



Taiwan Machine Tool

TTB-20MW Series

MULTI-TASKING CNC LATHE



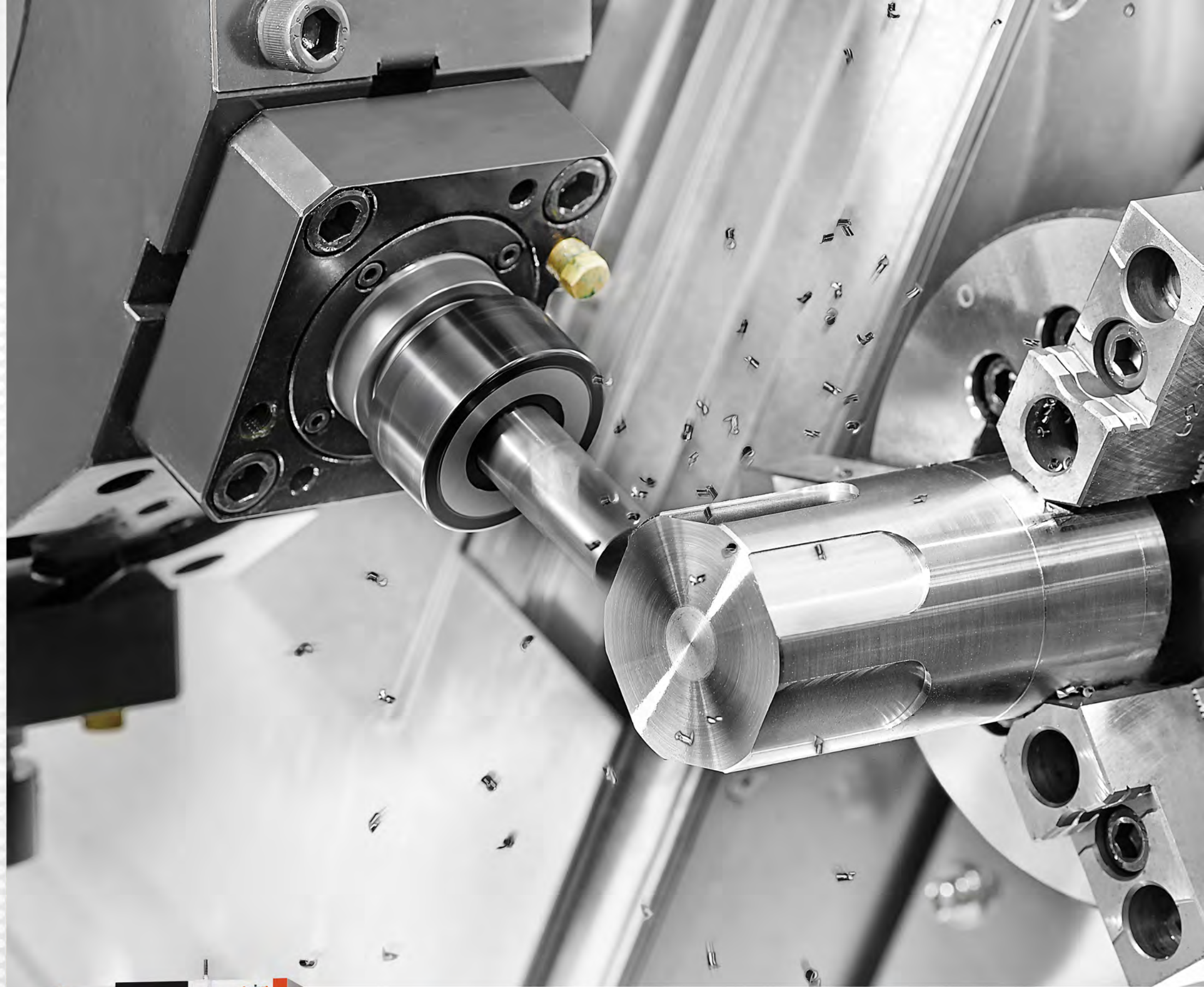
TMT

TTB-20MW Series

MULTI-TASKING CNC LATHE

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TMT highly rigid base structure incorporates higher level of special metal to enhance the dampening and density of its casting, which enforces machine rigidity and stability.



Performance beyond Comparison!

Strong casting and the perfect boxway structure provides excellent cutting capacity for TTB-20MW Series. Sub-spindle with Milling function and Y-axis can satisfy customers' multiple needs.

