



HSK Integral Shank



BIG CAPTO Integral Shank



Cylindrical Shank



SURFACE MILL



45° Approach Face Mill Cutter

Cutter Dia.: $\varnothing80$ mm

This mill is designed to achieve superior surface finishes. It was created using the C-CUTTER MINI chamfering tool platform and uses the same inserts.

Cutting Conditions

Work Material: 1050 Steel
Cutting Speed: 656 SFM
Feed Rate: .008 IPT
Axial DOC: .039"
Radial DOC: 2.953"
Coolant: Dry

SURFACE MILL	OTHER
Rz=1.42	Rz=9.04

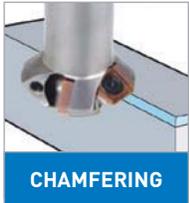
C-CUTTER MINI



C-Cutter Mini Universal Type
Adjustment from 5° to 85° with a hex key.

WORLD'S SMALLEST
□.197"

High-performance chamfer cutter increases the feed rate up to 400% by using four inserts and reducing the cutting diameter to the lowest limit. We offer various models that can do front chamfering at 30°/45°/60° angles, front/back chamfering at 45° angles, and even chamfering for bolt/tap holes that fit M8-M20 taps.

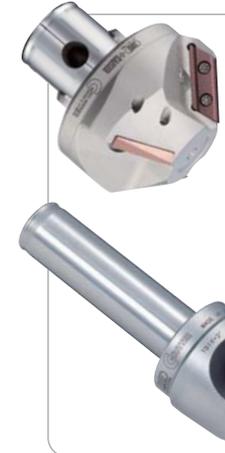




World's smallest .197" square insert with four cutting edges.

CHAMFERING **BACK CHAMFERING** **LIGHT FACE MILLING**

C-CUTTER



45° CKB Shank Type
Chamfer Range: $\varnothing.197$ "-3.937"
The wide chamfering range saves on the number of tool holders required and thus tool changing times. Effective use of magazine pots and shorter machining times are achievable.



The long and parallelogram shaped insert achieves the ideal cutting performance for chamfering.

Universal Type
Chamfer Range: $\varnothing.217$ "-1.673"
Chamfering angle adjustment from 5° to 85° with a hex key.




R-CUTTER



CKB3 & CKB5 Type

Ultra-high feed chamfer mill for front and back radius chamfering of .02"-.16". Single-insert models or four-insert models for higher feed rates.

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



C-CUTTER MICRO



3 FLUTES

EFFECTIVE TWISTED EDGES

CrN Coating

Cutter Diameter: $\varnothing.114$ "-.311"
Ultra-fine diameter allows both front and back chamfering even on workpieces with complex shapes.

BF-CUTTER



Back spot facing for cap bolt holes $\varnothing.433$ "-1.890".

- Cap bolt size M6-M16
- Indexable inserts save money
- Coolant through



CENTER BOY



Centering and Chamfering Tool

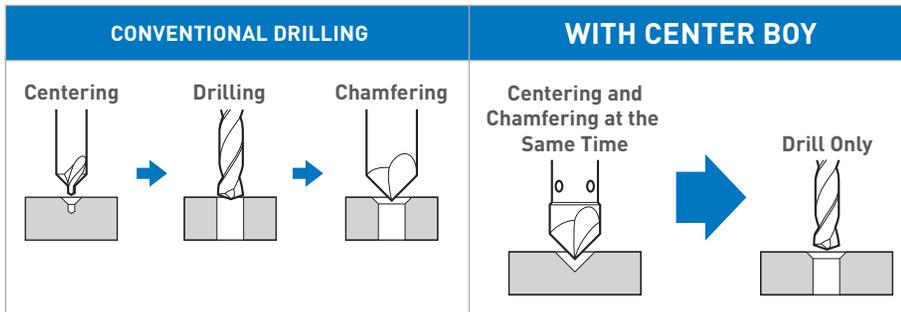
Perform precise drilling and chamfering at the same time with accurate positioning.



