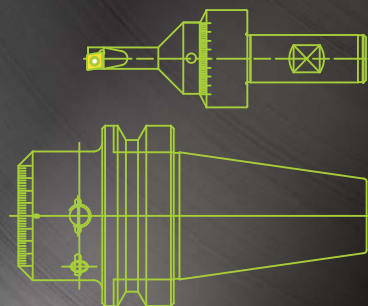


Featuring
Improved

Cycle Time
Roughness
Position Accuracy
True Roundness



HIGH SPEED



BORING BARS

High Efficiency/Easy Adjustment

**THE ACCURATE &
ADVANTAGED SOLUTION**

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2011-06 Cat.No.8

Mechanical Design

- Adjusted by eccentric mechanism, it is simple and backlash free. (Patented in ROC Taiwan, patent no. 108599, PR China ZL96 2 01178.9)
- It can replace end mill and brazed tool bits.

Easy Handling

- Each division 0.03mm shown on the tools, they are adjustable on the tool presetter or machine easily.
- Total adjustment range ± 0.5 mm

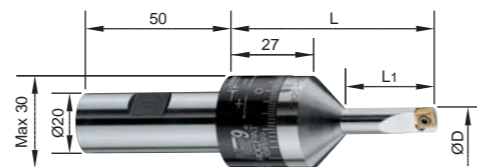
Economic

- Low cost, high efficiency.
- The indexable insert allows a variety of materials to be cut.

Application

- Minimum readout division is 0.03 mm, it is easy for setting up fine boring.
- Ideal as small hole boring tool with excellent accuracy.
- For fine boring operation on milling machines, machining centres and special purpose machines.

* H type with internal coolant can be ordered on request from Dia. 7mm.
Ordering example: 00-99101-07H.



Ordering Code	Part No.		ØD	L1	L	Insert	Screw & Key
00-99101-07	SB20-0721-03	Adjustment range: ± 0.5 mm Each Division 0.03mm	6.5-7.5	21	60	CCGT040102	NK-T6 NS-20036
00-99101-08	SB20-0824-03		7.5-8.5	24	63		
00-99101-09	SB20-0927-03		8.5-9.5	27	65		
00-99101-10	SB20-1030-03		9.5-10.5	30	68	CCGH060204	NK-T7 NS-25045
00-99101-11	SB20-1133-03		10.5-11.5	33	70		
00-99101-12	SB20-1236-03		11.5-12.5	36	73		
00-99101-13	SB20-1339-03		12.5-13.5	39	75		
00-99101-14	SB20-1442-03		13.5-14.5	42	78		
00-99101-15	SB20-1545-03		14.5-15.5	45	80		
00-99101-16	SB20-1648-03		15.5-16.5	48	83		
00-99101-17	SB20-1751-03		16.5-17.5	51	85		
00-99101-18	SB20-1850-03		17.5-18.5	50	82		
00-99101-19	SB20-1950-03		18.5-19.5	50	82		
00-99101-20	SB20-2050-03		19.5-20.5	50	82		
00-99101-21	SB20-2150-03		20.5-21.5	50	82		
00-99101-22	SB20-2250-03		21.5-22.5	50	82		
00-99101-23	SB20-2350-03		22.5-23.5	50	82		
00-99101-24	SB20-2450-03		23.5-24.5	50	82		
00-99101-25	SB20-2550-03		24.5-25.5	50	82	CCGH060204	NK-T7 NS-25060

Mechanical Design

- Adjusted by eccentric mechanism, it is simple and backlash free. (Patented in ROC Taiwan, patent no. 108599, PR China ZL96 2 01178.9)
- It can replace end mill and brazed tool bits.

Easy Handling

- Each division 0.01mm shown on the tools, they are adjustable on the tool presetter or machine easily.
- Total adjustment range ± 0.1 mm

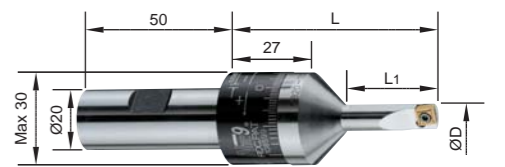
Economic

- Low cost, high efficiency.
- The indexable insert allows a variety of materials to be cut.

Application

- Minimum readout division is 0.01 mm, it is easy for setting up fine boring.
- Ideal as small hole boring tool with excellent accuracy.
- For fine boring operation on milling machines, machining centres and special purpose machines.

* H type with internal coolant can be ordered on request from Dia. 7mm.
Ordering example: 00-99121-07H.



Ordering Code	Part No.		ØD	L1	L	Insert	Screw & Key
00-99121-05	SB20-0515-01	Adjustment range: ± 0.1 mm Each Division 0.01mm	4.9-5.1	15	54	CCGT030102	NK-T6 NS-16030
00-99121-06	SB20-0618-01		5.9-6.1	18	57		
00-99121-07	SB20-0721-01		6.9-7.1	21	60	CCGT040102	NK-T6 NS-20036
00-99121-08	SB20-0824-01		7.9-8.1	24	63		
00-99121-09	SB20-0927-01		8.9-9.1	27	65		
00-99121-10	SB20-1030-01		9.9-10.1	30	68	CCGH060204	NK-T7 NS-25045
00-99121-11	SB20-1133-01		10.9-11.1	33	70		
00-99121-12	SB20-1236-01		11.9-12.1	36	73		
00-99121-13	SB20-1339-01		12.9-13.1	39	75		
00-99121-14	SB20-1442-01		13.9-14.1	42	78		
00-99121-15	SB20-1545-01		14.9-15.1	45	80		
00-99121-16	SB20-1648-01		15.9-16.1	48	83		
00-99121-17	SB20-1751-01		16.9-17.1	51	85		
00-99121-18	SB20-1850-01		17.9-18.1	50	82		
00-99121-19	SB20-1950-01		18.9-19.1	50	82		
00-99121-20	SB20-2050-01		19.9-20.1	50	82		
00-99121-21	SB20-2150-01		20.9-21.1	50	82		
00-99121-22	SB20-2250-01		21.9-22.1	50	82		
00-99121-23	SB20-2350-01		22.9-23.1	50	82		
00-99121-24	SB20-2450-01		23.9-24.1	50	82		
00-99121-25	SB20-2550-01		24.9-25.1	50	82	CCGH060204	NK-T7 NS-25060

Easy adjustment mechanism:

- The boring head adapter is 20mm shank; the receiving hole is eccentric from the center of the shank. The diameter is adjusted by rotating the boring bar.
- Boring bar has preloaded by spring and M6 screw to fix boring bar and adapter together securely. The recommended torque is 0.9-1.0 Nm.
- Boring bar is locked by M8 setscrew; clamping torque is 8-9 Nm.
- Repair and replace boring bars easily.

Economical

- The e-boring bar is more economical than solid carbide reamer. Nine 9 e-boring bars are adjustable to compensate the wearing of insert, but the solid carbide reamer has to be replaced by new reamer.

Applications

- For fine boring operation to get IT7 tolerance; Using Nine9 fine ground inserts, tolerance IT6 is also possible.
- To replace solid carbide reamer for machining precise hole for dowel pin and other small diameter applications; this should be done by reamer in traditional.

