

LEADWELL
LEADWELL CNC MACHINES MFG.,CORP.

TW-8 Series

*TWIN SPINDLE &
TURRET TURNING CENTER*

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※ All performance are based on 220V/3PH/60HZ. Specification are subject to change without notice.



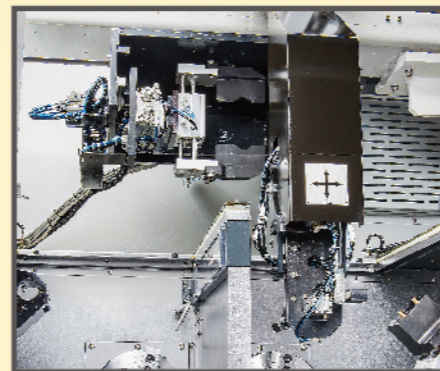
MACHINE ADVANTAGE



8" INCH CHUCK 2 SPINDLE & 2 TURRET LATHE

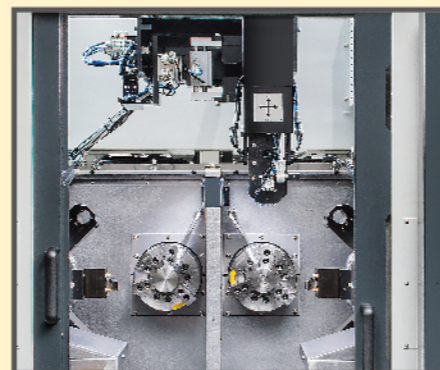
► Short Loading Time

TW-8 Series is integrated with 2 axis robot arms, along with the extra sized racks. This has increased both the travelling speed and the rigidity. The quickest loading time is now 12 secs only. The workpiece turning system is modified and improved. Now it only requires to turn the workpiece once before loading it back onto the spindle again. The change in between two spindles is within 23 secs. With the integration of the robot arms and the upgrade of the automatic door, the door open/close time is now controlled under 1.1 sec.



► The 8 Inch Chuck - In Pursue Of Cutting And Accurate Supremacy.

The spindle has a built-in $\phi 100$ NN double rows roller bearing with a 11/7.5kw α motor. This reinforce the cutting ability of the spindle. The new machine bed design has significantly reduced the vibration thus improves the accuracy. The stability of the accuracy is also prolonged and enhanced through the spindle internal cooling system.



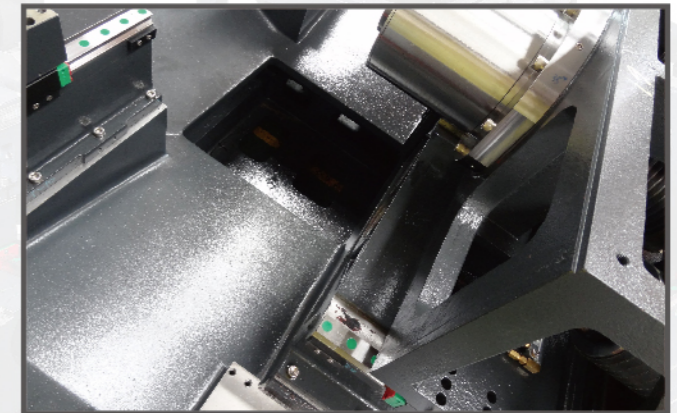
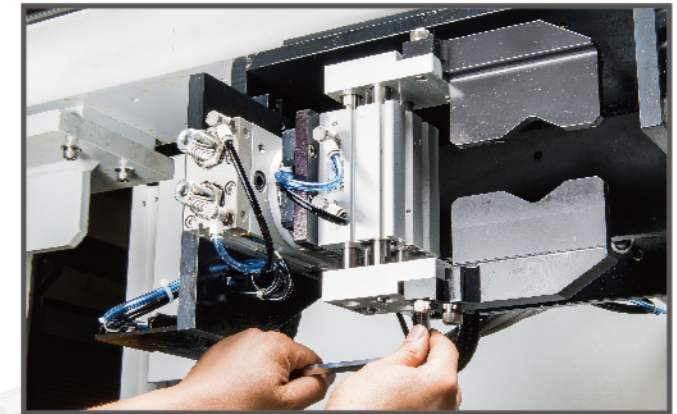
MACHINE FEATURES

► Low Centre Of Gravity/Space Saving/Ergonomic Design

The axes travel: X axis is 155mm, Z axis is 165mm, the height of the spindle from the ground is 1000mm, with the machine width of 2220mm. Even with the installation of robot arms, the front width is only 3012mm. The low centre of gravity design is based on the ergonomic factor for the operator to change the spindle chuck if needed. The workpiece turning device provides the easiness for the changeover operation. The multiple type of the robot arms will be able to satisfy the different demands of the client.

