

FINE BORING BAR WITH MBU



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Redefining Cutting Technology

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 unit come with a Zoller 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 Unit
- ▶ Adjustable Boring Tools
- ▶ Fine Boring Tools
- ▶ Eccentric Boring Tools
- ▶ Large diameter Boring Tools
- ▶ Anti-vibration Boring Tools
- ▶ Large Diameter Milling Cutters
- ▶ Spot Face Cutters
- ▶ Side & Face Milling Cutters
- ▶ Chamfer Tools

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 ensure **shortest lead times** in manufacturing.
- ▶ All of the above is ensured at **lowest possible price**.

This catalogue will give you further insights and details about our Micro Bore Units. For more details of our other standard offerings, please refer to our website (www.renukatools.in).



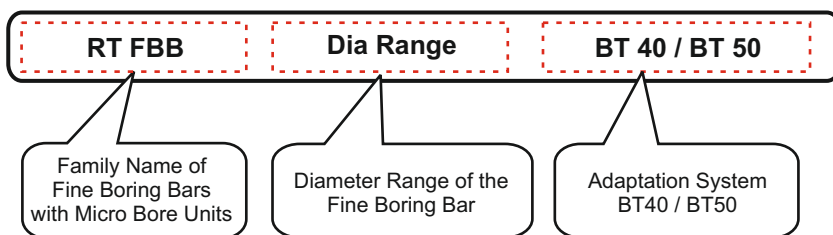
Facts & Advantages

- ▶ Precision Finish Boring Bar with high accuracy & repeatability.
- ▶ Used for machining close tolerances.
- ▶ Facilitates precision adjustment with least count of 1 micron (0.001mm) radially.
- ▶ Used for finish boring application with a range of diameters from 20mm to 168mm.
- ▶ Tailor made tools with similar concept also available on demand for the application of Back Boring, OD Turning & Undercut machining.
- ▶ Pre-loaded (pre-tensioned) assembly of MBU guaranteeing almost zero backlash.
- ▶ Adjustment can be done directly while the tool is on the machine, thus reducing downtime or setting time.
- ▶ Available in a wide range of variants and inserts enabling high degree of flexibility & a variety of precision boring applications.
- ▶ Apart from the standard product range, tailor made fine boring bars are also manufactured on demand.



