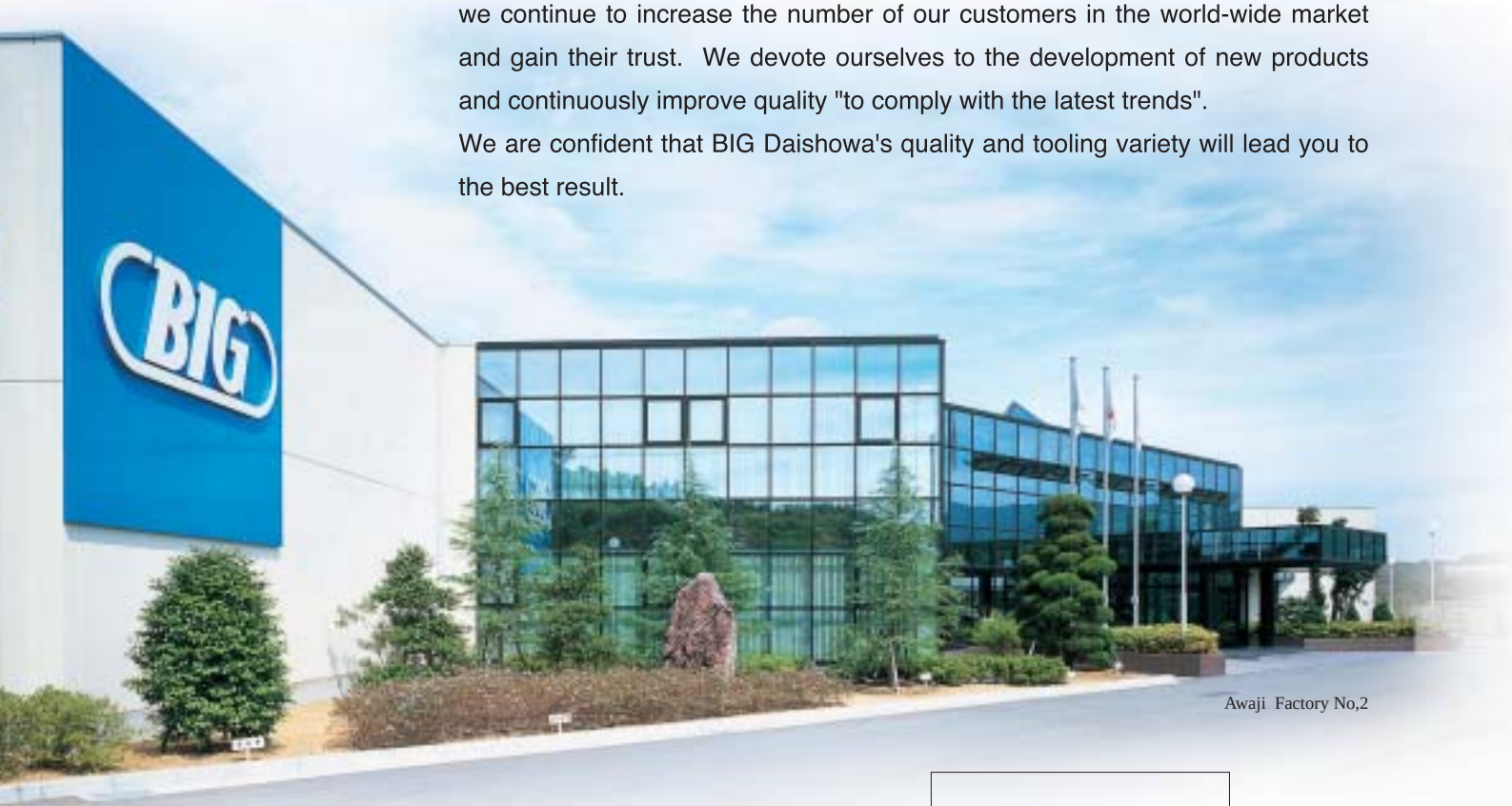
Tooling system of highest quality

Based on superior technologies and state-of-the-art production facilities,
we guarantee to offer "high precision" and "high quality" tooling to your satisfaction.

Through our activities as a specialized manufacturer of tooling since 1967, BIG Daishowa has the distinction of having the highest market share in Japan and we continue to increase the number of our customers in the world-wide market and gain their trust. We devote ourselves to the development of new products and continuously improve quality "to comply with the latest trends".
We are confident that BIG Daishowa's quality and tooling variety will lead you to the best result.



Awaji Factory No,2

Awaji Factory No,1

Awaji Factory No,3

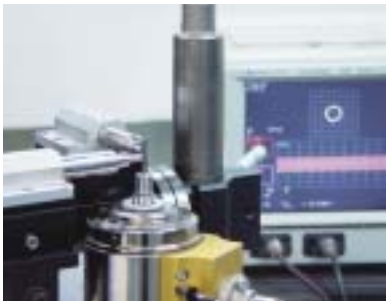
MEGA TECHNICAL CENTER

Awaji Factory No,4

Awaji Factory No,5

Osaka Factory

Accurate inspection under strictly controlled quality standards.



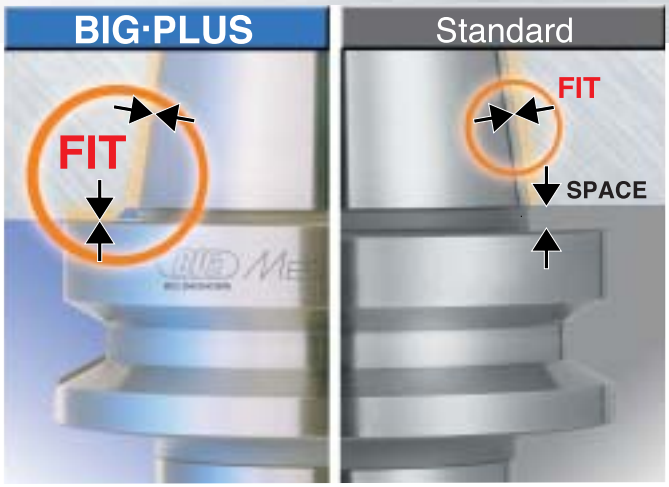
Total Tooling System

BIG DAISHOWA

BIG-PLUS®

SPINDLE SYSTEM PAT.

