

RE **RENUKA**
TOOLING SYSTEMS

COMPLETE BORING
SOLUTIONS
FOR VMC & HMC





Welcome to Renuka Tooling Systems

RENUKA TOOLING SYSTEMS is a leader in providing top quality steel body tool holders for carbide, diamond indexable inserts to provide a complete tooling solutions for VMCs, HMCs & SPMs. We offer fully integrated production systems that support our customer's applications for finishing, semi finishing and roughing tools. Our talented staff have extensive experience to offer innovative tool designs.

With our 25 + years of experience, RENUKA TOOLING SYSTEMS understands the importance of finishing tools and requirements of cutting tool users. We have been developing and manufacturing various types of fine boring units for many years.

We move forward persistently in good faith based on a foundation of honesty and trust with our customers dealers employees and community.

Notable sectors where we have deep penetrations in

- Defence manufacturing
- Power equipment manufacturing (including nuclear power)
- Earth moving equipment
- Automobile component
- Pumps & Valves
- Oil & Gas
- Farm equipments
-and many more


















Vivek Mulay & Prathmesh Mulay

PRODUCT HIGHLIGHTS

ROUGHING & SEMI FINISHING TOOLS

FINE FINISHING TOOLS

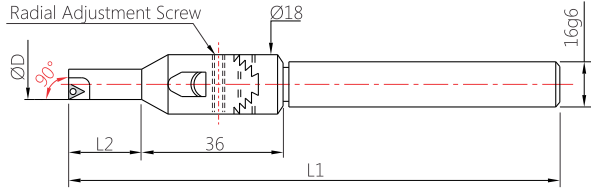
PRODUCT HIGHLIGHTS

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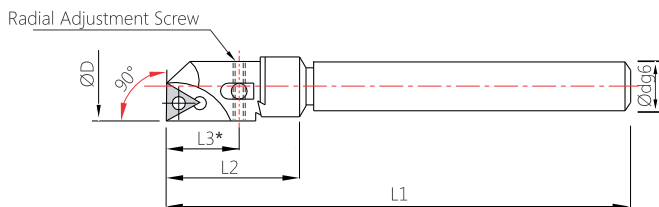
ADJUSTABLE BORING BAR

Single Insert type

For boring tolerance $\pm 0.1\text{mm}$



Ordering Code	ØD Range	L1	L2	Insert	Insert Screw	Torx key	Clamping screw	Radial adjustment screw
30007890	07.8 - 09.0	150	16	TCMT 06T104	M2 X 4.8	T6	Special Screw	M4 X 5
30008810	08.8 - 10.0	150	18	TCMT 06T104	M2 X 4.8	T6	Special Screw	M4 X 5
30009812	09.8 - 12.0	150	20	TCMT 06T104	M2 X 4.8	T6	Special Screw	M4 X 5
30011814	11.8 - 14.0	155	24	CCMT 060204	M2.5 X 5.5	T8	M5 X 12	M4 X 5
30013816	13.8 - 16.0	160	28	TCMT 110204	M2.5 X 5.5	T8	M5 X 12	M4 X 5
30015818	15.8 - 18.0	170	32	TCMT 110204	M2.5 X 5.5	T8	M5 X 12	M4 X 5
30017820	17.8 - 20.0	170	36	TCMT 110204	M2.5 X 5.5	T8	M5 X 12	M4 X 5



Ordering Code	ØD Range	Ød	L1	L2	Insert	Insert screw	Torx key	Clamping screw allen ahead	Radial adjustment screw	Boring Length L3
3002024	19.8 - 24.0	16	150	50	TCMT 110204	M2.5 X 7	T8	M6 X 16	M5 X 6	30.0
3002430	23.8 - 30.0	20	160	60	TCMT 110204	M2.5 X 7	T8	M6 X 16	M5 X 6	35.0
3002935	29.0 - 35.0	25	170	70	TCMT 16T304	M3.5 X 9	T15	M8 X 30	M5 X 8	70.0
3003440	34.0 - 40.0	25	180	80	TCMT 16T304	M3.5 X 9	T15	M8 X 30	M5 X 8	80.0

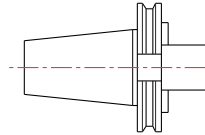
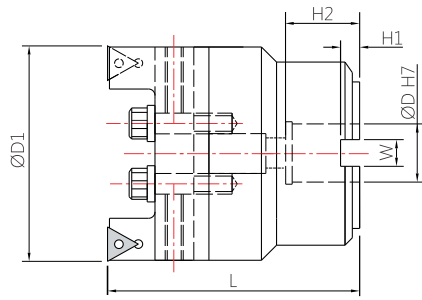
*Boring length L3 can be extended with using specially supplied button head screws in place of Allen screw.

Note -

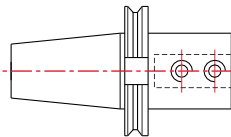
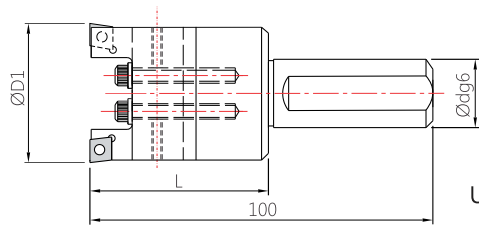
- Tools for inserts other than above can also be provided against orders.
- Longer length boring tools are made against orders.
- Different shank diameters & styles are made against orders.

ADJUSTABLE TWIN BLADE BORING BAR

For boring tolerance $\pm 0.1\text{mm}$



Used with shell mill adaptor with ISO Taper shank



Used with side lock holders with ISO Taper shank



Ordering Code	ØD1 Boring Range	Ød g6 ØD H7XH2	L	W X H1	Insert	Insert screw	Torx key	Clamping screw	Radial adjustment Screw	Wt Kg
31003944	39 - 44	St. shank 20	50	-	CCMT 09T308	M3.5 X 9	T15	M5 X 35	M5 X 12L	0.60
31004455	44 - 55	St. shank 20	50	-	CCMT 09T308	M3.5 X 9	T15	M5 X 35	M5 X 12L	0.60
31005265	52 - 65	St. shank 20	50	-	CCMT 09T308	M3.5 X 9	T15	M6 X 35	M5 X 12L	0.90
31006485	64 - 85	16 X 19.0	90	8.40 X 6.0	TCMT 16T308	M3.5 X 9	T15	M8 X 35	M6 X 22L	1.00
31083103	83 - 103	22 X 22.0	100	10.40 X 6.3	TCMT 16T308	M3.5 X 9	T15	M10 X 40	M8 X 20L	2.00
31100138	100 - 138	27 X 24.0	115	12.40 X 7.0	TCMT 16T308	M3.5 X 9	T15	M12 X 45	M10 X 35L	4.50
31138165	138 - 165	32 X 27.0	118	14.4 X 8.0	TCMT 16T308	M3.5 X 9	T15	M16 X 50	M10 X 45L	5.6
31165200	165-200	32 X 27.0	118	14.4 X 8.0	TCMT 16T308	M3.5 X 9	T15	M16 X 50	M10 X 45L	6.50

Sizes more than 200mm are made on request.



