



# PRODUCT CATALOGUE



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Redefining Cutting Technology

[www.renukatools.in](http://www.renukatools.in)

**COMPANY PROFILE**

Renuka Tools® was founded in the year 2000 in Aurangabad, India with its vision to be the preferred special cutting tools provider. We now successfully cater to both domestic and international markets with our wide range of solutions. We ensure that we remain nimble and agile by continually investing in technology & R&D to stay ahead of time & keep pace with the changing technology in the industry.

Renuka Tools® with its state-of-the-art manufacturing unit manufactures high quality special indexable cutting tools with utmost precision using the latest technology and highly skilled and technical manpower. All cutting tools manufactured at our plant come with a Zoller and / or Haimer Report, ensuring that the global export quality standards are met, guaranteeing complete customer satisfaction.

At Renuka Tools®, our core expertise is in manufacturing special customized cutting tools. With over 20 years of technical expertise and continual R&D efforts, we manufacture products such as:

- ▶ Micro Bore Units / Fine Boring Units
- ▶ Adjustable Boring Tools
- ▶ Turning Tools
- ▶ Eccentric Boring Tools
- ▶ Boring Kit
- ▶ Anti-vibration Boring Tools
- ▶ Milling Cutters
- ▶ Spot Face Cutters
- ▶ Chamfer Tools
- ▶ Special Adaptors

**WHY US? WHAT DIFFERENTIATES US FROM COMPETITION?**

- ▶ We use the **best-in-class technology** in our **state-of-the-art manufacturing facility**.
- ▶ We ensure **best quality products** adhering to global standards.
- ▶ We provide a **QC Report** along with our tools to certify the quality of the product, which is accepted world-wide.
- ▶ We also provide a **Haimer Tool Balancing report** along with our tools.
- ▶ We ensure **shortest lead times** in manufacturing.
- ▶ All of the above is ensured at **lowest possible price**.

This catalogue will give you brief summary about all our Standard & Customized Tools. For more details on our offerings, please refer to our website ([www.renukatools.in](http://www.renukatools.in)).

**For Customization, kindly provide following details:**

- ▶ Component Drawing / 3D Model.
- ▶ Component material grade & hardness.
- ▶ Clamping / Fixturing details.
- ▶ Detailed machine information such as spindle taper, maximum tool weight carrying capacity, machining parameters & other machine specifications.
- ▶ Sample Inserts & spares to be sent to us for manufacturing the tool.

## **Ultra-Precise, Adjustable Cartridges** **(UPA Cartridges)**



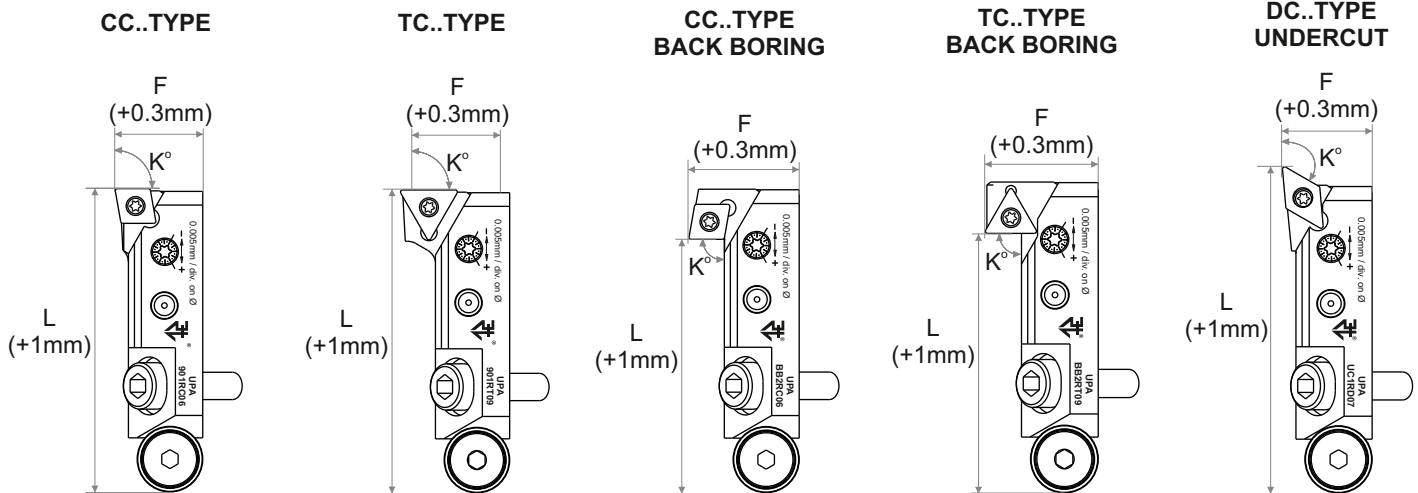
SAMPLE IMAGE

### **Facts & Advantages**

- ▶ **Ultra - Precision, Adjustable finish boring cartridge with high accuracy and repeatability.**
- ▶ **Used for machining close tolerances.**
- ▶ **Facilitates precision adjustment with least count of 5 microns (0.005mm) on diameter on a linear scale.**
- ▶ **Radial Adjustment range of 0.3mm facilitates precise boring of diameter.**
- ▶ **Axial Adjustment range of 1mm facilitates precise step lengths.**
- ▶ **Self-clamping / Self-locking cartridges i.e. no tightening & loosening of screws involved.**
- ▶ **Pre-loaded (pre-tensioned) assembly guaranteeing practically “Zero” Backlash.**
- ▶ **Minimum diameter for finish boring using UPA Cartridges is 28mm.**
- ▶ **Adjustment can be done directly while the tool is on the machine, thus reducing downtime or setting time.**
- ▶ **Standard products (28 variants) available for ID boring, back boring, OD turning and undercut machining applications.**
- ▶ **Directly interchangeable with all standard finish boring cartridges or UFP cartridges or equivalent.**



# UPA Cartridges - Standard Product Range



All Right - Hand variants shown above.  
All dimensions are in mm.

Sr. No	Item Code		Insert 	L	F	D <sub>min</sub>	K°	Size	Insert Screw	Torx Key	Application
	LH	RH									
1	RT UPA 90 1L C06	RT UPA 90 1R C06	CC..0602..	55.5	16	28	90	1	M2.5	T8	Boring
2	RT UPA 95 1L C06	RT UPA 95 1R C06	CC..0602..	55.5	16	28	95	1	M2.5	T8	
3	RT UPA 90 1L T09	RT UPA 90 1R T09	TC..0902..	55.5	16	28	90	1	M2.2	T7	
4	RT UPA 95 1L T09	RT UPA 95 1R T09	TC..0902..	55.5	16	28	95	1	M2.2	T7	
5	RT UPA 90 2L T11	RT UPA 90 2R T11	TC..1102..	55.5	20	36	90	2	M2.5	T8	
6	RT UPA 95 2L T11	RT UPA 95 2R T11	TC..1102..	55.5	20	36	95	2	M2.5	T8	
7	RT UPA 90 3L C09	RT UPA 90 3R C09	CC..09T3..	107.0	32	75	90	3	M3.5	T15	
8	RT UPA 95 3L C09	RT UPA 95 3R C09	CC..09T3..	107.0	32	75	95	3	M3.5	T15	
9	RT UPA 90 3L C12	RT UPA 90 3R C12	CC..1204..	107.0	32	75	90	3	M4.5	T20	
10	RT UPA 95 3L C12	RT UPA 95 3R C12	CC..1204..	107.0	32	75	95	3	M4.5	T20	
11	RT UPA 90 3L T16	RT UPA 90 3R T16	TC..16T3..	107.0	32	75	90	3	M3.5	T15	
12	RT UPA 95 3L T16	RT UPA 95 3R T16	TC..16T3..	107.0	32	75	95	3	M3.5	T15	
13	-----	RT UPA BB 2R C06	CC..0602..	46.0	20	36	90	2	M2.5	T8	Back Boring
14	-----	RT UPA BB 2R T09	TC..0902..	46.0	20	36	90	2	M2.2	T7	
15	RT UPA UC 1L D07	RT UPA UC 1R D07	DC..0702..	58.5	16	28	120	1	M2.5	T8	Undercut