DUAL CONTACT



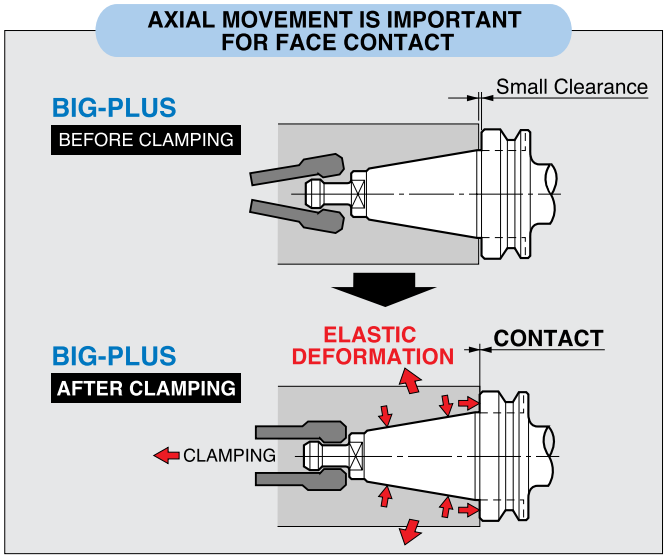
SIMULTANEOUS TAPER & FLANGE FIT

Interchangeable with existing standards cost saving dual contact system. BIG-PLUS is a simple Simultaneous Dual Contact Spindle System maintaining interchangeability with existing machines and toolholders.

BBT Shank P17
BDV Shank P45

Working principle

Before clamping, although tapers are fit, faces have small clearance and are not fit at this point.
When the toolholder is pulled in by the clamping mechanism, the machine spindle expands by elastic deformation and the faces are fit, which completes simultaneous fit between both the taper and face.
Therefore, the amount of movement when a toolholder is drawn is very important.

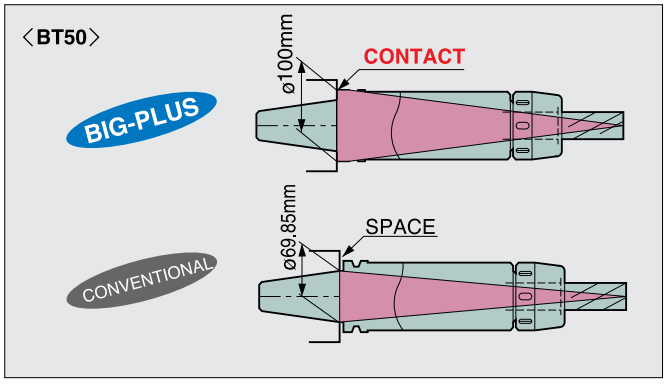


Increased contact diameter for higher rigidity

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

	CONVENTIONAL	BIG-PLUS
BT50	ø69.85	ø100
BT40	ø44.45	ø 63
BT30	ø31.75	ø 46

● INCREASED CONTACT DIAMETER(Example of BT)

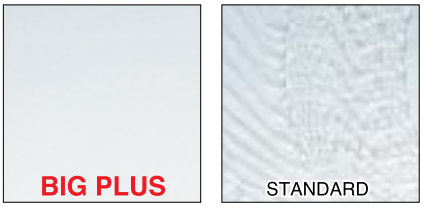


SIMULTANEOUS DUAL CONTACT SYSTEM MAINTAINS INTERCHANGEABILITY WITH EXISTING STANDARDS

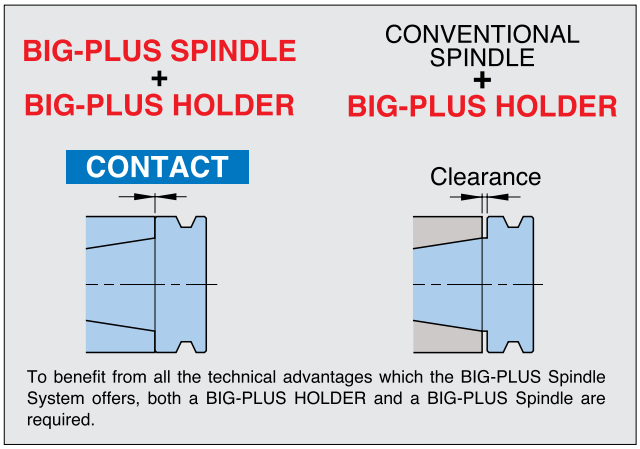
Perfect interchangeability with existing machines and toolholders

Yes, they can. BIG-PLUS holders can be used on existing standard machine spindles. In this case, simultaneous contact can not be attained. In order to achieve excellent performance of simultaneous contact, please use BIG-PLUS holders on BIG-PLUS spindles. Please be aware that simultaneous contact toolholsers other than BIG-PLUS holders may damage BIG-PLUS spindles.

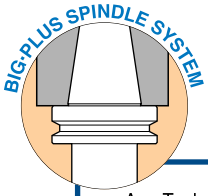
FACE MILLING Application



MACHINE TOOL : #40(Horizontal Machining Center)
CUTTER : Face Milling ø125(6 cutting edges)
WORK MATERIAL : A2017 Duralumin
CUTTING DEPTH : 2.4mm



To benefit from all the technical advantages which the BIG-PLUS Spindle System offers, both a BIG-PLUS HOLDER and a BIG-PLUS Spindle are required.