Highly Accurate Replaceable Insert

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

Ease of Operation Shortens Cycle Time



C-CENTERING CUTTER



A multifunction cutter capable of both spot drilling and chamfering.



Three cutting edges enable high-speed feeding

C-CUTTER BOY



Chamfering Tool

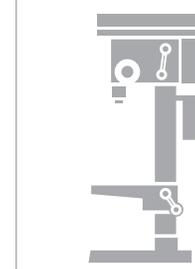
Hole Diameter: $\varnothing.20''$ - $1.00''$

The carbide guide prevents chatter on bench drilling machines. A cost-effective three-corner insert is available.



Carbide Guide

CHAMFERING TOOL FOR DRILL PRESS



Inserts Do Not Need to be Reground

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

Carbide Guide Allows Stable Cutting

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

GROOVING TOOLS



CKB1-CKB2
 $\varnothing.866''$ & $\varnothing.1.970''$



$\varnothing.16/27\text{mm}$ Pilot
 $\varnothing.1.970''$ & $\varnothing.8.270''$



10mm Shank
 $\varnothing.465''$



SW 319
CKB5-CKB7
 $\varnothing.2.087''$ - $\varnothing.7.992''$



CKB4-CKB6
 $\varnothing.16/27\text{mm}$ Pilot

MICRO DRILLS



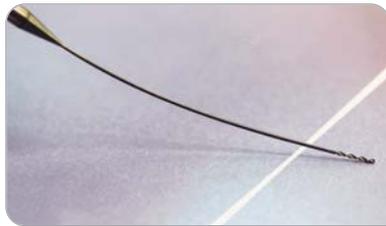
Ø≤3mm

- 15+ different standard article numbers
- 1,700 different standard micro drills available
- Minimum diameter Ø.03mm
- Standard diametrical tolerances as low as 0/-0.004mm
- Utilization of modern coatings designed specifically for micro tools
- Ultra-fine flute surface finish



Micro Tricut Drill Reamer

- Ideal tool for drill reaming steels, short chipping stainless steels, titanium and cast iron
- Ø3mm reinforced shank for all diameters
- Three-flute geometry allows high feed rates
- Excellent self-centering capabilities
- Fine flute surface finish for optimal chip flow
- Hole tolerances ranging from H7-H9



Deep Hole Drill

- 20xd, 40xd, 60xd & 80xd for Ø.20/.40-1.50mm
- Solid carbide
- Ø3mm shank for all diameters
- External coolant
- Innovative AlCrN based coating intended specifically for micro tools

HIGH PERFORMANCE DRILLS



- Ø1.00-20.00mm
- Lengths 3-30xD
- Utilization of modern coatings suitable for most common and exotic materials
- Internal coolant for most sizes
- Most geometries can be reground and recoated to decrease cost per hole



Phoenix TC2

- 3xd, 6xd, 9xd, 12xd, 16xd, 20xd and 30xd standard flute lengths
- Two margin modified Phoenix point geometry for optimal chip formation
- Polished flutes and brushed cutting edges
- Internal coolant for all sizes and lengths
- AlCrTiN coated for ultimate wear resistance



Quadro Plus

- 6xd & 12xd standard flute lengths
- Internal coolant for all sizes and lengths
- Self-centering
- Two cutting edges, four guiding edges
- Highest performing drill in short chipping aluminum and cast iron
- Straight flute design permits highest speeds and feeds
- Best achievable size control of H7-H9



Nirox

- New hard coating with smooth surface for enhanced chip and coolant flow
- Degressive helix angle
- Point geometry designed for accurate and precise hole location
- Unique margin geometry for optimum guidance
- External coolant along the flutes

MICRO MILLS



End Mills

- Ø.10-3.00mm
- Ø3mm or Ø4mm reinforced shank for all dia.
- Useful in ISO P, M, K, S, N and O materials
- Standard 2-flute and 3-flute geometries