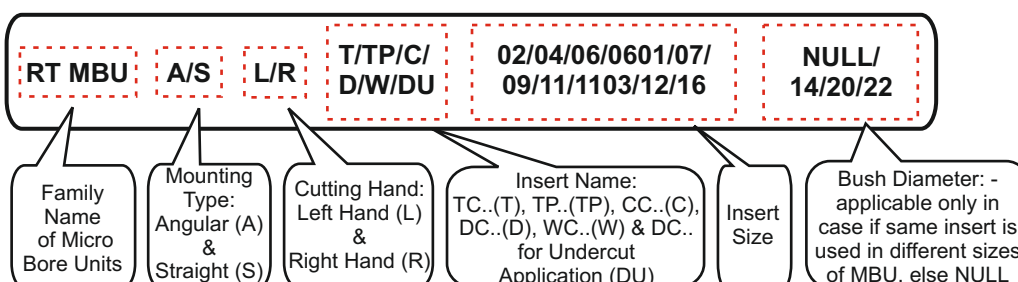
SAMPLE IMAGE

Nomenclature Code Key For Ordering Fine Boring Bar with MBU

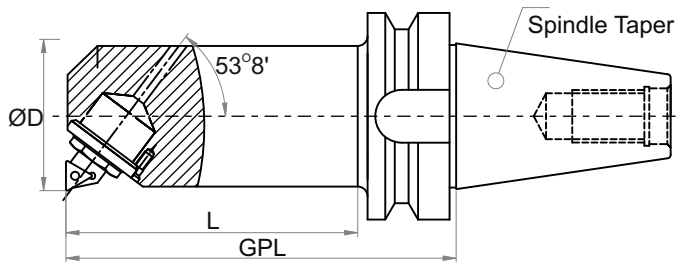


Ordering Example:
1 piece
RTFBB 20-22 BT 40

Nomenclature Code Key For Ordering MBU



Ordering Example:
1 piece
RTMBU ALT09



SAMPLE IMAGE

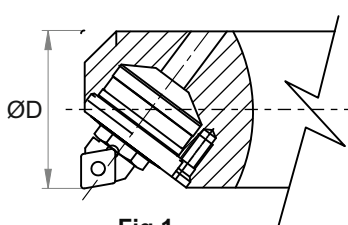


Fig 1

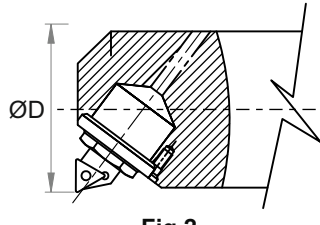


Fig 2

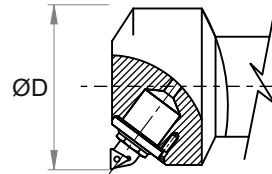


Fig 3

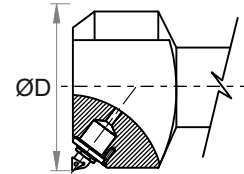


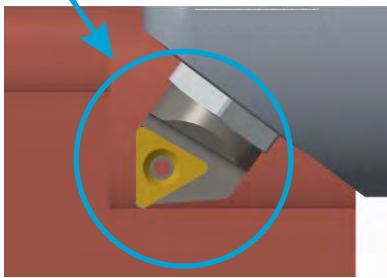
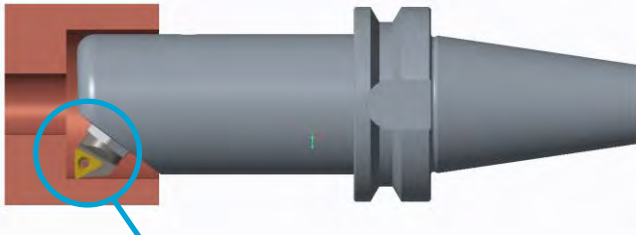
Fig 4