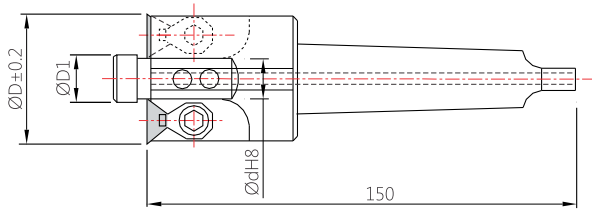
Twin blade boring bar with ISO taper shank

Note -

- Tools for inserts other than above can also be provided against orders.
- Longer length boring tools are made against orders.
- Different shank diameters & styles are made against orders.
- Please set runout of two inserts within 0.03 mm for best results.
- Single slides are recommended for boring on milling & boring machines for tool room work.
- Blades can be ordered separately for replacements.

TAPER SHANK PILOTED SPOT FACE CUTTER

For use on Radial Drilling Machine

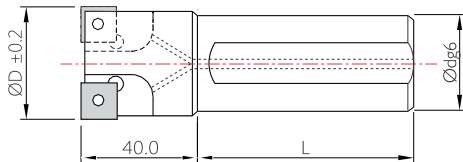


Ordering Code	ØD	Ød	Ø D1	SHANK	Insert	No. of Inserts	Clamp	Clamp Screw
400026	26	5	09	MT3	TPMT 110304	2	Screw clamp	M3 X 7 X T8
400028	28	6	11	MT3	TPMT 11 0304	2	Screw clamp	M3 X 7 X T8
400030	30	6	13	MT3	TPUN 110308	2	73085892	CSK M5 X 12
400032	32	8	15	MT3	TPUN 110308	2	73085892	CSK M5 X 12
400036	36	10	19	MT3	TPUN 110308	2	73085892	CSK M5 X 16
400038	38	10	21	MT3	TPUN 110308	2	73085892	CSK M5 X 16
400040	40	8	13	MT3	TPUN 160308	2	73085868	Allen screw M6X16
400045	45	10	18	MT3	TPUN 160308	3	73085868	Allen screw M6X16

ØD1 is minimum required pilot diameters. Pilot should cover gap between the inserts.
Scope of supply does not include pilot.

PARALLEL SHANK SPOT FACE CUTTER

For use on Machining Centres



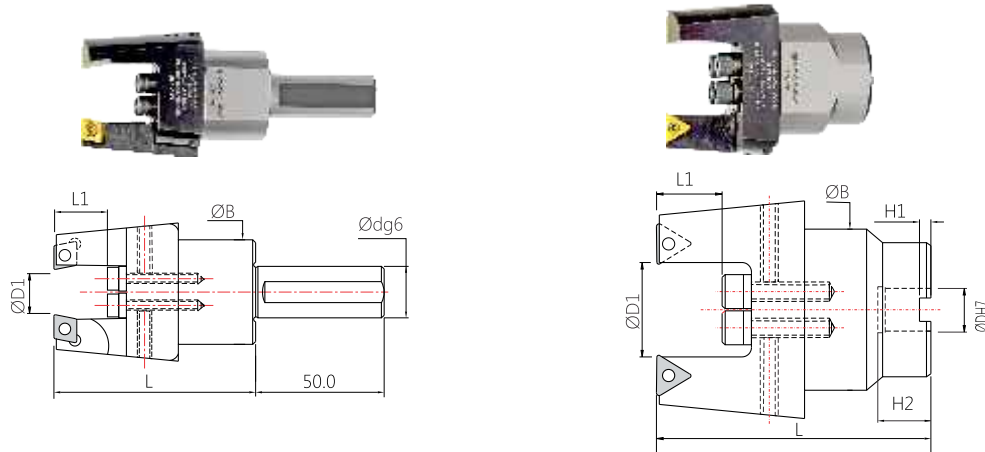
Ordering Code	ØD	Min. pre-drill dia.	Ød	L	No. of Insert	Inserts	Insert Screw	Torx key
500022	22	6	20	50	2	SCMT 09T304	M3.5 X 9	T15
500024	24	8	20	50	2	SCMT 09T304	M3.5 X 9	T15
500025	25	9	20	50	2	SCMT 09T304	M3.5 X 9	T15
500026	26	10	20	50	2	SCMT 09T304	M3.5 X 9	T15
500028	28	12	20	50	2	SCMT 09T304	M3.5 X 9	T15
500030	30	8	25	56	2	SCMT 120408	M4.5 X 11	T20
500032	32	10	25	56	2	SCMT120408	M4.5 X 11	T20
500036	36	14	32	60	2	SCMT120408	M4.5 X 11	T20
500038	38	16	32	60	2	SCMT120408	M4.5 X 11	T20
500040	40	18	32	60	2	SCMT120408	M4.5 X 11	T20
500045	45	23	32	60	3	SCMT120408	M4.5 X 11	T20

- Intermediate sizes and cutter bodies with different inserts other than shown above are supplied on request.

Note -

- Spot face cutters in sizes other than above mentioned are manufactured against orders.
- Through coolant hole is provided as a standard feature.

ADJUSTABLE TWIN BLADE OD TURNING TOOL



Ordering Code	ØD1 Range	Ød g6 D H7 X H2	L	L1	ØB	W X H1	INSERT	Clamping Screw	Setting Screw
32001220	12 - 20	St. shank 20	83	25	35	–	CCMT 09T308	M5 X 35.0	M5 X 15
32001728	17 - 28	St. shank 20	83	25	40	–	CCMT 09T308	M5 X 35.0	M5 X 15
32002538	25 - 38	St. shank 20	83	25	48	–	CCMT 09T308	M6 X 35.0	M5 X 15
32003548	35 - 48	16 X 19	106	25	60	8.4 X 6.0	TCMT16T308	M8 X 35.0	M6 X 25
32004666	46 - 66	22 X 22	120	25	79	10.4 X 6.3	TCMT16T308	M10 X 40.0	M8 X 25
32063100	63 - 100	27 X 24	158	50	97	12.4 X 7.0	TCMT16T308	M12 X 50.0	M10 X 25
32097125	97 - 125	32 X 27	164	50	135	14.4 X 8.0	TCMT16T308	M16 X 50.0	M10 X 40
32120155	120 - 155	32 X 27	164	50	161	14.4 X 8.0	TCMT16T308	M16 X 50.0	M10 X 40
32154190	154 - 190	32 X 27	164	50	196	14.4 X 8.0	TCMT16T308	M16 X 50.0	M10 X 40

Sizes more than 190mm are made on request.