MACHINE BUILDERS

The BIG-PLUS Spindle System is offered by many of the world's leading manufacturers of machining centers. Some of the machine and spindle builders who have produced BIG-PLUS spindles are as follows;

Asa Tech, Advanced Machine, ALEX-TECH, ANCA, ARES, CHEVALIER, CHUO-SEIKI, CITIZEN, COLGAR, Cross Hüller Ex-Cell-O Lamb, D.S.TECHNOLOGIE, DAH LIH, DIXI, DMG, DOOSAN, EGURO, ENSHU, FANUC, FOREST-LINÉ, FPT, FUJI SEIKI, Giddings & Lewis, HNK, HOMMA, HORKOS, HOWA, HWACHEON, IBAG, IKEGAI, IMARI, INOUE KOSOKU KIKAI, JOHNFORD, JTEKT, KARATS, KASHIFUJI, KITAMURA, KIWA, KOMATSU, KOMATSU NTC, KONDIA, KOYO, KURAKI, LAZZATI, MAGNIX, MAKINO, MAKINO SEIKI, MANDELLI, MATSUURA, MAZAK, MECTRON, MILLTRONICS, MITSUBISHI, MITSUBOSHI KOGYO, MITSUI SEIKI, MORI SEIKI, MOTOKUBO, NEO, Nicolás Correa, NIIGATA, NIPPON BEARING, NISHIJIMAX, NISSIN-mfg, NOMURA, Northland Tool, NSK, NSS, OBATAKE, OHTORI, OKK, OKUMA, O-M, OMLAT, PAMA, PMC, QUASER, REIDEN, ROKU ROKU, ROYAL, SAJO, SEMPUCO, SETCO, SHAN RONG, SHODA, SHW, SKG, SNK, SODICK, Starrag Heckert, STUDER, SUGINO, TAJMAC-ZPS, TAKISAWA, TANABE, TOPPER, Tos Varnsdorf, TOSHIBA, TOYO SEIKI, TSUGAMI, UTSUNOMIYA, VICTOR Taichung, WALDRICH COBURG, WIA, YAMASAKI GIKEN, YAMASHINA, YASDA, YCM, YU HUNG

Licensed BIG-PLUS toolholder manufacturers

BIG KAISER, KAISER, KOMET, SANDVIK, SCHUNK, SHOWA, YUKIWA

[As of March, 2009]

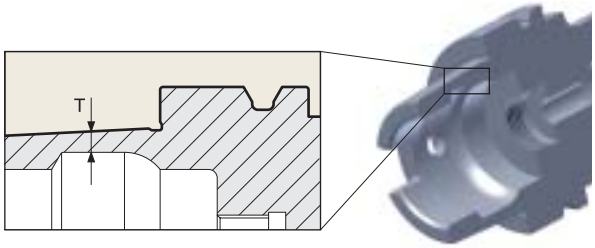
BIG DAISHOWA

HSK TOOLING SYSTEM

BIG HSK tooling in accordance with ISO and DIN standards.
Wide range of standard holders to meet any application need.

Premium Material Selection

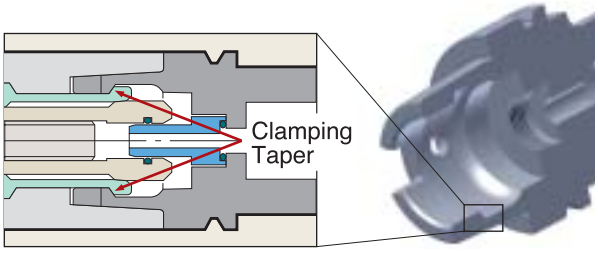
Since HSK is a hollow taper shank, the material has a critical role for optimum performance.
BIG uses carefully selected high grade alloy steels. Particularly, BIG uses die steel materials for HSK 40 and smaller where the cross section of shank taper is very thin.



HSK Size	25	32	40	50	63	100
T	1.09	1.25	1.92	2.60	3.47	5.17

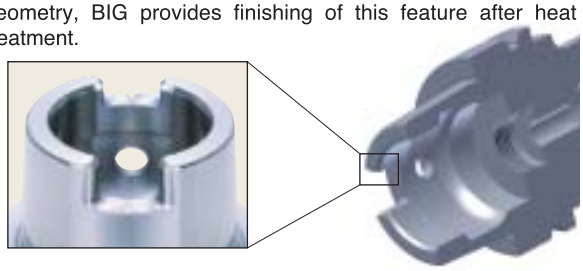
Important Tool Retention Feature

Internal clamping of HSK tools is defined by the location of highly concentrated forces from the machine tool. Accuracy and position of this form will affect the rigidity, repeatability, and precision of tool holders. BIG provides finish machining of this area after heat treatment.



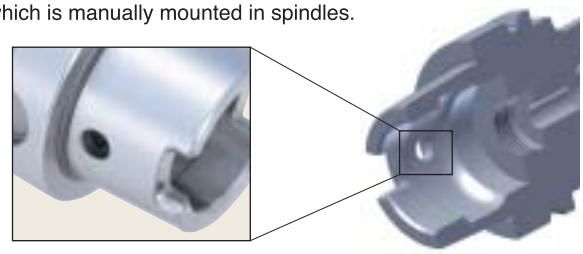
Drive Key Form

HSK Shanks according to Form A are designed to carry out torque transmission by the round shaped key-way at the end of the taper. Because of the importance of this round shaped geometry, BIG provides finishing of this feature after heat treatment.



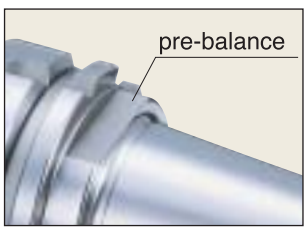
With hole for Manual Clamping

BIG HSK Form A holders have a manual clamping hole as a standard and can therefore be used in place of HSK Form C which is manually mounted in spindles.



Pre-Balanced Design

Since HSK Form A has non-symmetric keyways, it is not balanced. BIG Form A holders are pre-balanced and can therefore be used for high speed applications.



BIG DAISHOWA

For High Speeds

MEGA CHUCK® SERIES PAT.

