

TC-46

HIGH PERFORMANCE HEAVY DUTY CNC LATHE



TC-46

THE MOST POWERFUL & RIGID CNC LATHE IN ITS CLASS

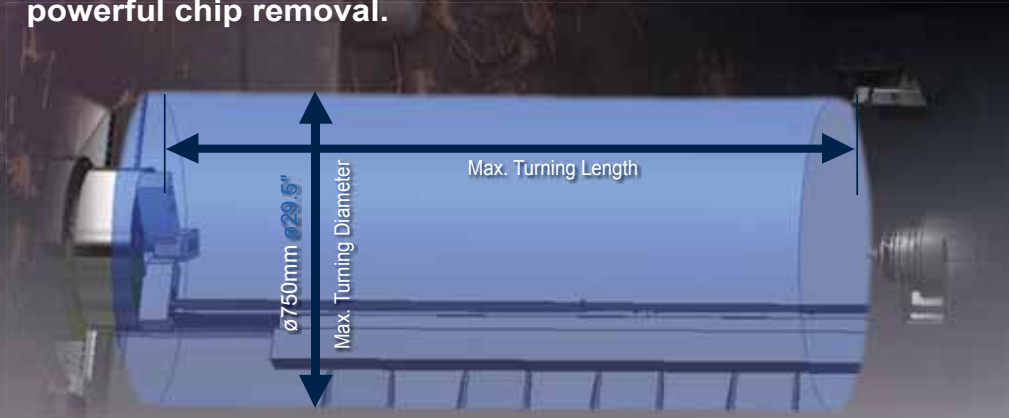


The TC-46 series is the most powerful and rigid CNC lathe in its class. Designed with the latest technology and excellent equipment by experienced technicians for the highest material removal rate and long-term accuracy. The TC-46 series is the best solution for producing large workpieces with high accuracy.

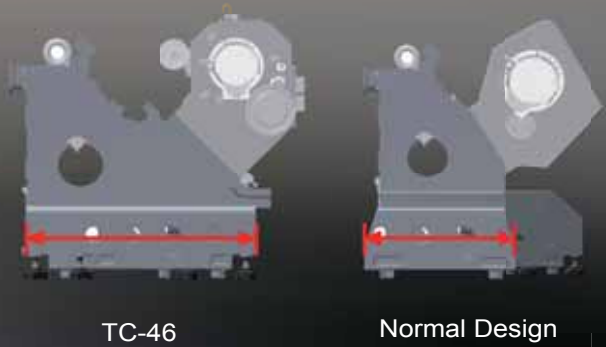


RIGID STRUCTURE DESIGN

- MEEHANITE® casting frame through FEM analysis for one piece torque tube and 45 degree slant bed ensures the best rigidity and eliminates casting distortion.
- Z-axis design with an extra wide distance of 620mm between guideways offers the highest rigidity.
- The box way base of 950mm is suitable for heavy duty machining and powerful chip removal.



	TC-46/1000	TC-46/1650	TC-46/2300	TC-46/3200
Max. Turning Diameter	ø750mm ø29.5"			
Max. Turning Length	1,000mm 39.4"	1,650mm 65"	2,300mm 90.6"	3,200mm 126"



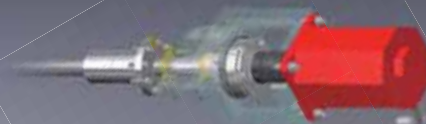


Large Diameter of Curvic Coupling

- The large diameter of 3-piece curvic coupling design offers super rigid clamping force of 9,050kgf to ensure heavy cutting and long-term accuracy.

The Smoothest X-axis Movement and Prevents Turret Drop

- The hydraulic balance cylinder on X-axis ensures the smoothest axial movement and brake system prevents the turret from dropping when the power is suddenly off.



- With the double nuts design, the ball screws on the X/Z axes provide the highest rigidity.
- The optional safety clutch will disassemble the ball screw from motor to protect the ball screw during a crash.



