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# SWAMP PRO CNC LATHE

[www.richyoung.com.tw](http://www.richyoung.com.tw)



PRO RICHYOUNG INDUSTRIAL CO., LTD.  
RICHYOUNG MACHINE TOOL CO., LTD.



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RIC-TC200



FEATURES

- The design concept behind RIC-TC series Slant Bed CNC Lathe is to enhance high speed and high accuracy. The series of machine is constructed with singlespindle & single turret.
- It's 45 degree slant bed construction features high rigidity and high stability. X, Z-axis are mounted with ball type linear guide ways. Axis movement is directly driven by a servo motor, allowing the rapid traverse rates on X, Z-axis to reach 30 M/min.
- This series equipped with a high precision, high speed spindle, enabling the series to exhibit outstanding performance in high speed and high efficiency machining.

SINGLE SPINDLE & SINGLE TURRET

RIC-TC300



Hydraulic Turret

8-Position Hydraulic Turret (RIC-TC200 series)

- The 8-position turret features bi-directional random tool selection. Fast tool positioning can be accomplished in only 1 second for upgrading efficiency.
- The turret can accommodate 25 x 25mm O.D. tools and Ø32mm I.D. tools.

12-Position Hydraulic Turret (RIC-TC300/770/840 series)

- The 12-position turret features bi-directional random tool selection. Fast tool positioning can be accomplished in only 1 second for upgrading efficiency.
- The turret can accommodate 25 x 25mm O.D. tools and Ø40mm I.D. tools.



RIC-TC200

OPTIONAL NEW DESIGN GUARD

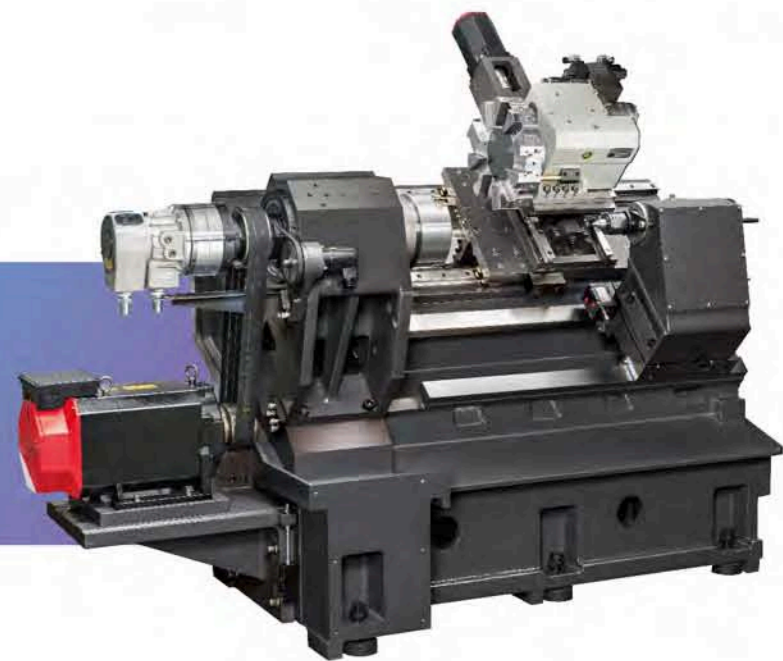


Precision Spindle

- The cartridge type is easily removed allowing and conveniently maintained servicing.
- The spindle runs on class P4 precision bearings providing high axial thrust capacity and superior radial stability. This ensures high precision during heavy duty turning.

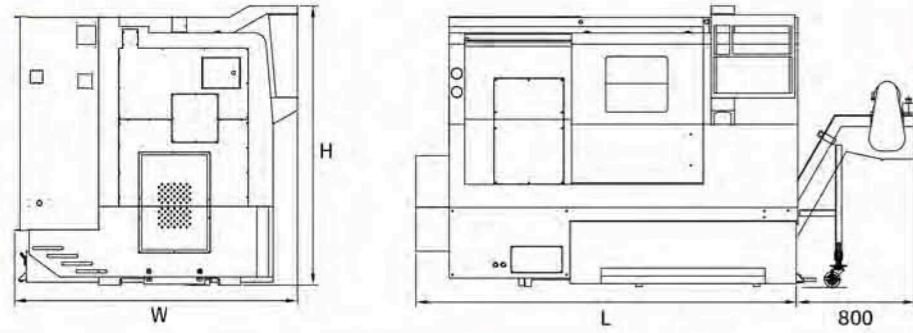
The Ultimate in Rigidity and Stability

- The major machine parts, such as the base, saddle, headstock, slide and tailstock are made of meehanite cast iron and tempered to relieve stress thereby ensuring lifetime accuracy.
- High performance servo motors are directly coupled to the pre-tensioned ballscrews.
- RIC-TC300 series can be chosen linear guideways or box guideways on X and Z axis.
- 45 degree slant bed construction features efficient chip removal and firm support.



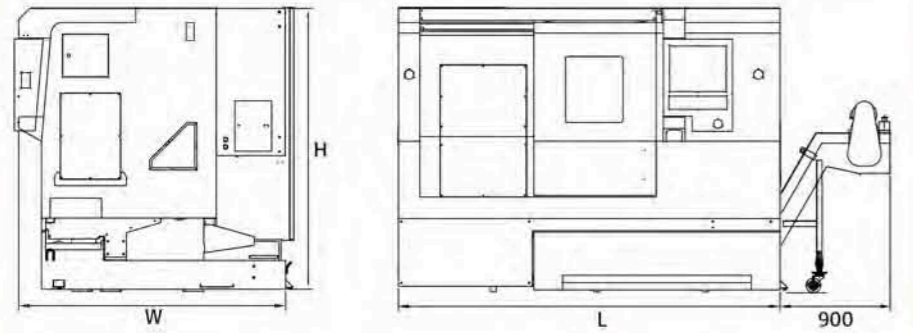
DIMENSION DRAWING

RIC-TC200



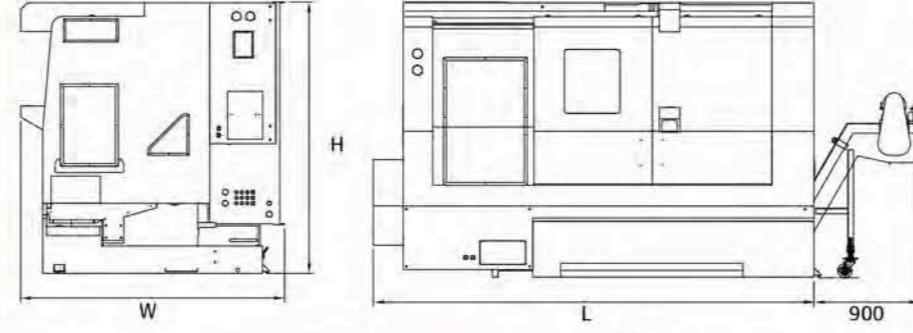
OUTSIDE DIMENSION			
Working Length	L	W	H
455	2440	1600	1740
705	2800		