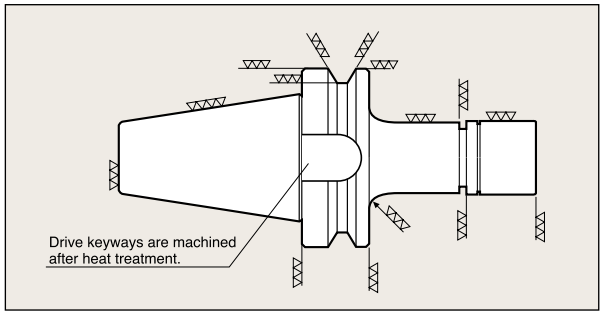
World's original

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

BIG PLUS STANDARD

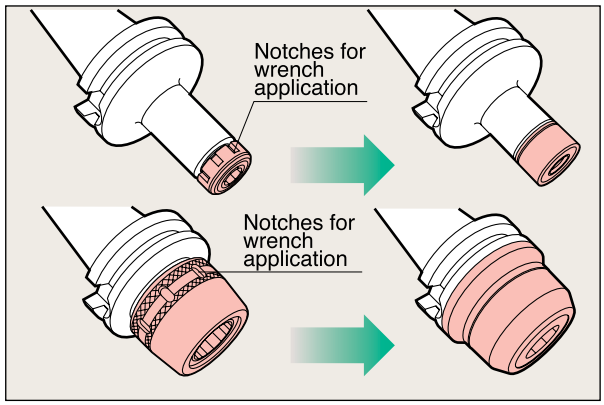
Precision ground and balanced for high speed machining

MEGA CHUCKs are micro mirror ground finished on all surfaces to assure perfect concentricity for high speed machining. The drive keyway is machined after heat treatment.



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.



4 chuck types for different high speed machining requirements

To suit micro drills and end mills
Clamping range
ø0.45 - ø6.05mm

(JIS B6339)

MEGA MICRO CHUCK PAT.

To suit carbide drills, reamers and end mills
Clamping range
ø0.25 - ø20mm

(JIS B6339)

MEGA NEW BABY CHUCK PAT.

To suit end mills
Clamping range
ø3 - ø12mm

(JIS B6339)

MEGA E CHUCK PAT.

To suit end mills
Clamping range
ø16 - ø50mm

(JIS B6339)

MEGA DOUBLE POWER CHUCK PAT.

Easy and firm clamping by the mega wrench PAT.

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.

BIG DAISHOWA

High precision collet chuck system

PAT.

MEGA MICRO CHUCK®

0.1mm increments for higher precision

Clamping Range: ø0.45 - ø6.05

BBT Shank P17
BDV Shank P45
HSK Shank P55
CYLINDRICAL Shank P85

Endmilling | Drilling | Reamer

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

MAX. 50,000 min-1

BIG PLUS

STANDARD

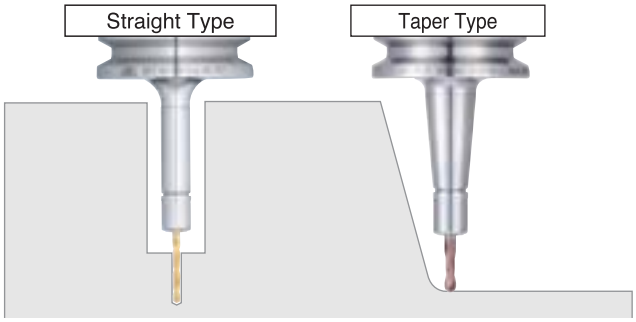
3Stype 4Stype 6Stype

Nut diameter 10, 12 & 14mm. Extremely slim design.

Slim design avoids interference.
Ideal for small mold making combining high speed and high precision capability.

Three versions are available

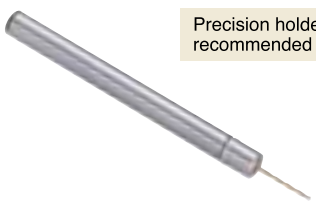
Straight Type: where access is restricted
Taper Type: for increased rigidity
Cylindrical Shank Type: for increased versatility

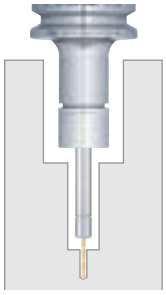


Cylindrical Shank Type

Flexible tool layout
For tighter and deeper area

Precision holder is recommended for chucking.





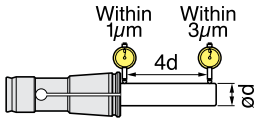
High concentricity

At nose within 1μm | At 4d within 3μm

100% concentricity inspection.
Within 1μm at nose is guaranteed.

High precision Micro Collet

■ Collet concentricity



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

0.1mm increments for higher precision

Collet 124 models

Available in 0.1mm increments. Reduced shrinkage optimizes precision.

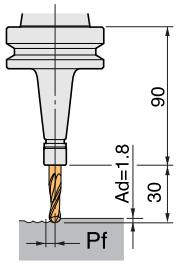
Maximum performance!

■ Setup

Machine	BBT40 vertical machining center
Holder	BBT40-MEGA6S-90T
Endmill	ø6 2-flute carbide ball nose
Workpiece	S50C (JIS)

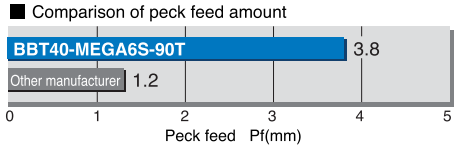
■ Cutting conditions

Spindle speed	12,000 (min⁻¹)
Cutting speed	226 (m/min.)
Feed rate	720 (mm/min.)
	0.03 (mm/cutter)
Axial depth of cut	1.8 (mm)



Rigid taper design avoids chatter even with high peck feed milling leading to dramatically reduced machining time.

■ Comparison of peck feed amount



BIG DAISHOWA

High precision collet chuck system

MEGA NEW BABY CHUCK®

PAT.

Clamping Range: ø0.25 - ø20

Endmilling | Drilling | Reamer

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. 40,000 min^{-1}

BIG PLUS

STANDARD

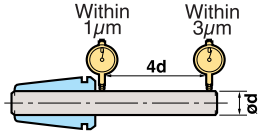
High precision collet, close to submicron

High precision

NBC Collet

100% inspection to guarantee accuracy. Material, production, heat treatment... everything is selected for precision.

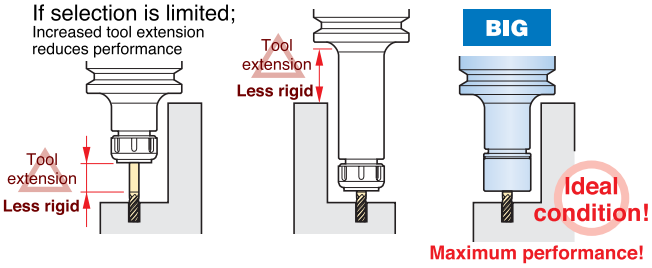
■ Collet concentricity



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

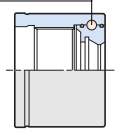
353 versions are available as standard (BBT, BDV, HSK)

Ideal length and diameter of holder is the key to precision machining. Select the optimum from the wide range.