► Better Maintainability

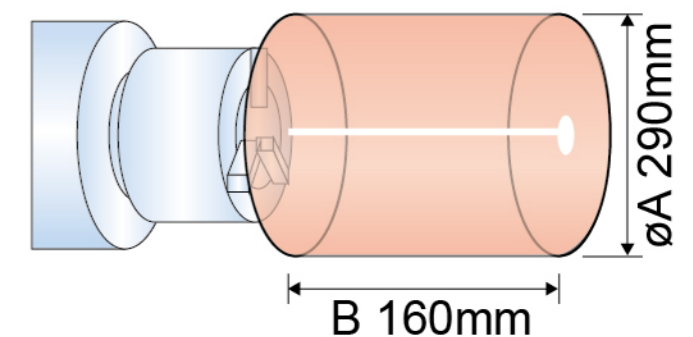
The chip conveyor is located right under the spindle, and this will improve the chip disposal ability. The coolant tank is placed at the rear and able to move for the convenient cleaning purpose. Also, to ensure the rear side can be maintain easily, the rear cover can be opened with the all tubes located at the side.



- Chips can fall directly into the water tank
- Rear chip conveyor allows the side-to-side machine set up.

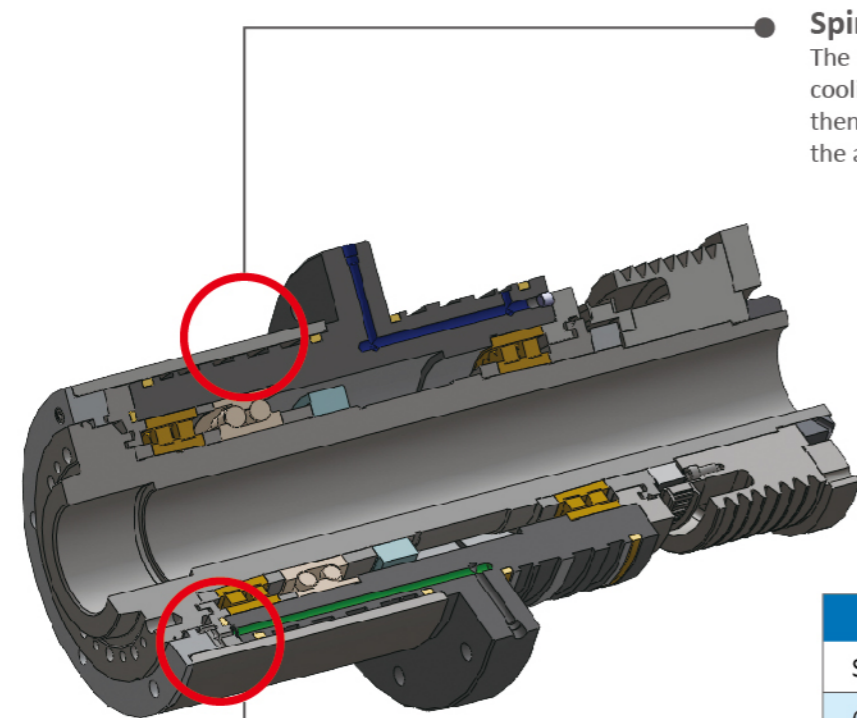
MACHINE DIMENSION

Model	TW-8/TW-8M
Max. swing	$\phi 290$ mm
Max. turning diameter	$\phi 290$ mm
Max. turning length	160mm
Max. workpiece weight	5kg



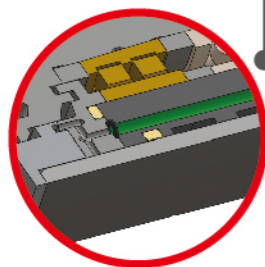
- Left and Right side have the same working capacity.

MAIN SPINDLE



Spindle Water Cooler
The integration of spindle external water cooling system reduces the heat expansion, then to prolong the spindle life and to stable the accuracy after long machining time.

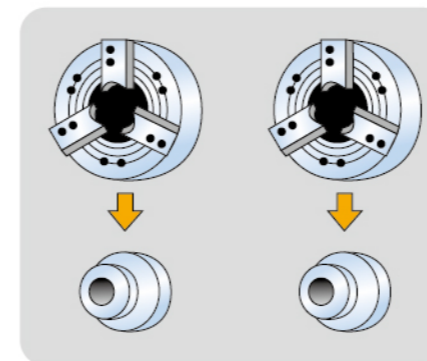
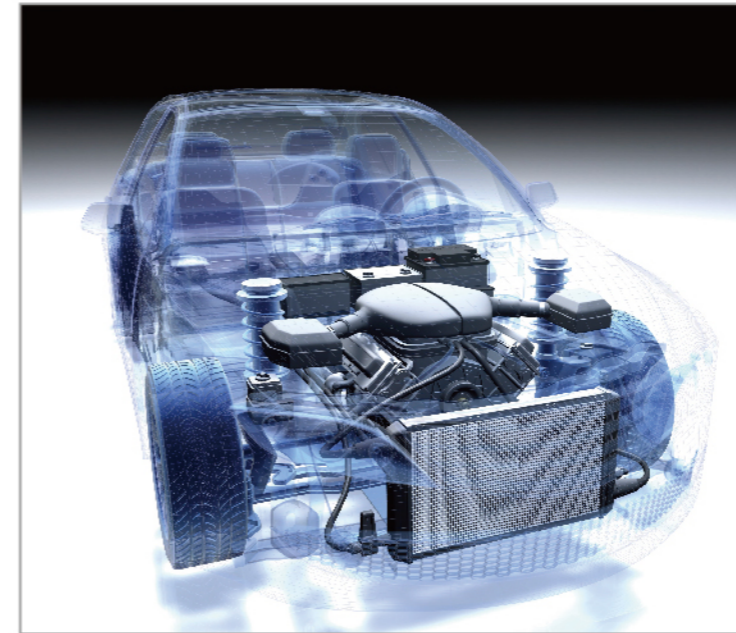
Model	TW-8/TW-8M
Spindle bearing inner diameter	61
Chuck size	8"
Max. spindle speed	4,500rpm
Spindle motor	11kw
Output power	108.6 N.m



