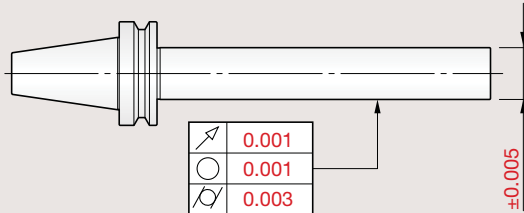


A high-precision test bar developed by BIG's precise machining technology.

- Periodic accuracy evaluation eliminates machining defects.

Precision standard of BIG Test Bars

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



Runout accuracy	0.001mm
Roundness	0.001mm
Cylindricity	0.003mm
Outer diameter tolerance	±0.005mm

※ Runout accuracy uses dual-center reference.

Calibration certificate and traceability diagram (with charge)

A calibration certificate and traceability diagram is offered upon request with charge for reliable use of these test bars or for the customers certified with ISO9000.

Traceability is defined under JIS Z8103 as "the establishment of a pathway related to national and international standards in which standard instruments or measuring instruments are continually calibrated according to higher-level measurement standards."



Static accuracy of machining centers is regulated in JIS-B6336. We recommend periodic accuracy checks for stable production.

JIS standard machine spindle value

Runout of spindle inner taper

	Horizontal MC	Vertical MC
Test bar nose	0.01 (mm) or less	0.01 (mm) or less
300mm tip	0.015 (mm) or less	0.02 (mm) or less

[BIG-PLUS Type]



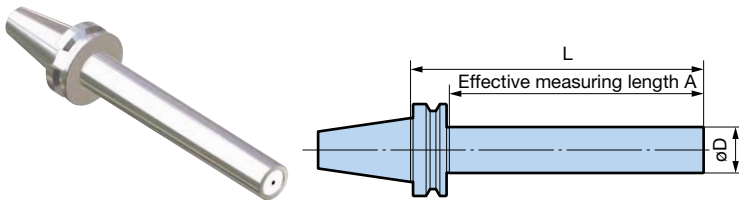
Caution

- Only use PULLSTUD BOLTS made by BIG.



BBT Shank (MAS403 and JIS B6339)

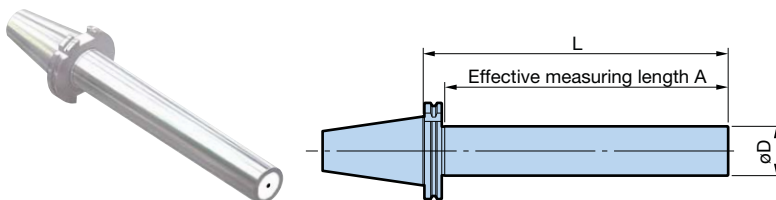
- The short type is ideal for ATC repeatability inspection.



BIG-PLUS BBT SHANK Model	L	A	øD
BBT30-32-L150	150	125	32
-L235	235	210	
BBT40-50-L200	200	170	50
-L350	350	320	
BBT50-50-L200	200	159	50
-L360	360	319	

1. The BBT Shank conforms to JIS-BT standards.

BDV Shank (DIN 69871 and ISO 7388-1)

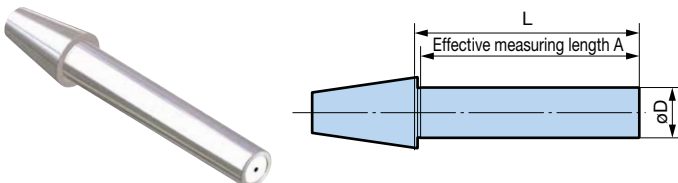


BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional DV spindles.

BIG-PLUS BDV SHANK Model	L	A	øD
BDV40-50-L340SD	340	310	50
BDV50-50-L340SD	340	318	50

[Basic Type]

- Can also be used as a setting gauge for tool presetters.

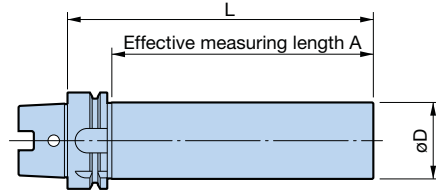


Model	L	A	øD
NT30-32-L150	150	142	32
-L225	225	217	
NT40-50-L200	200	184	50
-L335	335	319	
NT50-50-L200	200	191	50
-L335	335	326	

[HSK Shank Type]



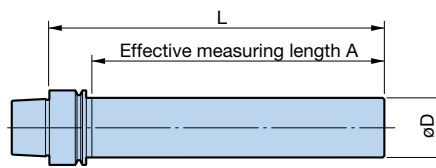
HSK-A Type (DIN 69893-1 and ISO 12164-1)



Model	L	A	øD
HSK-A 40-32-L180SD	180	157	32
-A 50-32-L150SD	150	121	
-L240SD	240	211	
-A 63-50-L200SD	200	171	50
-L350SD	350	321	
HSK-A100-50-L200SD	200	168	
-L350SD	350	318	

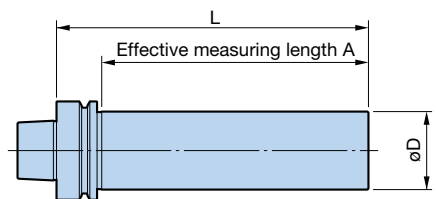
1. As the depth of the drive keys are symmetrical, it can be mounted in 180° inversion.