Precision nut to optimize performance of collet

Thrust ball bearings



Thrust ball bearings to eliminate distortion of the collet during tightening. Patented design prevents ball bearings from moving at high speed. Threads are finished after heat treatment.

2 way coolant supply

MAX. COOLANT PRESSURE 7MPa

Sealed collet nut

MEGA PERFECT SEAL PAT.

- Standard NBC Collet is used.
- High dust resistance

MPS

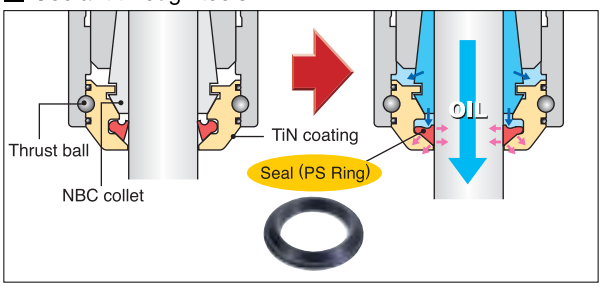
P96

Through Tools — Tools with holes

Jet Through — Tools without holes

Unique sealed collet nut for coolant-through tools. The sealing performance increases with higher coolant pressure. Remove the sealing ring to supply coolant to the periphery of the cutting tool.

■ Coolant through tools



BIG DAISHOWA

High precision collet chuck system

MEGA E CHUCK®

PAT.

Clamping range: ø3.0 - ø12

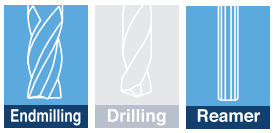
Collet chuck designed exclusively for endmilling up to ø12mm with high concentricity & rigidity.

MAX. 40,000 min^{-1}

BIG PLUS

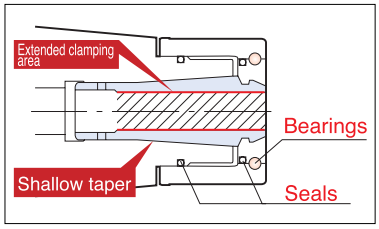
STANDARD

BBT Shank **P22**
BDV Shank **P48**
HSK Shank **P61**



High grip collet (PAT.P)

Gripping force is an important element for endmilling with a collet chuck. The long gripping length of the collet in the MEGA E series provides a powerful gripping force.
The shallower taper of the collet improves concentricity in order to achieve better surface finishes and



● Clamping nut with thrust ball bearings

Eliminates distortion of the collet during tightening for higher gripping force and improved concentricity.

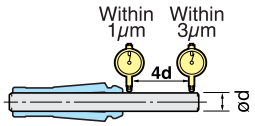
High concentricity

At nose within 1μm | At 4d within 3μm

100% inspection to guarantee accuracy within 1μm runout at collet nose.

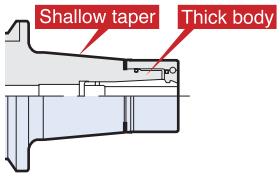
High precision
MEGA E COLLET

■ Collet concentricity



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

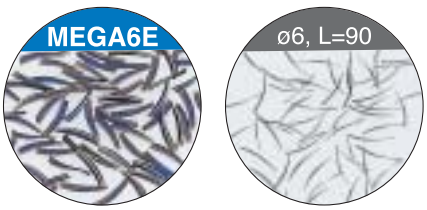
Substantial and tapered body design



Thick body eliminates chatter and deflection.
Tapered extension provides the rigidity to prevent vibration.

Ultimate performance in both chip volume and surface finish!

BBT40-MEGA6E-90 | Other manufacturer



Cutter	Model	Radial DOC (mm)	Axial DOC (mm)	Removal (CC/min)	Power (kw)	Roughness (μm)
ø6	MEGA 6E	3.0	9	45.9	3.4	5.05
	Other manufacturer	0.5	9	7.6	1.1	10.25
ø12	MEGA13E	12.0	18	91.8	3.0	3.49
	Other manufacturer	3.0	18	23.0	1.2	9.67

Slit-through coolant

MAX. COOLANT PRESSURE 7MPa

Coolant is reliably directed to cutting surface through slits in the collet. Tool life is extended together with improved surface finish as a result of smooth chip evacuation.

● For coolant-through tools

Sealed collet nut to supply coolant reliably through cutting tool.

EPS
P97

MEGA E PERFECT SEAL PAT.

Ideal for burnishing drills and reamers due to extended gripping length of MEGA E CHUCK.

BIG DAISHOWA

High rigidity design for heavy cutting

MEGA DOUBLE POWER CHUCK®

PAT.

Clamping range: ø16 - ø50

Ideal for solid machines

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

MAX. 30,000 min^{-1}

BIG PLUS

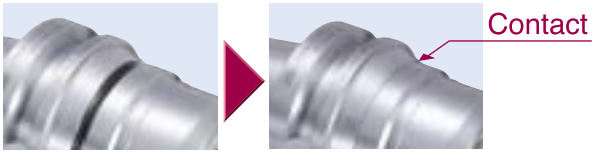
STANDARD

BBT Shank **P25**
BDV Shank **P49**
HSK Shank **P63**

Endmilling | Drilling | Reamer

Stabilizing contact between flange & 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. This superior rigidity assures heavier duty machining without chatter.



Released Tightened

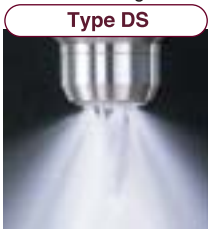
Secure coolant supply

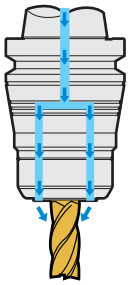
Two types are individually designed for the most effective coolant supply.