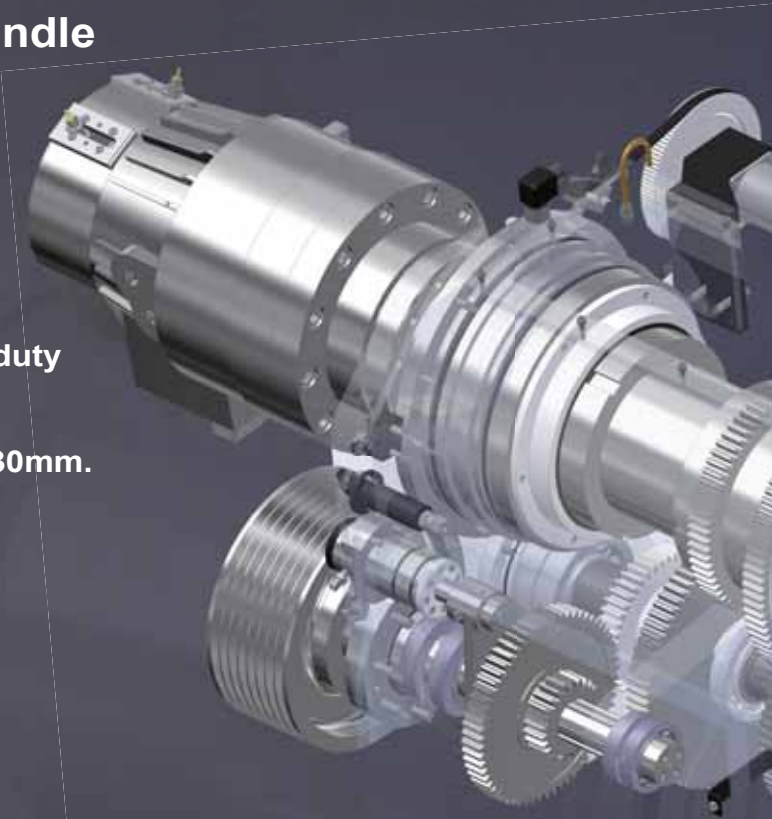
PERFECT SPINDLE DESIGN

Powerful 4 Speed Gearhead Spindle

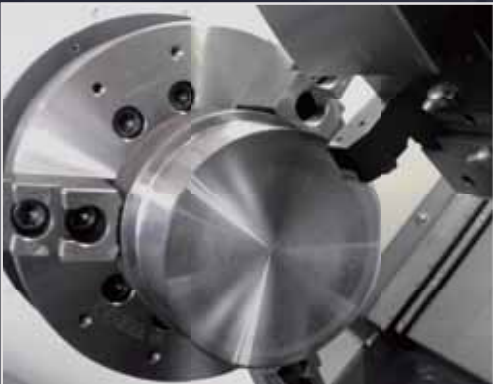
- Suitable for heavy duty machining requirements.

The Extra Large Front Bearing

- The extra large front bearing internal diameter is $\varnothing 180\text{mm}$ to ensure the heavy duty cutting capability.
- Max. hole through spindle diameter is $\varnothing 130\text{mm}$.
- Max. hole through draw bar is $\varnothing 117\text{mm}$.



High Performance & High Precision



Powerful Cutting Performance

S45C Steel

Holder	Cutting Diameter	Spindle Speed	Cutting Velocity	Chip Removal Rates
DCLNR 3232P 19	$\varnothing 210\text{mm}$	220rpm	138m/min	1,105cc/min
Feedrate	Depth of Cut	Spindle Loading	Z-axis Loading	X-axis Loading
0.8mm/rev	10mm	93%	64%	12%