## Additional Spare Details

Sr. No	Size	Axial Washer (Wedge)	Axial Adjustment Screw	Allen Key for Axial Adj.Screw	Radial Adjustment Screw	Torx Key for Radial Adj.Screw	Clamping Bolt	Allen Key for Clamping Bolt	Greasing Gun
1	1	UPAW1	UPACM5	3MM	UPAR1	T8	M5	4MM	UPAGG
2	2								
3	3	UPAW2	UPACM8	5MM	UPAR2	T8	M10	8MM	UPAGG

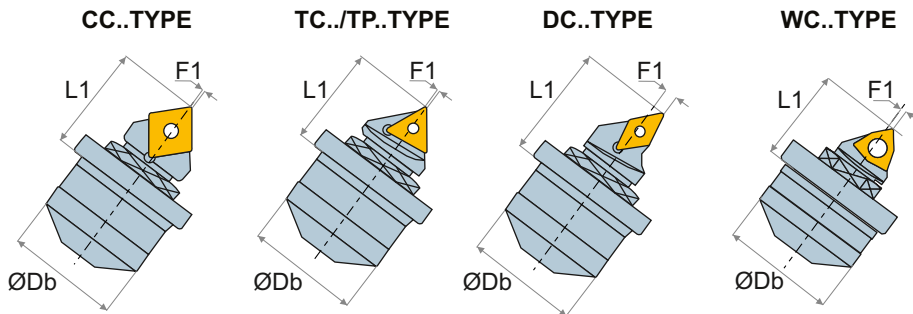
### Notes:

- UPA Cartridges are delivered with all required spares such as insert screw, axial adjustment screw, radial adjustment screw, clamping bolt, axial washer, torx keys & allen keys.
- Inserts are not included with UPA Cartridges.
- Spares sold separately as well and can be ordered as per the ordering code shown in above table.
- Minimum diameter (Dmin) & F calculated based on 0.4mm insert nose radius.
- Recommended material removal is 0.5mm diametrically.
- Customized UPA Cartridges for special requirements can also be provided but will be made to order with a lead time of 3-6 weeks.



- Precision finish boring cartridge with high accuracy and repeatability.
- Facilitates precision adjustment with least count of 1 micron (0.001mm) radially.
- Pre-loaded (pre-tensioned) assembly guaranteeing practically “Zero” Backlash.
- Minimum diameter for finish boring 20mm.
- 80 standard variants available for ID boring, back boring, OD turning and undercut machining applications.
- Directly interchangeable with R/L148C or T-Max U fine boring unit or equivalent.

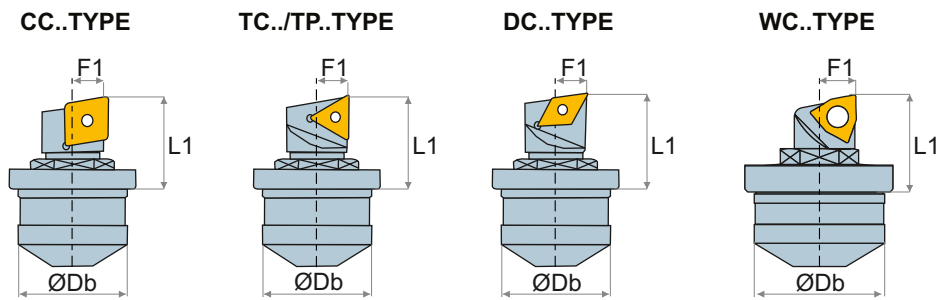
## MBU - Angular Mounting Type



All Left - Hand variants shown above.  
All dimensions are in mm.

Sr. No	Item Code		Insert 	D <sub>b</sub>	L1	F1	D <sub>min</sub>	Mounting Screw 	Insert Screw 	Torx / Allen Key 	Spanner 
	LH	RH									
1	RT MBU ALW 02 14	RT MBU ARW 02 14	WC..0201..	14	11.5	1.00	20.0	RTMS14	M2.0	T6/T8	RTS14
2	RT MBU ALC 04 14	RT MBU ARC 04 14	CC..04T0..	14	11.5	1.00	20.0	RTMS14	M2.0	T6/T8	RTS14
3	RT MBU ALT 06T1 14	RT MBU ART 06T1 14	TC..06T1..	14	11.5	0.20	20.0	RTMS14	M2.0	T6/T8	RTS14
4	RT MBU ALT 0601 14	RT MBU ART 0601 14	TC..0601..	14	11.5	0.20	20.0	RTMS14	M2.0	T6/T8	RTS14
5	RT MBU ALC 06 16	RT MBU ARC 06 16	CC..0602..	16	14.3	0.45	25.9	RTMS16	M2.5	T8/T10	RTS16
6	RT MBU ALT 06T1 16	RT MBU ART 06T1 16	TC..06T1..	16	14.3	0.20	25.4	RTMS16	M2.0	T6/T10	RTS16
7	RT MBU ALT 0601 16	RT MBU ART 0601 16	TC..0601..	16	14.3	0.20	25.4	RTMS16	M2.0	T6/T10	RTS16
8	RT MBU ALC 09 20	RT MBU ARC 09 20	CC..09T3..	20	19.1	1.00	33.1	RTMS20	M3.5	T15/T10	RTS20
9	RT MBU ALT 09 20	RT MBU ART 09 20	TC..0902..	20	19.1	1.00	33.1	RTMS20	M2.2	T7/T10	RTS20
10	RT MBU ALTP 09 20	RT MBU ARTP 09 20	TP..0902..	20	19.1	1.00	33.1	RTMS20	M2.5	T8/T10	RTS20
11	RT MBU ALD 07 20	RT MBU ARD 07 20	DC..0702..	20	19.1	1.00	33.1	RTMS20	M2.5	T8/T10	RTS20
12	RT MBU ALC 09 22	RT MBU ARC 09 22	CC..09T3..	22	23.0	1.10	42.6	RTMS22	M3.5	T15	RTS22
13	RT MBU ALT 1102 22	RT MBU ART 1102 22	TC..1102..	22	23.0	1.10	42.6	RTMS22	M2.5	T8/T15	RTS22
14	RT MBU ALT 1103 22	RT MBU ART 1103 22	TC..1103..	22	23.0	1.10	42.6	RTMS22	M2.5	T8/T15	RTS22
15	RT MBU ALTP 11 22	RT MBU ARTP 11 22	TP..1103..	22	23.0	1.10	42.6	RTMS22	M3.0	T10/T15	RTS22
16	RT MBU ALD 07 22	RT MBU ARD 07 22	DC..0702..	22	25.0	2.30	42.6	RTMS22	M2.5	T8/T15	RTS22
17	RT MBU ALC 12 32	RT MBU ARC 12 32	CC..1204..	32	33.3	1.00	60.6	RTMS32	M4.5	T20/3MM	RTS32
18	RT MBU ALT 16 32	RT MBU ART 16 32	TC..16T3..	32	33.3	1.20	60.6	RTMS32	M3.5	T15/3MM	RTS32
19	RT MBU ALTP 16T3 32	RT MBU ARTP 16T3 32	TP..16T3..	32	33.3	1.20	60.6	RTMS32	M3.5	T15/3MM	RTS32
20	RT MBU ALTP 1604 32	RT MBU ARTP 1604 32	TP..1604..	32	33.3	1.20	60.6	RTMS32	M4.0	T15/3MM	RTS32

## MBU - Straight Mounting Type



All Left - Hand variants shown above.  
All dimensions are in mm.

