

## WTS-52Y2M / WTS-65Y2M

TURRET TYPE TURN & MILL CENTER

Solve your machining space arrangement problem.

- + E Axis shifting function
- + Fixed Tailstock



**Machinery**

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# Process The Workpiece in Various Ways

The WTS is possible to machining complex workpiece in one setup and saves production time through all many sorts of tools with different permutation and combination.



Y-axes settle on both upper and lower turret with sub spindle E axis shifting function, dramatic increase workspace, allows to do flexible process between spindles whether front or back machining.

- + Double X-Y-Z axis
- + Double built-in spindle
- + Upper and lower turret
- + 32-positions live tools
- + E axis shifting function
- + 45° Slant bed design
- + Roller type linear guides on axes

## Applications

- + Automotive, motorcycle and bicycle parts
- + Electronic and electrical parts
- + Instrument parts
- + Pneumatic and hydraulic parts
- + Sanitary and toilet wares
- + Hardware accessories



### WTS-52Y2M

- + Built-in Spindles: 2
- + Power Turrets: 2
- + Y Axes: 2
- + C Axes: 2
- + Number of Live Tool: 32
- + Max. Cutting Length: 500mm
- + Max. Cutting Dia.:  $\varnothing 320\text{mm}$
- + Max. Bar Feeding Dia.:  $\varnothing 51\text{mm}$
- + Fixed Tailstock: Yes



$\varnothing 45 \times 400\text{ mm}$



$\varnothing 50 \times 500\text{ mm}$



### WTS-65Y2M

- + Built-in Spindles: 2
- + Power Turrets: 2
- + Y Axes: 2
- + C Axes: 2
- + Number of Live Tool: 32
- + Max. Cutting Length: 500mm
- + Max. Cutting Dia.:  $\varnothing 320\text{mm}$
- + Max. Bar Feeding Dia.:  $\varnothing 65\text{mm}$
- + Fixed Tailstock: No



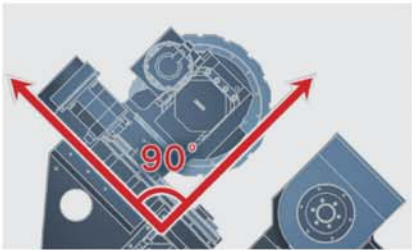
$103^{(L)} \times 74.50^{(W)}\text{ mm}$



$\varnothing 84 \times 210\text{ mm}$

## Slant Bed with 90° Angle Turret Design

The special structure design of the WTS uses a rigid 90° angle for the turret carriage, increasing stability and providing excellent cutting waste removal. This also allows you to use a simpler controller specification, reducing programming complexity.



## Built-in Spindles

The built-in spindle of the WTS is mounted with the rotor and stator of Fanuc / Mitsubishi, it has the powerful cutting capability and high-resolution magnetic ring encoder to provide C-axis high-precision contour machining.

Built-in spindles equipped with chiller device, keep low thermal growth and low thermal expansion.



## E Axis Shifting for 2 Separate Work Areas

E axis shifting function allows the sub spindle to move up and down leads to misalignment to the main spindle, provides the independent working areas for sub spindle to reduce workspace interference, efficiency to process turning, milling, drilling, and back machining.



## Air Purge and Air Dryer System

Air Purge offers protection to prevent coolant from entering spindle bearing during machining.

Air Dryer System drains the moisture in the air, prevents the main component from rusting and strengthens the efficiency of the oil mist lubrication system.

## Finish Parts Catcher & Conveyor

The part catcher can collect the part.

- + Diameter <  $\phi 65\text{mm}$
- + Length < 120mm
- + Weight < 4.5kg

## Flexible Application of Turrets

- + *BMT-55 Tooling System*
- + *Versatility Tooling Arrangement*
- + *Efficient Chiller System*

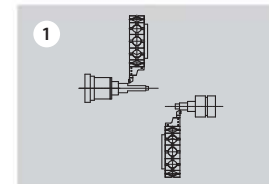
Both of 16-station power turrets are available to be equipped of BMT55 tooling system. The turret used 3 piece curvic coupling to keep high accuracy in long term using.

The turrets are equipped integrated oil mist lubrication system, constantly renew the oil that prevents heating issues and regularly cleaned and refilled.