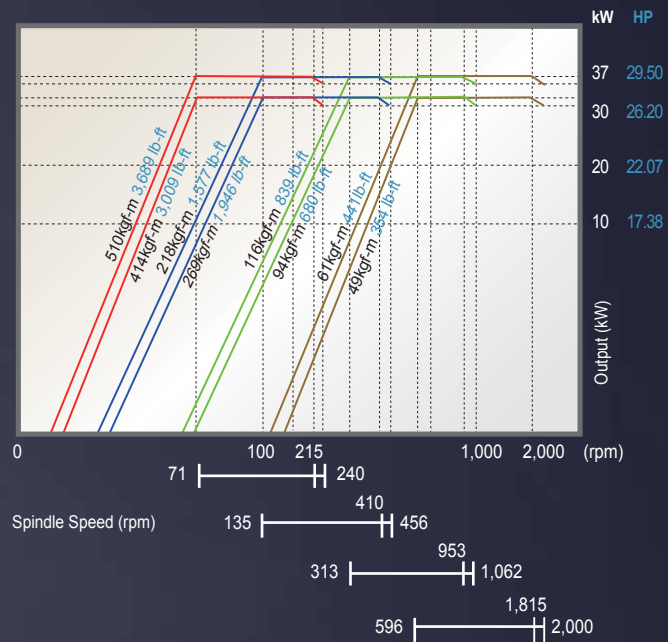
Surface Roughness

Tool: CoroTurn $\square 32$
Spindle Speed: 800rpm
Outer Diameter: $\varnothing 120\text{mm}$
Cutting Speed: 300m/min
Feedrate: 0.04mm/rev
Material: Copper



- Max. Speed 2,000rpm
- Max. Power 37kW **49HP**
- Max. Torque 510kgf-m **3,689 lb-ft**

Power Chart



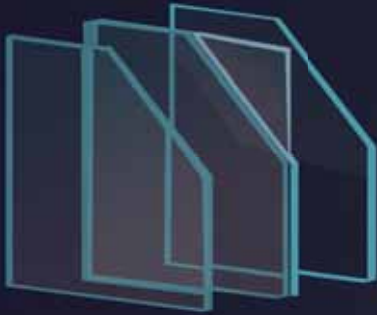
Excellent Thermal Stability

- Oil-cooled chiller for excellent thermal stability.



USER-FRIENDLY DESIGN

- Optional hydraulic (manual) steady rest for turning long workpieces.
- The movable controller panel provides users with the most user-friendly operating convenience.



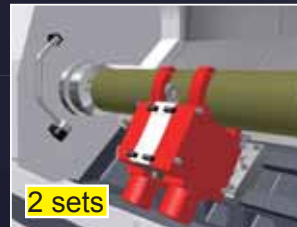
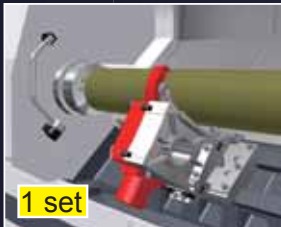
- Conform to the latest CE's regulation EN12415-C3



- Programmable tail stock



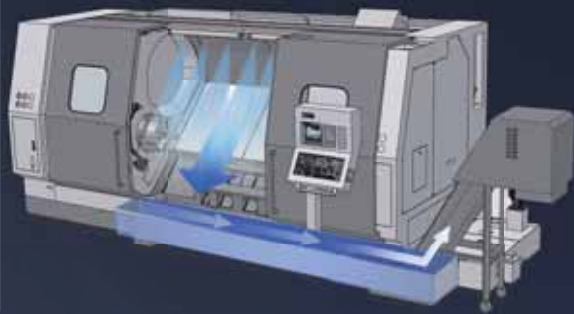
- Manual steady rest (opt.)
ø40mm~ø250mm
ø250mm~ø460mm



- SLU-5 hydraulic steady rest (opt.)

EFFICIENT CHIP DISPOSAL SYSTEM

- High pressure coolant is supplied for optimal chip removal.
- Shower coolant from the roof removes the chips from the chuck and telescopic guideway cover. (opt.)
- A hinge type chip conveyor is standard to evacuate chips efficiently.