Sr. No	Item Code		Insert 	D <sub>b</sub>	L1	F1	D <sub>min</sub>	Mounting Screw 	Insert Screw 	Torx / Allen Key 	Spanner 
	LH	RH									
1	RT MBU SLW 02 14	RT MBU SRW 02 14	WC..0201..	14	11.0	4.1	22.0	RTMS14	M2.0	T6/T8	RTS14
2	RT MBU SLC 04 14	RT MBU SRC 04 14	CC..04T0..	14	11.0	4.1	22.0	RTMS14	M2.0	T6/T8	RTS14
3	RT MBU SLT 06T1 14	RT MBU SRT 06T1 14	TC..06T1..	14	11.0	4.1	22.0	RTMS14	M2.0	T6/T8	RTS14
4	RT MBU SLT 0601 14	RT MBU SRT 0601 14	TC..0601..	14	11.0	4.1	22.0	RTMS14	M2.0	T6/T8	RTS14
5	RT MBU SLC 06 16	RT MBU SRC 06 16	CC..0602..	16	13.3	5.1	27.6	RTMS16	M2.5	T8/T10	RTS16
6	RT MBU SLT 06T1 16	RT MBU SRT 06T1 16	TC..06T1..	16	13.3	4.1	27.1	RTMS16	M2.0	T6/T10	RTS16
7	RT MBU SLT 0601 16	RT MBU SRT 0601 16	TC..0601..	16	13.3	4.1	27.1	RTMS16	M2.0	T6/T10	RTS16
8	RT MBU SLC 09 20	RT MBU SRC 09 20	CC..09T3..	20	18.3	7.2	37.1	RTMS20	M3.5	T15/T10	RTS20
9	RT MBU SLT 09 20	RT MBU SRT 09 20	TC..0902..	20	18.3	6.3	37.1	RTMS20	M2.2	T7/T10	RTS20
10	RT MBU SLTP 09 20	RT MBU SRTP 09 20	TP..0902..	20	18.3	6.3	37.1	RTMS20	M2.5	T8/T10	RTS20
11	RT MBU SLD 07 20	RT MBU SRD 07 20	DC..0702..	20	18.3	6.3	37.1	RTMS20	M2.5	T8/T10	RTS20
12	RT MBU SLC 09 22	RT MBU SRC 09 22	CC..09T3..	22	22.1	7.2	49.1	RTMS22	M3.5	T15	RTS22
13	RT MBU SLT 1102 22	RT MBU SRT 1102 22	TC..1102..	22	22.1	7.2	49.1	RTMS22	M2.5	T8/T15	RTS22
14	RT MBU SLT 1103 22	RT MBU SRT 1103 22	TC..1103..	22	22.1	7.2	49.1	RTMS22	M2.5	T8/T15	RTS22
15	RT MBU SLTP 11 22	RT MBU SRTP 11 22	TP..1103..	22	22.1	7.2	49.1	RTMS22	M3.0	T10/T15	RTS22
16	RT MBU SLD 07 22	RT MBU SRD 07 22	DC..0702..	22	22.1	7.2	49.1	RTMS22	M2.5	T8/T15	RTS22
17	RT MBU SLC 12 32	RT MBU SRC 12 32	CC..1204..	32	32.0	10.3	69.6	RTMS32	M4.5	T20/3MM	RTS32
18	RT MBU SLT 16 32	RT MBU SRT 16 32	TC..16T3..	32	32.0	10.3	69.6	RTMS32	M3.5	T15/3MM	RTS32
19	RT MBU SLTP16T3 32	RT MBU SRTP16T3 32	TP..16T3..	32	32.0	10.3	69.6	RTMS32	M3.5	T15/3MM	RTS32
20	RT MBU SLTP1604 32	RT MBU SRTP1604 32	TP..1604..	32	32.0	10.3	69.6	RTMS32	M4.0	T15/3MM	RTS32

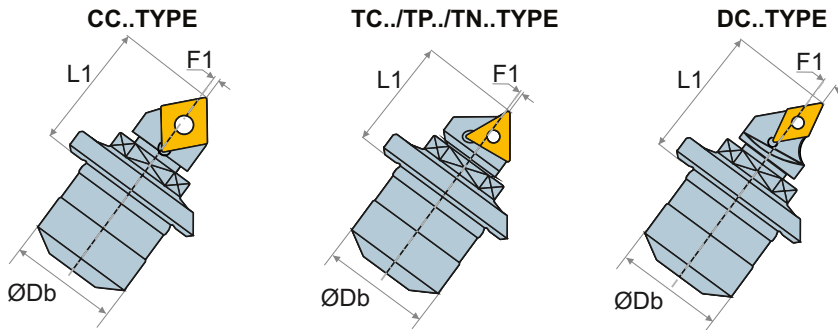
### Notes:

- Micro Bore Units are delivered with all required spares such as insert screw, mounting screws, spanner, torx keys & allen keys.
- Inserts are not included with Micro Bore Units.
- Spares sold separately as well and can be ordered as per the ordering code shown in above table.
- Minimum diameter (D<sub>min</sub>) calculated based on 0.4mm insert nose radius.
- MBU variants with DC..0702.. inserts are especially designed for close tolerance undercut applications.
- Maximum recommended material removal is 0.5mm diametrically.
- Customized MBU for special requirements can also be provided but will be made to order with a lead time of 3-6 weeks.
- For RH Cutting hand tool, use the LH MBU Variants and vice versa. Thus generally for ID boring applications, you should choose LH MBU variants, while for OD turning or Back boring applications, you should choose RH MBU variants.



- Precision finish boring cartridge with high accuracy repeatability.
- Facilitates precision adjustment with least count of 1 micron (0.001mm) radially.
- Pre-loaded (pre-tensioned) assembly guaranteeing practically “Zero” Backlash.
- Minimum diameter for finish boring 19mm.
- 88 standard variants are available for ID boring, back boring, OD turning and undercut machining applications.
- Directly interchangeable with FA & FV fine boring units or equivalent.

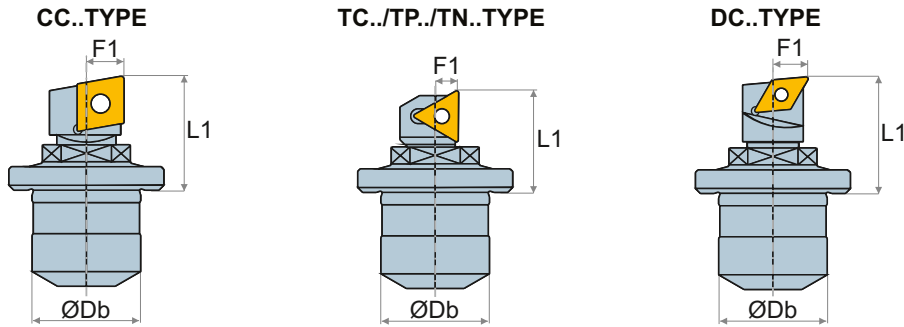
## FBU - Angular Mounting Type



All Left - Hand variants shown above.  
All dimensions are in mm.