HSK-E Type (DIN 69893-5)



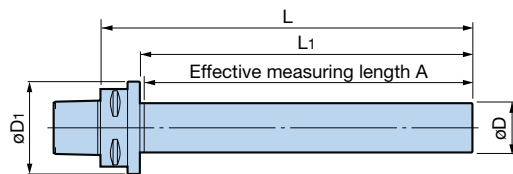
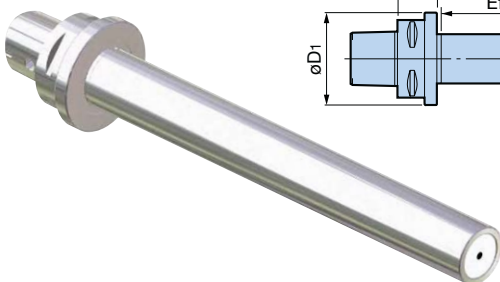
Model	L	A	øD
HSK-E25-20-L175	175	163	20
-E32-20-L180	180	158	
-E40-32-L180		157	32
-E50-32-L240	240	211	

HSK-F Type (DIN 69893-6)



Model	L	A	øD
HSK-F63-50-L200	200	171	50
-L350	350	321	

[BIG CAPTO SHANK Type]



Model	L	L ₁	A	øD	øD ₁
C5-32-L150	180	150	148	32	63
- 215	245	215	213		
-40-L250	280	250	247		
C6-40-L150	182	150	147	40	75
-L200	232	200	197		
-L320	352	320	317		
C8-40-L200	240	200	197	40	85
-L320	360	320	317		

※ Runout accuracy is 0.003mm with taper reference.

DYNA TEST

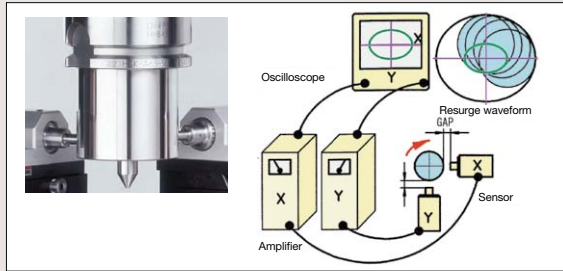
Evaluates the dynamic runout accuracy of the machine spindle by measuring the runout while rotating at practical speeds.

- The dynamic accuracy may differ from static accuracy due to centrifugal force, vibration and heat caused by spindle rotation. Knowing the dynamic accuracy will aid in finding the appropriate cutting parameters for actual machining.

● Dynamic runout accuracy

Allows measurement of the runout during actual rotation.

[Example of dynamic runout measuring devices.]



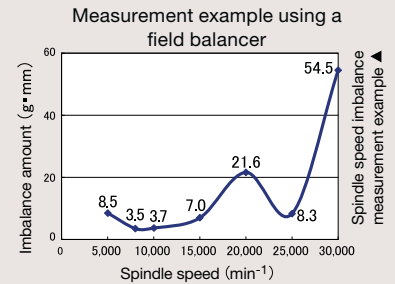
This example uses a static capacitance non-contact displacement meter. X and Y axis displacement can be measured simultaneously, with the resurge waveform displayed on an oscilloscope.

Measurement example of radial direction error at different spindle speeds

Spindle speed (min ⁻¹)	500	10,000	30,000
Resurge waveform			

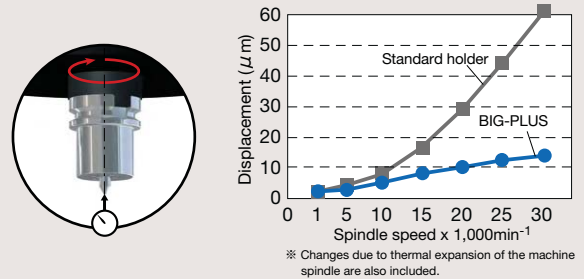
● Imbalance

The balance also changes with spindle speed. Tool life and machining accuracy are improved by usage at a spindle speed with good balance performance.

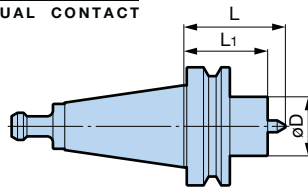


● Measurement of Z-axis direction displacement

Z-axis displacement varies depending on the thermal displacement and spindle expansion caused at each spindle speed. The center boss allows measurement with a non-contact displacement meter.



[BIG-PLUS Type]



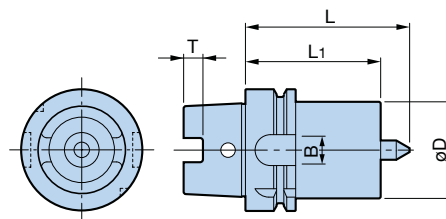
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional BT spindles.

Model	øD	L	L ₁
BBT30-40-Z62	40	62	50
BBT40-50-Z85	50	85	70
BBT50-50-Z85	50	85	70

1. Specify the pullstud bolt model, as the taper is ground with the pullstud bolt mounted.

[HSK Shank Type]

HSK-A Type (DIN 69893-1 and ISO 12164-1)

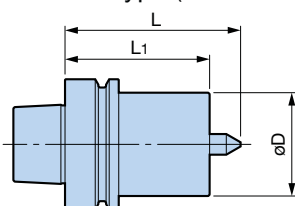


※ HSK-E Type and other shank sizes are also available. Please contact us for details.

Model	L	L ₁	øD	B	T
HSK-A 40-40-Z62AB	62	50	40	11	6
-A 50-40-Z62AB				14	7.5
-A 63-50-Z85AB	85	70	50	18	10
-A100-50-Z85AB				22	15

1. Symmetrically designed HSK shanks for improved balance.

HSK-F Type (DIN 69893-6)



Model	L	L ₁	øD
HSK-F63-50-Z85	85	70	50

1. HSK-E Type (DIN 69893-5) is also available

Common for BBT Shank/HSK Shank

■ Test Bar Tip Dimensions

øD	øD ₁	øD ₂
ø40 Type	18	16
ø50 Type	28	20

※ M4 and M6 threaded holes are prepared for mounting test weights used for field balance measurement.