- Improved surface finish
- Smoother chip evacuation
- Extended tool life
- Cooling & lubrication of tools

Through tools
Type D

Jet through
Type DS





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

● Straight Collets are available.

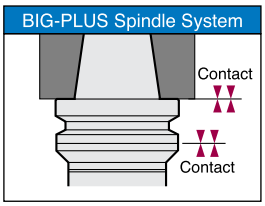
Please choose suitable models according to the applications.

P95

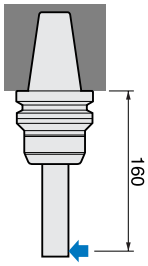
For Through Tools
PSC Collet PAT.

For JET Through
PJC Collet PAT.

Flange contacting nut together with BIG-PLUS

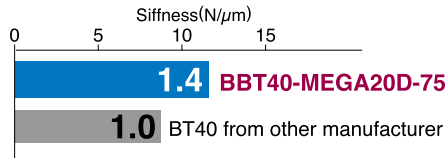


Stabilizing contact of nut to the flange provides exceptional rigidity in addition to the BIG-PLUS effect.

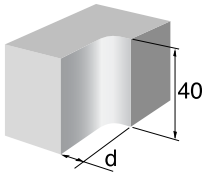


1.4 times increased rigidity

Comparison test proves increased stiffness compared to others.



High rigidity achieves higher level of stability



Cutting conditions

Coated carbide endmill ø32, 4-flutes Workpiece: SS400 (JIS)	V282m/min S2,800min^{-1} F1,120mm/min

BBT50-MEGA32D-105
Radial d = 14mm
Power 15.2KW

Other manufacturer (L = 90)
Radial d = 9.5mm
Power 9.2KW

BIG DAISHOWA

High precision collet chuck system

NEW BABY CHUCK

PAT.

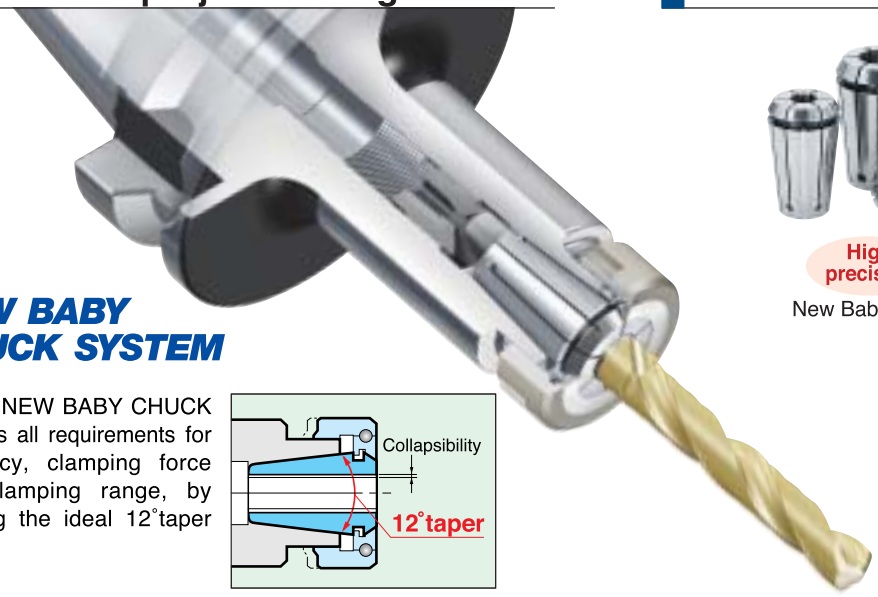
Clamping Range: ø0.25 - ø20

NEW BABY CHUCK are capable of achieving high spindle speeds as required for drilling and end milling with smaller diameter cutting tools.

BT Shank P29
DV Shank P50
HSK Shank P65
CYLINDRICAL Shank P87

Endmilling | Drilling | Reamer

Ideal combination of taper angle and collet projection length



NEW BABY CHUCK SYSTEM

BIG NEW BABY CHUCK satisfies all requirements for accuracy, clamping force and clamping range, by utilizing the ideal 12˚taper angle.

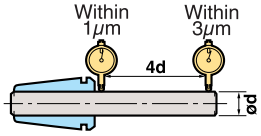
High concentricity

At nose within 1μm | At 4d within 3μm

High precision
New Baby Collet

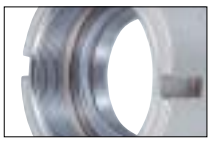
Each collet is inspected and double checked to meet maximum runout tolerance permitted, i.e., 100% check & re-check.

■ Collet concentricity



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

The nut is a key to achieve the highest precision of a collet



- Since the threads greatly influences accuracy, they are finished after heat treatment. Therefore, bad influence from clamping action is eliminated, which enhance clamping performance.
- A nut incorporates a thrust bearing with steel balls that prevents stress to a collet and allows a smooth clamping force to a collet.

MAX. COOLANT PRESSURE 7MPa

For high pressure coolant supply

BPS
P98

Sealed collet nut
BABY PERFECT SEAL PAT.

- Standard NBC Collet is used.
- High dust resistance

Through Tools — Tools with holes

Jet Through — Tools without holes

BIG DAISHOWA

High precision design for heavy cutting

NEW Hi-POWER MILLING CHUCK

Clamping Range : ø16 - ø42

NEW Hi-POWER MILLING CHUCK combines the high accuracy with high torque capability and rigidity.

Endmilling | Drilling | Reamer

BIG PLUS
STANDARD

High precision design for heavy cutting

Slits to inner bore
Large shrinkage capability is ensured.

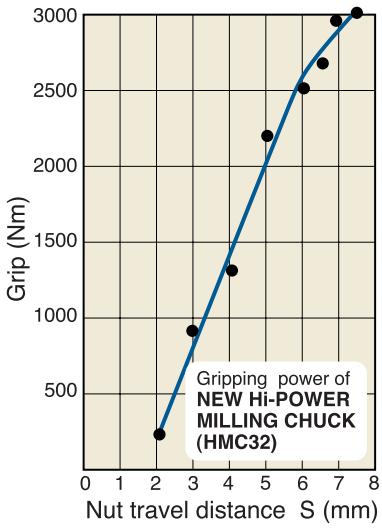
Superior sealing
The ingress of contamination by coolant or cutting particles is eliminated for extended tool holder life.