Sr. No	Item Code		Insert	D <sub>b</sub>	L1	F1	D <sub>min</sub>	Mounting Screw	Insert Screw	Torx / Allen Key	Spanner
	LH	RH									
1	RT FBU ALT 06T1 11	RT FBU ART 06T1 11	TC..06T1..	11.110	11.70	1.11	19	RTMS11	M2.0	T6/1.5MM	RTS11
2	RT FBU ALT 0601 11	RT FBU ART 0601 11	TC..0601..	11.110	11.70	1.11	19	RTMS11	M2.0	T6/1.5MM	RTS11
3	RT FBU ALC 06 15	RT FBU ARC 06 15	CC..0602..	15.080	14.90	0.46	25	RTMS15	M2.5	T8/2.0MM	RTS15
4	RT FBU ALT 09 15	RT FBU ART 09 15	TC..0902..	15.080	14.90	0.46	25	RTMS15	M2.2	T7/2.0MM	RTS15
5	RT FBU ALTP 09 15	RT FBU ARTP 09 15	TP..0902..	15.080	14.90	0.46	25	RTMS15	M2.5	T8/2.0MM	RTS15
6	RT FBU ALC 09 19	RT FBU ARC 09 19	CC..09T3..	19.050	18.90	0.70	36	RTMS19	M3.5	T15/2.0MM	RTS19
7	RT FBU ALT 1102 19	RT FBU ART 1102 19	TC..1102..	19.050	18.90	0.70	36	RTMS19	M2.5	T8/2.0MM	RTS19
8	RT FBU ALT 1103 19	RT FBU ART 1103 19	TC..1103..	19.050	18.90	0.70	36	RTMS19	M2.5	T8/2.0MM	RTS19
9	RT FBU ALTP 11 19	RT FBU ARTP 11 19	TP..1103..	19.050	18.90	0.70	36	RTMS19	M3.0	T10/2.0MM	RTS19
10	RT FBU ALTN 11 19	RT FBU ARTN 11 19	TN..1103..	19.050	18.90	0.70	36	RTMS19	*	2.5MM/2.0MM	RTS19
11	RT FBU ALD 07 19	RT FBU ARD 07 19	DC..0702..	19.050	18.90	2.30	36	RTMS19	M2.5	T8/2.0MM	RTS19
12	RT FBU ALC 09 222	RT FBU ARC 09 222	CC..09T3..	22.225	23.15	0.80	47	RTMS222	M3.5	T15/2.0MM	RTS222
13	RT FBU ALT 1102 222	RT FBU ART 1102 222	TC..1102..	22.225	23.15	0.54	47	RTMS222	M2.5	T8/2.0MM	RTS222
14	RT FBU ALT 1103 222	RT FBU ART 1103 222	TC..1103..	22.225	23.15	0.54	47	RTMS222	M2.5	T8/2.0MM	RTS222
15	RT FBU ALTP 11 222	RT FBU ARTP 11 222	TP..1103..	22.225	23.15	0.54	47	RTMS222	M3.0	T10/2.0MM	RTS222
16	RT FBU ALTN 11 222	RT FBU ARTN 11 222	TN..1103..	22.225	23.15	0.54	47	RTMS222	*	2.5MM/2.0MM	RTS222
17	RT FBU ALD 07 222	RT FBU ARD 07 222	DC..0702..	22.225	23.15	2.30	47	RTMS222	M2.5	T8/2.0MM	RTS222
18	RT FBU ALC 12 31	RT FBU ARC 12 31	CC..1204..	31.750	34.40	0.86	73	RTMS31	M4.5	T20/2.0MM	RTS31
19	RT FBU ALT 16 31	RT FBU ART 16 31	TC..16T3..	31.750	34.40	0.86	73	RTMS31	M3.5	T15/2.0MM	RTS31
20	RT FBU ALTP 16T3 31	RT FBU ARTP 16T3 31	TP..16T3..	31.750	34.40	0.86	73	RTMS31	M3.5	T15/2.0MM	RTS31
21	RT FBU ALTP 1604 31	RT FBU ARTP 1604 31	TP..1604..	31.750	34.40	0.86	73	RTMS31	M4.0	T15/2.0MM	RTS31
22	RT FBU ALTN 16 31	RT FBU ARTN 16 31	TN..1604..	31.750	34.40	0.86	73	RTMS31	*	3.5MM/2.0MM	RTS31

## FBU - Straight Mounting Type



All Left - Hand variants shown above.  
All dimensions are in mm.

Sr. No	Item Code		Insert	D <sub>b</sub>	L1	F1	D <sub>min</sub>	Mounting Screw	Insert Screw	Torx / Allen Key	Spanner
	LH	RH									
1	RT FBU SLT 06T1 11	RT FBU SRT 06T1 11	TC..06T1..	11.110	10.3	2.6	19	RTMS11	M2.0	T6/1.5MM	RTS11
2	RT FBU SLT 0601 11	RT FBU SRT 0601 11	TC..0601..	11.110	10.3	2.6	19	RTMS11	M2.0	T6/1.5MM	RTS11
3	RT FBU SLC 06 15	RT FBU SRC 06 15	CC..0602..	15.080	14.0	3.6	25	RTMS15	M2.5	T8/2.0MM	RTS15
4	RT FBU SLT 09 15	RT FBU SRT 09 15	TC..0902..	15.080	14.0	3.6	25	RTMS15	M2.2	T7/2.0MM	RTS15
5	RT FBU SLTP 09 15	RT FBU SRTP 09 15	TP..0902..	15.080	14.0	3.6	25	RTMS15	M2.5	T8/2.0MM	RTS15
6	RT FBU SLC 09 19	RT FBU SRC 09 19	CC..09T3..	19.050	17.8	4.0	36	RTMS19	M3.5	T15/2.0MM	RTS19
7	RT FBU SLT 1102 19	RT FBU SRT 1102 19	TC..1102..	19.050	17.8	4.0	36	RTMS19	M2.5	T8/2.0MM	RTS19
8	RT FBU SLT 1103 19	RT FBU SRT 1103 19	TC..1103..	19.050	17.8	4.0	36	RTMS19	M2.5	T8/2.0MM	RTS19
9	RT FBU SLTP 11 19	RT FBU SRTP 11 19	TP..1103..	19.050	17.8	4.0	36	RTMS19	M3.0	T10/2.0MM	RTS19
10	RT FBU SLTN 11 19	RT FBU SRTN 11 19	TN..1103..	19.050	17.8	4.0	36	RTMS19	*	2.5MM/2.0MM	RTS19
11	RT FBU SLD 07 19	RT FBU SRD 07 19	DC..0702..	19.050	17.8	4.0	36	RTMS19	M2.5	T8/2.0MM	RTS19
12	RT FBU SLC 09 222	RT FBU SRC 09 222	CC..09T3..	22.225	21.5	4.8	47	RTMS222	M3.5	T15/2.0MM	RTS222
13	RT FBU SLT 1102 222	RT FBU SRT 1102 222	TC..1102..	22.225	21.5	4.8	47	RTMS222	M2.5	T8/2.0MM	RTS222
14	RT FBU SLT 1103 222	RT FBU SRT 1103 222	TC..1103..	22.225	21.5	4.8	47	RTMS222	M2.5	T8/2.0MM	RTS222
15	RT FBU SLTP 11 222	RT FBU SRTP 11 222	TP..1103..	22.225	21.5	4.8	47	RTMS222	M3.0	T10/2.0MM	RTS222
16	RT FBU SLTN 11 222	RT FBU SRTN 11 222	TN..1103..	22.225	21.5	4.8	47	RTMS222	*	2.5MM/2.0MM	RTS222
17	RT FBU SLD 07 222	RT FBU SRD 07 222	DC..0702..	22.225	21.5	4.8	47	RTMS222	M2.5	T8/2.0MM	RTS222
18	RT FBU SLC 12 31	RT FBU SRC 12 31	CC..1204..	31.750	31.4	7.1	73	RTMS31	M4.5	T20/2.0MM	RTS31
19	RT FBU SLT 16 31	RT FBU SRT 16 31	TC..16T3..	31.750	31.4	7.1	73	RTMS31	M3.5	T15/2.0MM	RTS31
20	RT FBU SLTP 16T3 31	RT FBU SRTP 16T3 31	TP..16T3..	31.750	31.4	7.1	73	RTMS31	M3.5	T15/2.0MM	RTS31
21	RT FBU SLTP 1604 31	RT FBU SRTP 1604 31	TP..1604..	31.750	31.4	7.1	73	RTMS31	M4.0	T15/2.0MM	RTS31
22	RT FBU SLTN 16 31	RT FBU SRTN 16 31	TN..1604..	31.750	31.4	7.1	73	RTMS31	*	3.5MM/2.0MM	RTS31