Deburring Mill - Lollipop

- Ø1.00-6.00mm
- Geometry that prevents vibrations
- Perfectly ground, round head (270°)
- Depth up to 4xD possible



Chamfering Mill - Noventa

- Ø.80-6.00mm
- Depth of up to 4xD
- 45° (90° included)
- Access features smaller than 1mm

ENGRAVING MILLS



Flat/Radius Tip

- Ø.02-.15mm
- Flat and radius tip
- 30°, 40°, 50°, 60° & 90° standard point angles
- 0° helix

All SPERONI measuring instruments feature aged pearlitic cast iron construction for thermal stability, glass scales and guideways for the highest precision, and all software is developed and controlled by SPERONI for unmatched reliability and innovation.



ESSENTIA



Designed for Maximum Ergonomics

The ESSENTIA is an entry-level tool presetting and measuring system. The robust structure and software interface allow customers to benefit from an entry-level unit.

With an ESSENTIA, efficiently measure tools, easily and independently of the operator to achieve full machining productivity. Deliver results right next to your CNC machine.



Ultra-Light Axis Adjustment



Front Light (Episcopy)

MAGIS

AVAILABLE WITH CNC OPTION



Intuitive Vision System

The SIMPLE VISION PC-based control and image processing system is supplied with a high-resolution monitor for a crisp and clear visualization of data.

The graphical interface and powerful online help function guarantee a trouble-free and secure experience.



X & Z-Axis Fine Adjustment



Rapid Axis Movement



Integrated Spindle with Calibration Edge

FUTURA

Unparalleled Precision, Repeatability and Longevity

The result of more than 50 years of experience in the design and production of tool measuring and presetting. The FUTURA product line represents the most advanced and complete line of vertical tool presetting and measuring machines in its class. The modular design offers the right solution for every measuring need and guarantees full upgradeability for future needs.



One-Hand Rapid Axis Movement



Integrated Spindle with Calibration Edge



X & Z-Axis Fine Adjustment



Drawer for Integrated Adapter Support

FUTURA AUTOSHRINK



Fully Automatic Preset, Measure and Shrink-Fit System

SPERONI was the first company to develop an integrated presetting and shrink-fit system. The leader in terms of functionality, total accuracy and safety, the FUTURA AUTOSHRINK is the only hands-off fully automatic solution on the market.



Positioning Coil for Heating and Cooling



Cockpit Holds all Setting and Cooling Sleeves



Through Pin Mounted Inside the Spindle Body

PRO SHRINK TUBECHILLER



Combination Shrink and Cooling System

The temperature of the shrink fit chuck is continuously measured during the inductive heating process. Once the shrink chuck has reached the predefined temperature, the process stops, eliminating the potential to overheat the chuck.

Touch Display

- Navigation menu
- Graphic visualization of the shrinking and cooling process
- Simple parameter input with USB
- Operator-defined parameter lists
- Avoid operating errors through individual menu configuration

CONTROL SOFTWARE

At the heart of the presetters is the control software designed to maximize efficiency and reliability for all tool measurement and management needs.



SIMPLE VISION & ESSENTIA

Standard software offered with a SPERONI tool presetter.

- Flying cross-hair
- Full screen function and zoom to 120x
- 45x standard magnification
- Over 150 measuring icons
- Dial indicator and runout functions



EDGE 2.0

Control and image processing system for tool management, user management, tool inspection and CAD interfacing.

- Full tool management
- Pictures and graphics management
- Quick report management
- History tracking
- Automatic data backup



EDGE PRO

Control and image processing system for manual and CNC configurations.

- User management
- Jobs management
- Components management
- Manual and full CNC management
- Dedicated measurement cycles

TOOL MANAGEMENT

INTELLIGO

Tool Management Solution Software

Offers warehouse, location, cost, tool assembly and disassembly, and post-processor management alongside a central database for better organization and elimination of duplicate data.