Blades can be ordered separately for replacements.

Note -

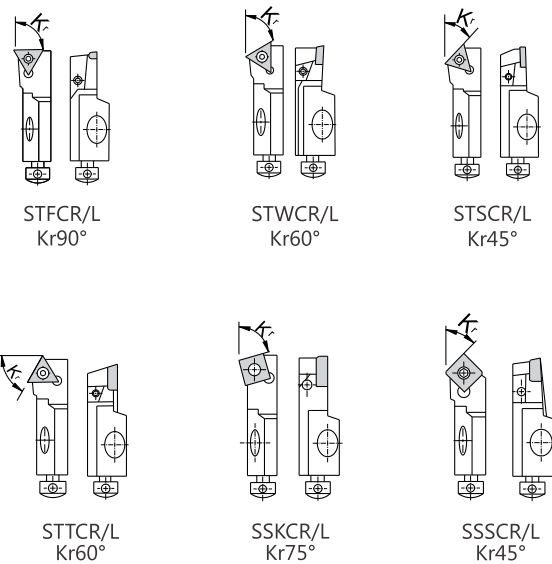
- Tools for inserts other than above can also be provided against orders.
- Different shank diameters & styles are made against orders.

ISO CARTRIDGES SCREW CLAMP DESIGN

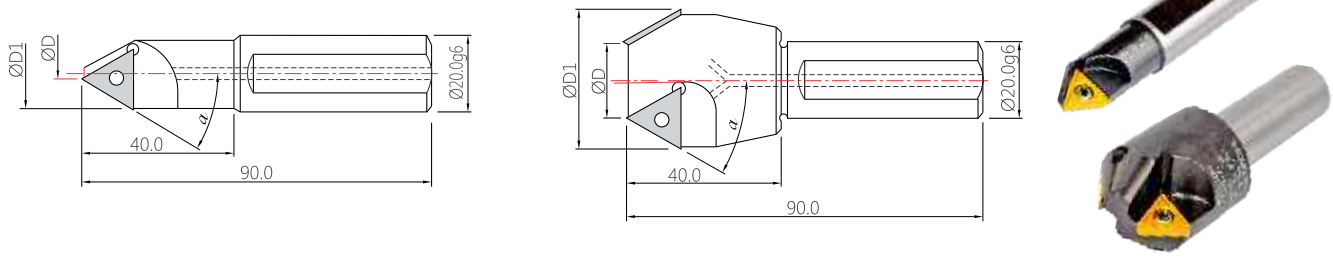


Sizes :
All above cartridges styles are available in sizes 6CA, 8CA, 10CA & 12CA

Mounting dimensions are as per ISO Standards



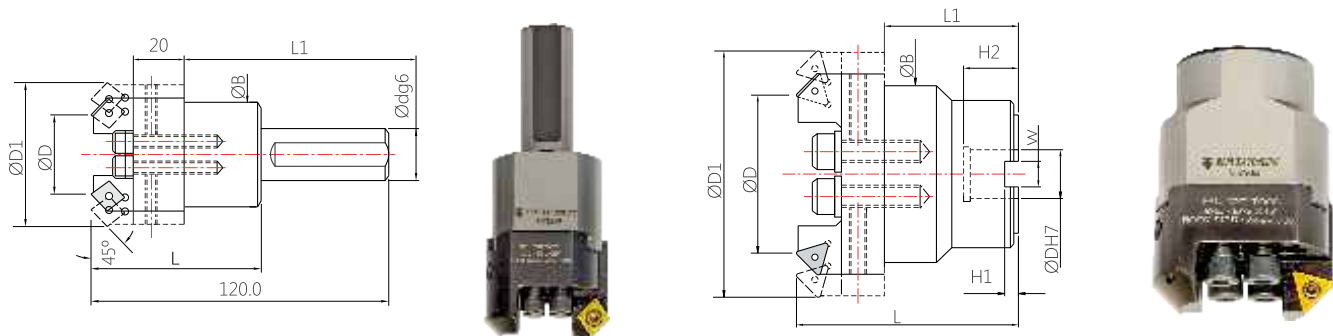
CHAMFERING TOOL FOR 15°, 30°, 45°



Ordering Code	Angle α	ØD	ØD1	Chf.Range Ø	No. of Insert	Insert	Insert Screw	Torx Key
1151017	15°	9	18	10 - 17	1	TCMT 16T304	M3.5 X 9	T15
1151723	15°	16	24	17 - 23	1	TCMT 16T304	M3.5 X 9	T15
1152329	15°	22	30	23 - 29	1	TCMT 16T304	M3.5 X 9	T15
1152935	15°	28	36	29 - 35	2	TCMT 16T304	M3.5 X 9	T15
1153440	15°	33	41	34 - 40	2	TCMT 16T304	M3.5 X 9	T15
1300519	30°	4	20	5 - 19	1	TCMT16T304	M3.5 X 9	T15
1301427	30°	13	28	14 - 27	1	TCMT16T304	M3.5 X 9	T15
1302134	30°	20	35	21 - 34	2	TCMT16T304	M3.5 X 9	T15
1302942	30°	28	43	29 - 42	2	TCMT16T304	M3.5 X 9	T15
1450524	45°	4	25	5 - 24	1	TCMT16T304	M3.5 X 9	T15
1451636	45°	15	37	16 - 36	2	TCMT16T304	M3.5 X 9	T15
1452949	45°	28	50	29 - 49	2	TCMT16T304	M3.5 X 9	T15

