



Speed Increaser

HIGH SPINDLE GTG ^{PAT.}

BIG DAISHOWA SEIKI CO LTD

CATALOG No. **EXm 23**

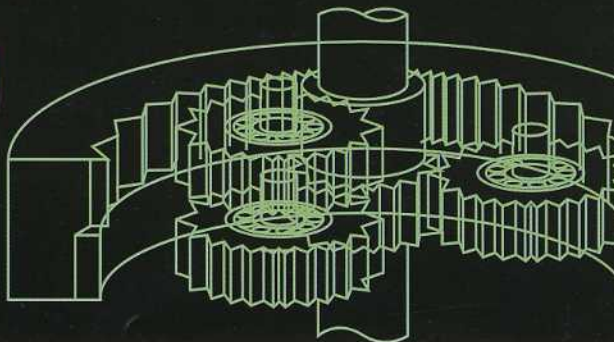
**HIGH SPEED MACHINING INCREASES
PRODUCTIVITY WITH GREATER
ACCURACY AND SUPERIOR FINISH**

NEW



The HIGH SPINDLE GTG multiplies the spindle speed 4,5, or 6 times.

**MAX
20,000
r.p.m**



Patented; Japan, USA, Canada, UK, France, Italy, Taiwan, and South Korea

BIG-PLUS
SPINDLE SYSTEM PAT.
DUAL CONTACT



BIG HIGH SPINDLE GTG

Multi-directional coolant supply

Universal Coolant Nozzles ensure maximum coolant delivery to the cutting edge.

High precision collet chuck system

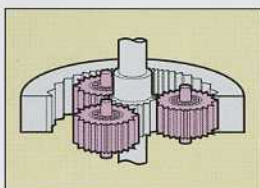
All HIGH SPINDLE series utilise the "NEW BABY CHUCK" for reliable precision.



Patented; Japan, USA, Canada, UK, France, Italy, Taiwan, and South Korea

Reliable GEAR driving system

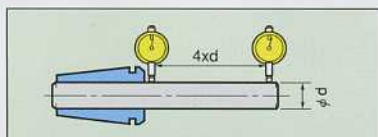
The planetary gears, which have been constantly up-graded since the development of our first "High Spindle" back in 1970, achieves smooth operation with minimal heat generation drive and high torque transmission.



High precision collet chuck system. PAT.



1 μm at nose
《NEW BABY CHUCK》

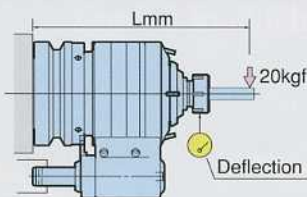


Collet Class	Max. Runout	
	At nose	At 4Xd
AA	1	3

The BIG New Baby Collet is world renowned for its unmatched accuracy and precision. It offers concentricity close to sub-micron.

Rigidity increased 1.7 times

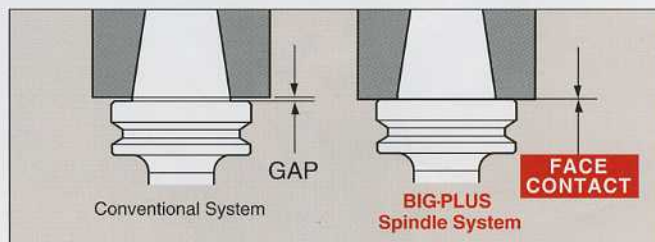
Compared to the previous model, the rigidity exhibits a remarkable improvement, reducing deflection to 58%.



Model	L (mm)	Deflection (μm)	Comparison against previous model
BBT40-GTG5-10-140	200	36	58%
BBT50-GTG6-10-158	220	25	78%
BBT40-GTG4-16-177	240	11	93%

BIG-PLUS is standard on all BT Taper versions. PAT.

Simultaneous taper and flange contact between machine spindle and toolholder, provides improved rigidity and ATC repeatability. Interchangeability with standard spindles ensures suitability for your existing machines.



Higher durability (Advanced sealing method)

The advanced non-contact sealing method provides improved protection against coolant and particle contamination than any other seals.

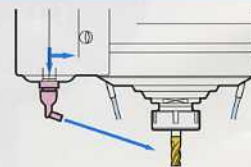
Multi-directional coolant supply

Universal Coolant Nozzles are capable of being adjusted to suit the length of cutting tool. Thus, the maximum coolant delivery to the cutting edge is assured.



Pinpoint coolant jet for shorter cutting tools.

Optional coolant nozzle can be connected by RC (PT) 1/8 pipe fitting. This provides a coolant-jet at a narrow angle with intensive delivery to the cutting edge. (DV/BBT Taper ver.)

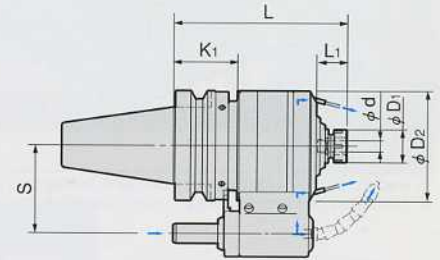


High Spindle improves drilling and end-milling performance on existing machines by multiplying the spindle speed 4, 5, or 6 times.

For Machining Centres



Higher spindle speeds are available without excessive load on the machine spindle.