RIC-TC770 / 840



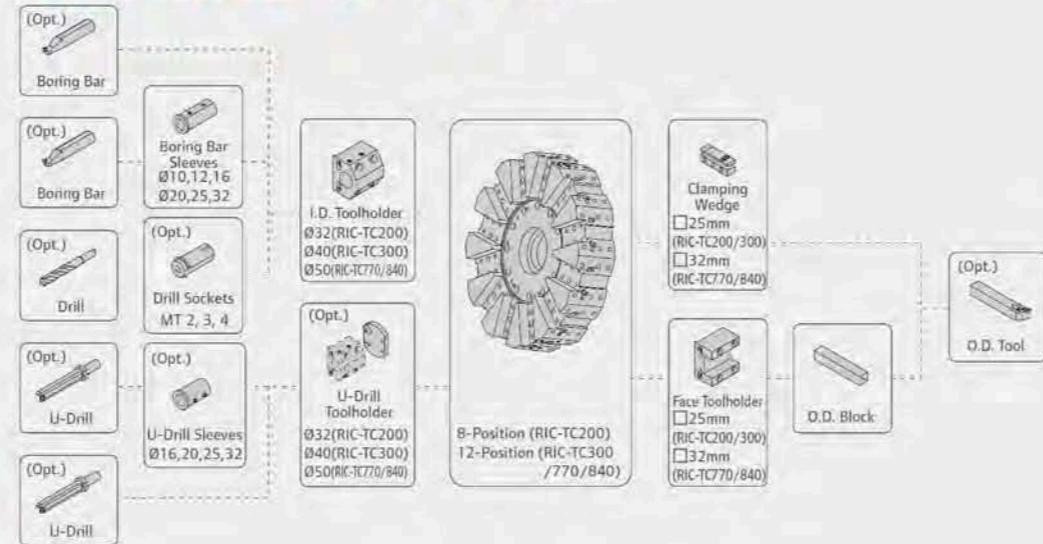
OUTSIDE DIMENSION			
Working Length	L	W	H
665	3100		
1265	3750	2050	2150
2165	4750		

RIC-TC300

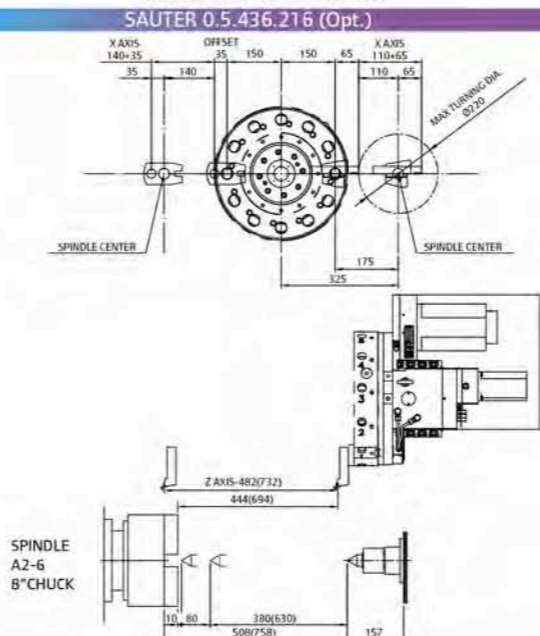
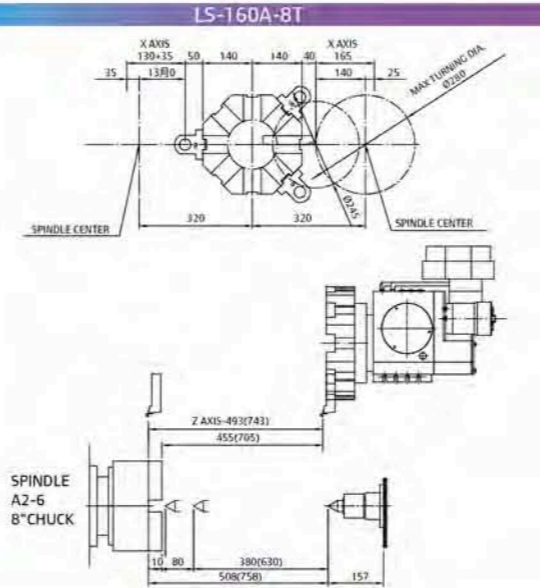


OUTSIDE DIMENSION			
Working Length	L	W	H
675	3000		
1170	3650	1845	1970
2070	4650		

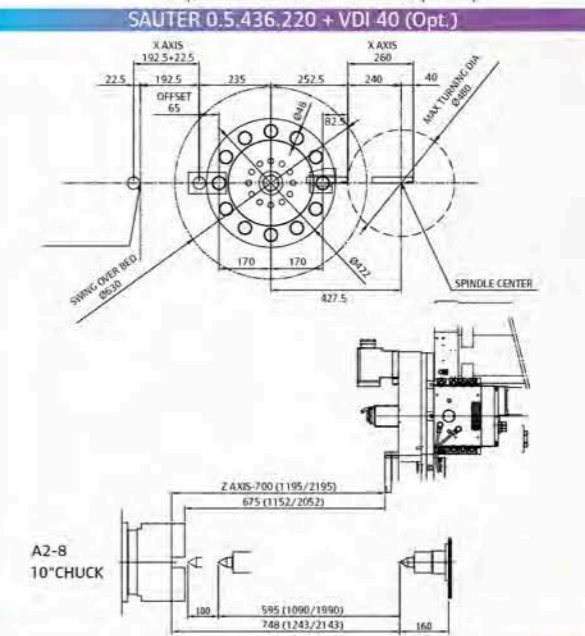
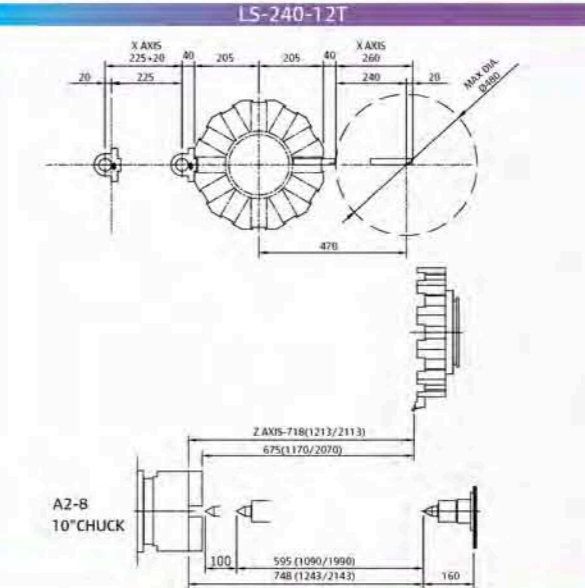
TOOLING SYSTEM