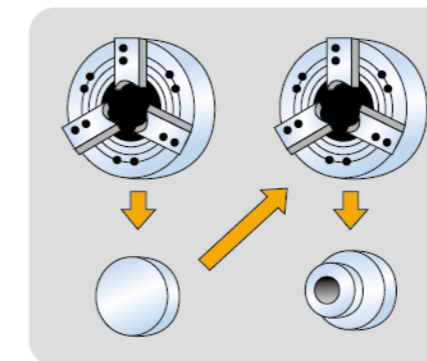
Spindle Air Purge
The tip of the spindle has a unique maze design with positive pressure air purge (1.5bar) to prevent the leakage of coolant into the spindle.

Main spindle is supported by high precision bearing combination with large diameter. All spindle bearing are lubricated by grease.

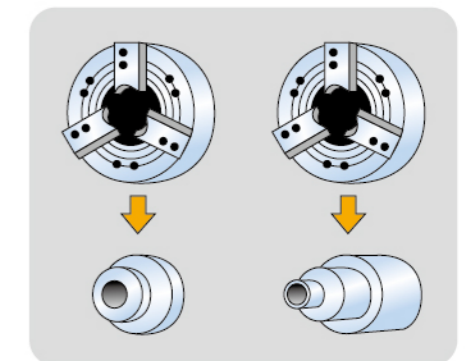
MACHINE APPLICATION



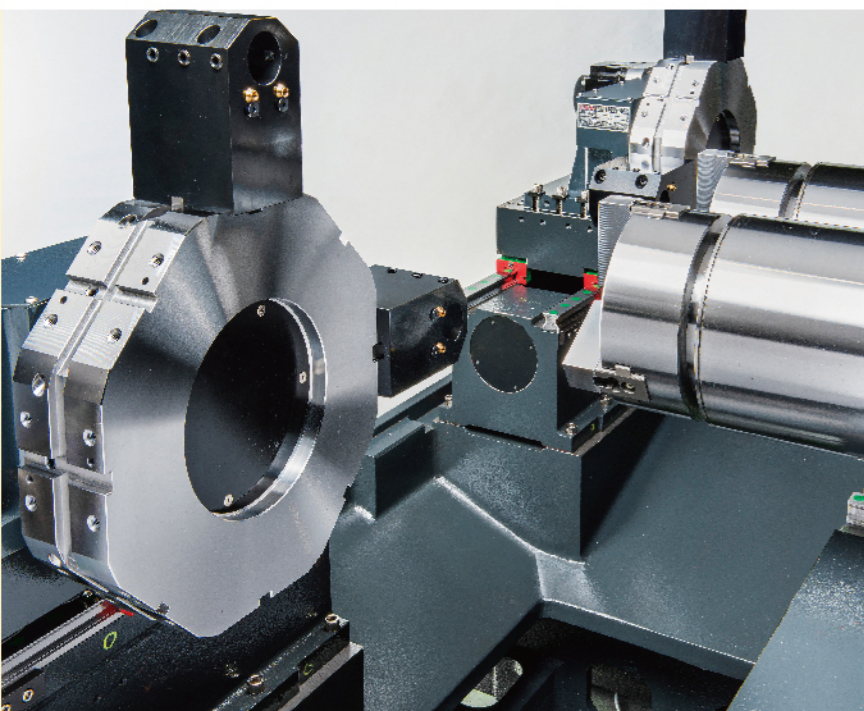
• Turning identical parts on both spindles



• First step on left spindle & second step on right spindle



• Turning different parts on spindle



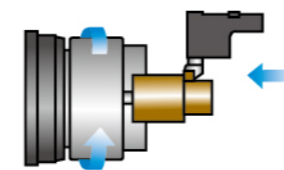
TURRET BMT 55

The heavy duty design provides unsurpassed rigidity for heavy stock removal, fine surface finishes. Turning tools are securely attached to the turret by wedge clamps.

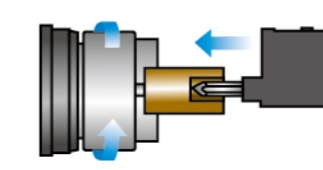
Turret indexing time (adjacent tool) : 1.1 sec
Turret indexing (180 dge) : 1.6 sec

The benefits of servo turret are high speed, high accuracy, and easy to maintain. The tooling system is BMT55 that is easy to obtain the tool holder, and commonly accepted by the others.

