



# GTS SERIES

Twin Spindles & Turrets CNC Turning Centers

# GTS series Twin Turrets

## TWIN SPINDLES & TURRETS CNC TURNING CENTER

GTS series Twin Turrets

General Features

Accessories & Applications

Specifications

Designed for simultaneous turning of work pieces within one machines setup. The GTS series incorporates twin-opposing spindles and turrets with C-axis and live tooling capabilities. This configuration allows both turrets to work simultaneously with one turret at each spindle achieving ultimate efficiency.

### AVAILABLE

- ▶ Twin spindles, twin standard turrets.
- ▶ Twin spindles, one live tooling turret & one standard turret.
- ▶ Twin spindles, twin live tooling turrets.
- ▶ Twin Y-axis.
- ▶ C-axis or 1 deg. indexing spindles.



( GTS-150MMX series model shown. )

# General Features

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## SPECIFICATION

The twin 12 stations turrets provides high speed indexing of 0.2 second from station to station. 1 step indexing further provides faster cycling times. Live tooling turret options enable the use of 6 or 12 live tool positions on each turret.

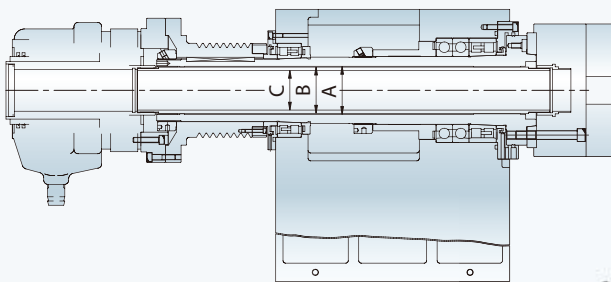
the GTS machines are able to perform the following : OD & face milling, OD & off-center face drilling.

## SPINDLES

FANUC  $\alpha$  Pi series wide range spindle motors power both spindles and can be programmed for synchronized turning. The wide range constant output spindle motors provide full power cutting throughout most of the spindle speed range. Pi type motors also have faster acceleration and deceleration to cut down cycle times and torque rating are twice the output of standard  $\alpha$  i series motors.

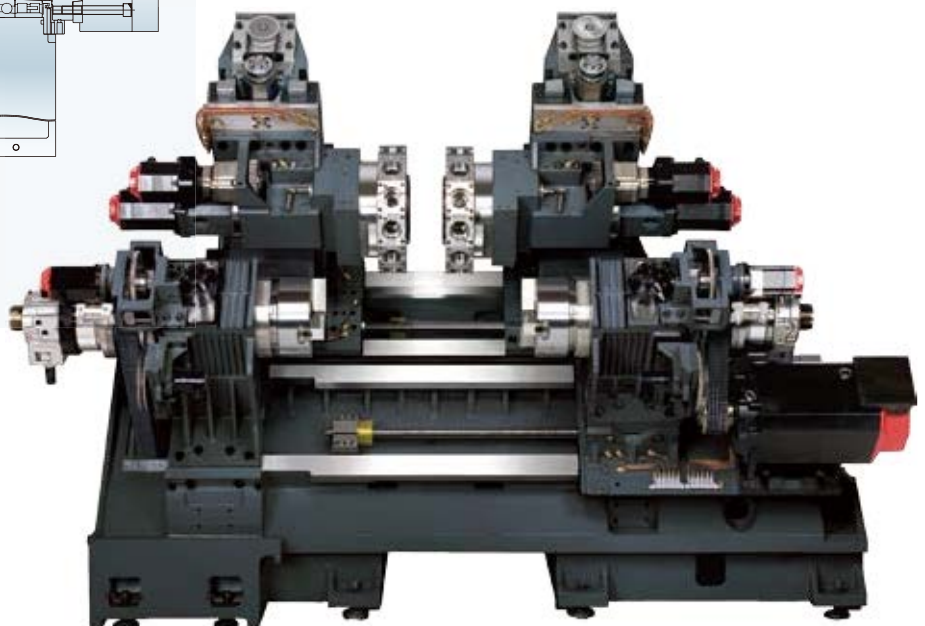
## MACHINING CAPABILITIES

Simultaneous turning on both spindles. The second spindle may be used to support longer work pieces during turning with the spindle synchronize RPM feature. The feature is also used when parting bar work. When the machine is incorporated with full C-axis and live tooling,