Procedures For Assembly

1. Use 4 mm allen-key to **loosen locking screw M8**, take care not to remove the screw.
2. Use 3 mm allen-key to **loosen pre-load screw M6**, take care not to remove the screw.
3. Remove the original boring bar and insert the new boring bar.
4. **Tighten the M6 pre-load screw** using the torque screwdriver with hex head key.
(Recommended torque = 0.9~1.0 Nm)
5. Ensure the boring head and boring bar fit together securely.
6. Measure the boring diameter of the boring bar using tool presetter and adjust it to the required diameter.
7. **Tighten the M8 locking screw** using the torque screwdriver with hex head key (Recommended torque = 8~9Nm)

Procedures For Adjustment

1. **Loosen locking screw M8.**
2. Put a 4 mm allen-key into the adjustable driving hole.
3. Turn to " + " to increase and turn to " - " to reduce boring diameter.
4. **Tighten the M8 locking screw** using the torque screwdriver with hex head key.
(Recommended torque = 8~9Nm)

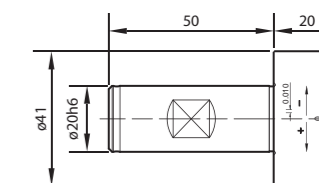


To replace reamer!



Boring Head Adapter

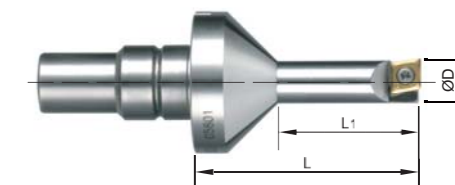
- 2 size adapters are designed for receiving all 00-99111-xxA boring bars.
- Change the boring bar in just one minute.
- 20mm shank to fit any kind of tool holder properly.



Ordering Code	Part No.	Shank (h6)	Adjustable range	Each division
00-99111-01-20HB	SB20-111-01	20mm	±0.1mm	0.01mm
00-99111-03-20HB	SB20-111-03	20mm	±0.5mm	0.03mm

Interchangeable Boring Bar

- Made by high alloy tool steel, the rigidity is enough for 3xD boring depth.
- All of 00-99111-xxA boring bars are interchangeable to fit same boring head adapter.



* H type with internal coolant can be order on request. ordering code:00-99111-07AH

Ordering Code	Part No.	ØD		L1	L	Insert	Key / Screw
		99111-03-20HB	99111-01-20HB				
00-99111-05A	C16-0515	-	4.9-5.1	15	34	CC030102	NK-T6 NS-16030
00-99111-06A	C16-0618	-	5.9-6.1	18	37		
00-99111-07A	C16-0721	6.5-7.5	6.9-7.1	21	40	CC040102	NK-T6 NS-20036
00-99111-08A	C16-0824	7.5-8.5	7.9-8.1	24	43		
00-99111-09A	C16-0927	8.5-9.5	8.9-9.1	27	45	CC060204	NK-T7 NS-25045
00-99111-10A	C16-1030	9.5-10.5	9.9-10.1	30	48		
00-99111-11A	C16-1133	10.5-11.5	10.9-11.1	33	50		
00-99111-12A	C16-1236	11.5-12.5	11.9-12.1	36	53		
00-99111-13A	C16-1339	12.5-13.5	12.9-13.1	39	55		
00-99111-14A	C16-1442	13.5-14.5	13.9-14.1	42	58		
00-99111-15A	C16-1545	14.5-15.5	14.9-15.1	45	60	CC060204	NK-T7 NS-25060
00-99111-16A	C16-1648	15.5-16.5	15.9-16.1	48	63		
00-99111-17A	C16-1751	16.5-17.5	16.9-17.1	51	65		
00-99111-18A	C16-1850	17.5-18.5	17.9-18.1	50	62		
00-99111-19A	C16-1950	18.5-19.5	18.9-19.1	50	62		
00-99111-20A	C16-2050	19.5-20.5	19.9-20.1	50	62		
00-99111-21A	C16-2150	20.5-21.5	20.9-21.1	50	62		
00-99111-22A	C16-2250	21.5-22.5	21.9-22.1	50	62		
00-99111-23A	C16-2350	22.5-23.5	22.9-23.1	50	62		
00-99111-24A	C16-2450	23.5-24.5	23.9-24.1	50	62		
00-99111-25A	C16-2550	24.5-25.5	24.9-25.1	50	62		

Easy Handling:

- Dimensions are easy to read. They are indicated on the tools and are easily adjustable on a tool presetter or in machining center.
- No backlash.
- Change the boring bar and set the boring dimension on the tool presetter in just one minute.

Interchangeable Boring Bars from Diameters of 5 mm to 50 mm

- This simple boring tool has minimal components.
- In minutes, the boring bar may be changed and the boring dimension set on the tool presetter.

Low Cost For Machining Small Holes

- The cost of this product is low compared to other micro adjustable boring heads.

High Speed

- Boring bar design ensures accurate high speed boring. Grade balance is G6.3 10000 r.p.m., all sizes are guaranteed.
- Surface speeds of carbide inserts up to 700 m/min.
- Combination bore / chamfer / facing tools can be ordered on request.

Procedures For Assembly

1. Use 4 mm allen-key to **loosen locking screw M8**, take care not to remove the screw.
2. Use 3 mm allen-key to **loosen pre-load screw M6**, take care not to remove the screw.
3. Remove the original boring bar and insert the new boring bar.
4. **Tighten the M6 pre-load screw** using the torque screwdriver with hex head key.
(Recommended torque = 0.9~1.0 Nm)
5. Ensure the boring head and boring bar fit together securely.
6. Measure the boring diameter of the boring bar using tool presetter and adjust it to the required diameter.
7. **Tighten the M8 locking screw** using the torque screwdriver with hex head key (Recommended torque = 8~9Nm)

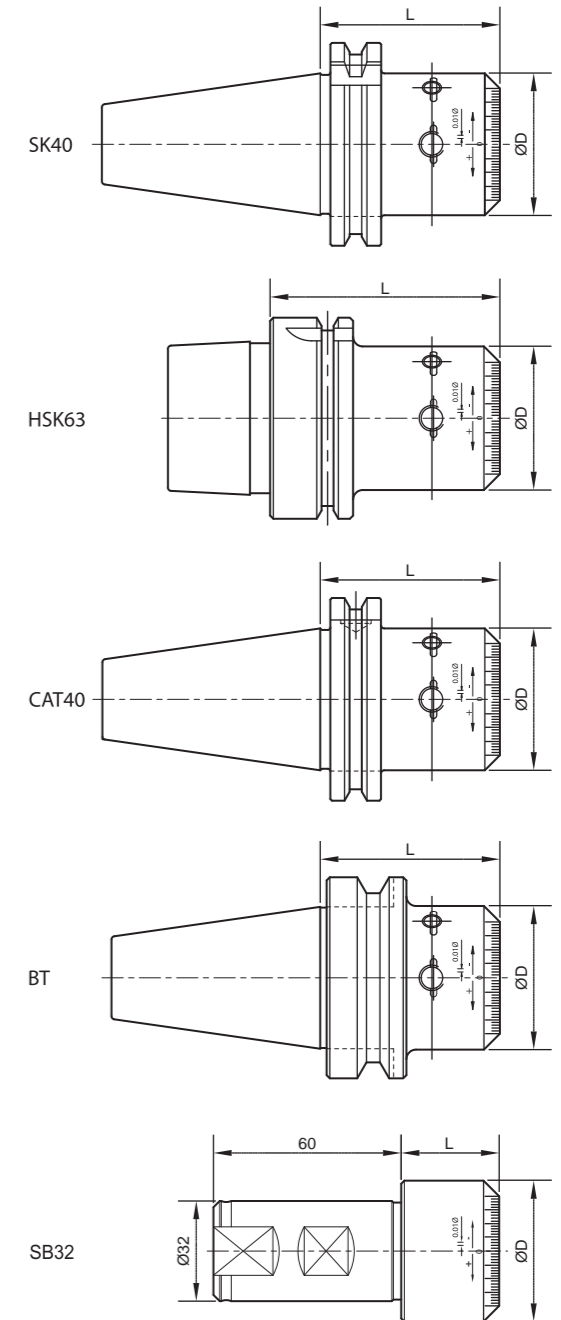
Procedures For Adjustment

1. **Loosen locking screw M8.**
2. Put a 4 mm allen-key into the adjustable driving hole.
3. To increase the boring diameter turn towards “+” and to decrease the boring diameter turn towards “-”.
4. **Tighten the M8 locking screw** using the torque screwdriver with hex head key.
(Recommended torque = 8~9Nm)



Boring Head Shank

- Adjustable range: +0.12 /-0.13 mm.
- Each adjustment division is 0.01 mm.
- Balance grade : G6.3 10000 r.p.m.