Through coolant hole is a standard feature

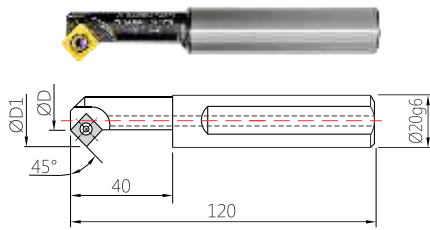
ADJUSTABLE TWIN BLADE CHAMFERING TOOL FOR 45°



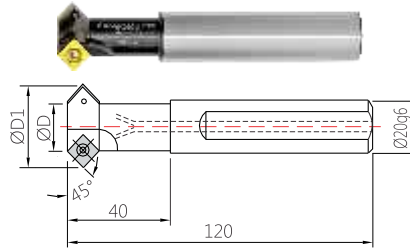
Ordering Code	Chf. Range Ø	ØD	ØD1	ØB	L	L1	Ød g6 ØDH7 X H2	W X H1	Insert	Clamping Screw	Radial Adjustment Screw
330003451	34 - 51	31	55	40	70	80	St. shank 20	-	CCMT 09T308	M5 X 35	M5 X 12
330004975	49 - 75	46	79	60	100	50	16 X 19	8.4 X 6.0	CCMT 09T308	M8 X 35	M6 X 22
330073106	73 - 106	70	110	79	110	60	22 X 22	10.4 X 6.3	TCMT 16T308	M10 X 40	M8 X 20
330104155	104 - 155	101	159	97	123	68	27 X 24	12.4 X 7.0	TCMT 16T308	M12 X 45	M10 X 35
330153205	153 - 205	149	211	161	123	66	32 X 27	14.4 X 8.0	TCMT 220412	M16 X 50	M10 X 45

- Blades can be ordered separately for replacement.
- For other chamfering angles tools can be supplied against orders.
- Any different insert can also be accommodated against orders.

FRONT AND BACK CHAMFERING TOOL FOR 45°

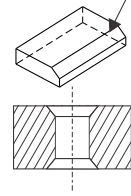


Range Ø7 to Ø20



Range Ø18 to Ø37

Edge Chamfers



Top & Bottom Chamfers for hole

Ordering Code	ØD	ØD1	Front Chf Range	Min. Hole for back CHF	Entering Angle	No. of Insert	Insert	Insert Screw	Torx Key
1000712	6.0	14.0	7 - 12	15.0	45°	1	SCMT 060204	M2.5 X 4.8	T8
1001220	10	22	12 - 20	23.0	45°	1	SCMT 09T308	M3.5 X 9	T15
1001826	16	28	18 - 26	29.0	45°	2	SCMT 09T308	M3.5 X 9	T15
1002537	23	39	25 - 37	40.0	45°	2	SCMT 120408	M4.5 X11	T20

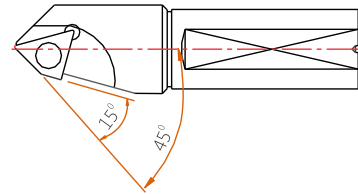
Through coolant hole is provided as a standard feature

PORT TOOL Using Indexable Inserts

Chamfering 15° and 45° in one tool.

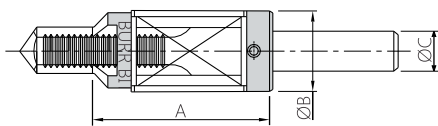
Applications

Oil & Gas, Valves, Chemicals, Power Equipments.



BURR BIT

Taps & deburrs in one operation
Eliminates expensive secondary deburring



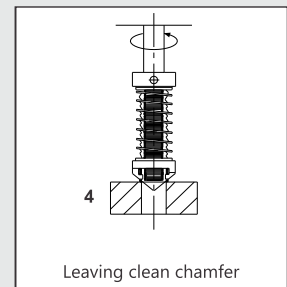
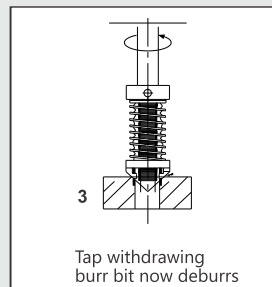
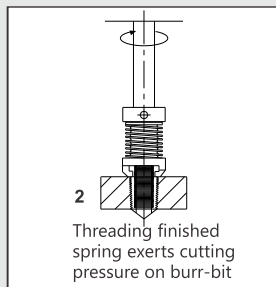
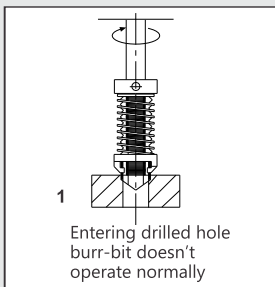
For use of burr bit tapping depth in the component should be less than the flute length of tap

While ordering kindly specify the following

1. Nominal tap size
2. Number of flutes
3. Shank diameter

TAP SIZE

Metric	Inch	A	ØB	ØC (for short hand taps)	ØC (for short & long machine taps)
M4	5/32"	36	10	4.0	3.15
M5	3/16"	36	16	5.0	4.0
M6	1/4"	36	16	6.3	4.5
M7	7/32"	40	19	7.0	----
M8	5/16"	40	19	8.0	6.3
M10	1/8"NPS, 3/8", 7/16"	48	19	10.0	8.0
M12	1/2"	48	21	9.0	9.0
M14	1/4" NPS, 9/16	50	21	11.2	11.2
M16	5/8	62	29	12.5	12.5
M18	----	62	29	14.0	14.0
M20	1/2"NPS, 3/4	62	29	14.0	14.0



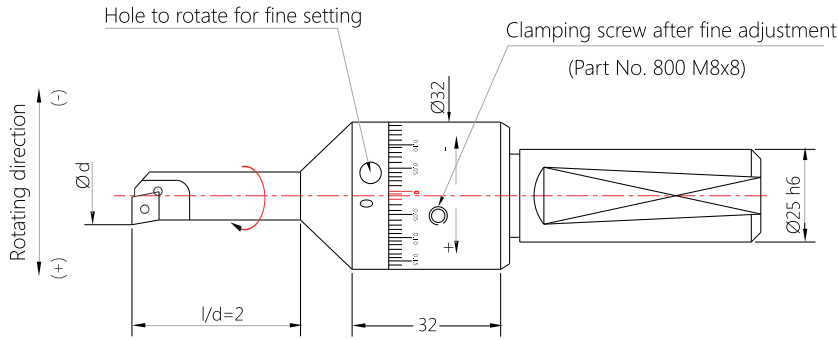
- Deburrs the top of the tapped hole while the tap is being withdrawn from the workpiece.
- No reversal cut in the chamfer due to tool cutting only in reverse. Creates a chamfer for easy screw insertion, leaves no burr to clog the tapped hole.
- Used on N/C machining centers and transfer machines, saves a complete station and a cycle.
- Absence of burr eliminates rocking between mating surfaces. No hazardous sharp burrs to cut fingers or snag clothing. No additional power required.
- Easy to install, simply slips over your tap.

PRECISION FINISH BORING TOOL

For single & small bores

Adjustment range ± 0.1 mm. on dia in each tool.

- Least Count : 0.01 mm. on dia.
- Suitable for machining centers and Special Purpose Machine



- Best results are obtained for l/d-2:1
- For l/d more upto 3
- Boring length more than 50mm is not recommended
- Provide 5mm. of extra boring tool length for over travel & approach.
- This will prevent accidental tool dashing the component.
- Ground inserts will give better size consistency & better tool life between two size adjustments.