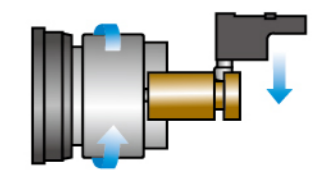
CUTTING TEST RESULTS



O.D.Turning	
Removal Rate	277c.c/min
Depth of Cut	4mm
Spindle Speed	970rpm
Feed Rate	0.3mm/rev
Cutting Velocity	243m/min



U Drill	
Removal Rate	250c.c/min
Drilling Diameter	30mm
Spindle Speed	1200rpm
Feed Rate	0.3mm/rev
Cutting Velocity	115m/min



Grooving	
Removal Rate	162c.c/min
Cutting Width	3mm
Feed per Revolution	0.3mm
Cutting Velocity	180m/min

GANTRY LOADER APPLICATION

From transmissions to components which have different shape, size and capacity are capable to be manufactured by Gantry Robot System.

► IN/OUT Stoker (optional)

Model	Workpiece Size	Load Capacity/ Pallet	Space Occupied
WF02-150E(10~16P)	Φ20~150mm	45kg/Pallet	450x2000x1350

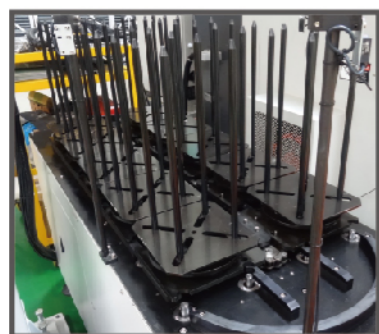
► Gantry Robot (standard)

Components		Unit	TW-8
Full Body	Workpiece Diameters	Max. Diameter	mm
		Max payload (Single Side)	kg
		Length	mm
Robot Arm Body	Shoulder (Travel Axis: Z)	Servo	-
		Feed Rate	m/min
	Arm (Up/down axis: Y)	Servo	-
		Feed Rate	m/min
Wrist Turning Diameter	Servo	-	
	Angle	Degree	
	Wrist Style	-	
	Claws	Servo	-
Linear Actuator	Claw Travel (Single Side)	m/min	
	Servo	-	

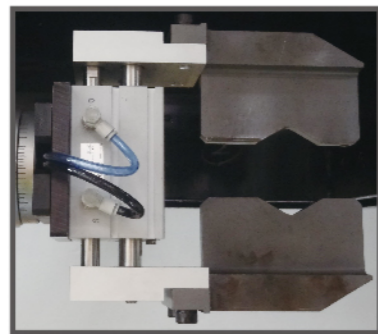
► Flexible Variation Setting For Automated Production Line

Machining Type Machining Flow	Continuous Front Machining	Continuous Front and Rear Machining
L → R		
L ← R		
L ↻		
R ↻		
L ↔ R		

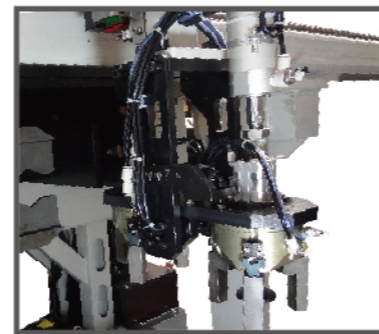
► Automation System



IN/OUT Stoker (optional)