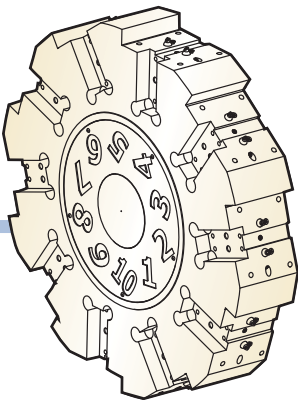
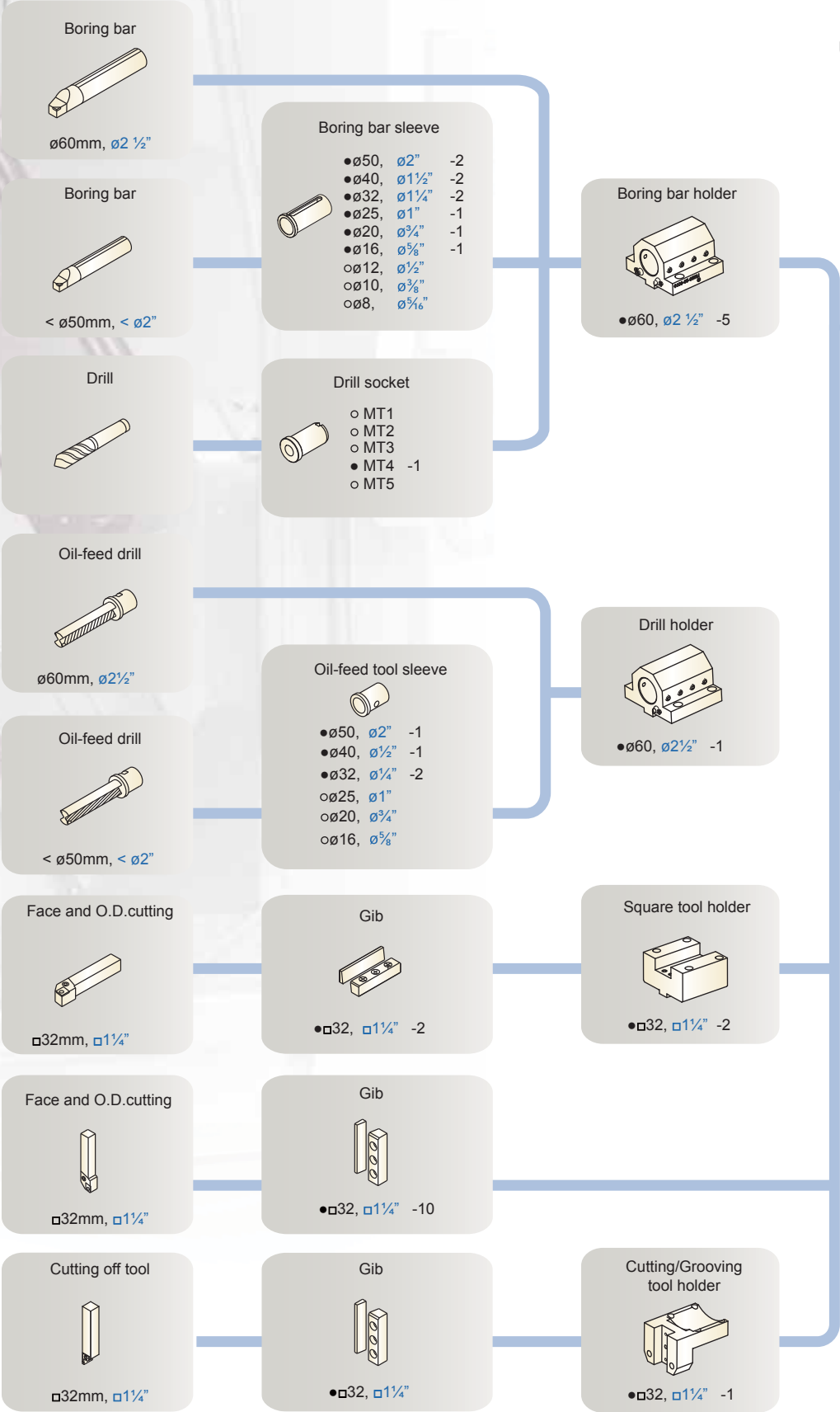
■ Coolant