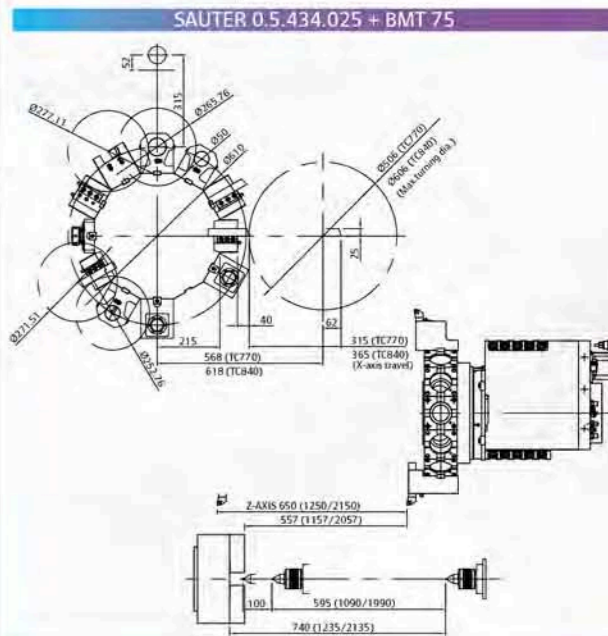
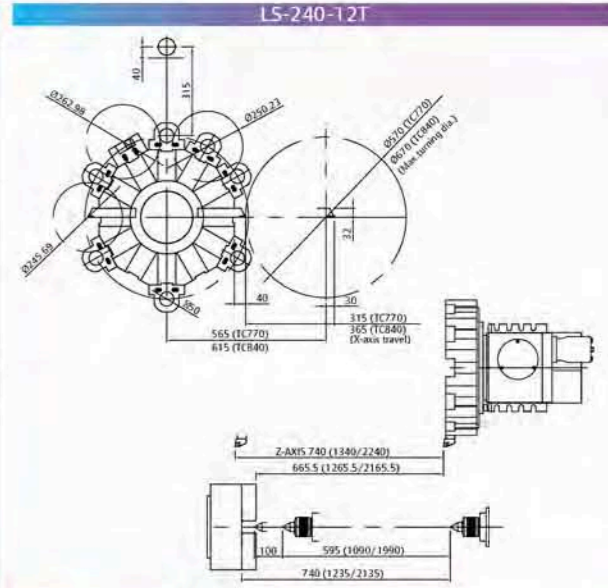
RIC-TC200



RIC-TC300



RIC-TC770/840



# SPECIFICATION

		RIC-TC200	RIC-TC200L	RIC-TC300	RIC-TC300L	RIC-TC300XL	RIC-TC7702	RIC-TC7740	RIC-TC7780	RIC-TC8402	RIC-TC8440	RIC-TC8480	
CAPACITY	Swing Over Bed	mm (in) Ø460 (18.11")		Ø630 (24.8")			Ø770 (30.3")			Ø840 (33.1")			
	Max. Turning Diameter	mm (in) Ø280 (11")		Ø450 (17.72")			Ø570 (22.4")			Ø670 (26.4")			
	Working Length	mm	455	690	700	1300	2200	600	1200	2100	600	1200	2100
	Guideway	-	Linear Guideway		Linear Guideway			Box Way			Box Way		
SPINDLE	Spindle Nose	-	A2-6		A2-8			A2-8			A2-8		
	Spindle Bore	mm (in)	Ø61 (2.4")		Ø90 (3.5")			Ø101 (3.97")			Ø101 (3.97")		
	Bar Capacity	mm (in)	Ø52 (2")		Ø77 (3")			Ø91 (3.6")			Ø91 (3.6")		
	Spindle Speed	rpm	4200		3500			2500			2500		
	Living Tools Speed (Opt.)	rpm	None	Opt. 4000		4000			4000			4000	
CHUCK	Hydraulic Chuck	mm (in)	Ø210 (8")		Ø254 (10")			Ø304 (12")			Ø304 (12")		
TURRET	Tool Number	-	Std. Hyd. LS-160A-8T Direct Type Opt. Servo Turret / Power Turret		Std. Hyd. LS-240-12T Direct Type Opt. Servo Turret / Power Turret			Std. Hyd. LS-240-12T Direct Type Opt. Servo Turret / Power Turret			Std. Hyd. LS-240-12T Direct Type Opt. Servo Turret / Power Turret		
	O.D. Tool Shank	mm	□25 x 25		□25 x 25			□32 x 32			□32 x 32		
	I.D. Tool Bore	mm	Ø32		Ø40			Ø50			Ø50		
CROSS SLIDE (X-AXIS) & CARRIAGE (Z-AXIS)	X-axis Travel	mm	165 (140+25)		250 (225+25)			315 (285+30)			365 (335+30)		
	Z-axis Travel	mm	490	740	740	1340	2240	660	1260	2160	660	1260	2160
	X-axis Rapid Traverse	m/min	30		30 (Linear Guideway) / 24 (Box way)			24			24		
	Z-axis Rapid Traverse	m/min	30		30 (Linear Guideway) / 24 (Box way)			12			12		
	Cutting Feed Rate	mm/rev.	0.001 ~ 500		0.001 ~ 500			0.001 ~ 500			0.001 ~ 500		
	Dia. of Ballscrew (X-axis)	mm (in)	Ø32 (1.3") P10		Ø32 (1.3") P10			Ø36 (1.4") P10			Ø36 (1.4") P10		
Dia. of Ballscrew (Z-axis)	mm (in)	Ø36 (1.4") P10		Ø36 (1.4") P10	Ø40 (1.57") P10	Ø50 (1.97") P10	Ø40 (1.57") P10		Ø50 (1.97") P10	Ø40 (1.57") P10		Ø50 (1.97") P10	
MOTOR	Spindle	kW	α P18i (9/11kW)		α P30i (15/18.5kW)			α P40i (18.5/22kW)			α 22i (22/26kW +2-SPEED GEAR BOX)		
	X-axis	kW	α 8Bi (1.6kW)		α 12Bi (3kW)			α 22Bi (4kW)			α 22Bi (4kW)		
	Z-axis	kW	α 8i (1.6kW)		α 12i (3kW)			α 22i (4kW)			α 22i (4kW)		
	Hydraulic Pump	-	1.5kW (2HP)		1.5kW (2HP)			1.5kW (2HP)			1.5kW (2HP)		
	Coolant Pump	-	750W (1HP)		750W (1HP)			750W (1HP)			750W (1HP)		
PROGRAMMABLE TAILSTOCK	Quill Diameter	mm	Ø75		Ø90			Ø100			Ø100		
	Quill Stroke	mm	85		100			100			100		
	Taper of Center	-	MT4		MT5			MT5			MT5		
	Tailstock Travel	mm	415	660	650	1250	2150	595	1195	2095	595	1195	2095
TANK CAPACITY	Hydraulic Tank	Liter	40	60	60			60			60		
	Coolant Tank	Liter	115	180	250	330	420	280	375	520	280	375	520
MEASUREMENT (APPROX.)	Floor Space (L x W)	mm	3240 x 1600	3600 x 1600	3900 x 1845	4550 x 1845	5550 x 1845	4000 x 2050	4650 x 2050	5650 x 2050	4000 x 2050	4650 x 2050	5650 x 2050
	Height	mm	1740		2050			2100			2100		
	Weight (N.W./G.W.)	kg	4500 / 5050	5100 / 5460	5600 / 5870	6500 / 7000	8500 / 9400	6600 / 6870	7500 / 8000	9500 / 10400	7600 / 7870	8500 / 9000	10500 / 11000

\*Specifications are subject to change without prior notice.

## STANDARD

### ACCESSORIES

- Hydraulic 3-jaw chuck with cylinder
- Coolant pump + tank
- Internal coolant system to turret
- 8-Position hydraulic turret (TC200)
- 12-Position hydraulic turret (TC300/770/840)
- Auto. lubrication system
- Work light
- 3 Color alarm light
- Hydraulic power unit
- Heat exchanger for electrical cabinet
- Chip conveyor and bucket
- Programmable tailstock
- Tool box and tools

## OPTIONAL

### ACCESSORIES

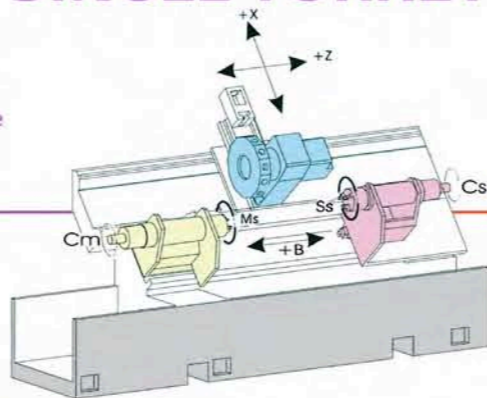
- CE norm
- Auto. tool setter measurement
- Manual tool setter measurement
- Cs axis and power turret
- Transformer
- Auto. door and safety switch
- Auto. parts catcher
- Prevent crash install of each axis (Safety equipment)
- Bar feeder
- Parts cut off detector
- Larger spindle motor
- Larger hydraulic chuck
- Servo turret
- Air conditioner for electrical cabinet
- Manual steady rest
- Programmable hydraulic follow rest
- Oil mist collector
- Oil skimmer

\*Please refer to quotation for full options.