Adjustment range ± 0.1 mm. on dia in each tool.

Chart to indicate the insert for various tool sizes

ØD	INSERT	l/d
Starting Size	Up To	
Ø 6.0	Ø 7.7 CDHBS4T002KC5010 (Kennametal)	2.5
Ø 7.8	Ø 11.9 TCGT 06T104	2.0
Ø 12.0	Ø 13.9 CCGT 060204	2.0
Ø14.0	Ø 20.0 TCGT 110204	2.0
Ø20.0	Ø30.0 TCGT 110204	1.5
Ø30.0	Ø40.0 TCGT 110204	1.0

How to order :

SERIES NO	DIA	ORDERING NO.
800	10	800100
800	12.3	8001230

Max. cutting speed : 100mts/min,
Feed : 0.05mm/rev.

Note -

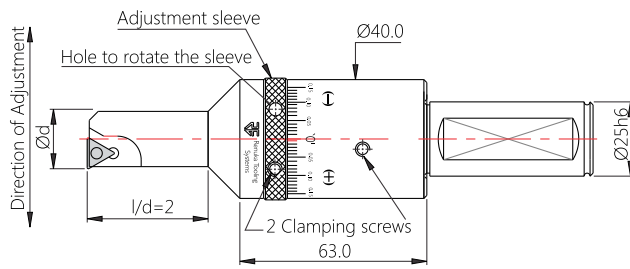
- Tools for inserts other than above can also be provided against orders.
- Through coolant hole can also be provided on request.
- Longer length boring tools are made against orders.
- Different shank diameters & styles are made against orders.

PRECISION FINISH BORING BAR WITH FIXED ORIENTATION

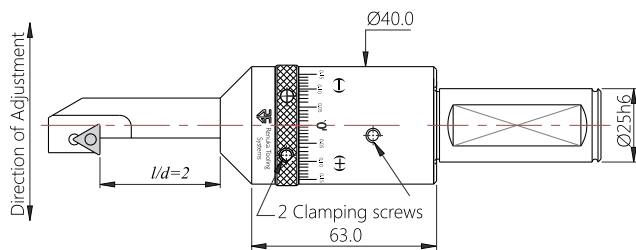
For single & small bores

Adjustment range : ± 0.1 mm. on diameter in each tool

Least count on dia. : 0.01 mm on diameter



PRECISION FINISH BACK BORING BAR WITH FIXED ORIENTATION



Adjustment Range is ± 0.1 on diameter in each tool



How to order

Series No.	Dia. (Ø)	Order No.
SL800	10.0	SL800100
SL800	12.3	SL8001230

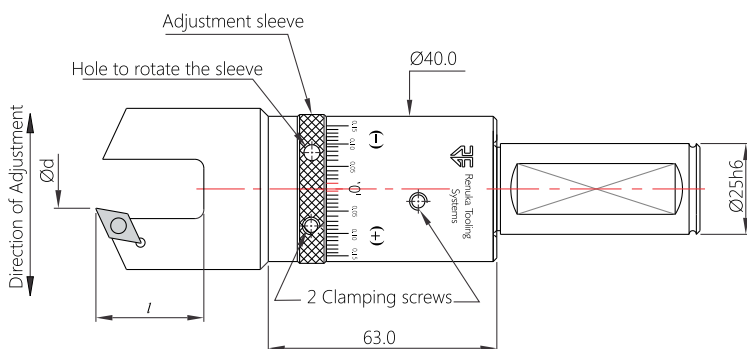
Recommended

Max. Cutting Speed : 100mts./min.

Feed : 0.05 mm/rev.

For Inserts please refer page no. 8

PRECISION FINISH OD TURNING TOOL WITH FIXED ORIENTATION



- Inserts are recommended for machining aluminium & other non-ferrous materials.
- Through coolant hole can also be provided if desired at extra cost.
- Stable cutting point position keeps the orientation fixed at all times.
- Suitable for machining centers and SPMs.

PRECISION FINE BORING UNITS

Adjustment Range : ± 0.4 mm. on diameter

Least Count on Dia. : 0.002 mm

Suitable for boring in aluminum with PCD inserts at high Vc (250-300 mm/min) and in steel and C.I. with CBN inserts at high Vc (200-250 mm/min)



How to use

The adjustment is made from the front by turning the adjusting nut. The adjusting nut has a scale where the value of each division is 0.010 on diameter. For smallest size, all units have vernier scale on the collar. The value of each division of the vernier scale is 0.002 mm on diameter.

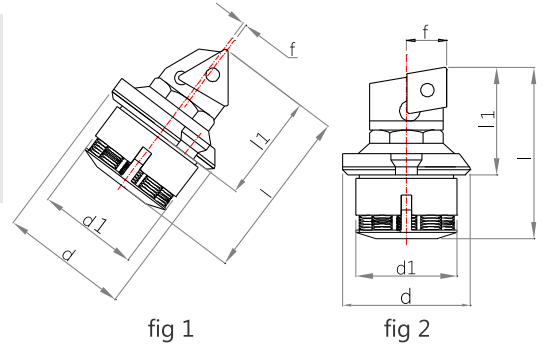


fig 1

fig 2

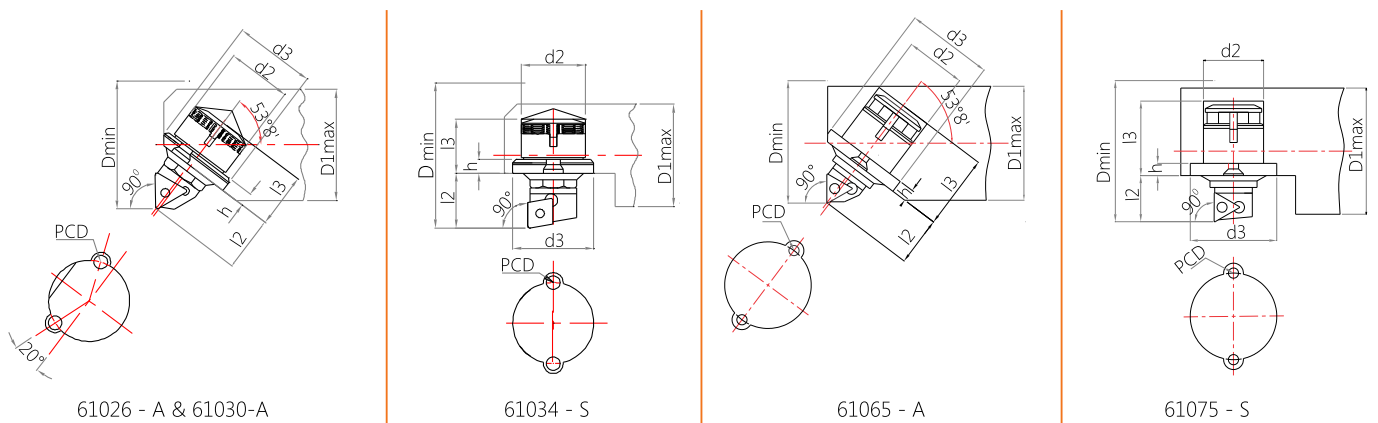
Our USP

- We offer spares / replaceable items for these fine boring units.
- We offer servicing / preventive maintenance at nominal cost. No other manufacturer can offer these services as all are manufactured outside our country.