TTB-20MW Series

MULTI-TASKING CNC LATHE



Chuck Size : 6" / 8" / 10"

Sub-chuck Size : 6" / 8"

Bar Capacity : $\phi 45/\phi 52/\phi 65$ mm

Max. Working Length : 610/600/545mm

Max. Turning Diameter : $\phi 360m/ 300mm$

Main/Sub-Spindle Nose : A2-5/A2-6



- The one piece cast base incorporates FEM analysis to achieve its optimal ribbing and structure to further enhance machine rigidity and stability.
- The 30° slant bed design has low center of gravity for easier swarf management and better ergonomic design. The TTB-20MW Series also offers optional rear type chip conveyor.
- To make sure the usage life of Y-axis ballscrew will get longer, there are three bearings on Y-axis ballscrew to enhance the support for pressure from top.
- The TTB-20MW Series can achieve maximum 20 m/min for X axis and 25m/min for Z axis. And the servo motors adopt absolute encoders for faster and more reliable positioning.



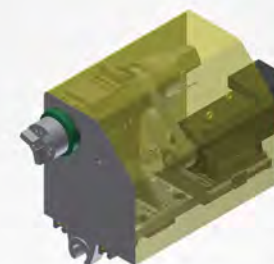
Spindle Head Stock

- The spindle has labyrinths to prevent moisture and dust.
- The spindle is supported by NN double-row bearings combined with thrust ball bearing to reinforce the spindle radial cutting capacity and avoid the belt strength damage bearings.
- The belt adopts V belt to enhance horsepower transmission.



BMT Power Turret

The highly rigid BMT turret has large torque output and stronger tool locking mechanism to handle heavier cutting conditions while improving tool interference. The BMT turret is ideal for heavy turning and milling applications.



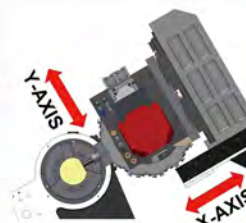
Sub-spindle

One-piece transmission base for sub-spindle, getting rid of the design that sub-spindle motor is fixed on sub-spindle box to strengthen the overall rigidity and increase the maintain convenience. Collocating with power turret can complete a multiple processes in one procedure and upgrade working efficiency!



Widen Boxways

Increase bed track thickness about 30% which upgrades the machining affordability and transmissibility.



True Y axis

The true linear Y-axis can make operation more easily. Compare to fake Y-axis, it can provide great straightness, and also ensure excellent positioning accuracy. To satisfy high precision cutting needs.



Inverter Hydraulic Unit

To install inverter hydraulic unit can save more than 35% power consumption. It not only can achieve environmental protection, but also can save much production cost!

Diverse Optional Devices for Enhanced Performance!

Variations Functions/ Improved Maintainability



Load Monitor Function

FANUC control system: Extra load monitor function to control tooling working to axial loading value, which can notice tool consumption in advance and reduce loss rate of production efficiently.



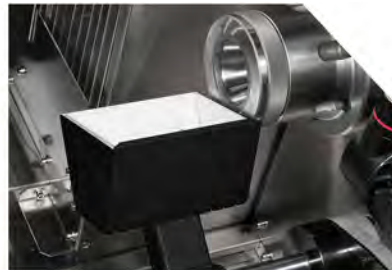
Manual/ Auto Tool Presetter

The tool presetter shortens tool set up time and can easily measure tool wear to ensure machining accuracy.



Workpiece Pusher Device

Push out workpiece from sub-spindle automatically can not only save the time for taking out workpiece with manpower, but also increase working efficiency.



Parts Catcher

The parts catcher is a synchronized design for quick collection of finished products



Product Conveyor

The product conveyor is combined with the barfeeder, which allows the machine to perform fully automatic operations.

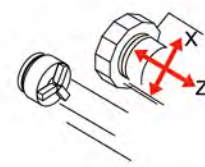


Barfeeder

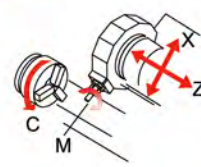
Automatic feeding system can replace traditional artificial operating, substantial saving labor requirement.

Variations Functions

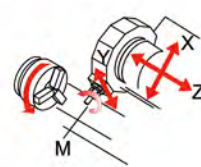
2-Axis Turning



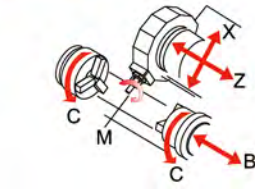
M Milling Function



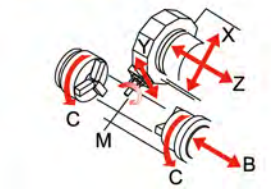
Y Y-Axis Function



MW Sub-Spindle + Milling Function



MYW Sub-Spindle + Milling + Y-Axis Function



Upright Control Panel

The ergonomical control panel can be swiveled 90° for easier operator access.