▲ RIC-TC450TMS / RIC-TC550TMS  
RIC-TC580TMS

TWIN SPINDLE &  
SINGLE TURRET

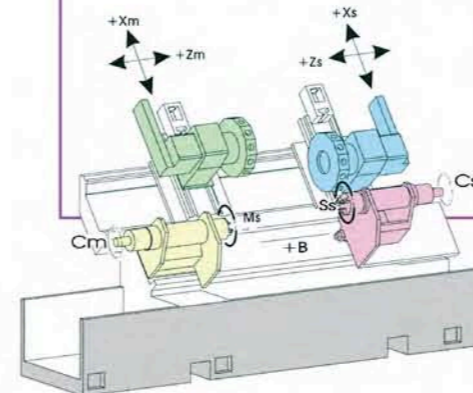
- Ms: Main spindle
- Ss: Sub spindle
- Cm: C axis / Main spindle
- Cs: C axis / Sub spindle



▲ RIC-TC450TM / RIC-TC550TM  
RIC-TC580TM

TWIN SPINDLE &  
TWIN TURRET

- Ms: Main spindle
- Ss: Sub spindle
- Cm: C axis / Main spindle
- Cs: C axis / Sub spindle



Precision Spindle

- The cartridge type is conveniently removed allowing for convenient servicing.
- The spindle runs on class P4 precision bearings providing high axial thrust capability and superior radial stability. This ensures high precision during heavy duty turning.

Oil mist collector (Opt.)

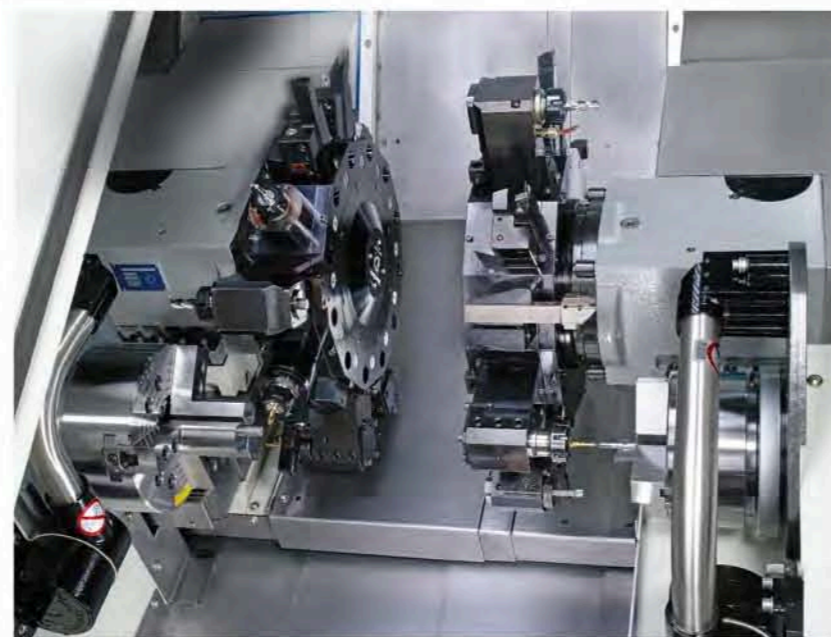
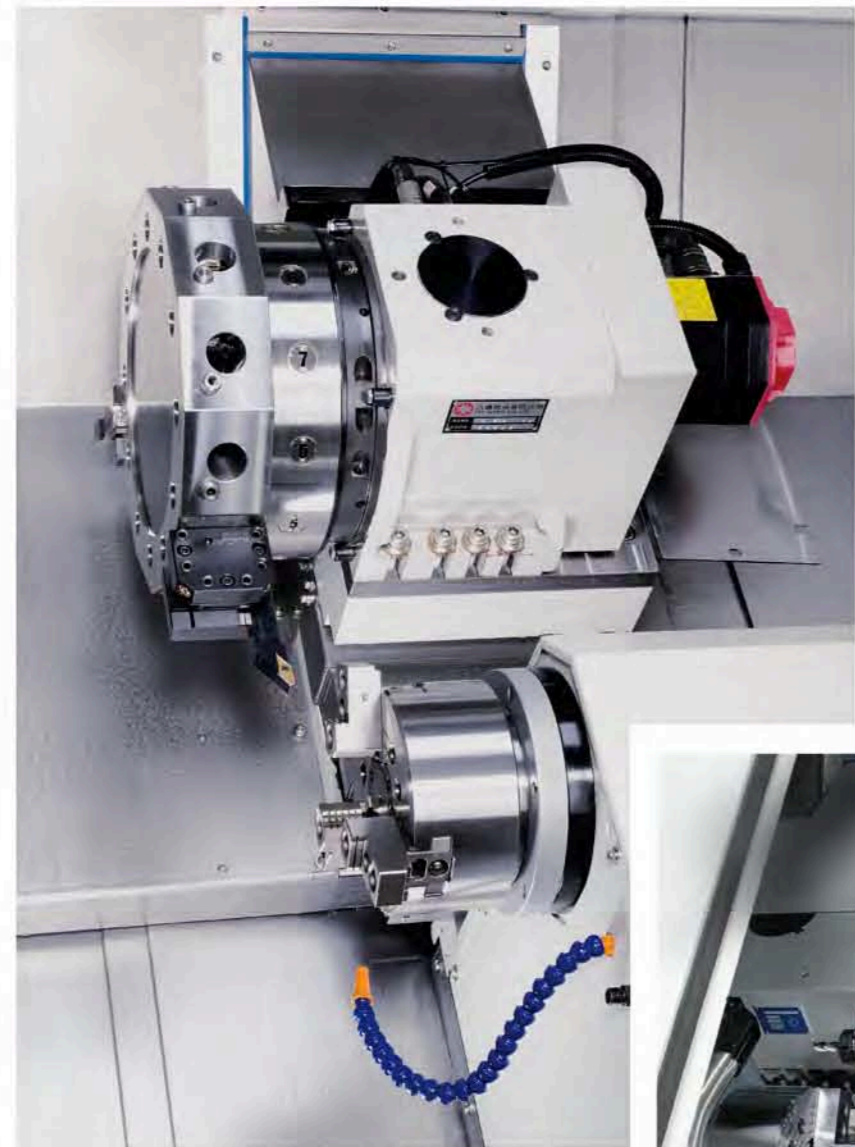
▲ NEW DESIGN GUARD

Ruggedly and Precisely Constructed Throughout

- The major machine parts, such as the base, saddle, headstock, slide and sub spindle are made of meehanite cast iron and tempered to relieve stress thereby ensuring lifetime accuracy.
- High performance servo motors are directly coupled to the pre-tensioned ballscrews.
- Box guideways on the B axis. Linear guideways on the X and Z axes. 45 degree slant bed construction features efficient chip removal and firm support.