Suitable only for through bores

Ordering Code	Min. dia	d	d1	l	l1	f	Insert	Insert screw	Tox Key	Spanner
61026 - A	26	19.0	15.0	23.0	13.2	2.3	TCGT 06T104	M2X4.8L	T6	710000
61030 - A	30	19.0	15.0	25.5	16.0	0.5	TPGT 090204	M2.5X7L	T8	710000
61034 - S*	34	19.0	15.0	25.5	16.0	6.0	CCGT 060204	M2.5X7L	T8	710000
61065 - A	65	46.0	32.0	64.6	33.5	1.3	TCGT 16T304	M3.5X7L	T15	722000
61075 - S*	75	46.0	32.0	64.6	33.5	10.0	TCGT 16T304	M3.5X7L	T15	722000

MOUNTING DIMENSIONS



61026 - A & 61030 - A

61034 - S

61065 - A

61075 - S

Ordering Code	D min	D1 max.	d2 H7	d3 H9	h	l2	l3	Mounting screw	Qty	PCD	Mounting Hole
61026 - A	26	23	15.0	19.0	3.2	9.8	15.0	M3X6L(P. No.7883203)	2 Nos.	19.0	C'bore \varnothing 4.6x3.2dp
61030 - A	30	26	15.0	19.0	3.2	12.8	15.0	M3X6L(P. No.7883203)	2 Nos.	19.0	x tapM3x8dp
61034 - S	34	24	15.0	19.0	3.2	12.8	15.0	M3X6L(P. No.7883203)	2 Nos.	19.0	
61065 - A	65	60.5	32.0	46.0	6.5	26.0	40.0	M5X12(P. No.SR-16-212)	2 Nos.	46.0	C'bore \varnothing 10.5x6.5dp x tapM5x18dp
61075 - S	75	67.0	32.0	46.0	6.5	24.5	40.0	M5X12(P. No.SR-16-212)	2 Nos.	46.0	C'bore 10.5x6.5dp x tapM5x18dp

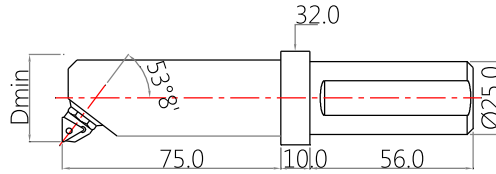
A- Angular mounting - fig 1

S- Straight mounting - fig 2

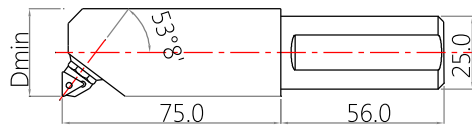
PRECISION FINISH BORING BARS

Dynamically Balanced

Adjustment Range : ± 0.4 mm. on diameter



Sizes up to 32.5



Sizes up to 40.5



Ordering Code	D min	Precision FBU	Insert	Ordering No.	D min	Precision FBU	Insert
710260	26.0	61026 - A	TCGT 06T104	710330	33.0	61030 - A	TPGT 090204
710265	26.5			710335	33.5		
710270	27.0			710340	34.0		
710275	27.5			710345	34.5		
710280	28.0			710350	35.0		
710285	28.5			710355	35.5		
710290	29.0			710360	36.0		
710295	29.5	61030 - A	TPGT 090204	710365	36.5	61030 - A	TPGT 090204
710300	30.0			710370	37.0		
710305	30.5			710375	37.5		
710310	31.0			710380	38.0		
710315	31.5			710385	38.5		
710320	32.0			710390	39.0		
710325	32.5			710395	39.5		
				710400	40.0		
				710405	40.5		

- For diameters more than $\varnothing 40.5$ up to $\varnothing 64.5$, boring bars are made to order with precision FBU part no. 61030-A or 61034-S
- For diameter than $\varnothing 64.5$ to any sizes are made with FBU part no. 61065-A or 61075 - S

Precautions

- Not to be used for bottoming.
- Do not use beyond recommended adjustment range that is ± 0.4 mm. on diameter.

For precision FBU details please refer the page no. 10
 Boring bars are to be manufactured for maximum adjustment size.

Scope of supply : Includes insert screw, torx key and spanner with each boring bar

- Tools for inserts other than above can also be provided against orders.
- Through coolant hole is provided on request.
- Longer length boring tools are made against orders.
- Different shank diameters & styles are made against orders.

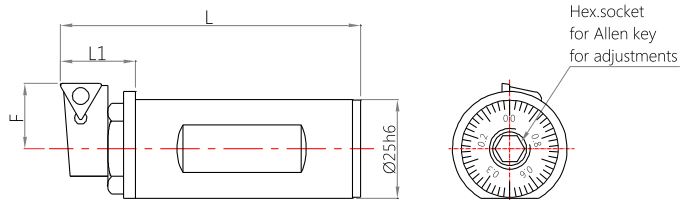
EXTRA RANGE FINE BORING UNITS (FBU)

- Suitable for machining centers and special purpose machines.
- Can be used for finish back boring & finish external turning tool.



Introduction

This is a very precise unit for fine boring application. The simple and robust construction ensures for long life. The size setting is to be carried out just turning the dial on rear side with an Allen key. The size setting is done in clamped state only in the boring bar. There is not need for lock /unlock for making size adjustments. It is very useful for combination boring bars involving roughing, semi finishing & finishing, multiple diameters boring bars.



Ordering No. for FBU. complete with boring tool	Ordering No. for boring tool	Min. Boring Dia.	Adj. Range on Dia.	Ødh6	L	L1	F	Inserts Size	Inserts clamping screw	Torx Key	Least count on Radius	Allen Key
61045	601576	45	6 mm.	10	42	15	9	CCGT060204	M2.5X4.8	T8	0.01mm.	2mm.
61665	601856	65	6 mm.	16	56	17	12	CCGT060204	M2.5X6	T8	0.01mm.	3mm.
62585	6011411	85	6 mm.	25	76	19	16.5	TCGT110204	M2.5X6	T8	0.005mm.	5mm.