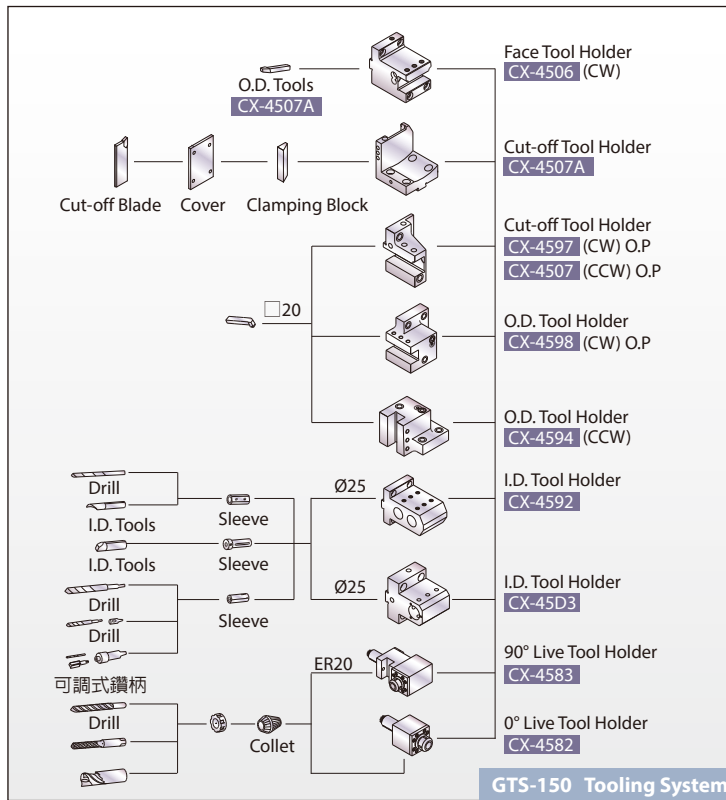


		A	B	C
GTS-150	Spindle 1/2	51	50	43
GTS-200	Spindle 1/2	66	65	52
GTS-260	Spindle 1/2	76	75	66