TM series FANUC Control Panel



Twin Spindle / Twin Turret

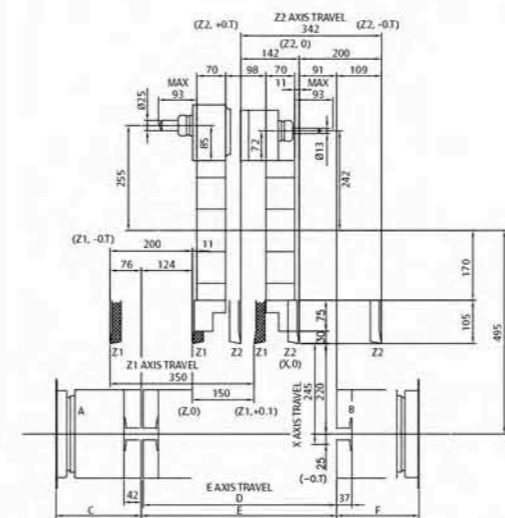
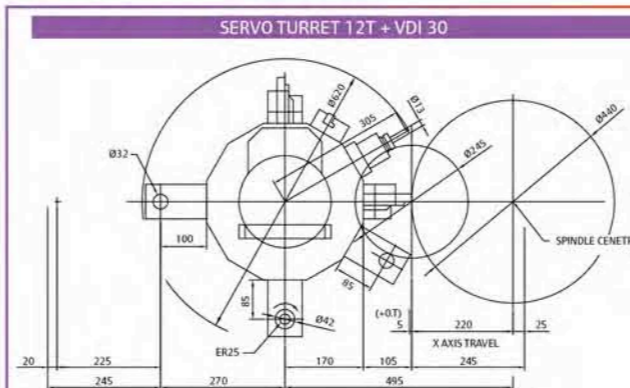
◀ Twin Spindle / Single Turret

- The combination of the main spindle and sub spindle enable the entire workpiece to be machined at one time.
- 12-position hydraulic turret. (LS-240)

◀ Fast Turret Indexing

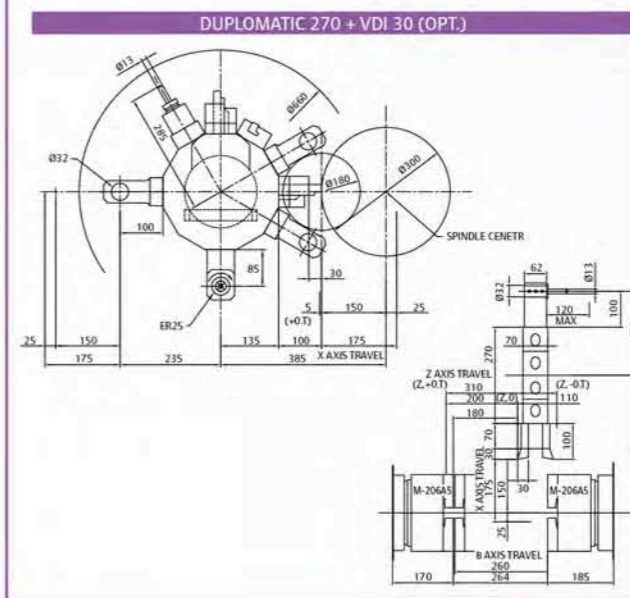
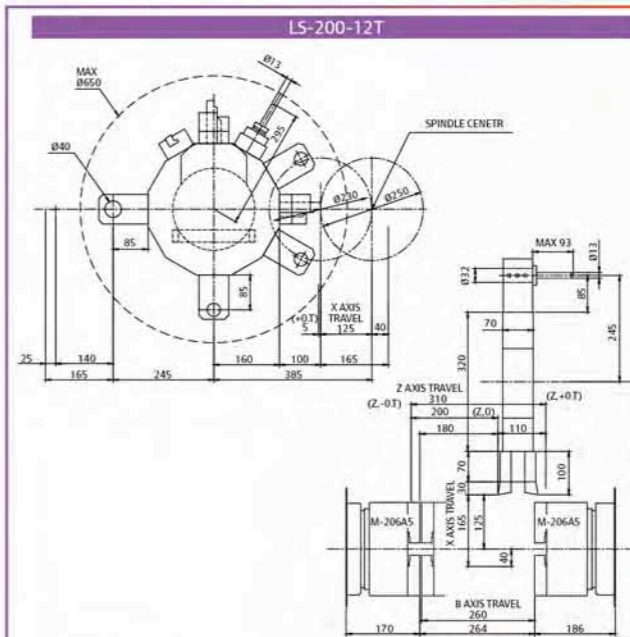
- The 12-position turret features bi-directional random tool selection.
- Fast indexing time of 0.6 seconds.
- The turret accommodates 20 x 20mm O.D. tooling and 32mm I.D. tooling.

▶ RIC-TC450/550/580TM

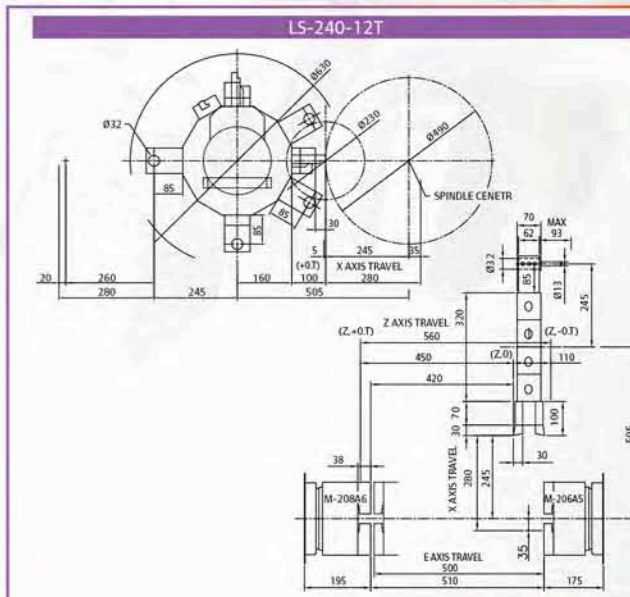


Model	TC450TM	TC550TM	TC580TM
A	M-206A5	M208A6	M-210A6
B	M-206A5	M206A5	M-208A6
C	170	185	207
D	520	505	470
E	526	511	475
F	186	186	200