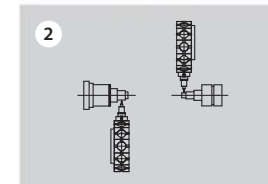
- + 32 Live Tooling Positions
- + Mitsubishi Live Tooling Motor: 3.7/5.5 kW
- + Fanuc Live Tooling Motor: 4.7 kW



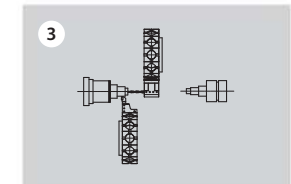
## Simultaneous Machining Modes



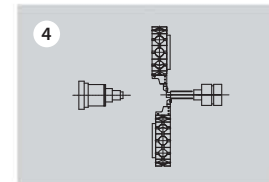
- + **Individual O.D. turning**  
T1 working on S1 and T2 working on S2.



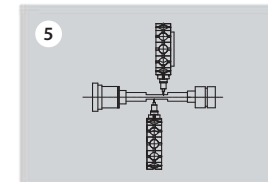
- + **Individual milling**  
T2 working on S1 and T1 working on S2.



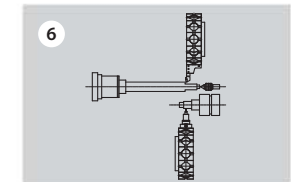
- + **Simultaneous turning and drilling**  
Both of turrets are working on S1.



- + **Simultaneous O.D. turning**  
Both of turrets are working on S2 for back machining.



- + **Simultaneous milling with upper and lower turret**  
Spindles are clamping the same part, and the turrets are simultaneous milling on it.



- + **Individual O.D. turning with fixed tailstock and back machining**  
Sub spindle shifting for independent machining area.

# Keep the Longer Workpiece Dynamic Balance

WTS-52Y2M can install fixed tailstock above the sub spindle when using collet, it allows to keep the longer workpiece dynamic balance with the main spindle and improves precision during machining.

When using the fixed tailstock to keep the workpiece, E-axis allow to shift sub spindle to simultaneous working with the lower turret to handle another workpiece for backside machining.

## Fixed Tailstock

- + Quill Travel: 500 mm
- + Quill Tapper: MT-04



### S1

- + Chuck Size: 6"
- + Collet Size: TRB-52
- + Max. Spindle Speed: 6,000 rpm
- + Spindle Motor: 7.5/11 kW (Mitsubishi), 13/15 kW (Fanuc)

### T1+T2

- + Live Tooling Speed: 60~6000 min<sup>-1</sup>
- + Live Tooling Motor: 3.7/5.5 kW (Mitsubishi), 4.7kW (Fanuc)

### S2

- + Chuck Size: 6"
- + Collet Size: TRB-52
- + Max. Spindle Speed: 6,000 rpm
- + Spindle Motor: 7.5/11 kW (Mitsubishi), 13/15 kW (Fanuc)

# Optimize Your Production Process

WTS-65Y2M bar capacity up to ø65mm, also the A2-6 spindle nose can install larger size chuck and the spindle motors upgrade to higher torque and bigger power.

WTS-65Y2M enables stable and flexible machining operations. It omits for a secondary process and without the need to replace the machine of machining, does optimize your production process.

### S1

- + Chuck Size: 8"
- + Collet Size: BA 70
- + Max. Spindle Speed: 4,000 rpm
- + Spindle Motor: 7.5/11 kW (Mitsubishi), 18/22 kW (Fanuc)