Ordering Code	Part No.	ØD	L
00-99146-01-32HB	SB32-146-01	45	31.3
00-99146-BT30H	BT30-146-51	45	51.3
00-99146-BT40H	BT40-146-56	45	56.3
00-99146-BT50H	BT50-146-77	45	77.3
00-99146-CAT40H	CAT40-146-56	45	56.3
00-99146-HSK63AH	HSK63A-146-72	45	72
00-99146-SK40H	SK40-146-56	45	56.3

Adapter

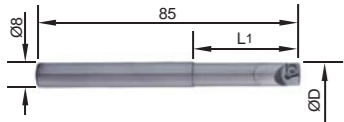
- Economical solution of small dia. boring bar.



Ordering Code	Part No.	ØD	L
00-99151A-06	C20-ID06	6	52
00-99151A-08	C20-ID08	8	42
00-99151A-10	C20-ID10	10	21.5
00-99151A-11	C20-ID11	11	21.5
00-99151A-15.5	C20-ID15.5	15.5	21.5

Ø6.87~Ø11.12mm

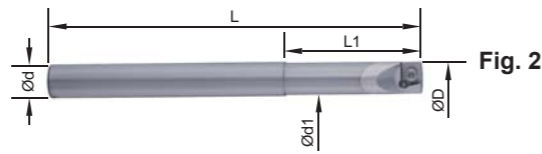
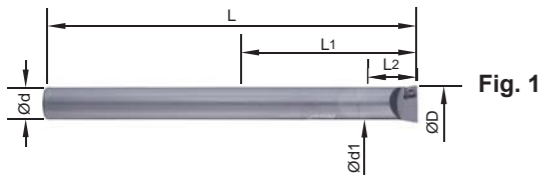
- Solid Carbide Shank
- Boring Depth : L1, 4~6xD



Ordering Code	Part No.	ØD	L1	Insert
00-99151-0700W	C08-0700-28L	6.87~7.12	28.00	CCGT040102-NC30 Screw: NS-20036 Key: NK-T6
00-99151-0725W	C08-0725-28L	7.12~7.37	28.00	
00-99151-0750W	C08-0750-30L	7.37~7.62	30.00	
00-99151-0775W	C08-0775-30L	7.62~7.87	30.00	
00-99151-0800W	C08-0800-32L	7.87~8.12	32.00	
00-99151-0825W	C08-0825-32L	8.12~8.37	32.00	
00-99151-0850W	C08-0850-34L	8.37~8.62	34.00	
00-99151-0875W	C08-0875-34L	8.62~8.87	34.00	

Ø11.87~Ø20.12mm

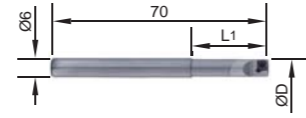
- Solid Carbide Shank
- Boring Depth : L1, 4~6xD



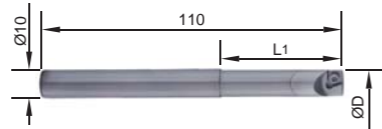
Ordering Code	Part No.	ØD	Ød	Ød1	L1	L2	L	Fig.	Insert
00-99151-1200W	C11-1200-150L	11.87~12.12	11	11	70	20	150	1	CCGT060204 CCFT060204 Screw: NS-25045 Key: NK-T7
00-99151-1300W	C11-1300-150L	12.87~13.12	11	-	70	-	150		
00-99151-1400W	C11-1400-150L	13.87~14.12	11	-	70	-	150		
00-99151-1500W	C15.5-1500-90L	14.87~15.12	15.5	14	90	90	180	2	CCGT060204 CCFT060204 Screw: NS-25045 Key: NK-T7
00-99151-1600W	C15.5-1600-180L	15.87~16.12	15.5	15	90	90	180		
00-99151-1700W	C15.5-1700-180L	16.87~17.12	15.5	-	100	-	180	1	CCGT060204 CCFT060204 Screw: NS-25060 Key: NK-T7
00-99151-1800W	C15.5-1800-180L	17.87~18.12	15.5	-	100	-	180		
00-99151-1900W	C15.5-1900-180L	18.87~19.12	15.5	-	100	-	180		
00-99151-2000W	C15.5-2000-180L	19.87~20.12	15.5	-	100	-	180		

Ø4.87~Ø6.87mm

- Solid Carbide Shank
- Boring Depth : L1, 4~6xD



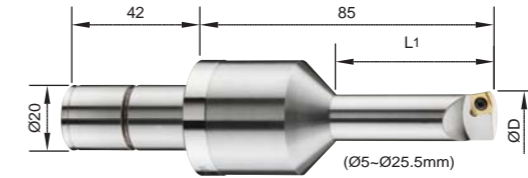
Ordering Code	Part No.	ØD	L1	Insert
00-99151-0500W	C06-0500-20L	4.87~5.12	20.00	CCGT030102-NC30 Screw: NS-16030 Key: NK-T6
00-99151-0525W	C06-0525-20L	5.12~5.37	20.00	
00-99151-0550W	C06-0550-22L	5.37~5.62	22.00	
00-99151-0575W	C06-0575-22L	5.62~5.87	22.00	
00-99151-0600W	C06-0600-24L	5.87~6.12	24.00	
00-99151-0625W	C06-0625-24L	6.12~6.37	24.00	
00-99151-0650W	C06-0650-26L	6.37~6.62	26.00	
00-99151-0675W	C06-0675-26L	6.62~6.87	26.00	



Ordering Code	Part No.	ØD	L1	Insert
00-99151-0900W	C10-0900-36L	8.87~9.12	36.00	CCGT060204 CCFT060204 All grades are available. Screw: NS-25045 Key: NK-T7
00-99151-0925W	C10-0925-36L	9.12~9.37	36.00	
00-99151-0950W	C10-0950-38L	9.37~9.62	38.00	
00-99151-0975W	C10-0975-38L	9.62~9.87	38.00	
00-99151-1000W	C10-1000-40L	9.87~10.12	40.00	
00-99151-1025W	C10-1025-40L	10.12~10.37	40.00	
00-99151-1050W	C10-1050-42L	10.37~10.62	42.00	
00-99151-1075W	C10-1075-42L	10.62~10.87	42.00	
00-99151-1100W	C10-1100-44L	10.87~11.12	44.00	

Ø5~Ø25mm

- Alloy Steel Shank
- Boring Depth : L1, 2~3xD



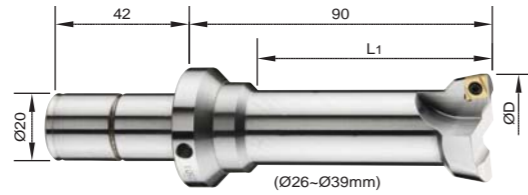
* H type with internal coolant can be ordered on request from Dia. 10mm.
Ordering example: 00-99146-1000SH.