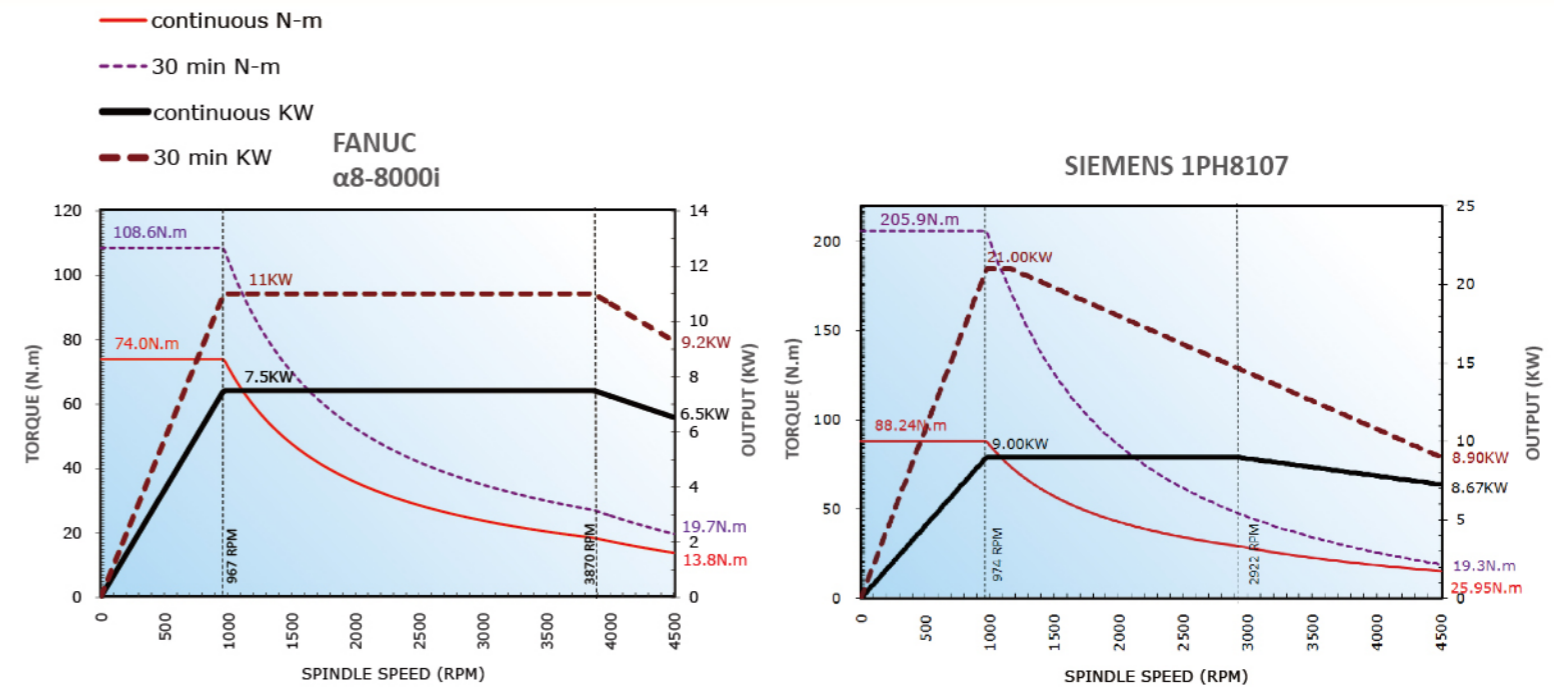


External Turning Device (standard)

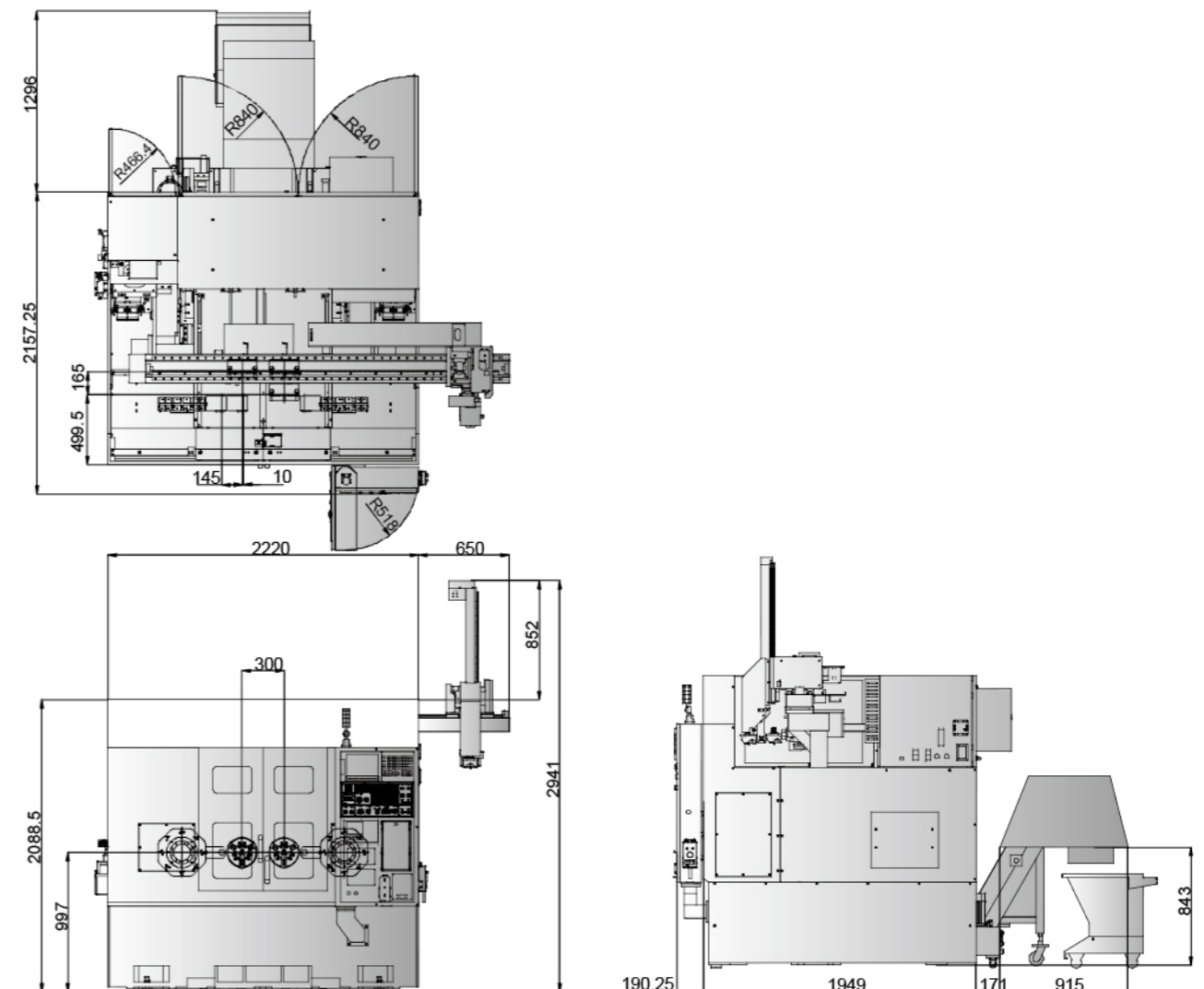


Gantry Robot (standard)