Front Discharge Coolant Tank (Side type chip conveyor)

Coolant tank can be removed in the front for simple access to clean and maintain.



Lubrication Unit

To make the daily maintenance easier, we put the lubrication unit at right side of machine without cover.



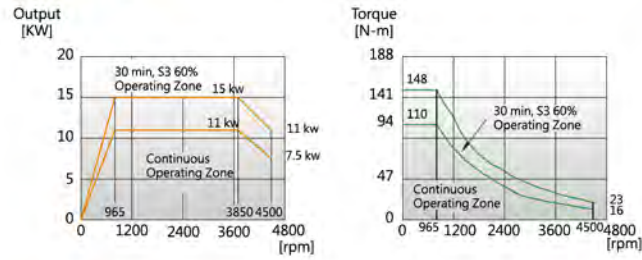
Hydraulic Unit

Gather up hydraulic units at the rear side for easy access on daily maintenance.

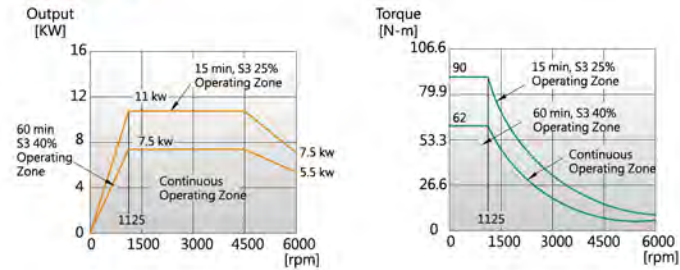
Spindle Power Output/ Torque Diagram Travel Diagram