Max. cutting speed : 100 mts/min.

Feed : 0.05 mm./rev.

PRECAUTIONS

Your care is solicited in order to retain performance of fine boring units

Do not use in the extreme ends of the micrometer range. At extreme ends the boring tool may jam leading to failure.

This fine boring unit is not to be used for counter bore facing. Any application of fine boring for blind bores should be at least 0.2 mm. away from face.

The collet is set for desired gripping force at factory before despatch. The collet is meant for vibration damping of the cutting edge and should not be disturbed any time. When the collet is excessively tightened, any effort to make diameter adjustments would lead to damage of the fine ground threads.

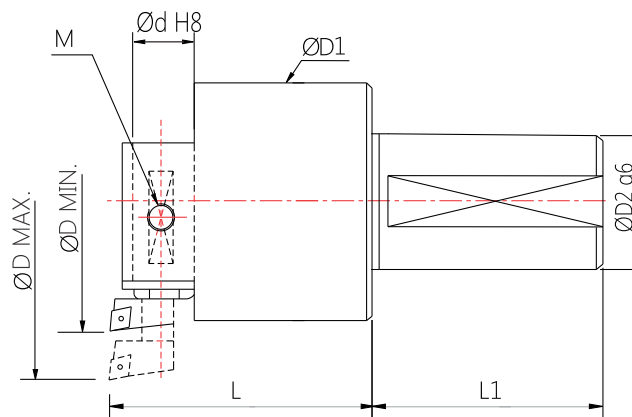
- Please use inserts with chip breaker geometry suitable for finishing applications.
- Always adjust from centre towards periphery.

EXTRA RANGE FINISH BORING BARS

(Dynamically Balanced To G-6.3)



Always adjust from centre towards periphery.

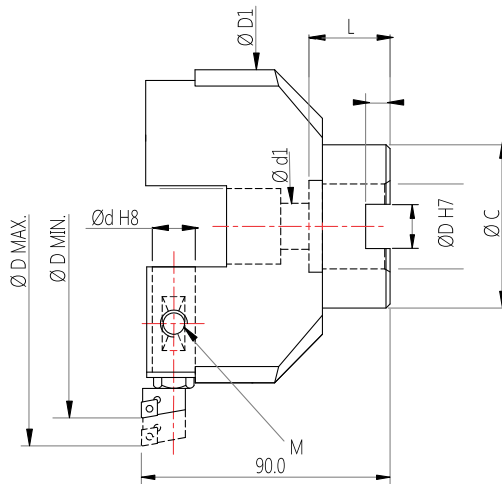


- As this is a straight shank type tool use side lock holders, collet holders or hydrogrip holders.

Ordering Code for Boring bar	Part NO. of FBU	ØD MIN.	ØD MAX.	L	Adjustment range on Dia.	ØD2 g6	L1	ØD1	Ød H8	M	Insert	Least Count on Radius	Wt. in KG
710045	61045	45	50	45	6	16	48	42	10	M6X1.0	CCGT060204	0.01 mm.	0.5
710050	61045	50	55	50	6	20	50	46	10	M6X1.0	CCGT060204	0.01 mm.	0.6
710055	61045	55	60	55	6	25	56	47	10	M6X1.0	CCGT060204	0.01 mm.	0.8
710060	61045	60	65	60	6	25	56	52	10	M6X1.0	CCGT060204	0.01 mm.	1.0
710065	61665	65	70	65	6	32	60	56	16	M10X1.5	CCGT060204	0.01 mm.	1.2
710070	61665	70	75	70	6	32	60	61	16	M10X1.5	CCGT060204	0.01 mm.	1.8
710075	61665	75	80	75	6	32	60	66	16	M10X1.5	CCGT060204	0.01 mm.	2.0
710080	61665	80	85	80	6	32	60	71	16	M10X1.5	CCGT060204	0.01 mm.	2.5
710085	62585	85	95	85	6	32	60	76	25	M16X2.0	TCGT110204	0.005 mm.	3.0
710095	62585	95	105	80	10	32	60	67	25	M16X2.0	TCGT110204	0.005 mm.	2.3
7100105	62585	105	115	80	10	32	60	74	25	M16X2.0	TCGT110204	0.005 mm.	2.7
7100115	62585	115	125	80	10	32	60	84	25	M16X2.0	TCGT110204	0.005 mm.	2.9
7100125	62585	125	135	80	10	32	60	94	25	M16X2.0	TCGT110204	0.005 mm.	3.2
7100135	62585	135	145	80	10	32	60	104	25	M16X2.0	TCGT110204	0.005 mm.	3.5

Scope of supply : includes fine boring unit as indicated above but without insert.

LARGE DIA. FINISH BORING BAR



Ordering Code	Part No. of FBU	Ø D Min.	Ø D Max.	Adj. range on dia	ØDH7	L	Ø C	Ød1	Ød H8	ØD1	M	Insert	LC on radius	Wt. in KG
7100145	61665	145	155	10	32	25	58	17	16	116	M10	CCGT060204	0.010	2.9 kg
7100155	61665	155	165	10	32	25	58	17	16	126	M10	CCGT060204	0.010	3 kg
7100165	61665	165	175	10	32	25	58	17	16	136	M10	CCGT060204	0.010	3.2 kg
7100175	61665	175	185	10	32	25	58	17	16	146	M10	CCGT060204	0.010	3.4 kg
7100185	61665	185	195	10	32	25	58	17	16	156	M10	CCGT060204	0.010	3.6 kg
7100195	62585	195	205	10	40	29	70	21	25	164	M16	TCGT110204	0.005	4.5 kg

FINISH OD TURNING TOOL & FINISH BACK BORING TOOLS



Finish OD turning tool



Finish back boring tool

Fine boring units for back boring / OD turning

Ordering No. for FBU. complete with boring tool	Ordering No. for boring tool	Min. Boring Dia.	Adj. Range on Dia.	Ødh6	L	L1	F	Inserts Size	Inserts clamping screw	Torx Key	Least count on Radius	Allen Key
61045BB/OD	601576BB/OD	45	6 mm.	10	42	15	9	CCGT060204	M2.5X4.8	T8	0.01mm.	2mm.
61665BB/OD	601856BB/OD	65	6 mm.	16	56	17	12	CCGT060204	M2.5X6	T8	0.01mm.	3mm.
62585BB/OD	6011411BB/OD	85	6 mm.	25	76	19	16.5	TCGT110204	M2.5X6	T8	0.005mm.	5mm.