TC-46/1000	TC-46/1650	TC-46/2300	TC-46/3200
465L	540L	600L	665L

TOOLING CHART

● : Standard ○ : Optional

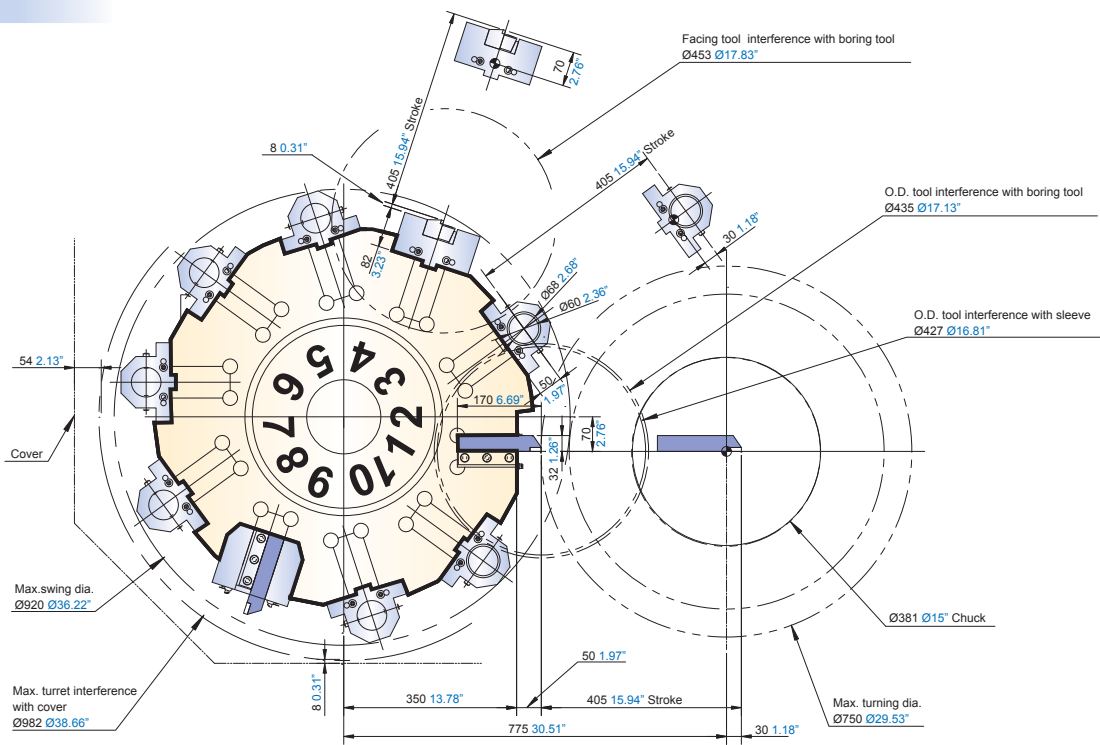
Unit : mm inch



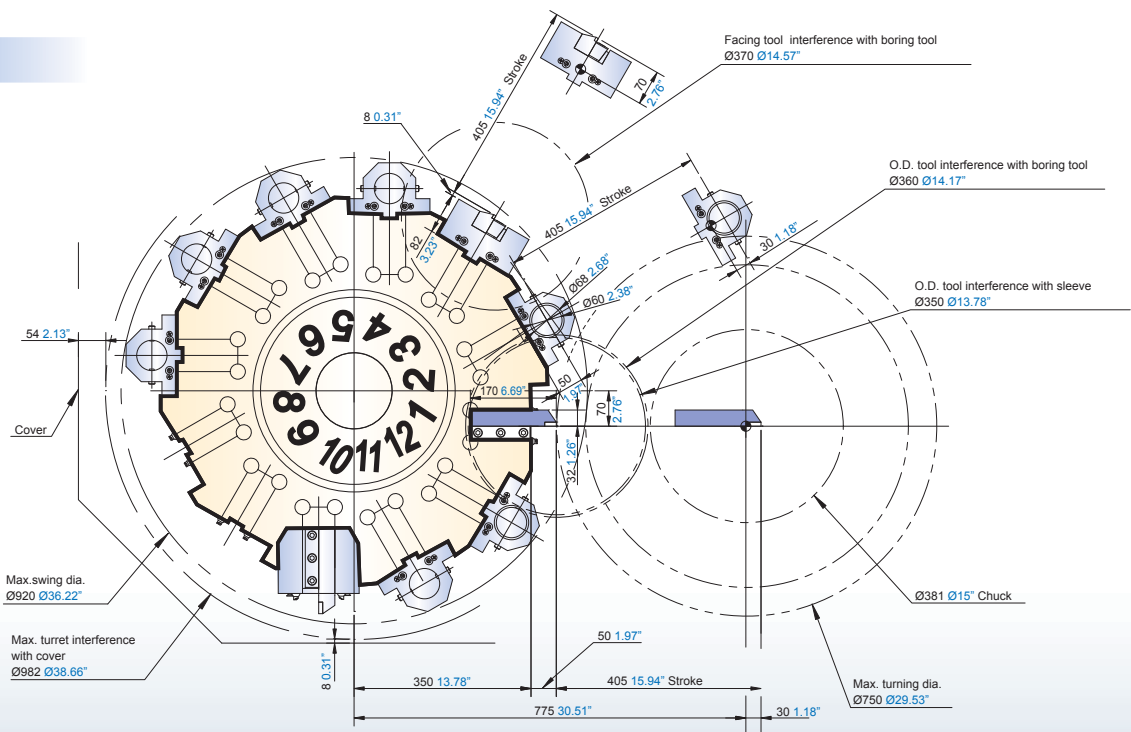
TOOL INTERFERENCE

Unit : mm inch

10T

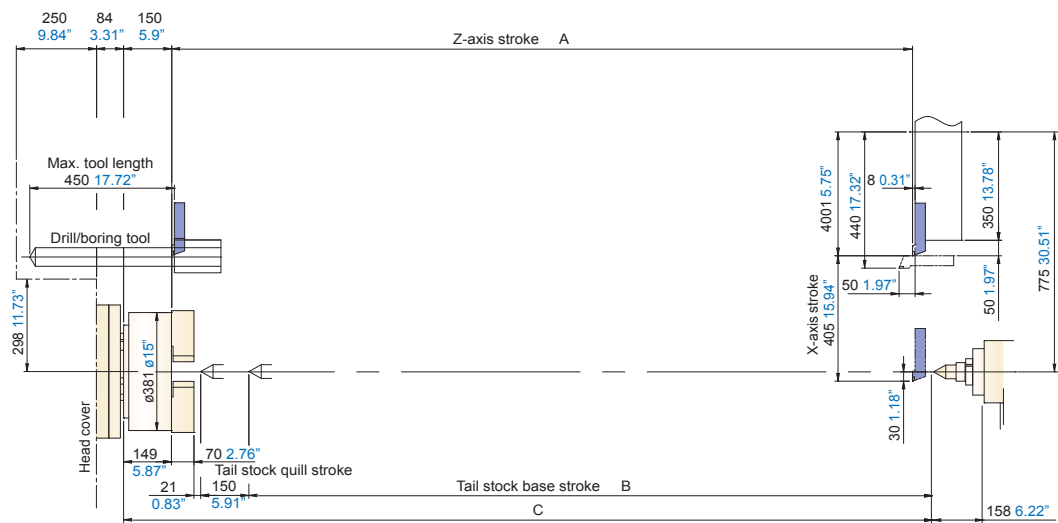


12T



WORKING CAPACITY

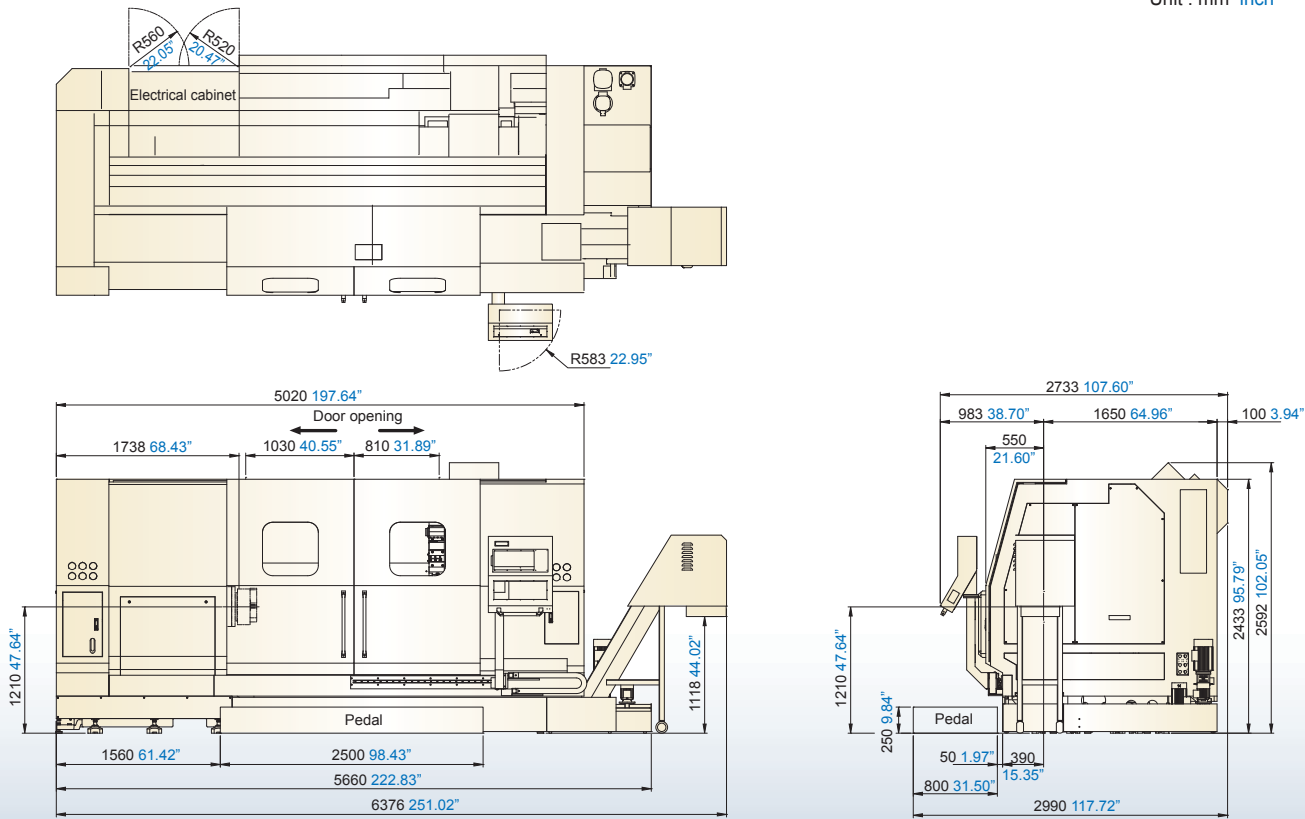
Unit : mm inch



	TC-46/1000	TC-46/1650	TC-46/2300	TC-46/3200
A	1,000mm 39.37"	1,650mm 64.96"	2,300mm 90.55"	3,200mm 125.98"
B	825mm 32.48"	1,475mm 58.07"	2,125mm 83.66"	3,025mm 119.09"
C	1,215mm 47.83"	1,865mm 73.43"	2,515mm 99.02"	3,415mm 134.45"

MACHINE DIMENSIONS

Unit : mm inch



SPECIFICATIONS

MACHINING CAPACITY		TC-46/1000	TC-46/1650	TC-46/2300	TC-46/3200
Swing Over Bed		ø850mm (ø33.5")			
Swing Over Carriage		ø720mm (ø28.4")			
Max. Turning Diameter		ø750mm (ø29.5")			
Max. Turning Length		1,000mm (39.4")	1,650mm (65")	2,300mm (90.6")	3,200mm (126")
Distance Between Center		1,215mm (47.8")	1,865mm (73.4")	2,515mm (99")	3,415mm (134.5")