Ordering Code	Part No.	ØD	L1	Insert
00-99146-0500S	C20-0500-10L	4.87~5.12	10.00	CC030102-NC30 NS-16030, NK-T6
00-99146-0600S	C20-0600-12L	5.87~6.12	12.00	
00-99146-0700S	C20-0700-14L	6.87~7.12	14.00	CC040102-NC30 NS-20045, NK-T6
00-99146-0800S	C20-0800-16L	7.87~8.12	16.00	
00-99146-0900S	C20-0900-20L	8.87~9.12	18.00	CCGT060204 CCFT060204 Screw: NS-20045 Key: NK-T7
00-99146-1000S	C20-1000-25L	9.87~10.12	25.00	
00-99146-1025S	C20-1025-25L	10.12~10.37	25.00	
00-99146-1050S	C20-1050-26L	10.37~10.62	26.25	
00-99146-1075S	C20-1075-26L	10.62~10.87	26.25	
00-99146-1100S	C20-1100-27L	10.87~11.12	27.50	
00-99146-1125S	C20-1125-27L	11.12~11.37	27.50	
00-99146-1150S	C20-1150-28L	11.37~11.62	28.75	
00-99146-1175S	C20-1175-28L	11.62~11.87	28.75	
00-99146-1200S	C20-1200-30L	11.87~12.12	30.00	
00-99146-1225S	C20-1225-30L	12.12~12.37	30.00	
00-99146-1250S	C20-1250-31L	12.37~12.62	31.25	
00-99146-1275S	C20-1275-31L	12.62~12.87	31.25	
00-99146-1300S	C20-1300-32L	12.87~13.12	32.50	
00-99146-1325S	C20-1325-32L	13.12~13.37	32.50	
00-99146-1350S	C20-1350-33L	13.37~13.62	33.75	
00-99146-1375S	C20-1375-33L	13.62~13.87	33.75	
00-99146-1400S	C20-1400-35L	13.87~14.12	35.00	
00-99146-1425S	C20-1425-35L	14.12~14.37	35.00	
00-99146-1450S	C20-1450-36L	14.37~14.62	36.25	
00-99146-1475S	C20-1475-36L	14.62~14.87	36.25	
00-99146-1500S	C20-1500-37L	14.87~15.12	37.50	
00-99146-1525S	C20-1525-37L	15.12~15.37	37.50	
00-99146-1550S	C20-1550-38L	15.37~15.62	38.75	
00-99146-1575S	C20-1575-38L	15.62~15.87	38.75	
00-99146-1600S	C20-1600-40L	15.87~16.12	40.00	
00-99146-1625S	C20-1625-40L	16.12~16.37	40.00	
00-99146-1650S	C20-1650-41L	16.37~16.62	41.25	
00-99146-1675S	C20-1675-41L	16.62~16.87	41.25	
00-99146-1700S	C20-1700-42L	16.87~17.12	42.50	

Ordering Code	Part No.	ØD	L1	Insert
00-99146-1725S	C20-1725-42L	17.12~17.37	42.50	CCGT060204 CCFT060204 Screw: NS-20045 Key: NK-T7
00-99146-1750S	C20-1750-43L	17.37~17.62	43.75	
00-99146-1775S	C20-1775-43L	17.62~17.87	43.75	
00-99146-1800S	C20-1800-45L	17.87~18.12	45.00	
00-99146-1825S	C20-1825-45L	18.12~18.37	45.00	
00-99146-1850S	C20-1850-46L	18.37~18.62	46.25	
00-99146-1875S	C20-1875-46L	18.62~18.87	46.25	
00-99146-1900S	C20-1900-47L	18.87~19.12	47.50	
00-99146-1925S	C20-1925-47L	19.12~19.37	47.50	
00-99146-1950S	C20-1950-48L	19.37~19.62	48.75	
00-99146-1975S	C20-1975-48L	19.62~19.87	48.75	
00-99146-2000S	C20-2000-50L	19.87~20.12	50.00	
00-99146-2025S	C20-2025-50L	20.12~20.37	50.00	
00-99146-2050S	C20-2050-50L	20.37~20.62	50.00	
00-99146-2075S	C20-2075-50L	20.62~20.87	50.00	
00-99146-2100S	C20-2100-50L	20.87~21.12	50.00	
00-99146-2125S	C20-2125-50L	21.12~21.37	50.00	
00-99146-2150S	C20-2150-50L	21.37~21.62	50.00	
00-99146-2175S	C20-2175-50L	21.62~21.87	50.00	
00-99146-2200S	C20-2200-50L	21.87~22.12	50.00	
00-99146-2225S	C20-2225-50L	22.12~22.37	50.00	
00-99146-2250S	C20-2250-50L	22.37~22.62	50.00	
00-99146-2275S	C20-2275-50L	22.62~22.87	50.00	
00-99146-2300S	C20-2300-50L	22.87~23.12	50.00	
00-99146-2325S	C20-2325-50L	23.12~23.37	50.00	
00-99146-2350S	C20-2350-50L	23.37~23.62	50.00	
00-99146-2375S	C20-2375-50L	23.62~23.87	50.00	
00-99146-2400S	C20-2400-50L	23.87~24.12	50.00	
00-99146-2425S	C20-2425-50L	24.12~24.37	50.00	
00-99146-2450S	C20-2450-50L	24.37~24.62	50.00	
00-99146-2475S	C20-2475-50L	24.62~24.87	50.00	
00-99146-2500S	C20-2500-50L	24.87~25.12	50.00	
00-99146-2525S	C20-2525-50L	25.12~25.37	50.00	
00-99146-2550S	C20-2550-50L	25.37~25.62	50.00	

Ø26~Ø39mm

- Alloy Steel Shank
- Boring Depth : L1, 2~3xD

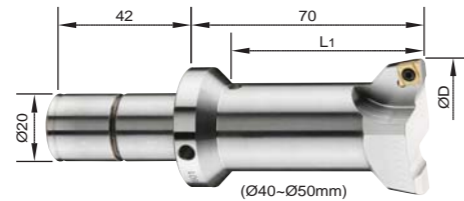


- * H type with internal coolant can be ordered on request.
- Ordering example: 00-99146-36AH.

Ordering Code	Part No.	ØD	L1	Insert
00-99146-26A	C20-2600-50L	25.87~26.12	50.00	CCGT060204 CCFT060204 Screw: NS-25060 Key: NK-T7
00-99146-27A	C20-2700-50L	26.87~27.12	50.00	
00-99146-28A	C20-2800-50L	27.87~28.12	50.00	
00-99146-29A	C20-2900-50L	28.87~29.12	50.00	
00-99146-30A	C20-3000-50L	29.87~30.12	50.00	
00-99146-31A	C20-3100-70L	30.87~31.12	70.00	
00-99146-32A	C20-3200-70L	31.87~32.12	70.00	
00-99146-33A	C20-3300-70L	32.87~33.12	70.00	
00-99146-34A	C20-3400-70L	33.87~34.12	70.00	
00-99146-35A	C20-3500-70L	34.87~35.12	70.00	
00-99146-36A	C20-3600-70L	35.87~36.12	70.00	
00-99146-37A	C20-3700-70L	36.87~37.12	70.00	
00-99146-38A	C20-3800-70L	37.87~38.12	70.00	
00-99146-39A	C20-3900-70L	38.87~39.12	70.00	

Ø40~Ø50mm

- Alloy Steel Shank
- Boring Depth : L1, 2~3xD



- * H type with internal coolant can be ordered on request.
- Ordering example: 00-99146-45AH.