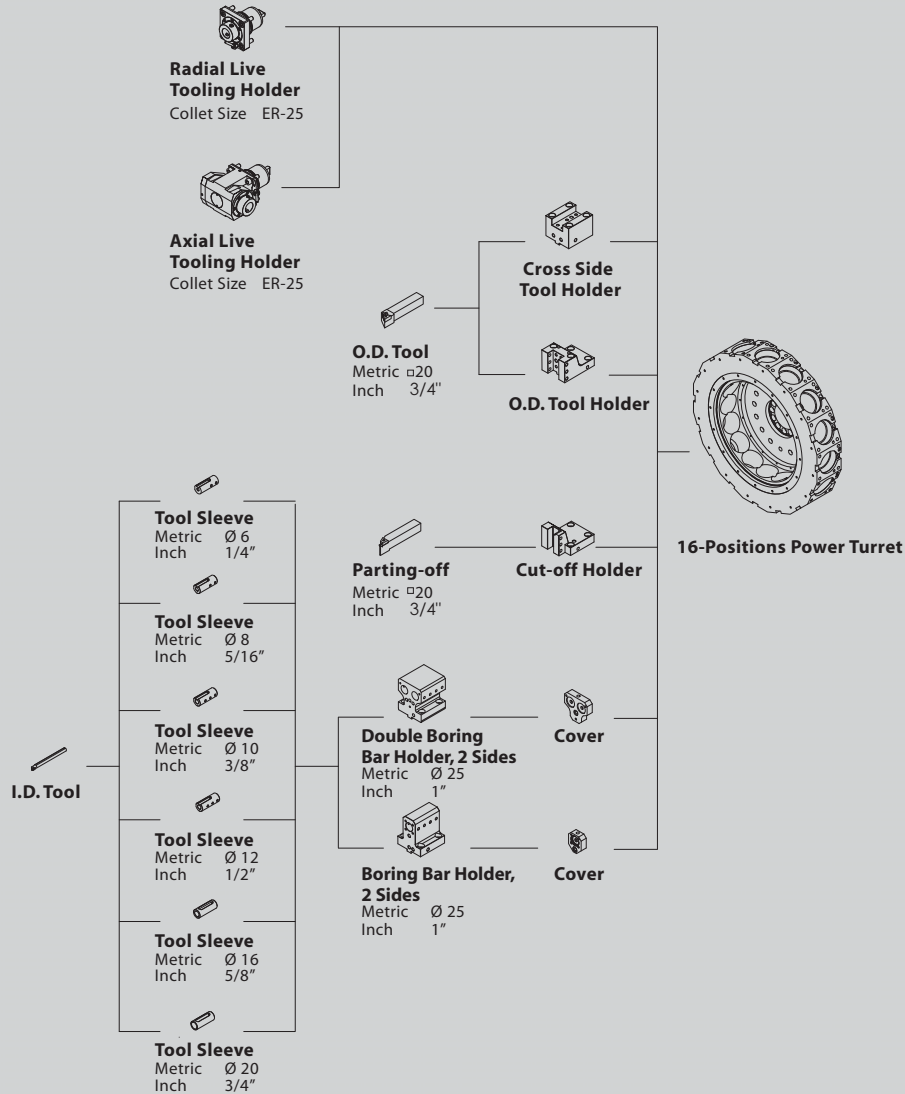
### T1+T2

- + Live Tooling Speed: 60~6000 min<sup>-1</sup>
- + Live Tooling Motor: 3.7/5.5 kW (Mitsubishi), 4.7kW (Fanuc)

### S2

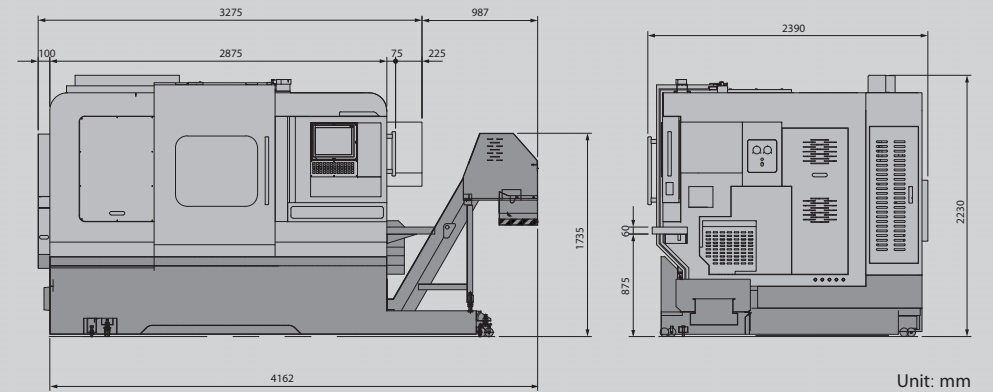
- + Chuck Size: 8"
- + Collet Size: BA 70
- + Max. Spindle Speed: 4,000 rpm
- + Spindle Motor: 7.5/11 kW (Mitsubishi), 18/22 kW (Fanuc)