BB - Back Boring
OD - OD Turning

SPECIAL FINISH BORING BAR



Large dia. boring bar



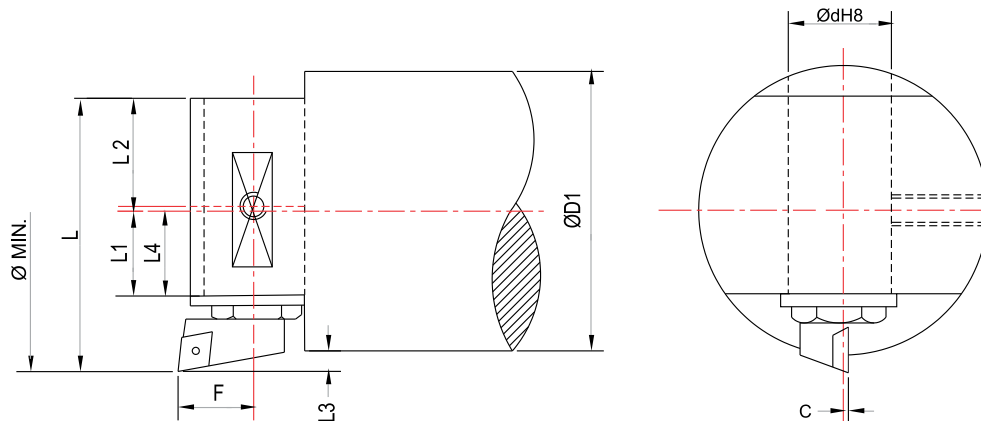
Extra long length boring bar



Finish Boring bar in light weight material

Light weight boring bars are made from special light weight alloys against orders. This material is heat treated & possesses high tensile strength to absorb cutting forces & provide good surface finish & size consistency.

Mounting dimensions for Extra range Fine Boring Unit



Part No. of FBU	ØD MIN.	ØD1	ØdH8	L	L1	L2	L3	L4	F	TAP	C	Insert	Dia. Range
61040	40	34	10	33.5	7.5	14	2.5	10	9	M6x1.0	1.2	CCGT060204	4 mm.
61045	45	42	10	42	6.5	20.5	1.0	10	9	M6x1.0	1.2	CCGT060204	6 mm.
61665	65	56	16	56	14	25	3.0	18	12	M10x1.5	1.2	CCGT060204	6 mm.
62585	85	76	25	76	22	35	3.0	27	16.5	M16x2.0	2.0	TCGT 110204	6mm.

FINE BORING HEAD

For prototype machining and also for Die & Mould Machining

- Range : 40 to 65 mm. & 65 to 90 mm.
- Fine adjustment range : ± 0.1 mm.
- Least count : 0.01 mm. on dia
- Adjustable range for each cartridge : 5mm.on dia.

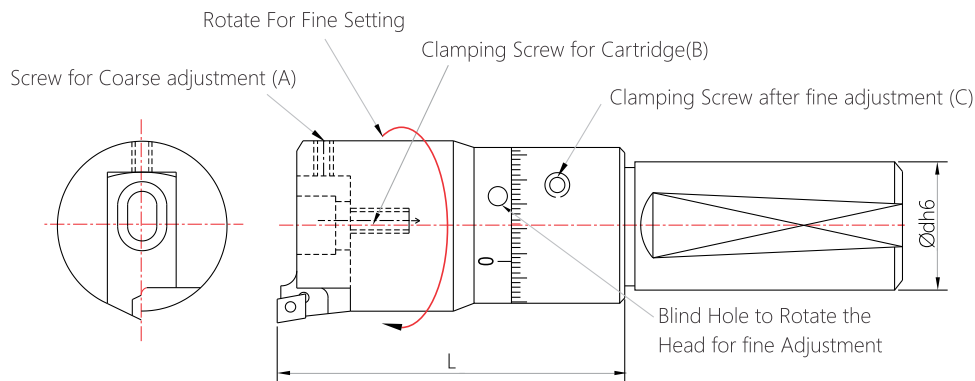


Chart for Range & Parts

Ordering Code	Dia. Range	Ødh6	L	A	Insert	B	C	Allen key
904065	$\text{Ø}40 - \text{Ø}65$	25	75	M6	CCGT 060204	M5	M5	3mm.
906590	$\text{Ø}65 - \text{Ø}90$	32	75	M10	TCGT 110204	M8	M10	6mm.

Uses

Die & moulds manufacturing, prototype & pilot batch manufacturing. Dies & moulds have bores for guide bushes, guide pins, ejector pins, sprue bushes etc. Which have close tolerances. These bores are few in numbers and need a tool with wide & precision adjustment range.

Prototype manufacturing needs versatile tool to cover a large range and precision tools to manufacturing to component bores to close tolerances. Similar needs are also for pilot batch manufacturing.

This boring head is suitable for use on precision high speed boring machines, machining centers and special purpose machines.

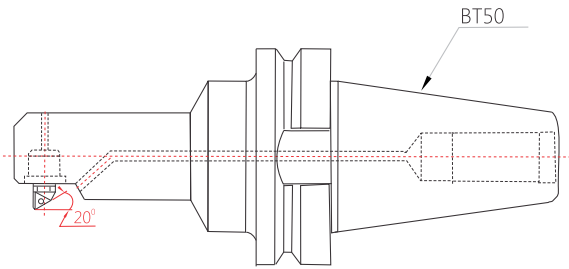
How to adjust

With this tool, we can have near to size adjustments on cartridge screw(A) and fine adjustment on the circumference.

PRECISION FINE BORING UNIT FOR SPECIAL APPLICATION



Application : Gear Box



Finish boring with chamfering



Special fine boring unit for cylinder block liner bore

FACING & CENTERING TOOL

Facing and centering tool is used on special purpose machines. This is a plunging operations extensively used in shaft type of automobile components & Electric motor shafts. The machines are normally two spindle type with each spindle plunging in opposite ends of shaft. The insert shown are DNMG150408 and TNMG 160408.

Application : Shaft



TREPANNING TOOL

Hole dia 212 x 85mm thickness in SS plate

Machine used:

Skoda make horizontal boring machine,

Power: 75KW

Application : Defence nuclear project



TAILORMADE TOOLS



Combination tool for Intake / Exhaust port for 2w. cylinder head (with 8 inserts).



Special Grooving Tool for Spring seat (with special insert) in cylinder head.(HCV)

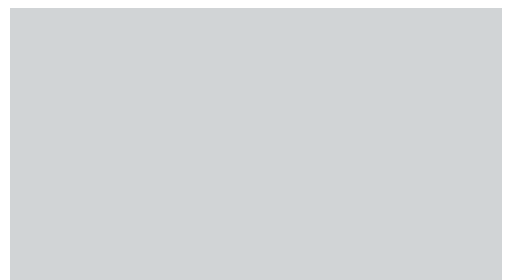
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