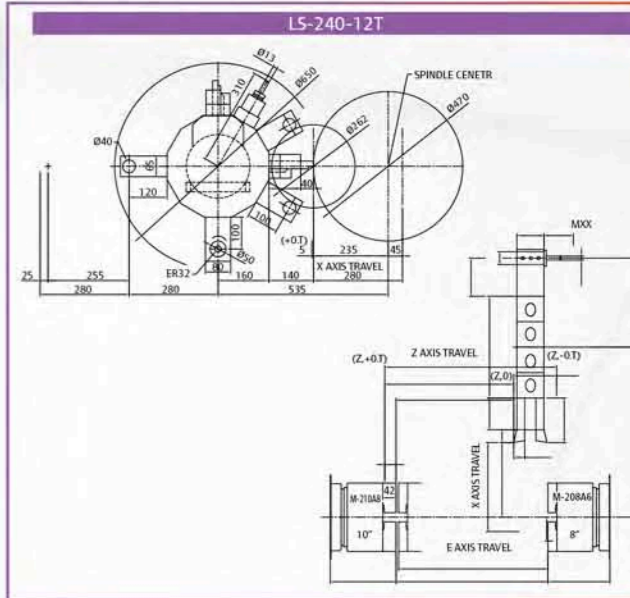
▶ RIC-TC450TMS



▶ RIC-TC550TMS



▶ RIC-TC580TMS



# SPECIFICATION

		RIC-TC450TM	RIC-TC550TM	RIC-TC580TM	RIC-TC450TMS	RIC-TC550TMS	RIC-TC580TMS	
CAPACITY	Swing Over Bed	mm (in) Ø620 (24.4")			Ø600 (23.6")		Ø630 (24.8")	
	Max. Turning Diameter	mm (in) Ø440 (17.3")			Ø250 (9.8")		Ø490 (19.3")	
	Working Length	mm 310 (Opt. 560)			290 (Opt. 540)		270 (Opt. 520)	
MAIN & SUB SPINDLE	Spindle Nose	- L: A2-5 R: A2-5			L: A2-6 R: A2-5		L: A2-6 R: A2-6	
	Spindle Bore	mm (in) Ø56 (2.2")			Ø61 (2.4")		Ø77 (3")	
	Bar Capacity	mm (in) Ø45 (1.7")			Ø52 (2")		Ø65 (2.5")	
	Spindle Speed	rpm 10-6000			10-4200		10-3500	
	Living Tools Speed (Opt.)	rpm Opt. 25-4000			Opt. 25-4000		Opt. 25-4000	
	No. of Spindle Speed	- Infinitely variable			- Infinitely variable		- Infinitely variable	
CHUCK	Hydraulic Chuck	mm (in) Ø169 (6")			Ø210 (8")		Ø254 (10")	
TURRET	Tool Number	- Servo Turret 12T + VDI 30 x 2			Hydraulic Turret LS-200-12T		Hydraulic Turret LS-240-12T	
	O.D. Tool Shank	mm 20 x 20			20 x 20		20 x 20	
	I.D. Tool Bore	mm Ø32			Ø32		Ø32	
CROSS SLIDE (X-AXIS) & CARRIAGE (Z, B-AXIS)	X1, X2 Axis (TM) / X-axis (TMS) Travel	mm 245			165		280	
	Z1, Z2 Axis (TM) / Z-axis (TMS) Travel	mm 342 (Opt. 592)			310 (Opt. 810)		560 (Opt. 1060)	
	B-axis Travel	mm 520			470		260	
	X1, X2 Axis (TM) / X-axis (TMS) Rapid Traverse	m/min 20			30		30	
	Z1, Z2 Axis (TM) / Z-axis (TMS) Rapid Traverse	m/min 20			30		30	
	B-axis Rapid Traverse	m/min 20			30		30	
MOTOR	X, Z Axis Cutting Feed Rate	mm/rev. 0.001 ~ 500			0.001 ~ 500		0.001 ~ 500	
	Main Spindle (Continuous)	- α P12i 5.5kW (7.5HP)			α P18i 9kW (12HP)		α P22i 11kW (15HP)	
	Main Spindle (30 min. Rating)	- α P12i 7.5kW (10HP)			α P18i 11kW (15HP)		α P22i 15kW (20HP)	
	Sub Spindle (Continuous)	- α 6i 5.5kW (7.5HP)			α 6i 5.5kW (7.5HP)		α 8i 7.5kW (10HP)	
	Sub Spindle (30 min. Rating)	- α 6i 7.5kW (10HP)			α 6i 7.5kW (10HP)		α 8i 11kW (15HP)	
	X1, X2 Axis (TM) / X-axis (TMS)	- α 8Bi/3000 1.6kW (2HP) x 2			α 8Bi/3000 1.6kW (2HP) x 2		α 12Bi/3000 3kW (4HP) x 2	
	Z1, Z2 Axis (TM) / Z-axis (TMS)	- α 8i/3000 1.6kW (2HP) x 2			α 8i/3000 1.6kW (2HP) x 2		α 8i/3000 1.6kW (2HP) x 2	
	B-axis	- α 8i/3000 1.6kW (2HP)			α 8i/3000 1.6kW (2HP)		α 8i/3000 1.6kW (2HP)	
	Hydraulic Pump	- 1.5kW (2HP)			1.5kW (2HP)		1.5kW (2HP)	
	Coolant Pump	- 750W (1HP) x 2			750W (1HP)		750W (1HP)	
TANK CAPACITY	Hydraulic Tank	Liter 60			60		60	
	Coolant Tank	Liter 100			100		100	
MEASUREMENT (APPROX.)	Floor Space (L x W)	mm 4150 x 2100			3750 x 2000		4150 x 2100	
	Height	mm 2350			2000		2100	
	Weight (N.W./G.W.)	kg 7160 / 7830			7300 / 8000		7400 / 8100	

\*Specifications are subject to change without prior notice.

## STANDARD ACCESSORIES

- Hydraulic 3-jaw chuck with cylinder
- Coolant pump + tank
- Internal coolant system to turret
- Linear guideways for X&Z axes
- 12-Position servo turret (TM series)
- 12-Position hydraulic turret (TMS series)
- Auto. lubrication system
- Work light
- 3 Color alarm light
- Hydraulic power unit
- Heat exchanger for electrical cabinet
- Chip conveyor and bucket
- Tool box and tools

## OPTIONAL ACCESSORIES

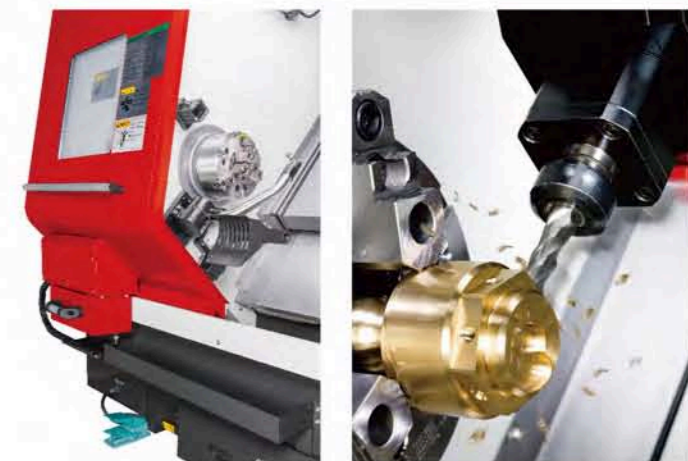
- CE norm
- Auto. tool setter measurement
- Manual tool setter measurement
- Cs axis and power turret
- Transformer
- Auto. door and safety switch
- Auto. parts catcher
- Prevent crash install of each axis (Safety equipment)
- Bar feeder
- Parts cut off detector
- Larger spindle motor
- Air conditioner for electrical cabinet
- Oil mist collector
- Oil skimmer
- Collet chuck

\*Please refer to quotation for full options.

▲ RIC-TC300Y



▲ RIC-TC550TMSY



▲ RIC-TC250LY

Oil mist collector  
(Opt.)