Spindle Power Output / Torque Diagram

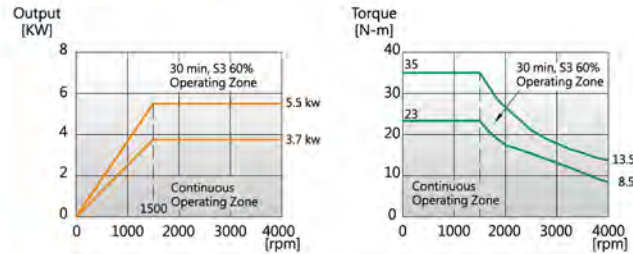
Main Spindle
α12/7000i



Sub-Spindle
α8/8000i

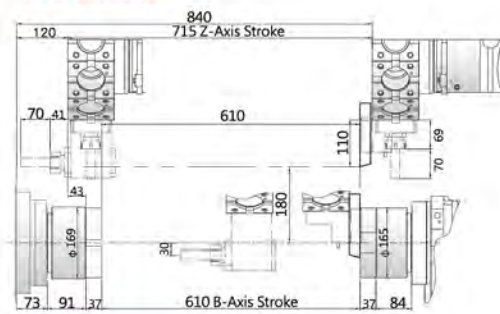


Power Turret Motor
α3/10000i

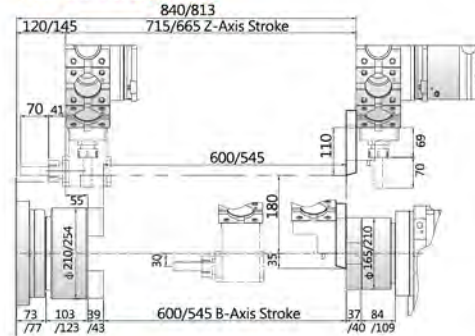


Travel Diagram

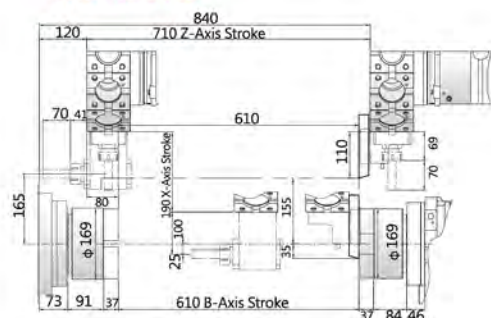
TTB-15AMW



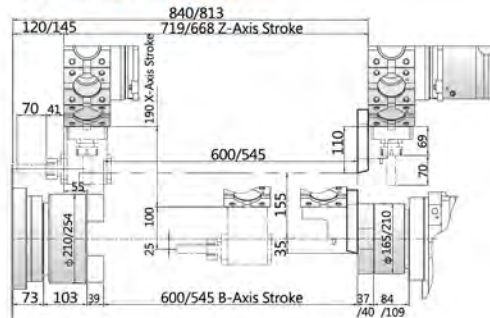
TTB-20AMW/BMW



TTB-15AMYW



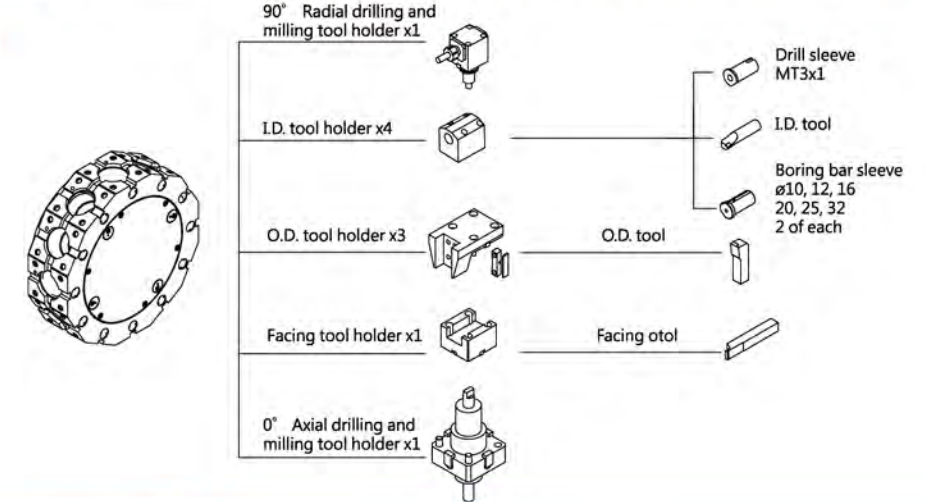
TTB-20AMYW/BMYW



Tooling System Tool Interference Diagram Dimensional Drawing

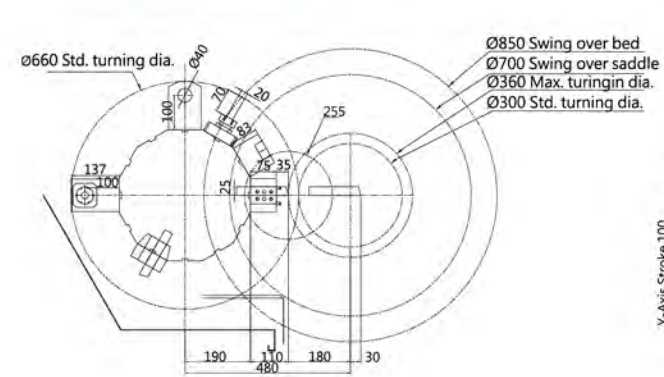
Tooling System

Power Turret BMT-65

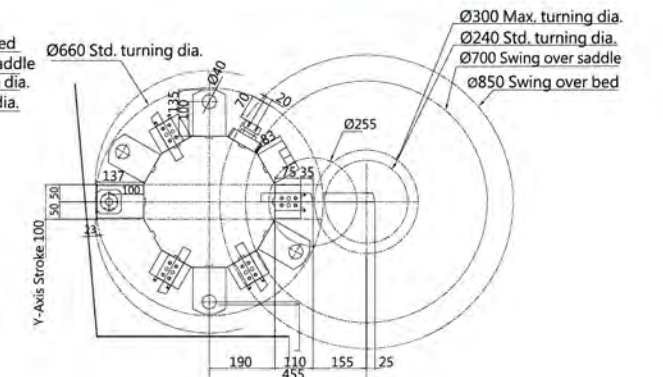


Tool Interference Diagram

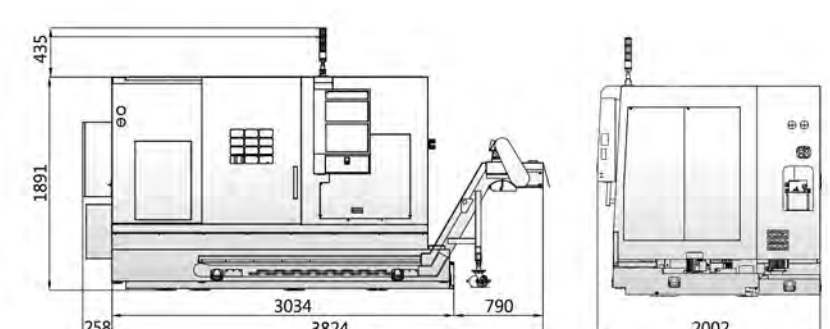
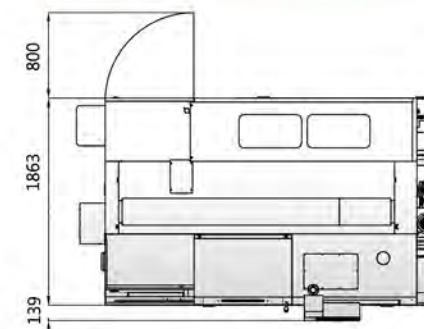
TTB-15AMW/20AMW/20BMW



TTB-15AMYW/20AMYW/20BMYW



Dimensional Drawing



Machine Specification

Description	Unit	TTB-20 Series			TTB-15 Series		
		AMW	BMW	AMYW	AMW	BMW	AMYW
HEADSTOCK TYPE		AMW	AMW	BMW	AMYW	AMYW	AMYW
CONTROLLER		0i-TF			0i-TF		
CAPACITY							
Swing over bed	mm	φ850			φ850		
Swing over saddle	mm	φ700			φ700		
Max. turning diameter	mm	φ360			φ300		
Max. working length	mm	610	600	545	610	600	545
Distance between centers	mm	610	600	545	610	600	545
Bar capacity	mm	φ45/φ45	φ52/φ45	φ65/φ45	φ45/φ45	φ52/φ45	φ65/φ45
Chuck size	inch	6"/6"	8"/6"	10"/8"	6"/6"	8"/6"	10"/8"
STROKE							
X-axis stroke	mm	180+30			155+25		
Y-axis stroke	mm	-			±50		
Z-axis stroke	mm	715	715	665	715	715	665
B-axis stroke	mm	610	600	545	610	600	545
FEEDRATE							
Axial rapid feedrate	m/min	X:20, Z:25, B:10			X:20, Y:10, Z:25, B:10		
Cutting feedrate	mm/min	10000			10000		
SPINDLE							
Spindle speed	rpm	5500	4200	3500	5500	4200	3500