# BMT-55 Tool Holder System

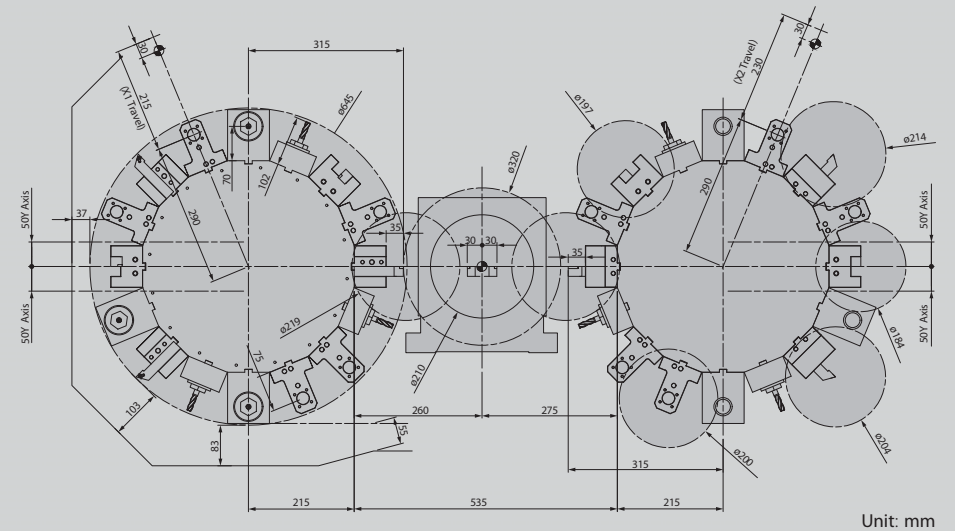


# WTS-52Y2M / WTS-65Y2M

## Machine Dimensions

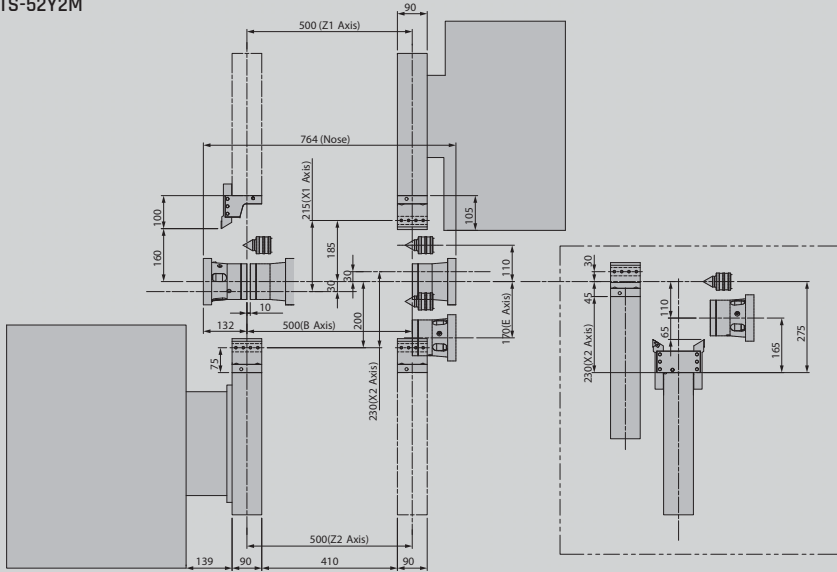


## Tool Interference Diagram

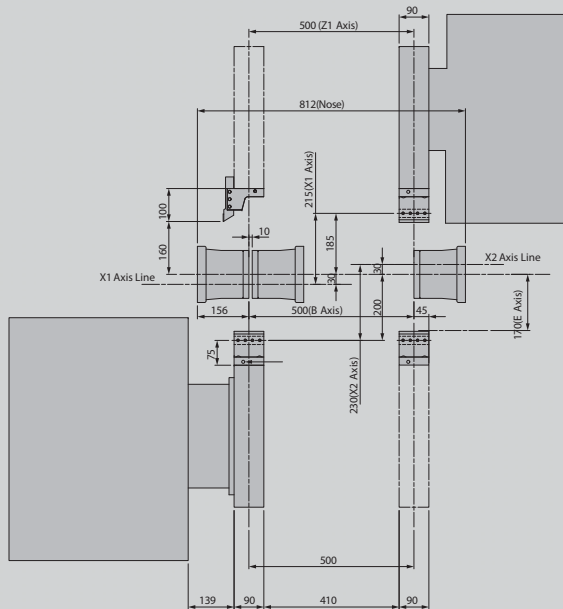


## Axes Travel Diagram

+ WTS-52Y2M



+ WTS-65Y2M



## Machine Specifications

	WTS-52Y2M	WTS-65Y2M
<b>Capacity</b>		
Controller	Mitsubishi / Fanuc	Mitsubishi / Fanuc
Standard cutting dia.	Ø210 mm	Ø210 mm
Max. cutting dia.	Ø320 mm	Ø320 mm
Max. cutting length	500 mm	500 mm
Swing over bed dia.	Ø780 mm	Ø780 mm
Distance between 2 center spindle nose	764 mm	812 mm
<b>Axes Specification</b>		
X1/X2-axes travel	215 / 230 mm	215 / 230 mm
Z1/Z2-axes travel	500 / 500 mm	500 / 500 mm
Y1/Y2-axes travel	± 50 / ± 50 mm	± 50 / ± 50 mm
X/Y/Z-axes motor	M:2.2 kW, F:2.7 kW	M:2.2 kW, F:2.7 kW
X/Y/Z-axes rapid traverse	16 / 6 / 40 m/min	16 / 6 / 40 m/min
B-axis travel	500 mm	500 mm
B-axis rapid traverse	40 m/min	40 m/min
E-axis travel	170 mm	170 mm
E-axis motor	M:2.2 kW, F:2.7 kW	M:2.2 kW, F:2.7 kW
E-axis rapid traverse	6 m/min	6 m/min
Min. input unit	0.001 mm	0.001 mm
<b>Spindle</b>		
Spindle bore	Ø60.5 mm	Ø86 mm
Max. bar feeding dia.	Ø51 mm	Ø65 mm
Spindle motor	M:7.5 / 11 kW, F:13 / 15 kW	M:7.5 / 11 kW, F:18 / 22 kW
Max. spindle speed	6000 rpm	4000 rpm
Spindle nose	A2-5	A2-6
Chuck size	6"	8"
Center height	1180 mm	1180 mm
<b>Sub Spindle</b>		
Sub spindle bore	Ø60.5 mm	Ø86 mm
Max. bar feeding dia.	Ø51 mm	Ø65 mm
Sub spindle motor	M:7.5 / 11 kW, F:13 / 15 kW	M:7.5 / 11 kW, F:18 / 22 kW
Max. sub spindle speed	6000 rpm	4000 rpm
Sub spindle nose	A2-5	A2-6
Chuck size	6"	8"
<b>L,R,C-axes</b>		
Min. moving unit	0.001 mm	0.001 mm
C-axis rapid traverse	600 min <sup>-1</sup>	600 min <sup>-1</sup>
<b>Live Tooling Turret</b>		