SPINDLE					
Height From the Ground to Spindle		1,210mm (47.6")			
Chuck Size		15"(18")			
Spindle Nose		A2-11			
Spindle Inner Taper		1/20			
Spindle Front Bearing Inner Diameter		ø180mm (ø7.1")			
Hole Through Spindle		ø130mm (ø5.1")			
Hole Through Draw Bar		ø117mm (ø4.6")			
Spindle Speed		2,000rpm			
Max. Spindle Torque		510kgf-m (3,688.9 lb-ft)			
MAIN TRAVEL					
X-axis Travel		405 (375+30) mm (15.94")			
Z-axis Travel		1,000mm (39.4")	1,650mm (65")	2,300mm (90.6")	3,200mm (126")
FEED					
X-axis Rapid Feedrate		16m/min (629.9ipm)			
Z-axis Rapid Feedrate		18m/min (708.7ipm)		15m/min (509.6ipm)	12m/min (472.4ipm)
Rated Axial Thrust Force (X/Z)		1,407/1,441kgf (3,102/3,177 lb)			1,407/1,080kgf (3,102/2,381 lb)
Max. Axial Thrust Force (X/Z)		3,939/3,985kgf (8,684/8,785 lb)			3,939/2,990kgf (8,684/6,592 lb)
Cutting Feedrate (X/Z)		1~10,000mm/min (0.04~393.7ipm)			
MOTOR					
Spindle Motor		30/37kW (40.2/49.6HP)			