Axial adjustment screw
Provides easy adjustment of cutter projection.

Roller bearings
Rolling friction is minimised so that the clamping force is greatly increased.

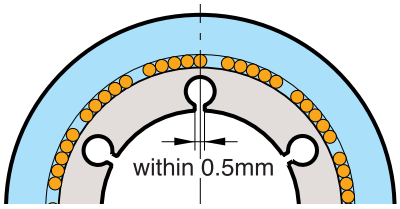
Rigid design
The substantial section (for 32mm chuck the section is 10mm) prevents chatter and achieves security of cutting.

High gripping force



Secure and reliable slit design

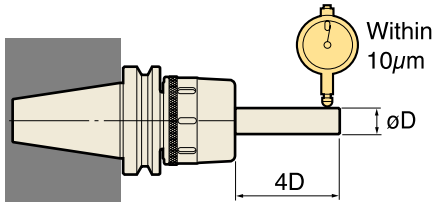
The annular section needs to be substantial in order to provide rigidity but retain the ability to collapse in order to provide sufficient grip. The section of the Hi-Power Milling Chuck has combined holes and slits at regular intervals in order to combine both requirements.



Slit and small hole

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).



BIG DAISHOWA

Precision Test Arbor

DynaTest

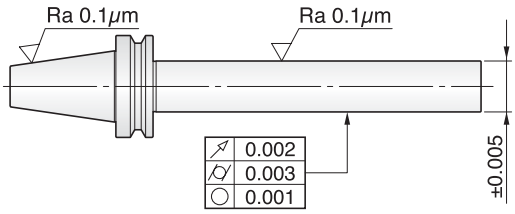
BBT Shank **P43**
BDV Shank **P53**
HSK Shank **P72**

BIG PLUS
STANDARD

Precision measuring tools of the highest quality for machine tool maintenance.

Precision standard of BIG Daishowa Test Arbors

BIG Daishowa provides high quality test bars, produced under a strict quality control system.



Runout	0.002mm
Roundness	0.001mm
Cylindricity	0.003mm
Roughness	Ra : 0.1μm
Diameter tol.	±0.005mm

Alminum case

An Aluminum case is provided to protect and store the test bars. (Some models are provided in a wooden box.)

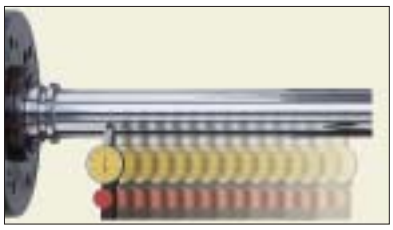
Calibration Certificate and Traceability System

BIG Daishowa can offer a Calibration Certificate with traceability on request as per ISO9000 requirements.

For Machine tool maintenance

Runout of spindle taper

Parallelism to Z-axial movement



BIG DAISHOWA

Offset and Position Detection Tools

COMPACT SENSOR SERIES

High precision Compact Sensor Series enhances accurate machining.

Touch Probe & Edge Finder

POINT MASTER Series

Precision 3-D touch sensor to center and measure the workpiece.

For all materials

P101

POINT MASTER Pro PMP

For conductive materials

P103

POINT MASTER PMC

P104

POINT MASTER PMG

Tool Offset sensors

BASE MASTER Series

Precision touch sensor to determine workpiece offsets and tool length.

TOOL MASTER

LED lamp and sound pre-indicate approach to 100mm height to ease the detecting operation.

For conductive materials.

BASE MASTER

P105

For all materials

BASE MASTER GOLD

P105

BASE MASTER MICRO PAT.P

P106

World smallest 20mm body diameter.

BASE MASTER MINI

P107

P107

BIG DAISHOWA

Indexable Insert Endmill

FULLCUT MILL PAT.

Type FCR / FCM

Cutter Dia. : ø12 - ø80

Type FCR P113
Type FCM P119

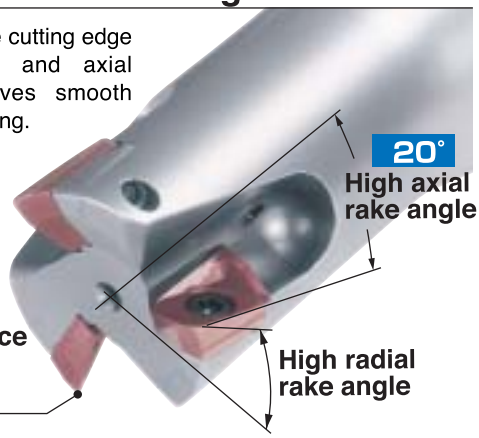
BIG PLUS

STANDARD

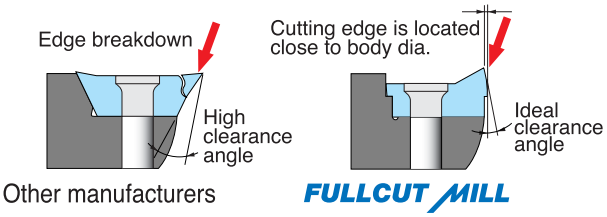
Indexable insert endmills with both excellent sharpness and toughness, achieving the performance of solid endmills.

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.



Strong cutting edge reduces edge chipping.



Amazing cutting performance, brought by integral & face contact body!!

Integral style with taper shank and flange contact with the machine spindle provides higher precision and rigidity thus achieving cutting conditions only otherwise available on larger machines.

BBT and BDV type

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

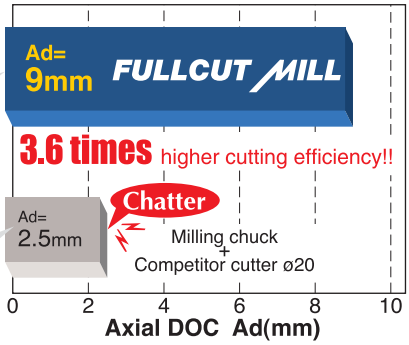
HSK type

Amazing cutting perfomance even on #40 taper machine!!