Fig No.	Sr. No.	Item Code	Spindle Taper	MBU Item Code	D (Ømin - Ømax)	L	GPL
Fig 1	1	RTFBB 20-22 BT40/BT50	BT40 / BT50	RTMBU ALC 04 / ALW 02 / ALT 06 14 / ALT 0601 14	20-22	60	92/103
	2	RTFBB 22-24 BT40/BT50	BT40 / BT50		22-24	60	92/103
	3	RTFBB 24-26 BT40/BT50	BT40 / BT50		24-26	60	92/103
Fig 2	4	RTFBB 25.4-28 BT40/BT50	BT40 / BT50	RTMBU ALC 06 / ALT 06 / ALT 0601	25.4-28	80	112/123
	5	RTFBB 28-31 BT40/BT50	BT40 / BT50		28-31	80	112/123
	6	RTFBB 31-34 BT40/BT50	BT40 / BT50		31-34	90	122 / 133
	7	RTFBB 33.1-38 BT40/BT50	BT40 / BT50		33.1-38	90	122 / 133
	8	RTFBB 38-43 BT40/BT50	BT40 / BT50		38-43	90	122 / 133
	9	RTFBB 42.6-51 BT40/BT50	BT40 / BT50		42.6-51	90	122 / 133
	10	RTFBB 51-59 BT40/BT50	BT40 / BT50		51-59	100	132 / 143
Fig 3	11	RTFBB 59-67 BT40/BT50	BT40 / BT50	RTMBU ALT 09 / ALTP 09 / ALC 09	59-67	100	132 / 143
	12	RTFBB 67-75 BT40/BT50	BT40 / BT50		67-75	100	132 / 143
	13	RTFBB 75-83 BT40/BT50	BT40 / BT50		75-83	100	132 / 143
	14	RTFBB 83-91 BT40/BT50	BT40 / BT50		83-91	100	132 / 143
	15	RTFBB 91-99 BT40/BT50	BT40 / BT50		91-99	100	132 / 143
	16	RTFBB 99-107 BT40/BT50	BT40 / BT50		99-107	100	132 / 143
	17	RTFBB 107-115 BT40/BT50	BT40 / BT50		107-115	100	132 / 143
Fig 4	18	RTFBB 115-124 BT40/BT50	BT40 / BT50	RTMBU ALT 11 / ALTP 11 / ALT 1103 / ALC 09 22	115-124	100	132 / 143
	19	RTFBB 124-132 BT40/BT50	BT40 / BT50		124-132	100	132 / 143
	20	RTFBB 132-140 BT50	BT50		132-140	100	143
	21	RTFBB 140-148 BT50	BT50		140-148	100	143
	22	RTFBB 148-156 BT50	BT50		148-156	100	143
	23	RTFBB 156-164 BT50	BT50		156-164	100	143
Fig 3	24	RTFBB 60.6-72 BT40/BT50	BT40 / BT50	RTMBU ALT 16 / ALTP 16 / ALC 12	60.6-72	100	132 / 143
	25	RTFBB 72-84 BT40/BT50	BT40 / BT50		72-84	100	132 / 143
	26	RTFBB 84-96 BT40/BT50	BT40 / BT50		84-96	100	132 / 143
	27	RTFBB 96-108 BT40/BT50	BT40 / BT50		96-108	100	132 / 143
Fig 4	28	RTFBB 108-120 BT40/BT50	BT40 / BT50		108-120	100	132 / 143
	29	RTFBB 120-132 BT40/BT50	BT40 / BT50		120-132	100	132 / 143
	30	RTFBB 132-144 BT50	BT50		132-144	100	143
	31	RTFBB 144-156 BT50	BT50		144-156	100	143
	32	RTFBB 156-168 BT50	BT50		156-168	100	143

Notes:

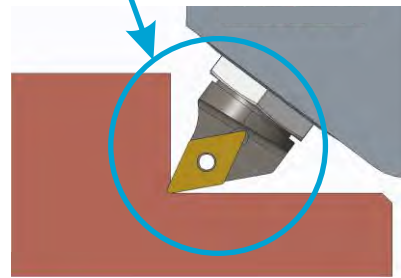
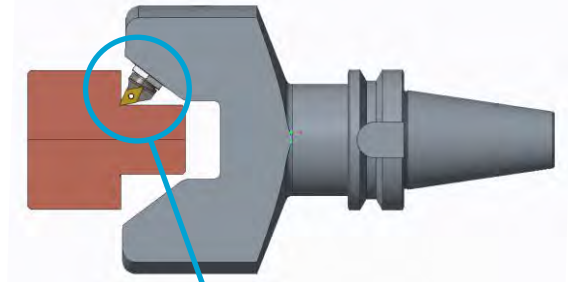
- Please refer to Renuka Tools® Micro Bore Unit's catalogue for details of Micro Bore Units used in above Fine Boring Tools. Catalogue is available for download on www.renukatools.in
- Fine Boring Tools do not include Micro Bore Units and inserts. Order for Micro Bore Units to be placed separately.
- Lead time of 1-2 weeks for all options.
- Customized fine boring bars for other spindle tapers / Side-Lock type can also be provided but will be made to order with lead time of 3-6 weeks.
- Customized fine boring bars for special diameter ranges can also be provided but will be made to order with lead time of 3-6 weeks.
- Diameter range "D" calculated considering 0.4mm insert nose radius.
- Maximum recommended material removal of 0.5mm diametrically.
- For additional cutting length requirement, customized fine boring bars with anti-vibration treatment can be tailor made with lead time of 3-6 weeks.
- Above standard variants are for Left hand cutting only and for ID boring application only. Other Fine Boring Tools for Right hand cutting & other applications such as OD Turning, Undercut Machining & Back Boring can be tailor made as per requirement. For all these applications, standard Micro Bore Units are available from Renuka Tools®. Lead time of 2-3 weeks.
- Renuka Tools® strongly recommend using these Fine Boring Tools for one particular diameter only. Too much of fiddling with adjustments, may result in permanent damage of the Micro Bore Unit and thus need to be used with precautions.