SPI - SIMPLE POST INTERFACE

Hands-Off Post-Processor Interface

Simply measure your tool with your tool presetter, print a label and place it on the tool. Scan the QR code with the SPI bar code scanner to transfer the offset data directly to your machine tool's control.



SPI LITE

SPI SCANNER



UBI

Easy Locate Tools

The electronically controlled UBI station gives maximum flexibility to allocate and manage all tool components and tool assemblies.

The required INTELLIGO software will allow and manage access to the entire cabinet, individual drawers or drawer compartments for your specific UBI module.

ACCESSORIES



ADAPTERS

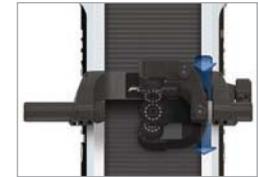
Expand your presetter's capabilities with adapters for different taper sizes. Reduction adapters are available for ISO, HSK and BIG CAPTO tapers.

SECOND CCD CAMERA

Equipped with a dedicated inspection light. Field of view is 6mm x 4.5mm and has a visual magnification of 45x with a zoom function of 120x magnification.



Fixed



Swing Arm



TOUCH-SCREEN MONITOR

The touch-screen technology upgrade makes it easier for you to access and use all of the SPERONI software features without relying on the keyboard or mouse.

SPERONI WORKBENCHES

Steel workbench with ventilation, lockable storage, and comfortable workspace for presetting.



ROUND CHUCKS

The round UNILOCK chucks come in diameters from Ø90-196mm (Ø3.543"-7.716") and body styles to fit a variety of applications. Chucks can be supplied with single notches, multiple notches or bushing holes for timing. Most body forms allow the use of turbo-assisted clamping for higher retention forces.



PREASSEMBLED CHUCKS

These chucks are sold mounted to a base plate. The base plate provides easy mounting of the chucks to the machine table as well as a pre-plumbed air supply. All bases provide either notches or a ground edge to square the chucks to the machine table.



CLAMPING KNOBS AND BALLS

Can be attached to fixtures or directly to workpieces. Our standard knobs can be mounted in a blind hole from the bottom or pulled up from the top.



PALLETS

Pallets are provided fully assembled with their required quantity of UNILOCK knobs and lifting handles, and are available in either steel or aluminum.



STABILIZER SYSTEM

Provides lateral support for tall parts during machining, welding or assembly processes. Allowing the transfer of loads down to the table or base.

- Fine adjustment allows for adjusting the position of parts
- Magnetic base option
- Five fixed length extensions
- Two adjustable length bases



MULTI-AXIS SYSTEMS

Multi-axis workholding products are designed to provide flexibility and functionality and help to maximize the benefits of your machine. These solutions locate and stabilize the workpieces without obstructing access to the top and sides of the part. They also allow a clamped workpiece to be flipped into new orientations for subsequent machining operations without unclamping.



BASE MASTER

Instantly Detect Position of the Cutting Edge and the Workpiece

High-precision offset & detection tool available for various tool materials and diameters.



BM-2H / BM-50H

LED lamp illuminates at 2" (50mm) from the reference surface, and features .00004" repeatability.



BM-2MH / BM-50MH*

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



BMM-20D*

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



BM-2GH / BM-50GH*

Electronic detection of cutting edge position.



BM-100GH

Easily visible measuring surface, even with large machines.



BMM-10H

10mm ultra-thin design.



BMM-20H*

Compact and lightweight design for lathe or mill.

*For all materials, including non-conductive cutting tools and workpieces. All the same features as the original BM, including a magnetic base that mounts the unit horizontally, vertically or at any angle.

TOOL MASTER

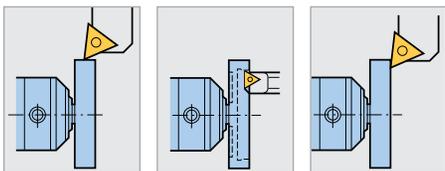


Defines work offsets and tool lengths for all materials, including non-conductive. Adjustable height and an easy-to-read large dial. Also includes an approach LED lamp and sound.