Spindle nose	-	A2-5	A2-6	A2-6	A2-5	A2-6	A2-6
Spindle taper	-	1/20	1/20	1/20	1/20	1/20	1/20
Spindle bore diameter	mm	φ55	φ66	φ79	φ55	φ66	φ79
SUB-SPINDLE							
Sub-spindle speed	rpm	5500		4800	5500		4800
Sub-spindle nose	-	A2-5			A2-5		
Sub-spindle taper	-	1/20			1/20		
Sub-spindle bore diameter	mm	φ55			φ55		
TURRET							
Turret type and storage capacity	-	BMT-65			BMT-65		
Square tool dimension	mm	25x25			25x25		
Boring tool dimension	mm	φ40			φ40		
Tool indexing time (T to T)	sec	0.34/0.73			0.34/0.73		
M-axis tool speed	rpm	4000			4000		
M-axis tool motor output (cont./15 min)	KW (HP)	3.7/5.5 (5/7.4)			3.7/5.5 (5/7.4)		
MOTOR							
Spindle motor output (cont./30 min)	KW (HP)	11/15 (14.7/20.1)			11/15 (14.7/20.1)		
Sub-spindle motor output (cont./30 min)	KW (HP)	7.5/11 (10/14.7)			7.5/11 (10/14.7)		
Axial servo motor	KW (HP)	3/3/3 (4/4/4)			3/3/3 (4/4/4)		
X/Z AXIS ACCURACY							
Positioning accuracy (VDI 3441)	mm	0.01			0.01		
Repeatability accuracy (VDI 3441)	mm	0.006			0.006		
HYDRAULIC SYSTEM							
Hydraulic pump motor output	KW (HP)	2.2 (3)			2.2 (3)		
Hydraulic pressure	kgf/cm2 (PSI)	50			50		
Hydraulic tank capacity	L	40			40		
COOLANT TANK							
Coolant motor output	KW (HP)	0.75 (1)			0.75 (1)		
Coolant tank capacity	L	120			120		
Lub. tank capacity	L	3			3		
OTHER							
Power requirements	KVA	45			50		
Machine size	mm	3286x1891x2002			3286x1891x2002		
Machine weight	kg	5800	5900	6000	5900	6000	6100

• Please note that the bar capacity of Sub-spindle is only for optional hollow hydraulic chuck.
 • All specifications, dimensions and design characteristics are subject to change without prior notice.