Ordering Code	Part No.	ØD	L1	Insert
00-99146-40A	C20-4000-70L	39.87~40.12	70.00	CCGT060204 CCFT060204 Screw: NS-25060 Key: NK-T7
00-99146-41A	C20-4100-70L	40.87~41.12	70.00	
00-99146-42A	C20-4200-70L	41.87~42.12	70.00	
00-99146-43A	C20-4300-70L	42.87~43.12	70.00	
00-99146-44A	C20-4400-70L	43.87~44.12	70.00	
00-99146-45A	C20-4500-70L	44.87~45.12	70.00	
00-99146-46A	C20-4600-70L	45.87~46.12	70.00	
00-99146-47A	C20-4700-70L	46.87~47.12	70.00	
00-99146-48A	C20-4800-70L	47.87~48.12	70.00	
00-99146-49A	C20-4900-70L	48.87~49.12	70.00	
00-99146-50A	C20-5000-70L	49.87~50.12	70.00	

High Speed Boring Bar Kit

Ordering Code	Contents
00-99146-32HB-05SET	SB32-146-01 Weldon Shank
00-99146-BT30-05SET	BT30H Boring head shank
00-99146-BT40-05SET	BT40H Boring head shank
00-99146-BT50-05SET	BT50H Boring head shank
00-99146-CAT40-05SET	CAT40H Boring head shank
00-99146-SK40-05SET	SK40H Boring head shank
00-99146-HSK63A-05SET	HSK63A Boring head shank

Boring head shank: 1pc
Boring bar: any 5 pcs
Key: 3~5 pcs
Plastic box: 1pc



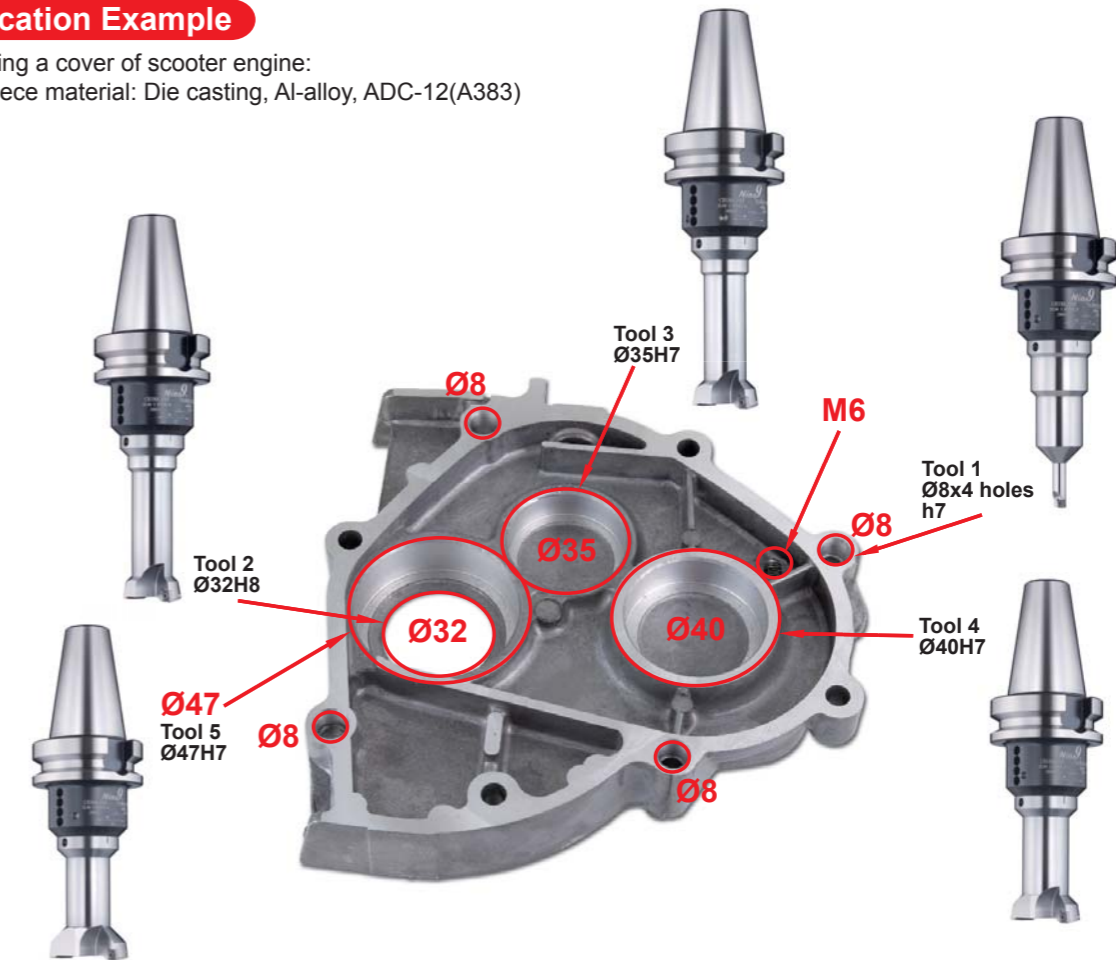
Each package include:

- One handsome carrying case.
- One of SB32 / BT30 / BT40 / BT50 / CAT40 / SK40 / HSK63A Micro adjustable boring bar head shank.
- Select any Five boring bars from standard S and A type, Ø5~Ø50mm diameter. (see page)
- Keys for adjustment and insert screw.

(Insert is not included, please order separately)
• Note: BT50 boring head shank is packed in a separate box.

Application Example

- Machining a cover of scooter engine:
Work piece material: Die casting, Al-alloy, ADC-12(A383)



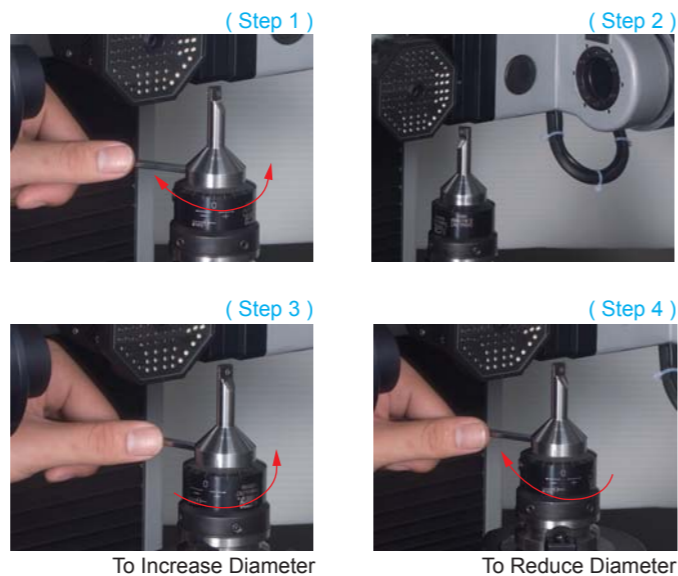
TOOL LIST by Nine9 Boring Bar 99146-series, Spindle Size: BT40

No.	Boring Bar	Grade of insert	Dia. mm	Depth	r.p.m.	F = mm/min.	Machining time
1	00-99146-08A	CCGT040104 NC30	Ø8H7	8 mm	8000	400	1.2 sec.
2	00-99146-32A	CCGT060202HP NC9031	Ø32H8	8 mm	2985	209	2.3 sec.
3	00-99146-35A	CCGT060202HP NC9031	Ø35H7	12 mm	2730	191	3.8 sec.
4	00-99146-40A	CCGT060202HP NC9031	Ø40H7	15 mm	2400	168	5.4 sec.
5	00-99146-47A	CCGT060202HP NC9031	Ø47H7	15 mm	2030	142	6.4 sec.