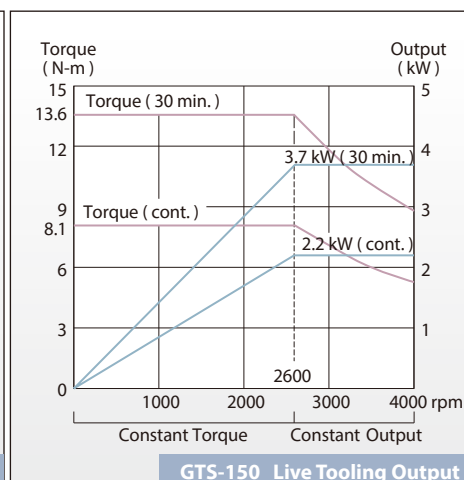
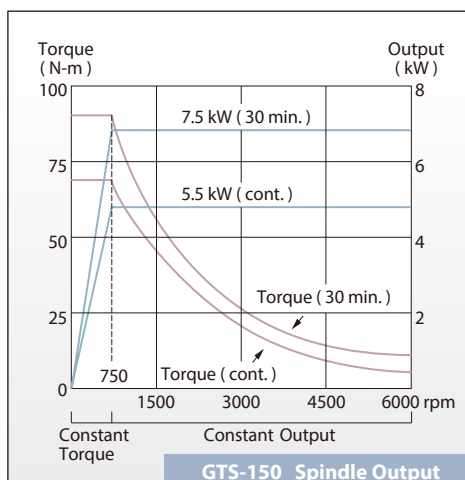
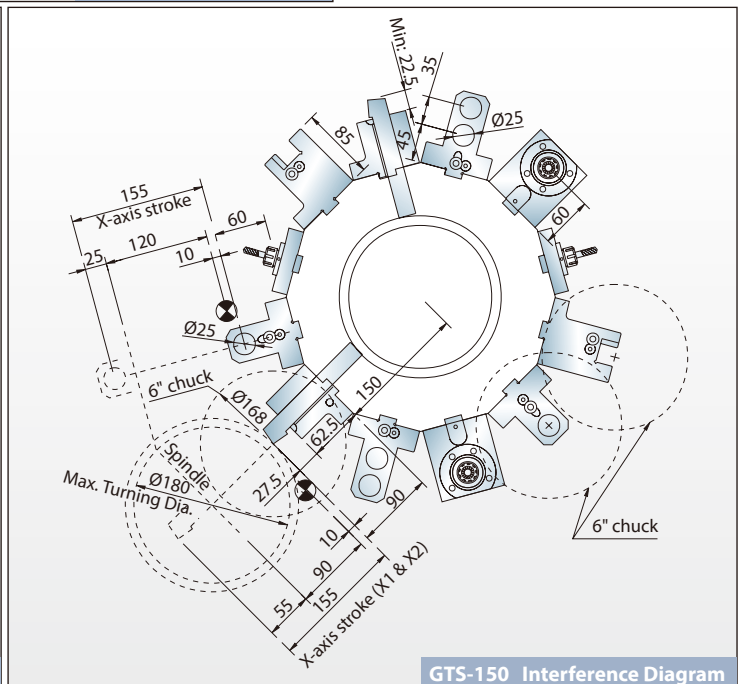
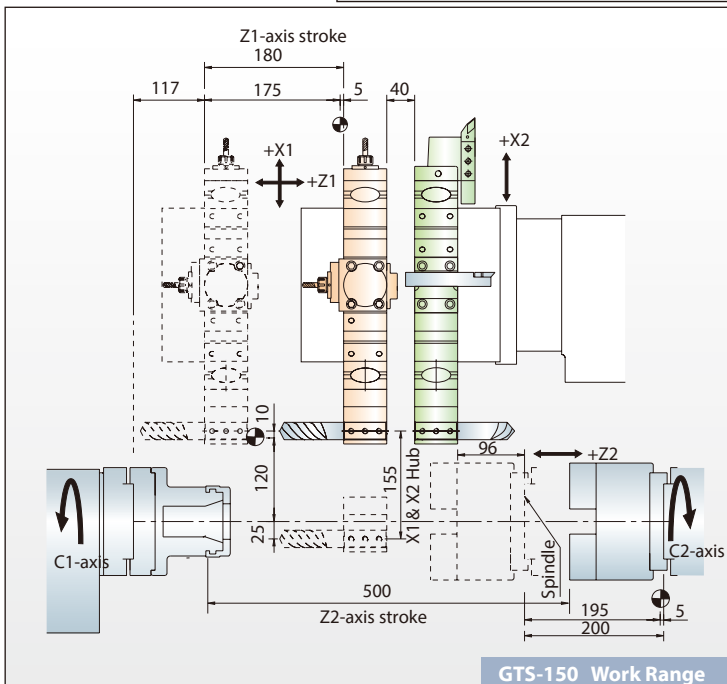
A : Spindle  
B : Draw tube OD  
C : Draw tube ID