### \*Additional spare details

Sr.No.	Insert	Lever	Lever Screw	Shim	Shim Pin	Allen Key
1	TN.. 1103	TNL11	TNLS11	TNS11	TNSP11	2.5 MM
2	TN.. 1604	TNL16	TNLS16	TNS16	TNSP16	3.5 MM

#### Notes:

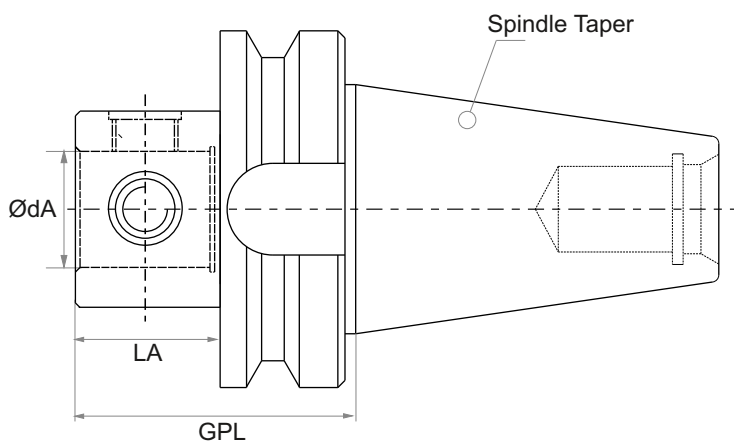
- Fine Boring Units are delivered with all required spares such as insert screw, mounting screws, spanner, torx keys & allen keys.
- Inserts are not included with Fine Boring Units.
- Spares sold separately as well and can be ordered as per the ordering code shown in above table.
- Minimum diameter (Dmin) calculated based on 0.4mm insert nose radius.
- FBU variants with DC..0702.. inserts are especially designed for close tolerance undercut applications.
- Maximum recommended material removal is 0.5mm diametrically.
- Customized FBU for special requirements can also be provided but will be made to order with a lead time of 3-6 weeks.
- For RH Cutting hand tool, use the LH FBU Variants and vice versa. Thus generally for ID boring applications, you should choose LH FBU variants, while for OD turning or Back boring applications, you should choose RH FBU variants.



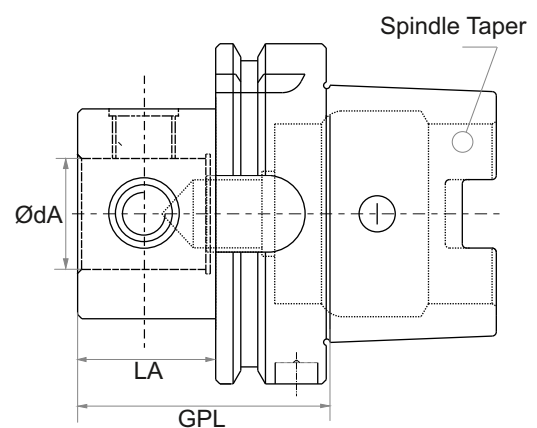
- Very rigid and precise modular clamping solution for rough, semi-finish & finish boring applications.
- Gives you the flexibility to move the tooling from one spindle taper to another.
- Modular adaptors are available in all variety of spindle tapers.
- Very easy, 90 degree clamping, with cam mechanism to ensure precision, repeatability & consistency.
- Huge savings on your capital expenditure, with flexibility of machining on a variety of machines.



## Adaptor Details for Modular Cutting Tools



Conceptual Drawing for  
BT / BBT / SK / ISO Spindle Taper



Conceptual Drawing for  
HSK Spindle Taper

# Adaptor Details for Modular Cutting Tools



All dimensions are in mm.