ID Boring



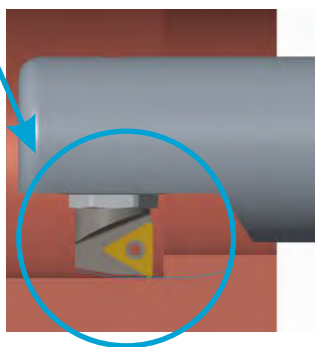
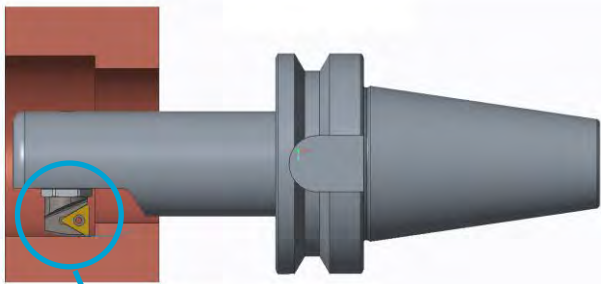
• Minimum Diameter $\text{ØD} = \text{Ø}20.0\text{mm}$

OD Turning & Undercut



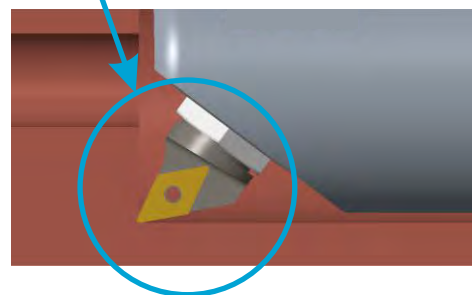
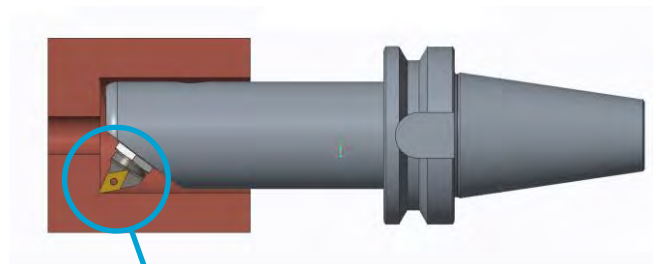
• Minimum Diameter $\text{ØD} = \text{Ø}12.0\text{mm}$

Back Boring



• Minimum Diameter $\text{ØD} = \text{Ø}22.0\text{mm}$

ID Boring & Undercut



• Minimum Diameter $\text{ØD} = \text{Ø}37.1\text{mm}$

- ▶ There are more than 75 standard variants of Micro Bore Units that are available from Renuka Tools® for various fine boring applications.
- ▶ Please refer to catalogue of “Micro Bore Units”.
- ▶ Catalogue is available for download on www.renukatools.in

- ▶ Customized Micro Bore Unit designed and manufactured at Renuka Tools® for grooving application.
- ▶ Customized boring bar also designed and manufactured at Renuka Tools® for this special application.



Operating Instructions for Fine Boring Bars With Micro Bore Units

- ▶ Mount the Micro Bore Unit properly in the finish boring tool supplied by Renuka Tools®. This can be easily done by simply tightening the mounting screws in a proper manner (Pic1). In case the tool is of any other brand ensure that the manufacturer adheres to the mounting instructions provided by Renuka Tools®. Else, it might result in non-efficient working or even tool failure.