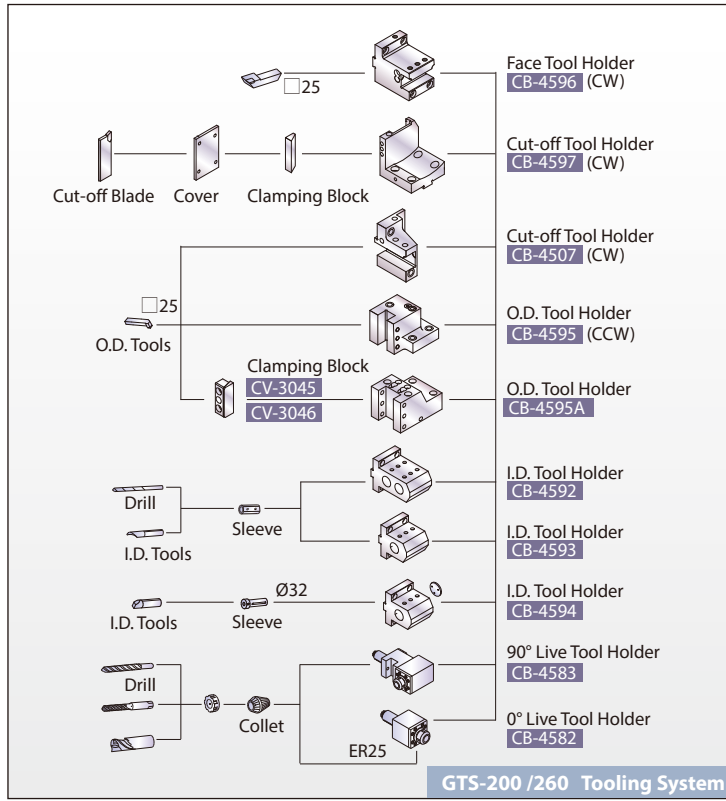


( Casting structure of GTS-260XY series model shown )