▲ RIC-TC550TMY



## FEATURES

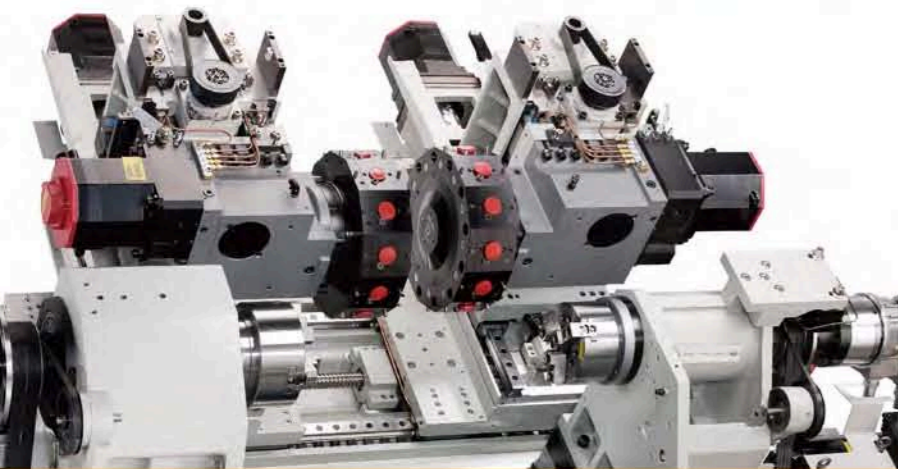
- Maximize machining versatility, productivity and profits with proven Y-axis turning center.
- The Y-axis turning centers are designed with a Y-axis turret. The series of turning center has a 45 degree slant bed construction combined with heavy duty roller type linear guideways on X, Z, Y-axis. A wide range of axis configurations are available that meet flexible machining requirements.

## Y AXIS CNC LATHE





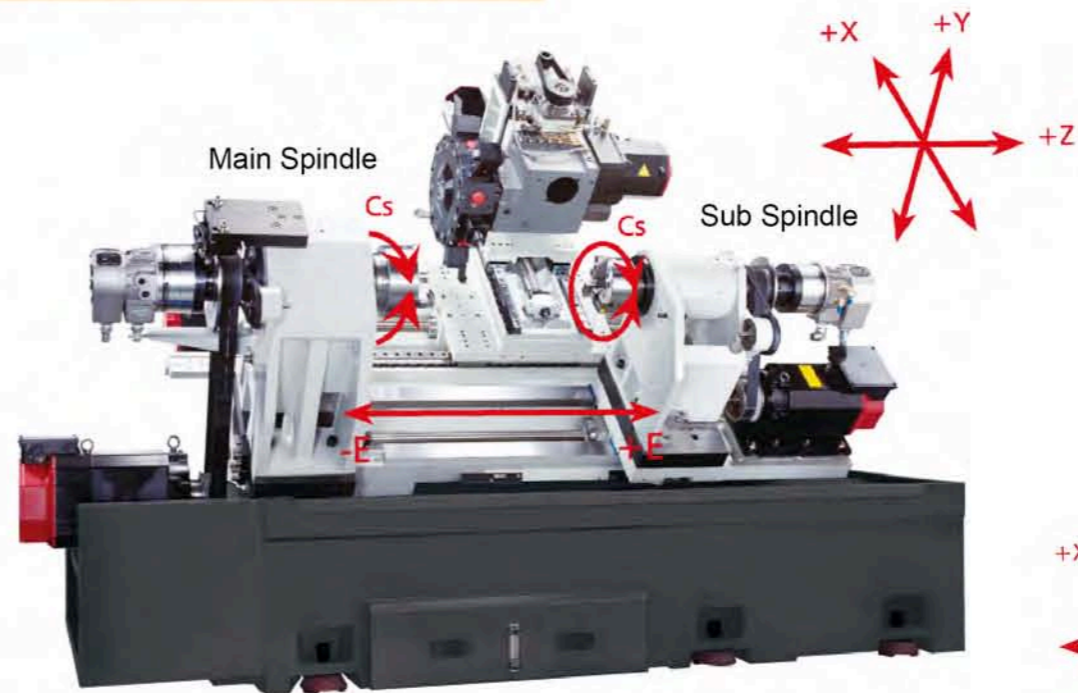
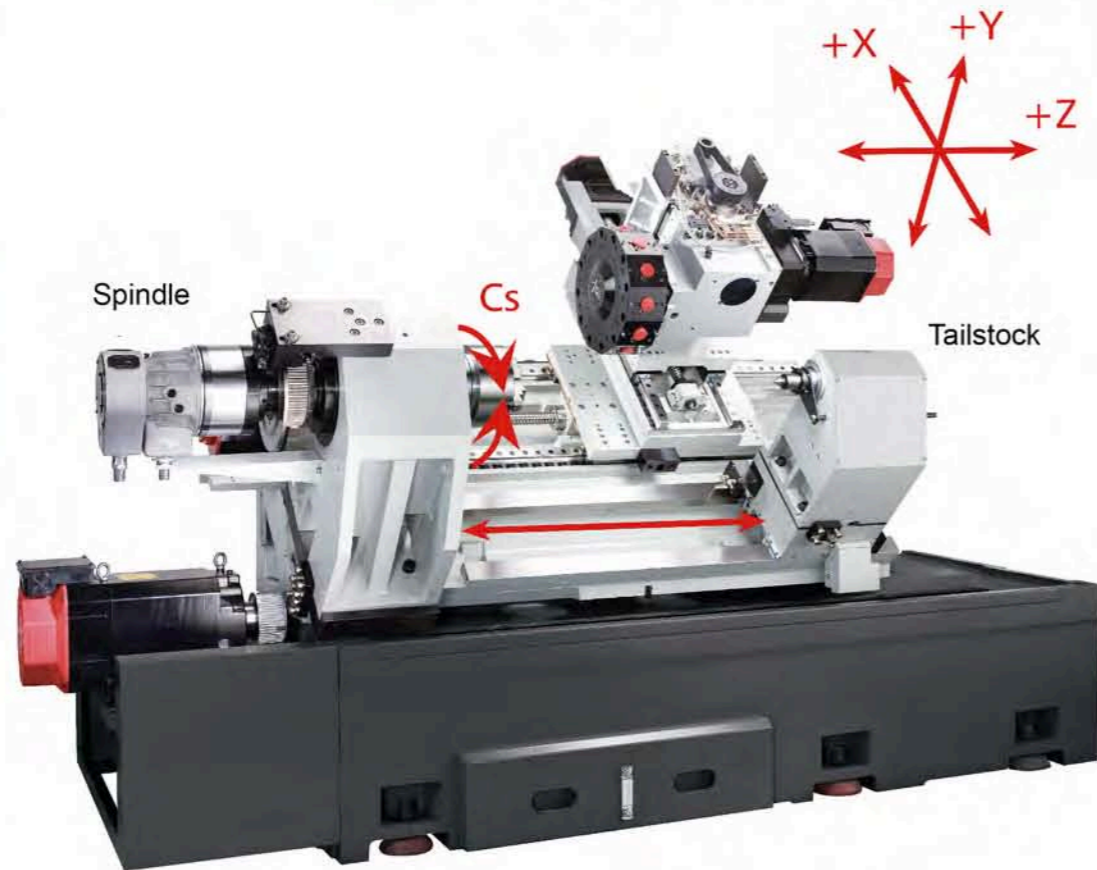
Roller linear guideways on **Y axis** that ensures high stability during heavy cutting.