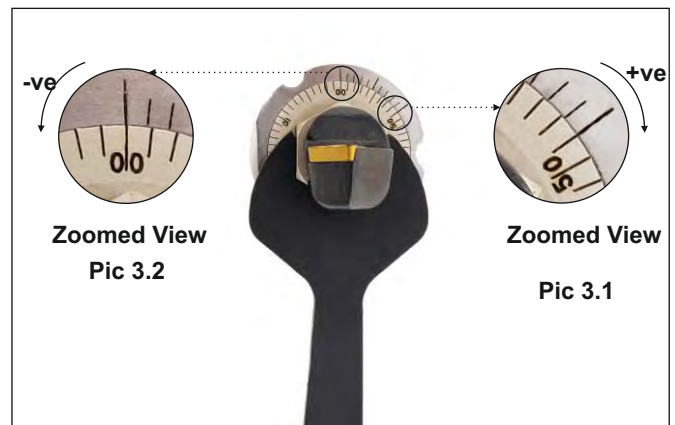
Pic 1

- ▶ Set the required diameter before clamping the tool on the machine, ideally on a tool pre-setter, or else with the help of a precise dial indicator (Pic2). During this setting, ensure that any one scale marking on the MBU inner scale coincides exactly with the extreme end marking on the outer vernier scale. This will automatically match some other inner scale marking with the other extreme end of the outer vernier scale (Pic3). This will help the user to quickly adjust after initial trial of tool.



Pic 2

- ▶ See if the desired results obtained by running the tool on the machine. In case of any deviation in the desired results, kindly use the spanner for adjustment. For increasing the diameter, rotate in clockwise direction and for decreasing, rotate in counter-clockwise direction. The least count of the inner MBU scale is 20microns on diameter (i.e. 10 microns radially). Now use the vernier scale for adjustment. If the diameter reading has to be increased, kindly match the adjacent marking (of left side) with the nearest vernier scale marking. This will result in increase of 2 microns on the diameter (i.e. 1 micron radially) (Pic 3.1 Zoomed). For reduction of diameter, follow the same procedure in the opposite direction (Pic 3.2 Zoomed).



Pic 3

- ▶ Maximum diameter adjustment can be checked from the rear end of the spanner (Pic4). Do not exceed the maximum limit as it may cause permanent damage to the unit.



Pic 4

Precautionary measures while using Micro Bore Units

- ▶ Due to constraints in the assembly tolerances, it is recommended that units, if damaged, are returned to Renuka Tools® for assessment/repair in a controlled environment. Commercial for repair can only be determined after detailed assessment of the damaged unit.
- ▶ Renuka Tools® Micro Bore Unit cannot be adjusted beyond its range and the maximum range can be checked from the thickness of the end portion of the spanner provided along with the unit. Exceeding the range might result in permanent damage to the unit.
- ▶ Kindly change the mounting screws and insert screws ahead in time to avoid accidents.
- ▶ In case of any observed decrease in accuracy over the time of usage, kindly request Renuka Tools® for servicing the unit.



OUR OTHER STANDARD PRODUCTS

ECCENTRIC FINE BORING TOOLS



BCA BORING BARS & FINISH BORING CARTRIDGES



BORING KIT



DUO BORING BARS



OUR OTHER CUSTOMIZED PRODUCTS

COMBINATION BORING BARS ANTI-VIBRATION BORING BARS SPECIAL CARTRIDGES



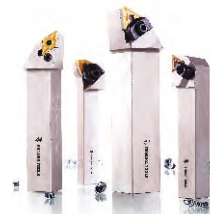
U-DRILLS TREPANNING TOOLS



MILLING CUTTERS



TURNING TOOLS



SPECIAL ADAPTORS



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