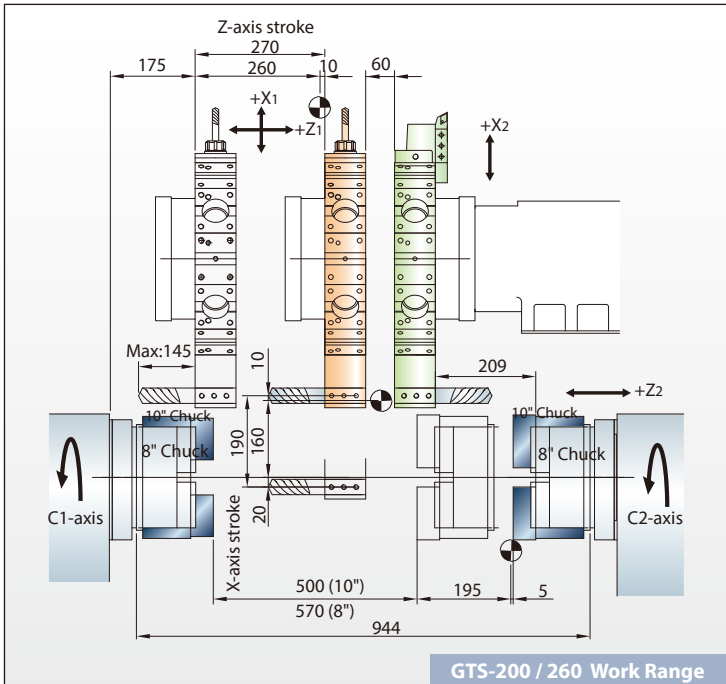
Unit : mm



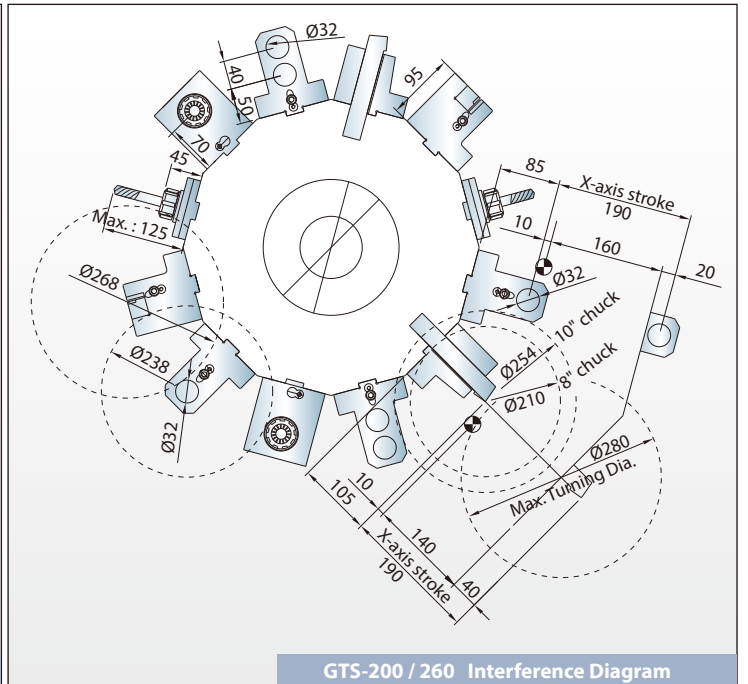


GTS-200 /260 Tooling System

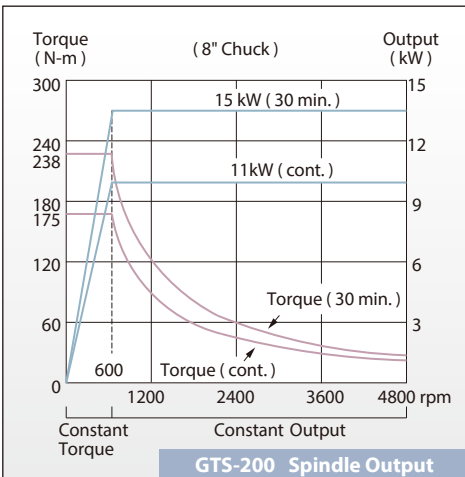
Unit : mm



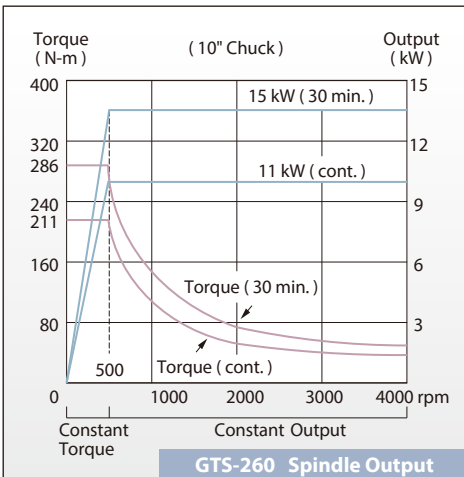
GTS-200 /260 Work Range



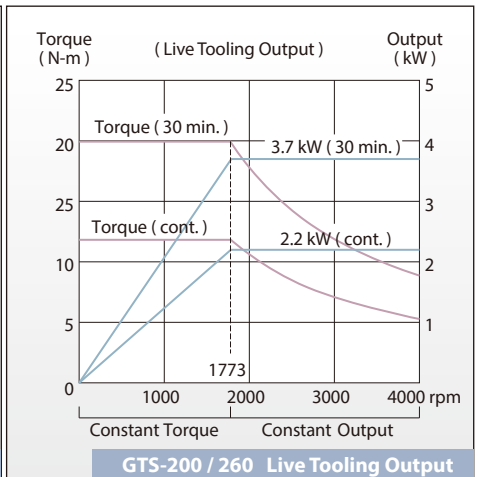
GTS-200 /260 Interference Diagram



GTS-200 Spindle Output



GTS-260 Spindle Output



GTS-200 /260 Live Tooling Output



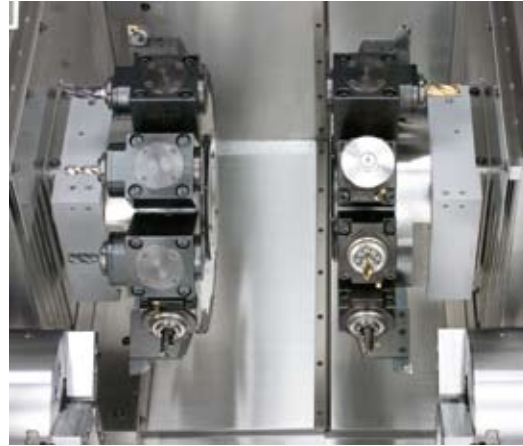
# Accessories & Applications

GTS series Twin Turrets

General Features

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► GTS-200 series Live Tooling Turrets

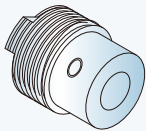


► RENISHAW HPRa TOOLSETTER



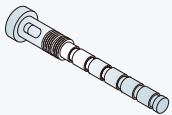
► PARTS CONVEYOR

## 1. Small Parts



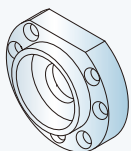
<p>TURRET #1 H1</p>	<p>TURRET #2 H2</p>	<p>TURRET #1 H1</p>	<p>TURRET #2 H2</p>
<p><b>H1 Cut Off</b></p> <ul style="list-style-type: none"> <li>• Synchronization cut off.</li> </ul>	<p><b>H2 Workpiece Support</b></p> <ul style="list-style-type: none"> <li>• Spindle stop.</li> <li>• H2 advance with chuck open.</li> <li>• Chuck close.</li> <li>• Synchronization cut off.</li> <li>• H2 retract after cut off.</li> </ul>	<p><b>H1 Load Bar</b></p> <ul style="list-style-type: none"> <li>• Spindle stop.</li> <li>• Collect chuck open.</li> <li>• Load Bar.</li> <li>• Collect chuck close.</li> <li>• Spindle run.</li> <li>• O. D. and Thread machining.</li> </ul>	<p><b>H2 Turn / Mill Operation</b></p> <ul style="list-style-type: none"> <li>• Turning / drilling.</li> <li>• Milling.</li> <li>• Eject to parts catcher.</li> </ul>