Axial Motor (X/Z)		4/7kW (5.4/9.4HP)			
Turret Motor		1.8kW (2.4HP)			
TAIL STOCK					
Tail Stock Quill Diameter		ø150mm (ø5.9")			
Tail Stock Quill Taper		MT No.5			
Tail Stock Quill Stroke		150mm (5.9")			
Tail Stock Stroke		825mm (32.5")	1,475mm (58.1")	2,125mm (83.7")	3,025mm (119.1")
LUBRICATION					
Lubrication Pump		150W			
Lubrication Tank Capacity		6L			
TURRET					
Swing Over Bed		Servo Motor Drive (Hydraulic Clamp)			
Tool No.		10T (12T)			
Standard Tool	Shank Height for Square Tool	□32mm (□1¼")			
	Shank Dia. for Boring Bar	ø60mm (ø2.5")			
Max. Diameter When Turret Rotation		ø982mm (ø38.7")			
COOLANT					
Tank Capacity		465L	540L	600L	665L
GENERAL					
Power Consumption (Transformer)		74 (80) kVA			
Machine Weight		12,500kg	13,500kg	14,500kg	15,500kg
Floor Space		5,170 × 2,735 × 2,592mm (203.5 × 107.7 × 102.1")	5,660 × 2,735 × 2,592mm (222.9 × 107.7 × 102.1")	6,390 × 2,735 × 2,592mm (251.6 × 107.7 × 102.1")	6,820 × 2,735 × 2,592mm (268.5 × 108.7 × 102.1")