Procedures For Adjustment

On Tool Presetter

1. Loosen M8 locking screw.
2. Set the boring bar at the neutral position. (Step 1)
3. Measure the boring diameter using the tool presetter and compare with the required diameter. (Step 2)
5. If boring diameter is too big or too small, please put an allen-key into the adjusting driving hole. Turn to "+" to increase and turn to "-" to reduce boring diameter. (Step 3 and 4)
5. Tighten M8 locking screw.

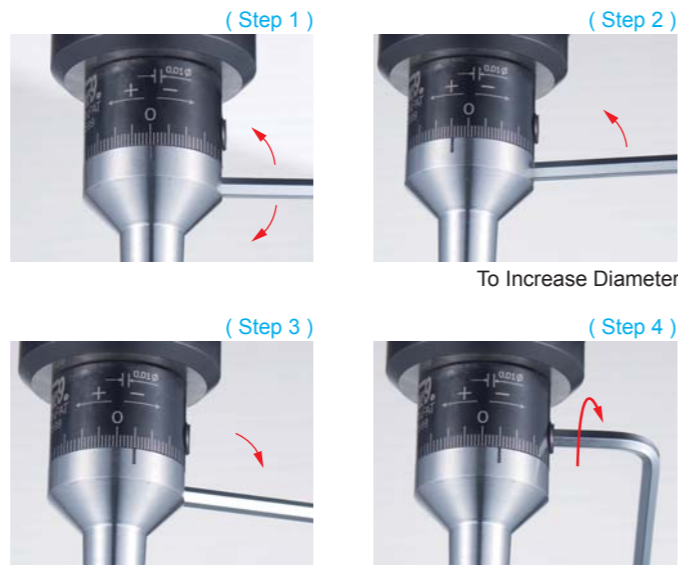


To Increase Diameter

To Reduce Diameter

On Milling Machine And Machining Centers

1. Set the boring bar at the neutral position. (Step 1)
2. Tighten M8 locking screw.
3. Test cut on work piece, about 3-5mm depth on the machine.
4. Measuring boring diameter of workpiece and compare with required diameter.
5. If boring diameter is too big or too small, loosen M8 locking screw, please put an allen-key into the adjusting driving hole. Turn to "+" to increase and turn to "-" to reduce boring diameter. (Step 2 and 3)
6. Tighten M8 locking screw. (Step 4)

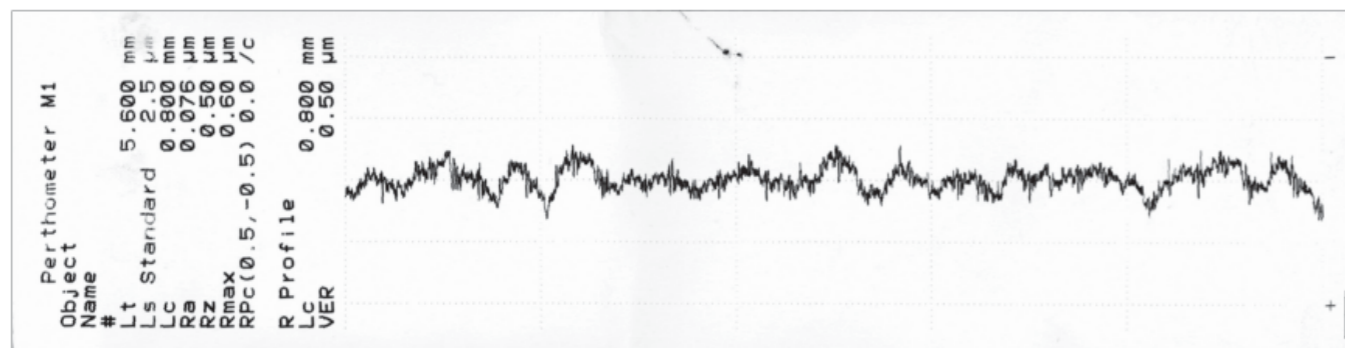


To Increase Diameter

To Reduce Diameter

Working Example

Material	Vc m/min.	f mm/rev.	Roughness			Tool holder	Insert
			Ra	Rz	Rmax		
Al alloy, 6061	150	0.2	0.076µm	0.50µm	0.6µm	99146-BT40-26A	CCGH0602U NC9096



Precisely Ground Inserts

-CC030102, CC040102

- **NC30** : K20F carbide insert, TiAlN coated, universal grade for casting iron, carbon steel, alloy steel, stainless steel.

-CC040102, CC060204

- **NC2032** : K20F carbide insert, AlTiN coated, for high speed cutting of casting iron.
- **NC2033** : K20F carbide insert, TiAlN coated, good for carbon steel, alloy steel, stainless steel.

- **HP-NC9031**: K20F carbide insert, TiN coated, good for Al, Al-alloy, Copper and non ferrous metal.

- **NC9036** : K20F carbide insert, DLC coated, long tool life. Good for Al, Al-alloy, Copper and non ferrous metal.

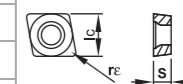
- **U-NC9036** : K20F carbide insert, DLC coated, long tool life. It's a super finishing insert with large corner radius for high feed rate for cutting Al, Al-alloy and non-ferrous metal. (patent pending)

- **DM** : PCD brazed tipped insert with a polished and honed cutting edge for fine surface finished and longer tool life.

NC30	
NC2032	NC9036
NC2033	U-NC9036
HP-NC9031	DM

Inserts

Inserts	NC30	DM	NC2032	NC2033	NC9031	NC9036	Dimensions		
							lc	S	re
CCGT030102	•						3.5	1.4	0.2
CCGT040102	•						4.3	1.8	0.2
CCGW040102		•					4.3	1.8	0.2
CCGH0602U						•	6.35	2.38	-
CCFT060204				•		•	6.35	2.38	0.4
CCFW060204			•				6.35	2.38	0.4
CCFT060204HP					•		6.35	2.38	0.4
CCMW060204		•					6.35	2.38	0.4

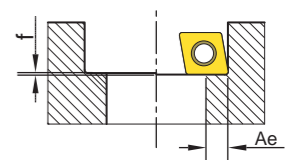


Cutting Data

- Note: Super fine finishing insert **U-NC9036** and **DM** with special specified cutting width **0.15mm**.(Radius) (see table below)

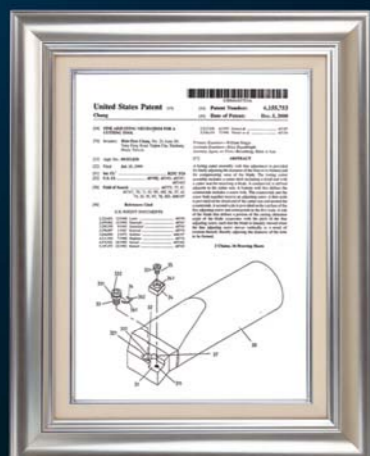
Formulas of spindle speed and feed rate :

$$\text{Spindle speed } S = \frac{V_c \times 1000}{\pi \times D} \text{ r.p.m.} \quad \text{Feed rate: } f \times S \text{ mm/min.}$$