## 2. Long Parts



<p>TURRET #1 C-axis H1</p>	<p>TURRET #2 H2</p>	<p>TURRET #1 H1</p>	<p>TURRET #2 H2</p>
<p><b>H1 Drilling</b></p> <ul style="list-style-type: none"> <li>• C-axis brake.</li> <li>• Drilling.</li> <li>• Cut off workpiece.</li> </ul>	<p><b>H2 Workpiece Support</b></p> <ul style="list-style-type: none"> <li>• Chuck hold workpiece.</li> </ul>	<p><b>H1 Load Bar</b></p> <ul style="list-style-type: none"> <li>• Collect chuck open.</li> <li>• Load Bar.</li> <li>• Collect chuck close.</li> <li>• O. D. and Thread machining.</li> </ul>	<p><b>H2 Turn / Mill Operation</b></p> <ul style="list-style-type: none"> <li>• End face and O. D. machining.</li> <li>• Finished.</li> </ul>

## 3. Casting / Forge Parts



<p>TURRET #1 H1</p>	<p>TURRET #2 H2</p>	<p>TURRET #1 H1</p>	<p>TURRET #2 H2</p>
<p><b>H1 Workpiece Support</b></p> <ul style="list-style-type: none"> <li>• Workpiece finished in H1.</li> <li>• Spindle stop / chuck open.</li> <li>• Load new workpiece / chuck close.</li> </ul>	<p><b>H2 Workpiece Support</b></p> <ul style="list-style-type: none"> <li>• Spindle stop.</li> <li>• H2 advance with chuck open.</li> <li>• H2 retract after cut off.</li> </ul>	<p><b>H1 Turn operation</b></p> <ul style="list-style-type: none"> <li>• Synchronization.</li> <li>• O. D. machining.</li> <li>• Bore machining.</li> </ul>	<p><b>H2 Turn / Drill Operation</b></p> <ul style="list-style-type: none"> <li>• END face and O. D. machining.</li> <li>• Drilling</li> <li>• Finished.</li> </ul>