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

Cutting condition

Machine : BBT40(BIG PLUS)
Slot milling : 20mm
Work material : C50(S50C)
Spindle speed : 2,400min^{-1}
Speed : V=150m/min
Feed : 0.12mm/tooth

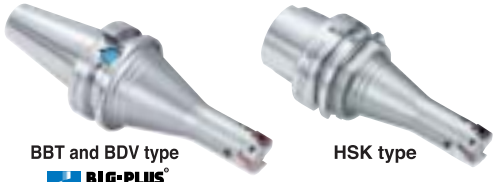


Ramping & Helical milling cutter

FULLCUT MILL Type FCR Cutter Dia. ø16 - ø32

Unique inserts designed for ramping make multi-functional cutting possible.

Higher rigidity with integral body with dual contact system.

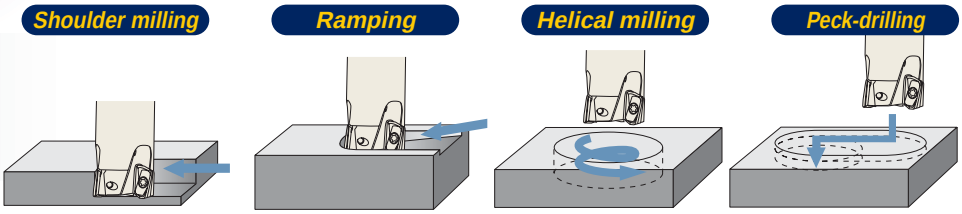


BBT and BDV type

BIG-PLUS DUAL CONTACT

HSK type

For multi-functional cutting



Square Shoulder and slot milling cutter

FULLCUT MILL Type FCM Cutter Dia. ø12 - ø80

The indexable endmill that combines sharpness and rigidity has no match.

A variety of shanks including simultaneous fit with integral body.

BBT and BDV type

BIG-PLUS DUAL CONTACT

HSK type

Cylindrical Shank type

Arbor type

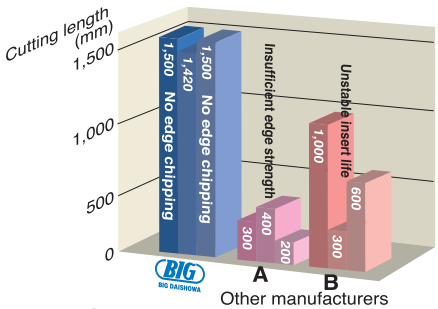
For Facemill Arbor Type FMH

Cutter Dia ø50, ø63, ø80

Evaluation of resistance to breakdown of cutting edge

Tough cutting edge of FULLCUT MILL is proven.

An evaluation of cutting length/life as measured when machining the most arduous workpiece by milling over a continuous series of holes. This is the condition most likely to cause edge chipping.

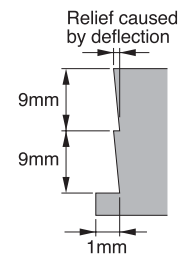


Nose radius 0.2mm

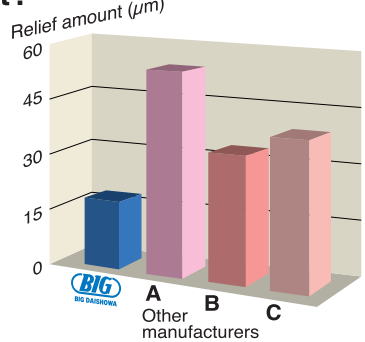
Finishing with indexable endmill - Why not?

Insert with the minimum nose radius of 0.2mm and superb squareness to achieve high precision end milling comparable with solid carbide tools.

Work material: SUS304 stainless steel
Vertical M/C, #40 taper
Cutter dia: 25mm
f = 0.12mm/tooth



Squareness is influenced by the cutting parameters, work materials, rigidity of machine and workpiece, etc.



BIG DAISHOWA

The Ultra High Feed Chamfer mill

C-CUTTER mini

P129

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

For multi-functional cutting

- Chamfering
- Back chamfering
- Face milling

4 Inserts, small diameter and new coating achieve Triple effect

Effect 1 **Maveric design. Ultra high feed by 4 Inserts.**

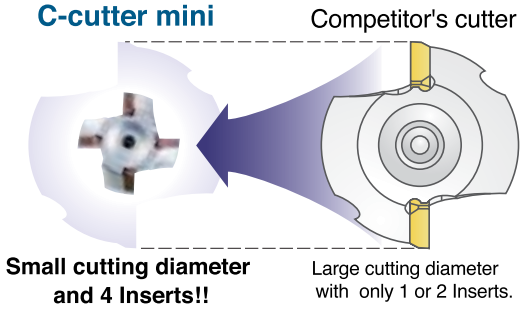
Compared with 1 or 2 inserts per cutter, a 4 insert cutter multipies feed rate

Effect 2 **Increased Spindle speed by Ultra compact diameter.**

A smaller tool diameter means faster spindle speeds.

Effect 3 **Latest coating [ACP200] increases the Cutting speed.**

Wear resistant multi layer PVD coating increases the cutting speed!!



Considerably Improved !!

Feed rate = Spindle speed (UP) × Feed per tooth × Number of teeth (UP)

Spindle speed (UP) = Cutting speed (UP) / π × Cutting diameter (Small dia.)

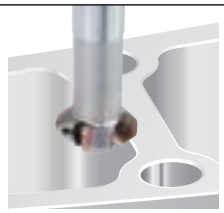
World smallest hex insert

Highly-efficient back chamfering from 6mm starting hole diameter.
3-corner insert

New series for starting hole for tapping are available from M8 to M20 range.

Cutting efficiency is improved by **8 times**.

Work material : C55(S55C)
Chamfering amount : 1mm x 45°
Feed per tooth : 0.1mm



	Competitor's Tool	C-cutter mini (ST12-C1116-45B-25)
Chamfering dia.	ø29	ø13.5 (Small dia.)
Number of teeth	2	4 (UP)
Cutting speed (m/min)	150	300 (UP)
Spindle speed (min⁻¹)	1,646	7,040 (UP)
Feed (mm/min)	329	2,820 (8.5x Higher!)