Material	Cutting conditions or surface finishes	Grade of insert	Ae Max mm	Cutting Speed Vc(m/min.)	feed rate f (mm/rev.)
Carbon Steel	Regular cutting	NC2033	0.5	120-150-200	0.05-0.07-0.10
	Interrupted cutting	NC30	0.3	100-120-140	0.04-0.05-0.08
Alloy Steel	Regular cutting	NC2033	0.5	100-120-140	0.05-0.07-0.10
	Interrupted cutting	NC30	0.3	80-100-120	0.04-0.05-0.08
Stainless Steel	Regular cutting	NC2033	0.5	80-100-120	0.05-0.07-0.10
	Interrupted cutting	NC30	0.3	70-80-100	0.05-0.07-0.10
Cast Iron	Regular cutting	NC2032 NC30	0.5	80-100-120	0.05-0.07-0.10
	Super mirror finish	U-NC9036	0.15	150-200-300	0.15-0.2-0.25
Al, Al-alloy, non-ferrous metal	Regular cutting	NC9036 NC9031	0.5	150-200-300	0.05-0.07-0.10
	Super finished	DM	0.3	500-1000-2000	0.05-0.07-0.10
	Super mirror finish	U-NC9036	0.15	150-200-300	0.15-0.20-0.25
Hardened Steel <HRC 50	Regular cutting	NC30	0.3	80-100-120	0.04-0.06-0.08

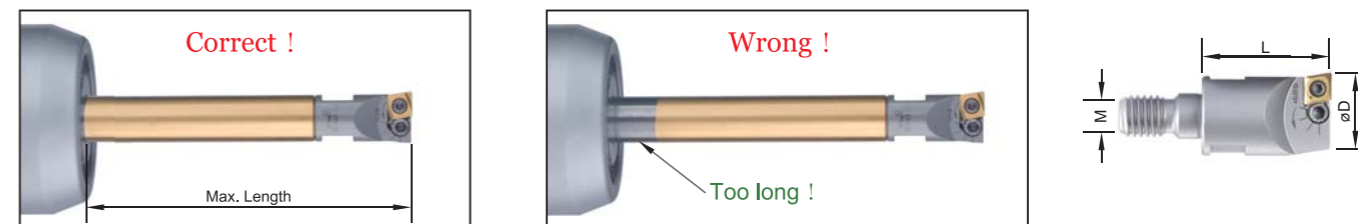
**No Backlash !
Micrometric Adjustment !
Extra long !**



99043 / 99801 Carbide / Steel Extension Bar

Screw Fit Boring head

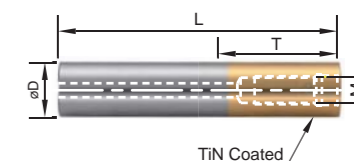
- Integrated with direct adjustment for fine boring, each division is $\varnothing 0.01\text{mm}$.
- Total adjustment range: 0.2mm
- Extension bar is TiN coated to show the maximum usable boring length.



Order No.	Part No.	øD	L	M		Insert
00-99043-14	M6-FB14	13.9~14.1	25	M6xP1.0	99801-12	CC060204 Screw: NS-25045 Key:NK-T7
00-99043-15	M6-FB15	14.9~15.1	25	M6xP1.0	99801-12	
00-99043-16	M8-FB16	15.9~16.1	25	M8xP1.25	99801-14	
00-99043-17	M8-FB17	16.9~17.1	25	M8xP1.25	99801-14	
00-99043-18	M8-FB18	17.9~18.1	25	M8xP1.25	99801-16	
00-99043-19	M8-FB19	18.9~19.1	30	M8xP1.25	99801-16	CC060204 Screw: NS-25060 Key:NK-T7
00-99043-20	M10-FB20	19.9~20.1	30	M10xP1.5	99801-18	
00-99043-21	M10-FB21	20.9~21.1	30	M10xP1.5	99801-18	
00-99043-22	M10-FB22	21.9~22.1	30	M10xP1.5	99801-20	
00-99043-23	M10-FB23	22.9~23.1	30	M10xP1.5	99801-20	
00-99043-24	M10-FB24	23.9~24.1	30	M10xP1.5	99801-20	
00-99043-25	M10-FB25	24.9~25.1	30	M10xP1.5	99801-20	

Steel - Extension Bar

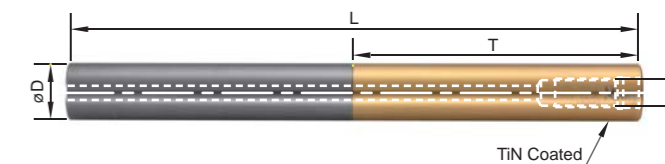
- Made by steel, hardened, TiN coated range is the maximum boring length.



Order No.	Part No.	øD	T	L	M
00-99801-12S	BC12-075M06S	12	25	75	M6xP1.0
00-99801-14S	BC14-090M08S	14	30	90	M8xP1.25
00-99801-16S	BC16-090M08S	16	35	90	M8xP1.25
00-99801-18S	BC18-100M10S	18	40	100	M10xP1.5
00-99801-20S	BC20-100M10S	20	40	100	M10xP1.5
00-99801-25S	BC25-120M12S	25	50	120	M12xP1.75

Solid Carbide Extension Bar

- Made by solid carbide, TiN coated range is the maximum boring length.



Order No.	Part No.	øD	T	L	M
00-99801-12W	BC12-100M06W	12	60	100	M6xP1.0
00-99801-14W	BC14-120M08W	14	70	120	M8xP1.25
00-99801-16W	BC16-150M08W	16	80	150	M8xP1.25
00-99801-18W	BC18-150M10W	18	90	150	M10xP1.5
00-99801-20W	BC20-200M10W	20	100	200	M10xP1.5
00-99801-25W	BC25-200M12W	25	125	200	M12xP1.75

Micro Adjustable Fine Boring Unit

EASY ADJUSTMENT

High precision easy adjustment to accuracy of micron. Each division diameter 20µm, the adjusting diameter 2µm with sub-scale (except size 1)

UNIVERSAL APPLICATIONS

Micro adjustable fine boring unit is designed for building single and multi-step boring bars according to different boring range and applications. Mounting position is identical to numbers of other brand in the market.