SPINDLE POWER CURVE

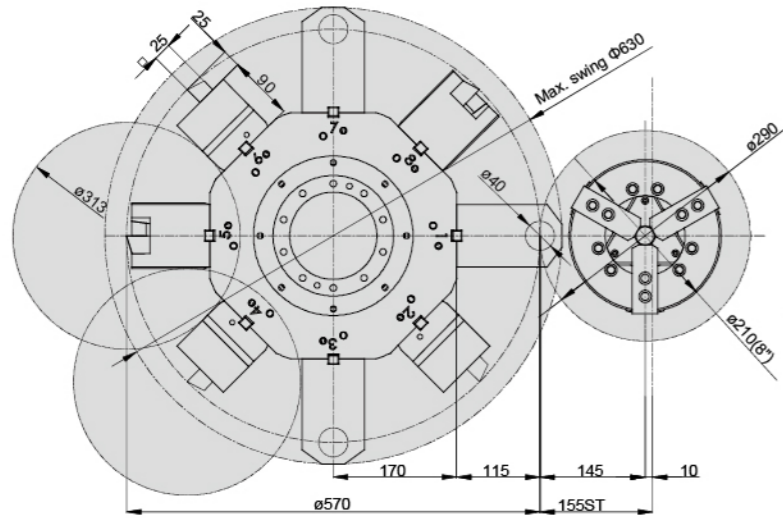


OUTLINE DIMENSION

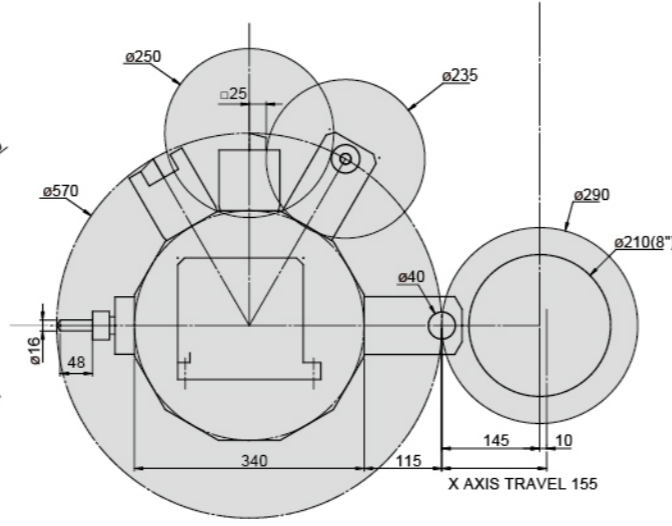


INTERNAL DIMENSION

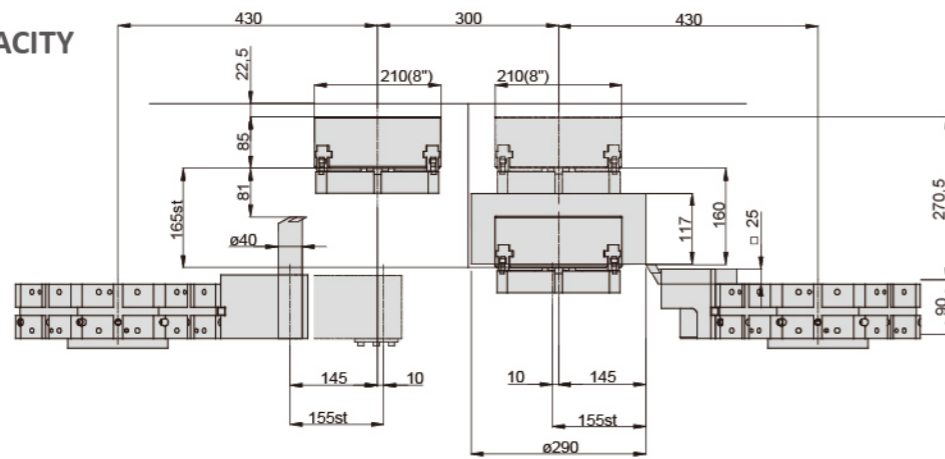
**TW-8
TOOLING INTERFERENCE**



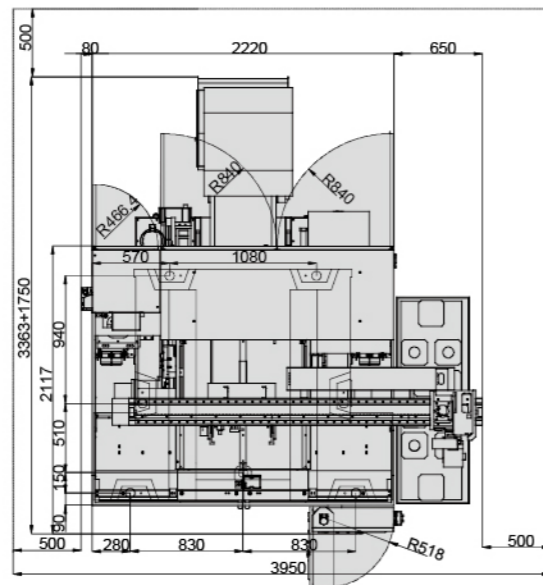
**TW-8M
TOOLING INTERFERENCE**



**TW-8/TW-8M
WORKING CAPACITY**

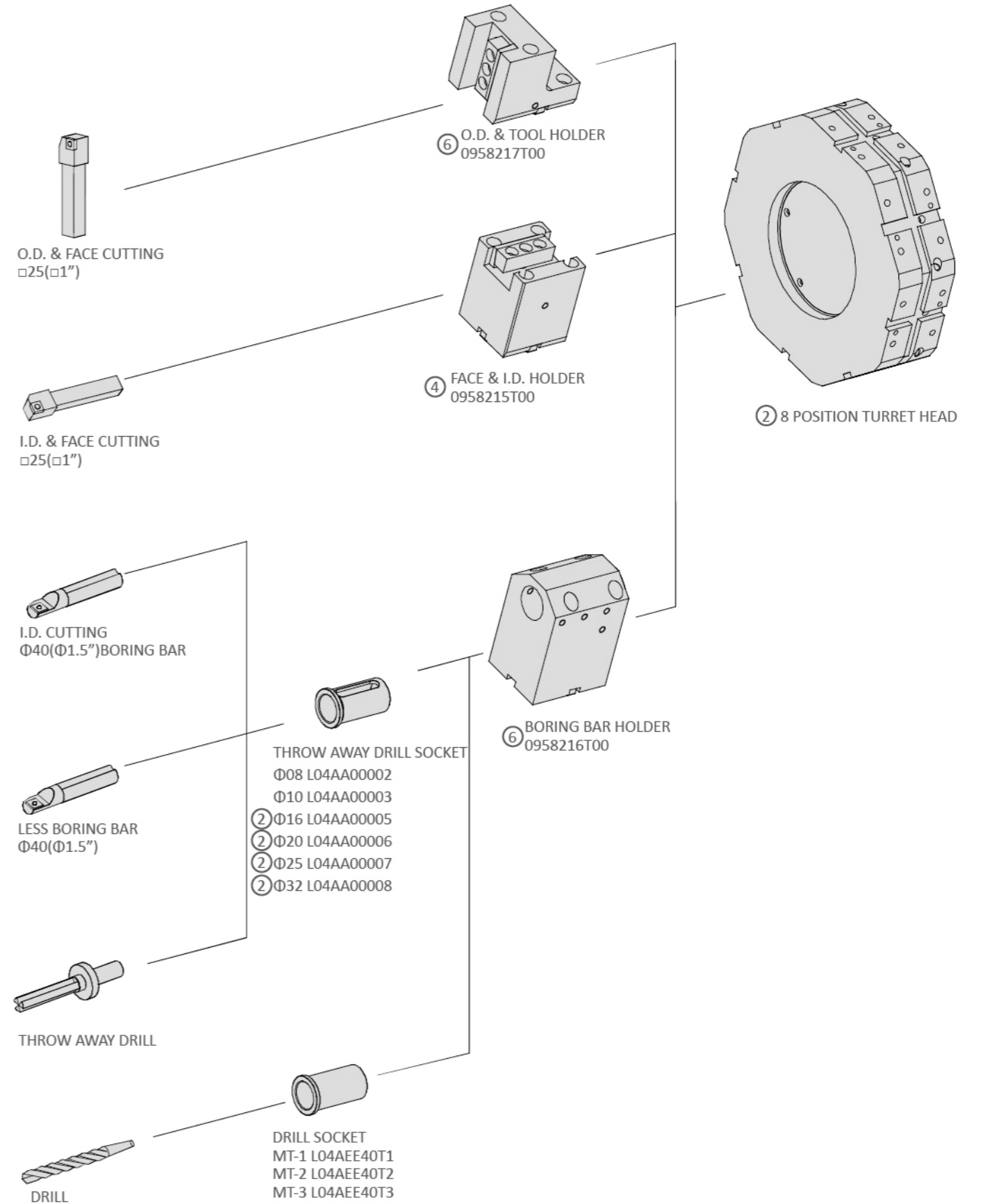


**TW-8/TW-8M
FOUNDATION**



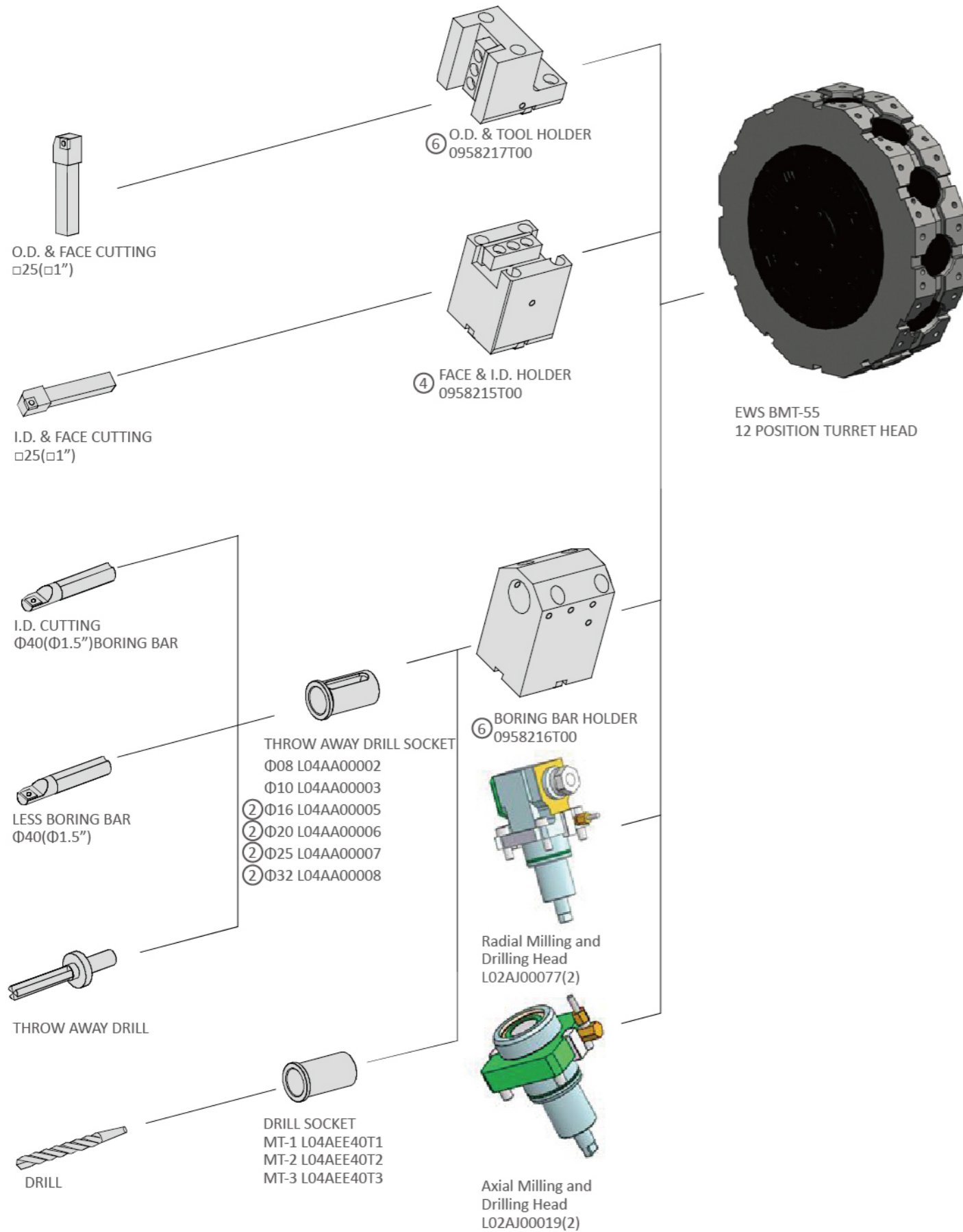
TOOLING SYSTEM

TW-8



TOOLING SYSTEM

TW-8M



MACHINE SPECIFICATIONS

ITEM	MODEL	TW-8/TW-8M
CAPACITY		
Max. swing	mm(in)	290(11.42)
Max. turning diameter	mm(in)	290(11.42)