Rotating mode	Single tool transmission	Single tool transmission
Tool holder & Tool size	BMT55	BMT55
Live tooling motor	M:3.7 / 5.5 kW, F:4.7 kW	M:3.7 / 5.5 kW, F:4.7 kW
Live tooling speed	60~6000 min <sup>-1</sup>	60~6000 min <sup>-1</sup>
Collet size	ERØ25A	ERØ25A
O.D. turning tool size	□ 20 mm	□ 20 mm
I.D. turning tool size	Ø 25 mm	Ø 25 mm
<b>Tail Stock</b>		
Quill travel	500 mm	-
Quill taper	MT 04	-
<b>Hydraulic &amp; Coolant</b>		
Hydraulic motor	3 HP / 2.2 kW *2	3 HP / 2.2 kW *2
Spindle coolant pump	1.57 HP / 1.17 kW / 60 HZ	1.57 HP / 1.17 kW / 60 HZ
Turret coolant pump	1.57 HP / 1.17 kW / 60 HZ	1.57 HP / 1.17 kW / 60 HZ
Chip flush pump	1.57 HP / 1.17 kW / 60 HZ	1.57 HP / 1.17 kW / 60 HZ
Sub spindle internal coolant pump	1.57 HP / 1.17 kW / 60 HZ	1.57 HP / 1.17 kW / 60 HZ
<b>Tank Capacity</b>		
Hydraulic tank	65 L	65 L
Coolant tank	440 L	440 L
<b>Lubrication Capacity</b>		
Lubrication tank	4 L	4 L
Oil mist tank	0.7 L	0.7 L
<b>Machine</b>		
Power	M:81 kVA, F:91 kVA	M:81 kVA, F:96 kVA
Machine size (LxWxH) (includes chip conveyor)	4262 x 2390 x 2230 mm	4262 x 2390 x 2230 mm
Machine N.W. (includes chip conveyor)	10500 kg	10500 kg

## Standard Accessories

- + Tool Kit
- + Collet Chuck Device
- + Auto Bar Feeder Interface
- + Finished Parts Gripper & Conveyor
- + Auto Power Breaker
- + Hydraulic Cylinder Stroke
- + Air Blowing Device
- + Air Conditioner for Electrical Cabinet
- + Steel Belt Chip Conveyor
- + Spindle Chiller Device
- + Cutting Fluid Pump
- + Cutting Fluid Inspection Device

## Optional Accessories

- + 6" / 8" Hydraulic Chuck
- + Axial and Radial Live Tool Holder
- + Voltage Stabilizer / Transformer
- + 15-bar High Pressure Coolant Device with Filter
- + Bar Feeder
- + Gantry Type System
- + Automatic Door Device