Sr. No	Item Code	Spindle Taper	Adaptor ID ØdA	LA	GPL of Adaptor	Adaptor Bolt Item Code	Wt. in KG
1	ADP BT40 22	BT 40	22	30	57.0	RTMAB22	1.3
2	ADP BT40 25	BT 40	25	40	67.0	RTMAB25	1.6
3	ADP BT40 32	BT 40	32	50	77.0	RTMAB32	2.5
4	ADP BT40 40	BT 40	40	60	87.0	RTMAB40	3.3
5	ADP BT50 22	BT 50	22	30	68.0	RTMAB22	4.0
6	ADP BT50 25	BT 50	25	40	78.0	RTMAB25	4.3
7	ADP BT50 32	BT 50	32	50	88.0	RTMAB32	5.1
8	ADP BT50 40	BT 50	40	60	98.0	RTMAB40	5.4
9	ADP HSKA63 22	HSKA 63	22	30	56.0	RTMAB22	1.1
10	ADP HSKA63 25	HSKA 63	25	40	66.0	RTMAB25	1.2
11	ADP HSKA63 32	HSKA 63	32	50	76.0	RTMAB32	1.7
12	ADP HSKA63 40	HSKA 63	40	60	86.0	RTMAB40	2.0
13	ADP BBT40 22	BBT 40	22	30	57.0	RTMAB22	1.3
14	ADP BBT40 25	BBT 40	25	40	67.0	RTMAB25	1.6
15	ADP BBT40 32	BBT 40	32	50	77.0	RTMAB32	2.5
16	ADP BBT40 40	BBT 40	40	60	87.0	RTMAB40	3.3
17	ADP BBT50 22	BBT 50	22	30	68.0	RTMAB22	4.0
18	ADP BBT50 25	BBT 50	25	40	78.0	RTMAB25	4.3
19	ADP BBT50 32	BBT 50	32	50	88.0	RTMAB32	5.1
20	ADP BBT50 40	BBT 50	40	60	98.0	RTMAB40	5.4
21	ADP HSKA100 22	HSKA 100	22	30	59.0	RTMAB22	2.3
22	ADP HSKA100 25	HSKA 100	25	40	69.0	RTMAB25	2.6
23	ADP HSKA100 32	HSKA 100	32	50	79.0	RTMAB32	3.0
24	ADP HSKA100 40	HSKA 100	40	60	89.0	RTMAB40	3.7
25	ADP SK40 22	SK 40	22	30	49.1	RTMAB22	1.0
26	ADP SK40 25	SK 40	25	40	59.1	RTMAB25	1.2
27	ADP SK40 32	SK 40	32	50	69.1	RTMAB32	1.8
28	ADP SK40 40	SK 40	40	60	79.1	RTMAB40	2.2
29	ADP SK50 22	SK 50	22	30	49.1	RTMAB22	3.0
30	ADP SK50 25	SK 50	25	40	59.1	RTMAB25	3.3
31	ADP SK50 32	SK 50	32	50	69.1	RTMAB32	3.7
32	ADP SK50 40	SK 50	40	60	79.1	RTMAB40	4.0
33	ADP HSKA50 22	HSKA 50	22	30	56.0	RTMAB22	0.6
34	ADP HSKA50 25	HSKA 50	25	42	68.0	RTMAB25	0.9
35	ADP HSKA50 32	HSKA 50	32	50	76.0	RTMAB32	1.2
36	ADP HSKA50 40	HSKA 50	40	74	100.0	RTMAB40	2.0
37	ADP ISO40 22	ISO 40	22	30	41.6	RTMAB22	1.0
38	ADP ISO40 25	ISO 40	25	40	51.6	RTMAB25	1.3
39	ADP ISO40 32	ISO 40	32	50	61.6	RTMAB32	1.8
40	ADP ISO40 40	ISO 40	40	60	71.6	RTMAB40	2.0
41	ADP ISO50 22	ISO 50	22	30	45.2	RTMAB22	3.0
42	ADP ISO50 25	ISO 50	25	40	55.2	RTMAB25	3.3
43	ADP ISO50 32	ISO 50	32	50	65.2	RTMAB32	3.8
44	ADP ISO50 40	ISO 50	40	60	75.2	RTMAB40	4.1
45	ADP HSKA80 22	HSKA 80	22	30	56.0	RTMAB22	1.4
46	ADP HSKA80 25	HSKA 80	25	40	66.0	RTMAB25	1.6
47	ADP HSKA80 32	HSKA 80	32	50	76.0	RTMAB32	2.1
48	ADP HSKA80 40	HSKA 80	40	60	86.0	RTMAB40	2.4
49	ADP ISO60 22	ISO 60	22	30	49.2	RTMAB22	10.8
50	ADP ISO60 25	ISO 60	25	40	59.2	RTMAB25	11.0
51	ADP ISO60 32	ISO 60	32	50	69.2	RTMAB32	11.5
52	ADP ISO60 40	ISO 60	40	60	79.2	RTMAB40	11.8

**Notes:**

- To order the right adaptor, kindly ensure that the shank diameter of Modular Boring Head 'Ød' should match the diameter of Adaptor ID 'ØdA'.
- Special Adaptor bolts will be provided along with the Adaptors. Can be ordered separately if required additionally.
- Customized adaptors of any spindle taper other than listed in above table, can also be provided but will be made to order with lead time of 3-6 weeks.

## Fine / Micro Boring Bars



- Precision finish boring bar with high accuracy repeatability.
- Facilitates precision adjustment with least count of 1 micron (0.001mm) radially.
- Standard range available from 19mm to 168mm diameter.
- Standard product catalogue is available on [www.renukatools.in](http://www.renukatools.in)
- Tailor made tools with similar concept also available for back boring, OD turning and undercut machining applications.
- For extra long cutting length, anti-vibration boring bars can be manufactured & supplied.
- Customization option available.

## Eccentric Fine Boring Tools



- Used for finish boring application from diameter 5mm to 25mm (any intermediary size on demand).
- Available with adjustment options of  $\pm 0.1$ mm (least count 10microns) and  $\pm 0.3$ mm (least count of 30 microns).
- Standard product catalogue is available on [www.renukatools.in](http://www.renukatools.in)
- Tailor made tools with similar concept also available for back boring & OD turning applications.
- Customization option available.



- Used for finish boring application with the standard range of diameters from 16mm to 244mm.
- Least count of 10 microns radially.
- Available in integral type as well as modular type.
- Standard product catalogue is available on [www.renukatools.in](http://www.renukatools.in)
- Tailor made tools with similar concept also available for combination boring & OD turning applications.
- For extra long cutting length, anti-vibration boring bars can be manufactured & supplied.
- Customization option available.

## Boring Kits



- Entire kit caters to finish boring application from 6mm to 205mm.
- Ideal finish boring tool for Tool-Room setups & Dies & Moulds manufacturers.
- Flexibility to choose from wide range of adaptors depending on machine spindle taper.
- Standard product catalogue is available on [www.renukatools.in](http://www.renukatools.in)
- Customization option available.





- Used for rough boring application for a range of diameters.
- Standard range of products available from 20mm to 500mm diameters.
- Available with option of selecting Integral / Modular / Flange-type / Side-lock type & Arbor type.
- Around 2-6 mm of material can be removed in one single pass.
- Standard product catalogue is available on [www.renukatools.in](http://www.renukatools.in)
- Customization option available.

## Fixed Pocket Type Rough Boring Bars (Core Drills)



- Tailor made / Customized / Special Tools manufactured for rough boring application based on customer requirements.
- Available with Through Spindle Coolant option for better Tool-Life.
- Option available for straight flutes & helical flutes both.
- For extra long cutting length ( $L/D > 3.5$ ), antivibration boring bars can be manufactured & supplied.
- Boring bars with fixed pockets can also be designed & manufactured for combination boring application.
- Available with option of Side Lock Type, Cylindrical Shank Type, Arbor Type, Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).

## Combination Boring Bars



- Tailor made / Customized / Special Tools for combining two or more operations to reduce cycle time.
- Can be used for combination of operations such as boring, counter boring, chamfering, facing etc.
- Available with Through Spindle Coolant option for better Tool-Life.
- Available with option of Side Lock Type, Cylindrical Shank Type, Arbor Type, Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).

## Anti-Vibration Boring Bars (For CNC Milling)



- Manufactured on demand resulting in reduced vibrations for increased L/D ratio up to 8.
- Available with option of Side Lock Type, Cylindrical Shank Type, Arbor Type, Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).
- Available with Through Spindle Coolant option for better Tool-Life.
- Available with options of fixed pocket / Micro Bore Units / ISO cartridges / Special cartridges / finish boring cartridges.

## Semi-Finish Boring Bars - Special Cartridge Type



- Tailor made / Customized / Special Tools manufactured for Close Tolerance Boring application of less than 50 microns tolerance based on customer requirements.
- Available with Through Spindle Coolant option for better Tool-Life.
- These are specifically designed and manufactured for applications with restricted lengths and diameters.
- For extra long cutting length ( $L/D > 3.5$ ), antivibration boring bars can be manufactured & supplied.
- Boring bars with special cartridges can also be designed & manufactured for combination boring application.
- Cartridges used in boring bars helps in achieving some fine adjustments in dimensions.
- Available with option of Side Lock Type, Cylindrical Shank Type, Arbor Type, Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).