LATHE MASTER



Quick setup of the cutting edge position without trial cutting. Capable of measuring external, internal and facing tools.



ACCU CENTER



High-precision edge finder suitable for all materials. Repeatability within $3\mu\text{m}$.

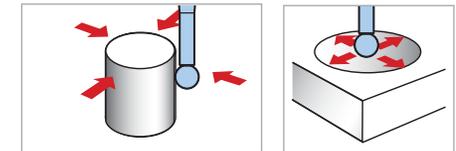
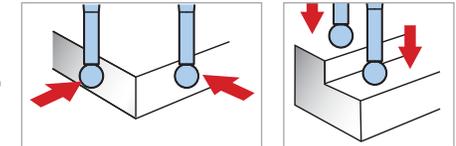


3D MASTER RED



3-Axis Measurement Tool (X, Y & Z)

- Compact design
- Applicable for all work materials
- Carbide tip stylus



CENTERING TOOL



Static Dial Gage

- Centering the tool holder is simplified since the dial gage position is static and in front
- Easy setting with a fine adjustment mechanism (adjustment amount: $.079"$)
- Magnetic base allows for flexible mounting positions

POINT MASTER



Precision 3-D touch sensor to quickly find edges and measurement locations.



DIAL INDICATOR STANDS

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

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



For gluing, welding or soldering, resolves all challenging angle-related issues.



DYNA TEST



AVAILABLE IN
BCV, BBT, HSK
BIG CAPTO

The cause of machine tool runout stems from wear of the spindle bearings. Regular inspection with DYNA TEST helps identify potential problems and can reduce downtime and costly repairs of the machine tool spindle.

- Precision test bar for static runout accuracy
- Produced under a strict quality control process; calibration certificate available upon request as per ISO 9000 requirements



Precision Standards of BIG DAISHOWA Test Arbors

Runout	.002mm (.00008)
Roundness	.001mm (.00004)
Cylindricity	.003mm (.00012)
Roughness	Ra: .1 μm (.000004)
Taper Contact	AT1
Diameter Tol.	$\pm.005\text{mm}$ (.0002)

Certified runout of ≤ 1 micron at test bar nose and ≤ 3 microns at end of test bar

DYNA CONTACT

The ceramic taper gage is for inspecting machine spindle tapers. With just a glance, it clearly displays Prussian blue, making it easy to identify any issues. This simple yet effective device is for any machine operator or technician looking to maintain the proper functioning of their equipment.



DYNA FORCE

Regularly measuring the spindle retention force helps prevent unknown decreased rigidity, which can cause vibrations, lower machining quality, and shorten the lifespan of tools. A full-length taper stabilizes the value of measurements.



LEVEL MASTER



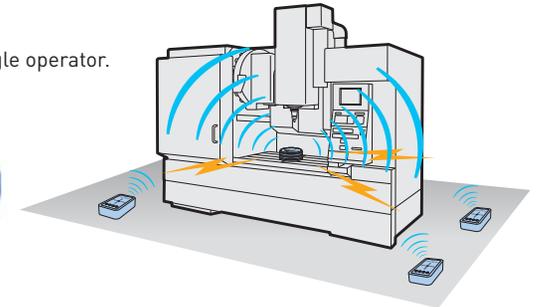
Device for the leveling of machine tool tables.

LED & BUZZER INDICATION

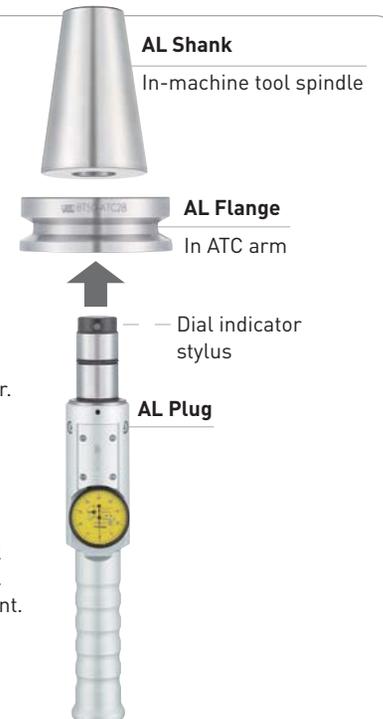
- Simultaneous two-axis detection leveler
- LED and buzzer indication when leveling is complete
- Uses optical level sensor technology
- 10 micron per meter precision (.01mm/m)

WIRELESS TYPE

Easy and quick leveling with a single operator.