Standard and Optional Accessories

● Standard ○ Option × Not Available

Description	Unit	TTB-20 Series			TTB-15 Series		
		AMW	BMW	AMYW	AMW	BMW	AMYW
SPINDLE MOTOR							
11/15 kw (Cont./30 min.)		●	●	●	●	●	●
SUB-SPINDLE MOTOR							
7.5/11 kw(Cont./30 min.)		●	●	●	●	●	●
TURRET							
Power Turret	BMT-65	●	●	●	●	●	●
SLEEVE							
Sleeve Specification		E40	E40	E40	E40	E40	E40
Boring Bar Sleeve	φ6	○	○	○	○	○	○
	φ8	○	○	○	○	○	○
	φ10	2	2	2	2	2	2
	φ12	2	2	2	2	2	2
	φ16	2	2	2	2	2	2
	φ20	2	2	2	2	2	2
Drill Sleeve	φ25	2	2	2	2	2	2
	φ12	2	2	2	2	2	2
	MT1	○	○	○	○	○	○
	MT2	1	1	1	1	1	1
TOOL HOLDER							
O.D. tool holder		3	3	3	3	3	3
Facing tool holder		1	1	1	1	1	1
I.D. tool holder		4	4	4	4	4	4
0° Axial drilling and milling tool holder		1	1	1	1	1	1
90° Radial drilling and milling tool holder		1	1	1	1	1	1
SPINDLE CHUCK							
Collect Chuck		○	○	○	○	○	○
Hollow Hydraulic 3-Jaw Chuck	6"	●	×	×	●	×	×
	8"	○	●	×	○	●	×
	10"	×	○	●	×	○	●
Hard Jaw(3 pcs/set)		1	1	1	1	1	1
Soft Jaw(3 pcs/set)		1	1	1	1	1	1
Foot switch control for chuck		●	●	●	●	●	●
SUB-SPINDLE CHUCK							
Collect Chuck		○	○	○	○	○	○
Solid Hydraulic 3-Jaw Chuck	6"	●	●	○	●	●	○
	8"	×	○	●	×	○	●
Hollow Hydraulic 3-Jaw Chuck	6"	○	○	○	○	○	○
	8"	×	○	○	×	○	○
Hard Jaw(3 pcs/set)		1	1	1	1	1	1
Soft Jaw(3 pcs/set)		1	1	1	1	1	1
Foot switch control for chuck		●	●	●	●	●	●
CONTROLLER FUNCTION							
FANUC 0i-TF		●	●	●	●	●	●
Manual Guide Di		●	●	●	●	●	●
Auto Power Off (M30)		●	●	●	●	●	●
Bar Feeder Interface		○	○	○	○	○	○
Dynamic Graph Simulation		●	●	●	●	●	●
Rigid Tapping		●	●	●	●	●	●
RS-232 Interface		●	●	●	●	●	●
PCMCIA Interface		●	●	●	●	●	●
Ethernet		●	●	●	●	●	●
USB Interface		●	●	●	●	●	●
MACHINE ACCESSORIES							
Manual/Auto Tool Presetter		○	○	○	○	○	○
Leveling Set Screws & Pads		8	8	8	8	8	8
Side Discharge Chip Conveyor & Chip Cart		●	●	●	●	●	●
Product Conveyor		○	○	○	○	○	○
Parts Catcher		○	○	○	○	○	○
Air Conditioner		●	●	●	●	●	●
Oil Skimmer		○	○	○	○	○	○
Oil Mist Collector		○	○	○	○	○	○
Bar Feeder		○	○	○	○	○	○
Front Air Blast		○	○	○	○	○	○
Tool Box & Service Tools		●	●	●	●	●	●
Operation/ Maintenance Manual		●	●	●	●	●	●
Coolant System		●	●	●	●	●	●
Automatic Lubrication System		●	●	●	●	●	●
3 Color Warning Lamp		●	●	●	●	●	●
Working Lamp		●	●	●	●	●	●
Transformer/Voltage Stabilizer		○	○	○	○	○	○

• Standard and optional equipments listed as above are for reference only.
 The correct information is dependent on customer's order.



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