MODEL ()=BBT	φd	L		L ₁	φ D ₁	φ D ₂	K ₁		SPEED RATIO	MAX. (min ⁻¹)	TORQUE (N·m)	WEIGHT (kg)
		DV	BBT				DV	BBT				
DV/BBT40-GTG5- 8-154(139)	0.5~ 8	154	139	19	25	80	58	43	4.67	20,000	7.8	4.8
- 8-195(180)		195	180	60								4.9
-10-155(140)	1.5~10(8)	155	140	20	30	100	63	58	5.67	20,000	8.0	4.8
-10-195(180)		195	180	60								4.9
DV/BBT50-GTG6- 8-162(157)	0.5~ 8	162	157	19	25	100	63	58	5.67	20,000	8.0	8.8
- 8-205(200)		205	200	62								8.9
-10-163(158)	1.5~10(8)	163	158	20	30	110	63	58	3.80	15,000	27.7	8.8
-10-205(200)		205	200	62								9.0
-GTG4-16-182(177)	2.5~16(12)	182	177	25.5	42	110	63	58	3.80	15,000	27.7	10.6
-16-225(220)		225	220	68.5								11.0

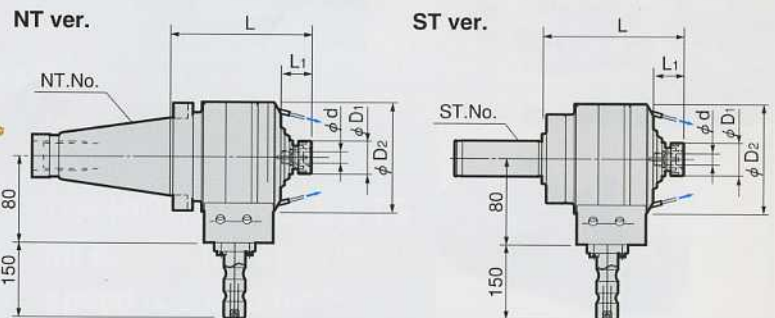
- Standard S-dimensions are 65mm (BBT / DV 40) and 80mm (BBT/DV 50).
- Figures in the brackets for "φ d" indicate max capacity for end mills.
- BBT= JIS BT(BIG-PLUS), DV=DIN69871
- BIG-PLUS on DIN69871 taper version is available upon request.

- Please be aware of the fire risk when using neat oil as coolant.
- There are models specifically designed for use with oil mist when machining materials such as ceramic and tungsten which create small particles or dust.

For Conventional Machines



Higher spindle speeds increase the productivity on Conventional Machines.



MODEL	φd	L	L ₁	φ D ₁	φ D ₂	SPEED RATIO	MAX. (min ⁻¹)	TORQUE (N·m)	WEIGHT (kg)
NT40U(M)-GTG6- 8-129	0.5~ 8	129	19	25	100	5.67	20,000	7.8	5.9
- 10-130	1.5~10(8)	130	20	30					5.9
NT50U(M)-GTG6- 8-129	0.5~ 8	129	19	25	100	5.67	20,000	7.6	7.6
-10-130	1.5~10(8)	130	20	30					7.6
-GTG4-16-150	2.5~16(12)	150	25.5	42	110	3.80	15,000	27.7	9.3
ST32-GTG6- 8-129	0.5~ 8	129	19	25	100	5.67	20,000	8.0	5.5
-10-130	1.5~10(8)	130	20	30					5.5
-GTG4-16-150	2.5~16(12)	150	25.5	42	110	3.80	15,000	27.7	7.2

- Figures in the brackets for "φ d" indicate max capacity for end mills.
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APPLICATION EXAMPLES

MODEL	BBT40-GTG5-10-140	BBT50-GTG6-10-158	BBT50-GTG6-10-158	BBT50-GTG4-16-177
CUTTER	Solid carbide endmill φ 8mm / 2 flutes	Solid carbide endmill φ 6mm / 2 flutes	Solid carbide drill φ 2mm	Solid carbide endmill φ 12mm / 4 flutes
WORKPIECE MATERIAL	Duralumin (A-2017)	S55C	Duralumin (A-2017)	Duralumin (A-2017)
REVOLUTION	20,000min ⁻¹	16,000min ⁻¹	20,000min ⁻¹	15,000min ⁻¹
FEED RATE	13,000mm/min.	3,500mm/min.	2,000mm/min.	1,000mm/min.
RESULT	High metal removal rate 90cm ³ /min.	High metal removal rate 35cm ³ /min.	Extended tool life 1,200 holes by 1 drill	Surface roughness Ry 2.0 μm

※ Results will vary depending on workpiece, cutting tool, machine model, and other conditions.

※ The rigidity and concentricity are often affected by the projection-length of a cutting tool. It is recommended to keep the projection as short as possible.

STANDARD ACCESSORIES

	MODEL	HEAD MODEL
NEW BABY COLLET 	DV/BBT ver. NBC8-8AA	GTG5-8、GTG6-8
	NT/ST ver. NBC8-2、3、4、5、6、8AA (1 each)	
	DV/BBT ver. NBC10-10AA	GTG5-10、GTG6-10
	NT/ST ver. NBC10-3、4、5、6、8、10AA (1 each)	
	DV/BBT ver. NBC16-16AA	GTG4-16
	NT/ST ver. NBC16-6、8、10、12、16AA (1 each)	
WRENCH 	NBK8 Flat spanner (22mm)	GTG5-8、GTG6-8
	NBK10 Flat spanner (27mm)	GTG5-10、GTG6-10
	NBK16 Flat spanner (37mm)	GTG4-16
STOP BAR 	STOP BAR	NT/ST ver.

OPTIONAL ACCESSORIES

	MODEL	φ d	COLLAPSIBILITY	HEAD MODEL
NEW BABY COLLET 	NBC 8-(d)AA	φ 1 ~ 8	0.5mm/φ	GTG5-8、GTG6-8
	NBC10-(d)AA	φ 2 ~ 10		GTG5-10、GTG6-10
	NBC16-(d)AA	φ 3 ~ 16		GTG4-16
STOP BLOCK(for MC) 	BIG BIG standard dimensions 		Stop Block details vary according to machine make and model. Please order with dimensions.	



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