ACCESSORIES

● : Standard ○ : Optional - : N/A

SPINDLE		TC-46/1000	TC-46/1650	TC-46/2300	TC-46/3200
Tool Kit		●	●	●	●
Work Lamp		●	●	●	●
Pilot Lamp		●	●	●	●
Automatic Door		○	○	○	○
Safety Door		○	○	○	○
Hydraulic System		●	●	●	●
Spindle Cooling System		●	●	●	●
Hydraulic Hollow Chuck		●	●	●	●
Chuck & Hard Jaws and Soft Jaws 1 Set ^{*1}	15"	●	●	●	●
	18"	○	○	○	○
Soft Jaw Former	15"	○	○	○	○
	18"	-	-	-	-
Chuck Switch Pedal		●	●	●	●
Tail Stock Switch Pedal		○	○	○	○
Programmable Tail Stock		●	●	●	●
Tail Stock Quill Taper-Dead Center (MT5 Center)		●	●	●	●
Tail Stock Quill Taper-Live Center (MT5 Center)		○	○	○	○
Complete Chip Enclosure		●	●	●	●
Leveling Blocks and Bolts		●	●	●	●
Foundation Screw Bolt		○	○	○	○
Air Gun		●	●	●	●
Cutting Air Blast		○	○	○	○
Coolant Equipment System	Standard (40 l/min, 4.6 bar)	●	●	●	●
	8 BAR	○	○	○	○
	20 BAR	○	○	○	○
Coolant Gun		○	○	○	○
Oil Skimmer		○	○	○	○
Paper Filter		○	○	○	○
Oil Mist Suction	1 Set	○	○	-	-
	2 Set	-	○	○	○
Central Lubrication System		●	●	●	●
Chip Conveyor (Right Side)		●	●	●	●
Heat Exchanger for Electrical Cabinet		●	●	●	●
A/C Cooler for Electrical Cabinet		○	○	○	○
Work Length Setter		○	○	○	○
Auto Tool Length Measurement System (Renishaw)		○	○	○	○
Coolant Shower		○	○	○	○
Steady Rest	Manual ^{*2}	○	○	○	○
	Hydraulic ^{*3}	○	○	○	○
FANUC CNC Controller	TXP-100FA	●	●	●	●
	TXP-200FA	○	○	○	○
Mechanical Electrical & Operating Manuals		●	●	●	●

*1 The hard jaws are not included when select Kitagawa chuck.

*2 Manual steady rest has two 2 types; max. clamping diameter is ø40~250mm and ø250~460mm.

*3 Max. size of hydraulic steady rest is SLU5 (Max. clamping diameter is ø310mm).



ISO14001 CERTIFIED MANUFACTURE

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