ATC ALIGNMENT TOOL



For the maintenance of a machine tool spindle. Measure the misalignment between the ATC arm and the machine tool spindle or magazine pot center.

How To Use

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

TOOL PRO

Unique tool holding device for the assembly and disassembly of tooling. Depressing the large gold button permits the adapter to rotate 360° and lock in 45° increments. Integral taper units and modular taper units for nearly all shank styles.

Standard



Vario



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

Spin



Tool Pro Stand

Safe and secure tool assembly stationed anywhere on the shop floor.



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

KOMBI GRIP

Innovative two-way clutch and needle roller clamping system ensures secure clamping at the tool flange periphery of HSK and polygon tapers.



ST LOCK

Ideal fixture for the set-up of cylindrical shank tool holders. Clamps Ø20, 25 & 32mm shanks by replacing the sleeve.



COLLET EJECTOR

Easily and quickly insert/remove small sizes of NEW BABY COLLETS from MEGA NUTS and NEW BABY NUTS.



TOOLING MATE

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



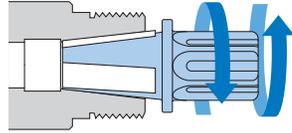
TORQUE FIT

Tooling fixture with tightening torque indicate function.

- Torque values of all BIG DAISHOWA collet chucks are preset
- Buzzer will sound near the correct torque to notify you
- User Mode allows setting of desired torque value



TOOLING CLEANERS



COLLET CHUCK TAPER CLEANER

Maintain the accuracy of high-precision collet chucks by cleaning the internal collet taper. For MEGA MICRO, MEGA NEW BABY, MEGA E and all ER collet chucks.



TOOLING CLEANER

For the cleaning of both mating surfaces of BIG-PLUS 30 and 40 taper tool holders, which require absolute cleanliness for optimum performance.

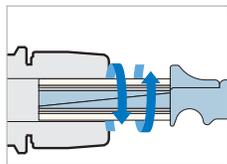
HSK EXTERNAL TAPER CLEANER

Cleaning strips will remove even large residual particles. Sturdy construction with high oil and grease resistance.



TK CLEANER

Perfectly cleans the clamping bore of a tool holder to maintain high performance. Perfect for hydraulic chucks, milling chucks and shrink fit holders.



WIPER CLEANER

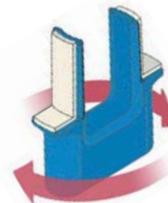
Easy cleaning of smaller cylindrical bores by simply inserting and removing before cutting tool insertion. Ideal for hydraulic chucks and shrink fit holders.

SPINDLE CLEANERS

Guarantees unbeatable cleanliness for tapered spindles, which helps maintain precision and extend the lifespan of machine tools, cutting tools, and tool holders.



Polygon Taper



T-SLOT CLEAN



Improve your work safety environment and efficiency of table cleaning. Save the time required to clean T-slots packed with chips.



T-slots packed with difficult to remove chips



T-slots protected & clear by T-Slot Clean

CHIP & COOLANT FAN



CHIPFAN

Fast, safe chip and coolant cleaning without stopping production

- 12,000 RPM Max
- Balanced integral design for high speed
- Made from high strength aluminum with anodized coating for long life and durability



CHIP BLOWER

- Reduce environmental impact
- Improved machine utilization rate
- Increased productivity
- Can be used with vertical and horizontal machining centers

BIG-PLUS CLEANER



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

BIG DAISHOWA Inc.

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