## Semi-Finish Boring Bars - ISO Cartridge Type



- Tailor made / Customized / Special Tools manufactured for Close Tolerance Boring application of less than 50 microns tolerance based on customer requirements.
- Available with Through Spindle Coolant option for better Tool-Life.
- Advantage of using these type of tools is that ISO cartridges are globally standard.
- For extra long cutting length ( $L/D > 3.5$ ), antivibration boring bars can be manufactured & supplied.
- Boring bars with ISO cartridges can also be designed & manufactured for combination boring application.
- Cartridges used in boring bars helps in achieving some fine adjustments in dimensions.
- Available with option of Side Lock Type, Cylindrical Shank Type, Arbor Type, Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).

## Finish Boring Cartridges - BCA Type



- Precision finish boring cartridge with high accuracy repeatability.
- Facilitates precision adjustment with least count of 10 micron (0.01mm).
- Minimum diameter for finish boring 16mm.
- Standard products available for ID boring & OD turning applications.
- Standard product catalogue is available on [www.renukatools.in](http://www.renukatools.in)
- Customization option available.

## Special Cartridges



- Tailor made / Customized / Special cartridges designed & manufactured for all applications based on customer requirements.

## ISO Cartridges



- All ISO standard cartridges can be manufactured & supplied as required.



## Back Boring Bars / Back Spot Face Tools



- Tailor made / Customized / Special Tools for back boring & back facing application.
- Available with option of Side Lock Type, Cylindrical Shank Type, Arbor Type, Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).
- Available for roughing & finishing operations.
- For extra long cutting length ( $L/D > 3.5$ ), antivibration boring bars can be manufactured & supplied.
- Available with Through Spindle Coolant option for better Tool-Life.

## Centre Spot Face Cutters



- Tailor made / Customized / Special Tools manufactured for Centre Cutting & Spot Facing application based on customer requirements.
- Available with option of Side Lock Type, Cylindrical Shank Type & MT Type.
- Available with Through Spindle Coolant option for better Tool-Life.
- Available with combination of Drill & Centre Drill.

## Fixed Pocket Type Chamfer Tools



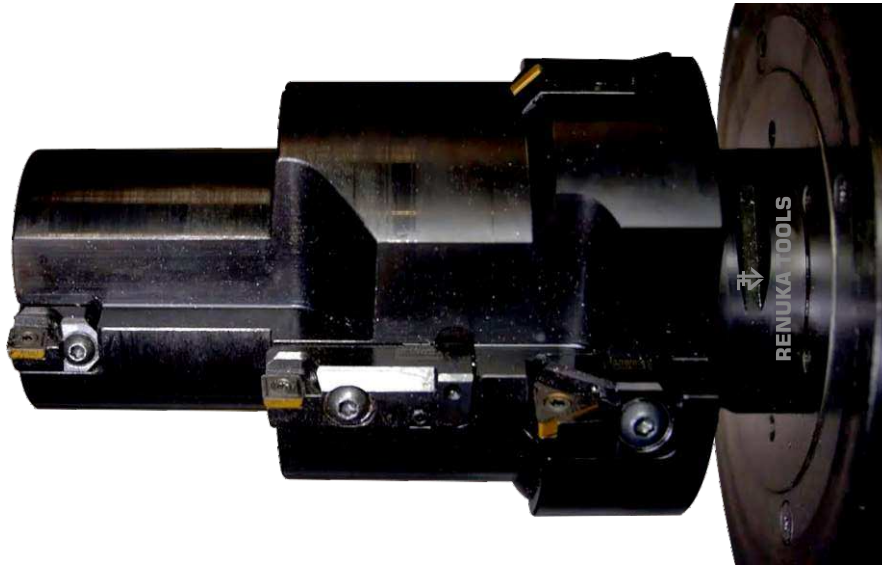
- Tailor made / Customized / Special Tools manufactured for Chamfering application based on customer requirements.
- Available in all standard angles of 30°, 45° & 60°.
- Can be manufactured for any other non-standard angle as well.
- Available with option of Side Lock Type & Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).

## Adjustable Diameter Chamfer Tools - Duo Chamfering Tools



- Adjustable diameter tools using the concept of Duo-Boring Bars can be manufactured and supplied as per customer requirements.
- Minimum Diameter 10mm.
- Available in all standard angles of 30°, 45° & 60°.
- Can be manufactured for any other non-standard angle as well.
- Available with option of Side Lock Type & Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).

## Cartridge Type Chamfer Tools



- Tailor made / Customized / Special Tools manufactured for Chamfering application based on customer requirements.
- Available in all standard angles of 30°, 45° & 60°.
- Can be manufactured for any other non-standard angle as well.
- Available with option of Side Lock Type & Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).
- Cartridge can be ISO or non-standard depending on the customer requirements.

## Special Adaptors



- Tailor made / Customized / Special Adaptors designed & manufactured for all applications based on customer requirements.
- Available with Through Spindle Coolant option.
- Available in all standard Tapers (BT / BBT / HSK / SK / ISO / MT).
- For extra long GPL, antivibration adaptors can be manufactured & supplied.

## U - Drills



- Tailor made / Customized / Special Tools manufactured for Drilling application based on customer requirements.
- Available with Through Spindle Coolant option for better Tool-Life.
- Minimum Diameter 10mm and Maximum Diameter 60mm.
- Maximum L/D up to 4.0.
- Available with combination of Chamfer & Counter-bore.
- Also available with straight flutes.

## Trepanning Tools



- Tailor made / Customized / Special Tools manufactured for Large Hole Drilling application based on customer requirements.
- Available with option of Side Lock Type & Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).
- Available with Option of Cartridge Type & Fixed Pocket Type.



## Face Milling Cutters



- Tailor made / Customized / Special Tools manufactured for Face Milling application based on customer requirements.
- Maximum Diameter up to 450mm.
- Available with Through Spindle Coolant option for better Tool-Life.
- High Feed Cutters can also be manufactured and supplied as required.
- Available with option of Side Lock Type, Cylindrical Shank Type, Arbor Type, Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).

## Modular Milling Cutters



- Tailor made / Customized / Special Tools manufactured for Dies & Moulds Machining / Deep Milling application based on customer requirements.
- Available with Through Spindle Coolant option for better Tool-Life.
- High Feed Cutters can also be manufactured and supplied as required.

## Shoulder Milling Cutters



- Tailor made / Customized / Special Tools manufactured for Shoulder Milling application based on customer requirements.
- Available with Through Spindle Coolant option for better Tool-Life.
- Available with option of Side Lock Type, Cylindrical Shank Type, Arbor Type, Integral Taper Type
- (BT / BBT / HSK / SK / ISO / MT).

## Full / Half - Side & Face Milling Cutters



- Tailor made / Customized / Special Tools manufactured for Side & Face Milling application based on customer requirements.
- Maximum Diameter up to 450mm.

## T - Slot Milling Cutters



- Tailor made / Customized / Special Tools manufactured for T- Slot Milling application based on customer requirements.
- Available with option of Side Lock Type, Cylindrical Shank Type, Arbor Type, Integral Taper Type (BT / BBT / HSK / SK / ISO / MT).
- Maximum Diameter up to 300mm.

## 45° Approach Angle Milling Cutters



- Tailor made / Customized / Special Tools manufactured for Milling application based on customer requirements.
- Available with Through Spindle Coolant option for better Tool-Life.
- Also available with the option of approach angle of 75°.
- High Feed Cutters can also be manufactured and supplied as required.



- Tailor made / Customized / Special Tools manufactured for Milling application based on customer requirements.
- Available with option of Side Lock Type & Cylindrical Shank Type.
- Available with Through Spindle Coolant option for better Tool-Life.
- High Feed Cutters can also be manufactured and supplied as required.