# Specifications

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MODEL	GTS-150		GTS-200 / 260	
Max. swing diameter	Ø 180 mm		Ø 280 mm	
Swing over saddle	Ø 180 mm		Ø 280 mm	
Max. turning diameter	Ø 180 mm		Ø 280 mm	
Max. turning length	180 mm		200 mm	
<b>SPINDLE</b>				
Chuck size	Ø 6"		Ø 8" / 10"	
Bar capacity	Ø 42 mm		Ø 51 / 65 mm	
Hole through spindle	Ø 51 mm		Ø 66 / 76 mm	
Spindle nose	A2-5		A2-6 / A2-8	
Spindle speed range	6,000 rpm		4,800 / 4,000 rpm	
Motor output ( cont. / 30 min. )	5.5 / 7.5 kW		11 / 15 kW	
<b>X &amp; Z AXES</b>				
X1 / X2 axes travel	155 mm		190 mm	
Z1 / Z2 axes travel	180 / 500 mm		270 / 740 mm	
X1 / X2 axes rapids	15 m/min.		20 m/min.	
Z1 / Z2 axes rapids	36 / X m/min.		24 / X m/min.	
Slide way type ( All axes )	linear guide way		Box way	
X1 / X2 / Z1 / Z2 servo motors	1.6 kW		3 kW	
X1 / X2 axes ball screw Ø [ pitch ]	Ø 32 mm [ 6 mm ]		Ø 32 mm [ 10 mm ]	
Z1 / Z2 axes ball screw Ø [ pitch ]	Ø 32 mm [ 12 mm ]		Ø 36 mm [ 10 mm ]	
<b>TURRET</b>				
Stations	12		12	
OD / ID tool shank size	□ 20 mm / Ø 25 mm		□ 25 mm / Ø 32 mm	
<b>LIVE TOOLING TURRET ( OPTIONAL )</b>				
Max. turning diameter	Ø 180 mm		Ø 280 mm	
Max. turning length	180 mm		200 mm	
Live tooling stations	6	12	6	12
Live tooling shank size	Ø 13 mm ( ER20 )	Ø 16 mm ( ER25 )	Ø 16 mm ( ER25 )	Ø 20 mm ( ER32 )
Live tooling RPM range	4,000 rpm		4,000 rpm	
<b>TWIN Y-AXIS ( OPTIONAL )</b>				
Swing over saddle	Ø 180 mm		Ø 280 mm	
Max. turning length	180 mm		225 mm	
X1 / X2 axes travel	160 mm		220 mm	
Z1 / Z2 axes travel	210 / 600 mm		270 / 740 mm	
Y1 / Y2 axes travel	± 30 mm		± 60 mm	
Y1 / Y2 axes rapids	10 m/min.		6 m/min.	
Slide way type	Box way ( X / Y axes )		Box way	
Y1 / Y2 axes servo motor	1.6 kW AC Absolute		1.6 kW AC Absolute	
Y1 / Y2 axes ball screw Ø [ pitch ]	Ø 32 mm [ 6 mm ]		Ø 32 mm [ 6 mm ]	
<b>GENERAL</b>				
Standard CNC control	FANUC Oi-TD *1		FANUC Oi-TD *1	
Hydraulic tank capacity	50 L		30 L	
Coolant tank capacity	140 L		150 L	
Machine weight	5,000 Kg		7,800 Kg	
Dimensions L x W x H	2,450 x 1,700 x 1,850 mm		3,035 x 1,940 x 1,985 mm	

Specifications are subject to change without notice.

\*1 Y-axis model need to use FANUC 31i controller.



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