MECHANICAL DESIGN

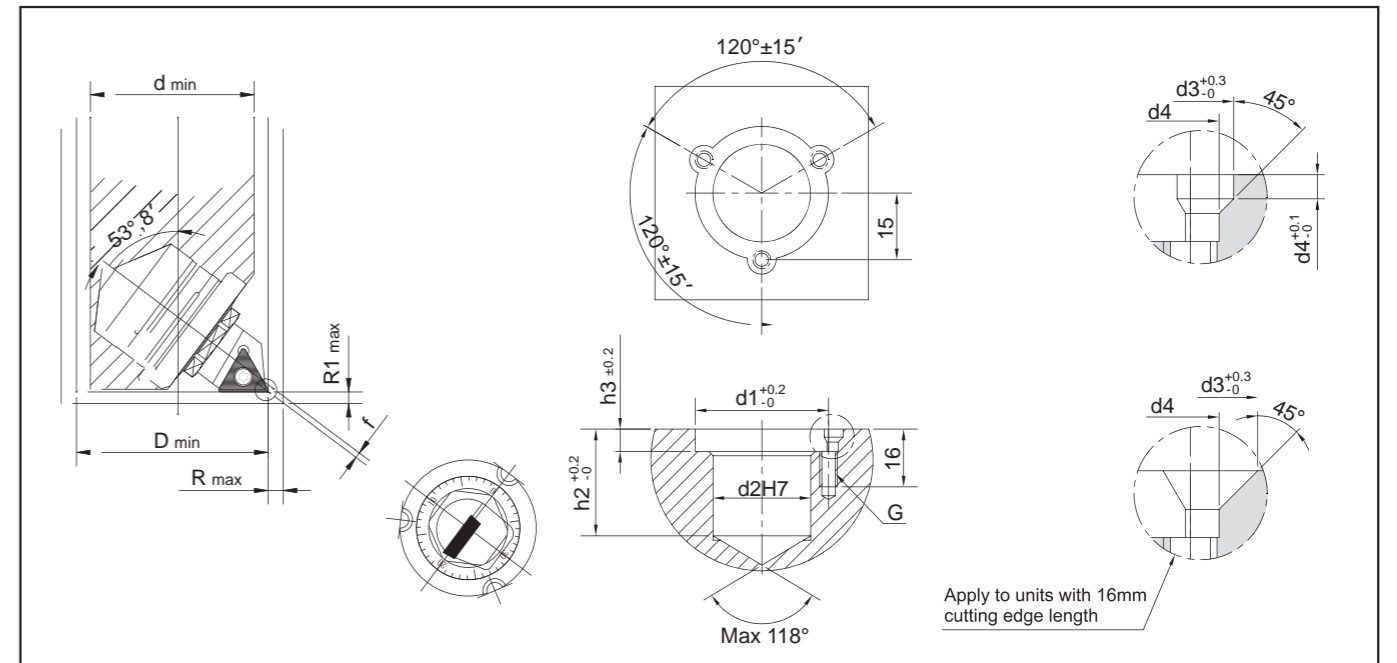
Thanks to springforce, backlash is eliminated over the entire adjustment range. Easy procedures of cartridge changing to avoid damage.



Micro Adjustable Fine Boring Unit

Angular Mounting 90°

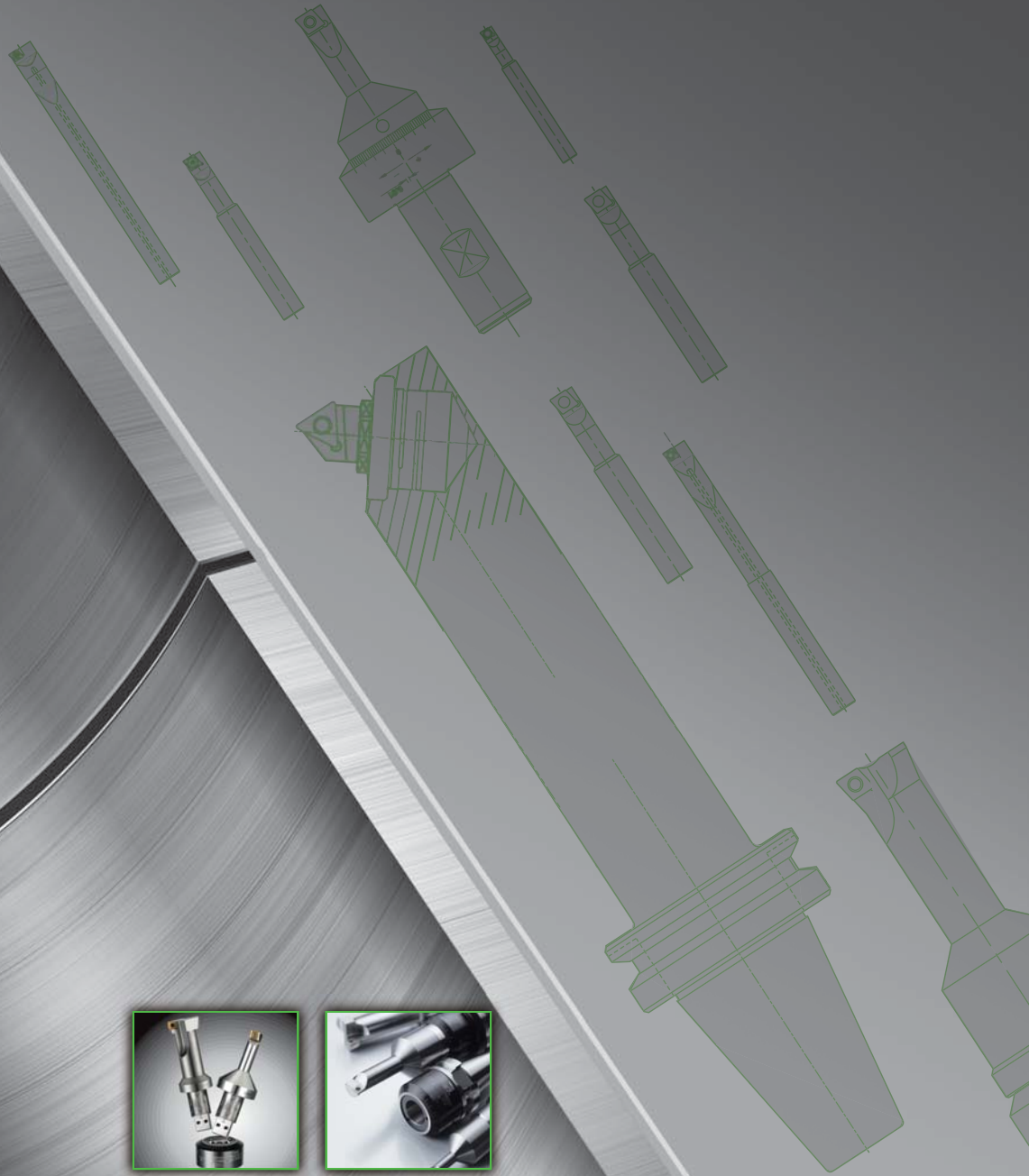
- Insert to be used: CCMT, CCMW, CCGH, CCGT, CCGX, TCMT, TCMW, TCGT, TCGX
- Maximum range can be checked by end of spanner.



Ordering Code	Insert Radius	Dimensions / mm						Mounting Dimensions / mm										
		dmin	Dmin	Rmin	R1max	f	h2	h3	h4	d1	d2	d3	d4	G	I6	I5		
99148-3106	0.2	22	25.7	2	1.5	0.40	11.5	2.8	1.6	19	16	4.6	3.2	M3	10	9.65 ±0.02		
	0.4																25.4	0.40
	0.8																24.8	0.45
99148-3209	0.2	28.5	33.4	2.8	2.1	0.95	15.5	4	1.6	25	20	4.6	3.2	M3	10	12.5 ±0.02		
	0.4																33.1	1.0
	0.8																32.5	1.1
99148-3311	0.2	38	42.9	4.8	3.6	1.15	24	5	1.8	30	22	6.5	4.3	M4	15	15.4 ±0.02		
	0.4																42.6	1.2
	0.8																42.0	1.3
99148-3416	0.2	55	60.6	8	6	1.3	33	6.3	-	46	32	11.9	5.4	M5	20	23 ±0.02		
	0.4																60.0	1.4
	1.2																59.4	1.5

Spare Parts For Setting And Clamping

Item	Spanner	Mounting Screw	Insert Screw	Mounting Screw Key	Insert Screw Key	Mounting Screw Key
99148-3106	99148-3106-SP	99148-3106H	99148-3106I	NK-T9	NK-T7	-
99148-3209	99148-3209-SP	99148-3209H	99148-3209I	NK-T9	NK-T7	-
99148-3311	99148-3311-SP	99148-3311H	99148-3311I	NK-T15	NK-T7	-
99148-3416	99148-3416-SP	99148-3416H	99148-3416I	-	NK-T15	99148-3146-J



HIGH SPEED BORING TOOL Highlight of Product



Jimmore International Corp.

Distributor

*subject to change without notice