## Thread Milling Cutters



- Tailor made / Customized / Special Tools manufactured for Threading application on milling machines based on customer requirements.
- Available with option of Side Lock Type, Cylindrical Shank Type & Arbor Type.
- Available with Through Spindle Coolant option for better Tool-Life.
- For deep machining, antivibration thread mill cutters can be manufactured & supplied.





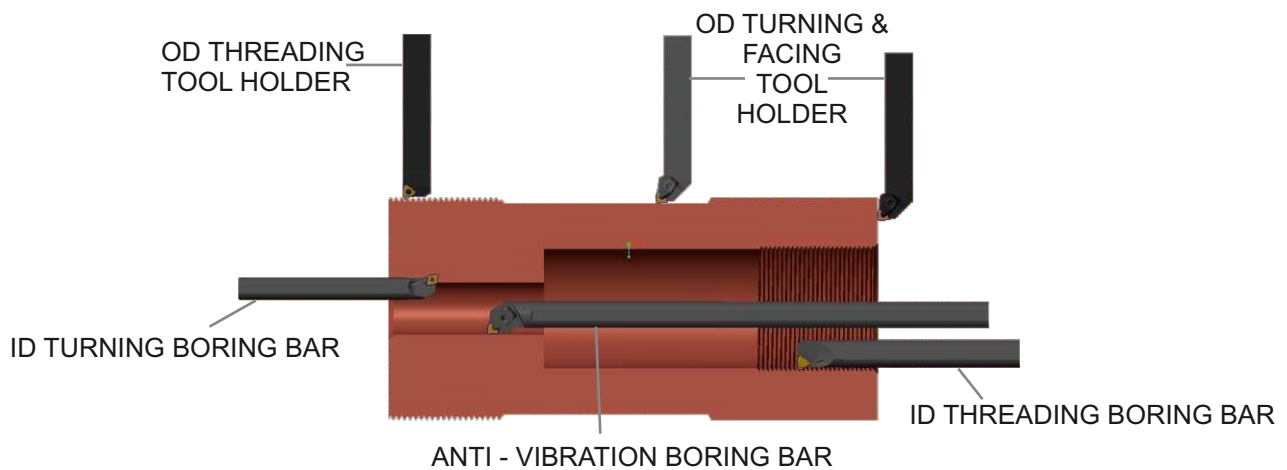
- Tailor made / Customized / Special Tools manufactured for Taper Milling / Angle Milling application based on customer requirements.
- Available with option of Side Lock Type, Cylindrical Shank Type & Arbor Type.
- Available with Through Spindle Coolant option for better Tool-Life.

## Spot Face Cutters

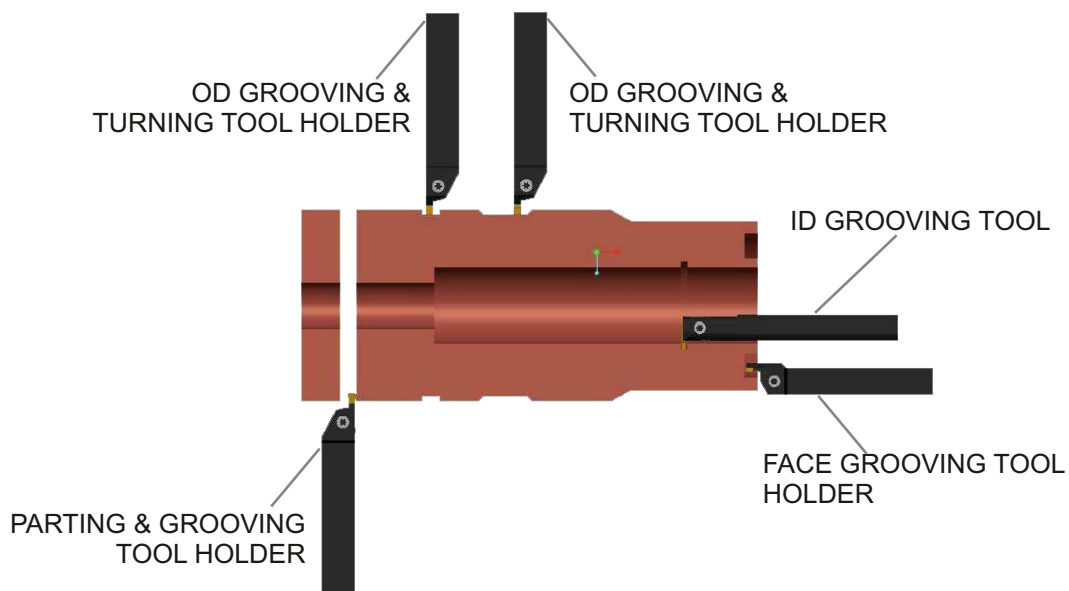


- Tailor made / Customized / Special Tools manufactured for Spot Facing application based on customer requirements.
- Available with option of Side Lock Type, Cylindrical Shank Type & MT Type.
- Available with Through Spindle Coolant option for better Tool-Life.
- Available with and without pilot guide.
- Available with combination of Drill & Centre Drill.

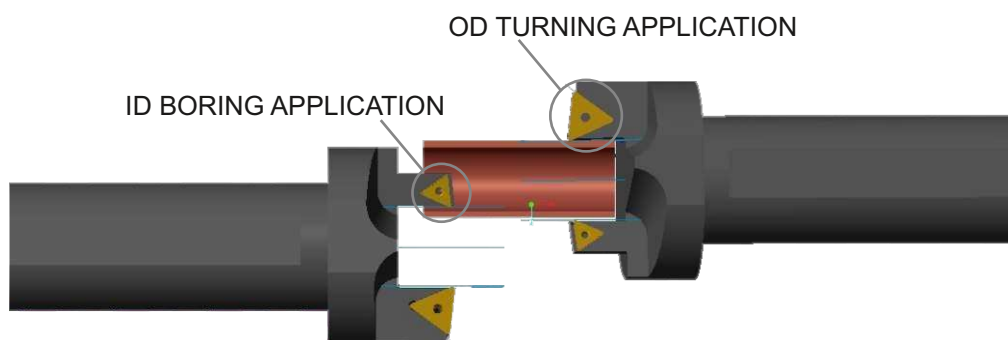
## Turning & Threading Tools & Their Applications



## Parting & Grooving Tools & Their Applications



## Combination Turning Tools & Their Applications



● All types of Turning Tools can be manufactured & supplied as per customer requirements.

## Internal (ID) Turning / Boring Tools



- All types of ID (Internal) Boring Tools can be manufactured & supplied as per customer requirements.

## External (OD) Turning Tools



- All types of OD (External) Turning Tools can be manufactured & supplied as per customer requirements.



- All types of Face Grooving Tools can be manufactured & supplied as per customer requirements.

## Internal (ID) Grooving Tools



- All types of ID (Internal) Grooving Tools can be manufactured & supplied as per customer requirements.



## Grooving & Parting Tools



- All types of Grooving & Parting Tools can be manufactured & supplied as per customer requirements.

## Internal (ID) & External (OD) Threading Tools



- All types of Threading Tools can be manufactured & supplied as per customer requirements.

## Combination Turning Tools







- All types of Combination Turning Tools can be manufactured & supplied as per customer requirements.

## Anti-Vibration Turning Tools



- All types of Anti-Vibration Turning Tools can be manufactured & supplied as per customer requirements.

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