Max. turning length	mm(in)	160(6.3)
TRAVEL		
X axis	mm(in)	145+10(8.86+0.59)
Z axis	mm(in)	165(31.1)
SPINDLE		
Spindle speed	rpm	4500
Chuck size	mm(in)	210(8")
Type of spindle nose		A2-6
Spindle motor type	FANUC	α8-8000i
Spindle motor power	kw(hp)	11(14.7)
TURRET		
Number of tool stations		8/12
Shank height for square tool	mm(in)	25(1) BMT55
Shank diameter for boring bar	mm(in)	40(1.5) BMT55
Turret indexing time (adjacent tool)	Sec	1.1/0.8
Turret indexing time (180 deg)	Sec	1.6/1.0
FEED RATE		
X/Z axis rapid traverse	m/min(ipm)	24(945)
FEED MOTORS		
X/Z axis motor	kw(hp)	1.6(2.1)
MACHINE SIZE		
Height of machine (H)	mm(in)	2400(94.5)
Floor space (L x W)	mm(in)	2220X2200(87.4X86.6)
Total machine weight	Kg	6200
Power requirement	KVA	40
Controller	FANUC	0i-TF

STANDARD ACCESSORIES

- Buzzer
- Full enclosed splash guard
- Foot switch
- Wide angle V-belt
- Alarm lamp
- Spindle air outer blow
- Auto door (for Robot)
- Robot
- 3 jaw close center chuck
- High pressure pump (3 bar)
- Spindle air purge

OPTIONAL ACCESSORIES

- VDI disc
- 3 jaw open center chuck
- Chip conveyor & chip bucket
- Collet chuck
- Mist separator
- Oil skimmer
- Transformer
- Automatic workpiece measurement
- Spindle air inner blow
- Spindle water cooler