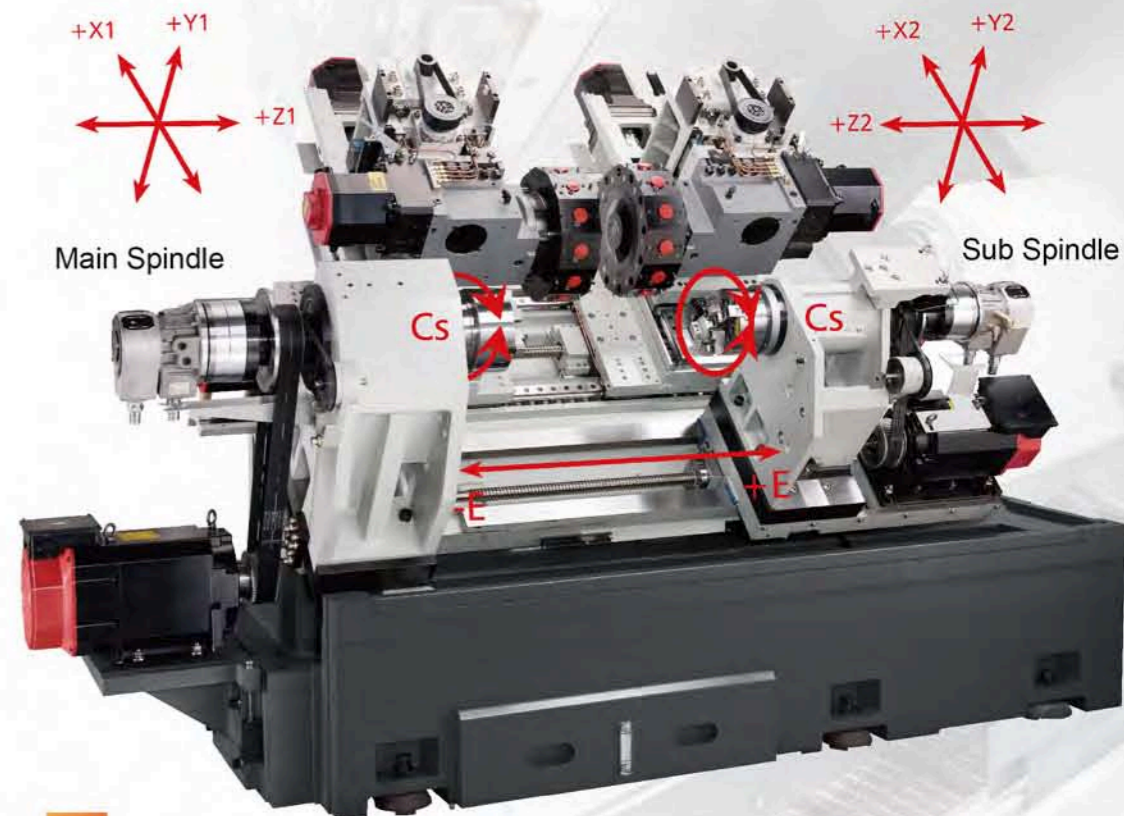
### Ruggedly and Precisely Constructed Throughout

- The major machine parts, such as the base, saddle, headstock, slide, sub spindle and tailstock are made of Meehanite cast iron and tempered to relieve stress thereby ensuring lifetime accuracy.
- 45 degree slant bed construction features efficient chip removal and firm support.
- High performance servo motor are directly coupled to the pre-tensioned ballscrews.
- Roller linear guideways on X and Z axis.
- Box guideways on B axis.

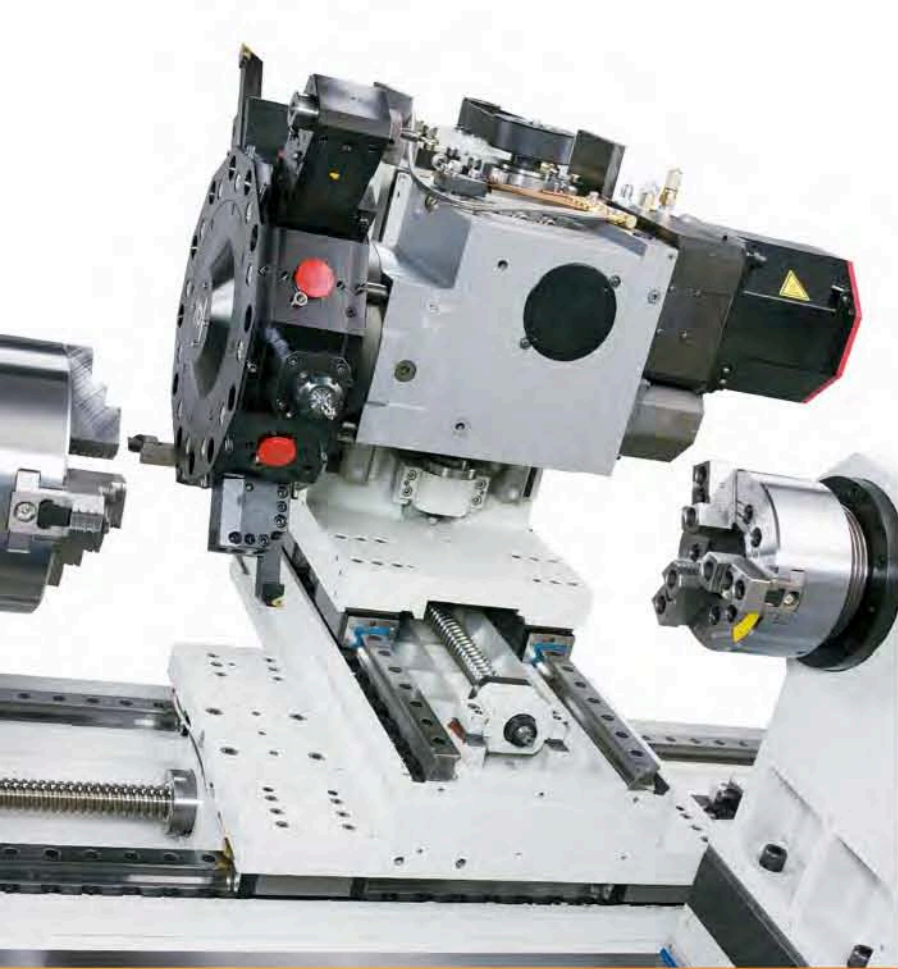
## RIC-TC250LY SINGLE SPINDLE & SINGLE TURRET



## RIC-TC550TMY TWIN SPINDLE & TWIN TURRET



## RIC-TC550TMSY TWIN SPINDLE & SINGLE TURRET



## TWIN SPINDLE / SINGLE TURRET TWIN SPINDLE / TWIN TURRET

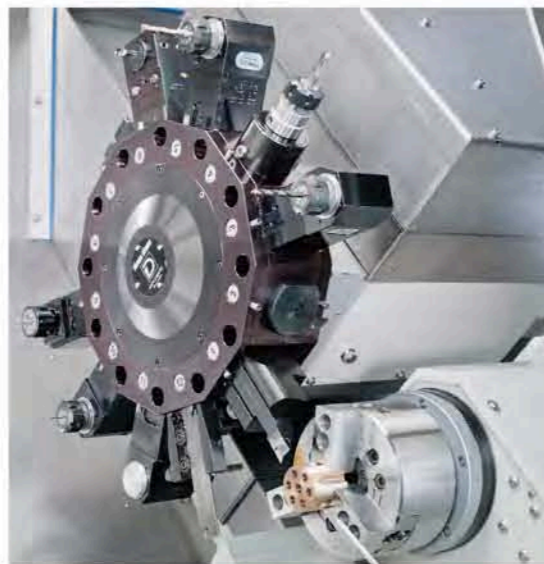


The combination of the main spindle and sub spindle enables the entire workpiece to be machined at one time.



### Y axis Turret + VDI Disc

- Fast indexing turret features bi-direction rotation.
- High rigidity for front and back machining.
- High stiffness and accuracy tanks to the structure configuration and to slideway sizing.



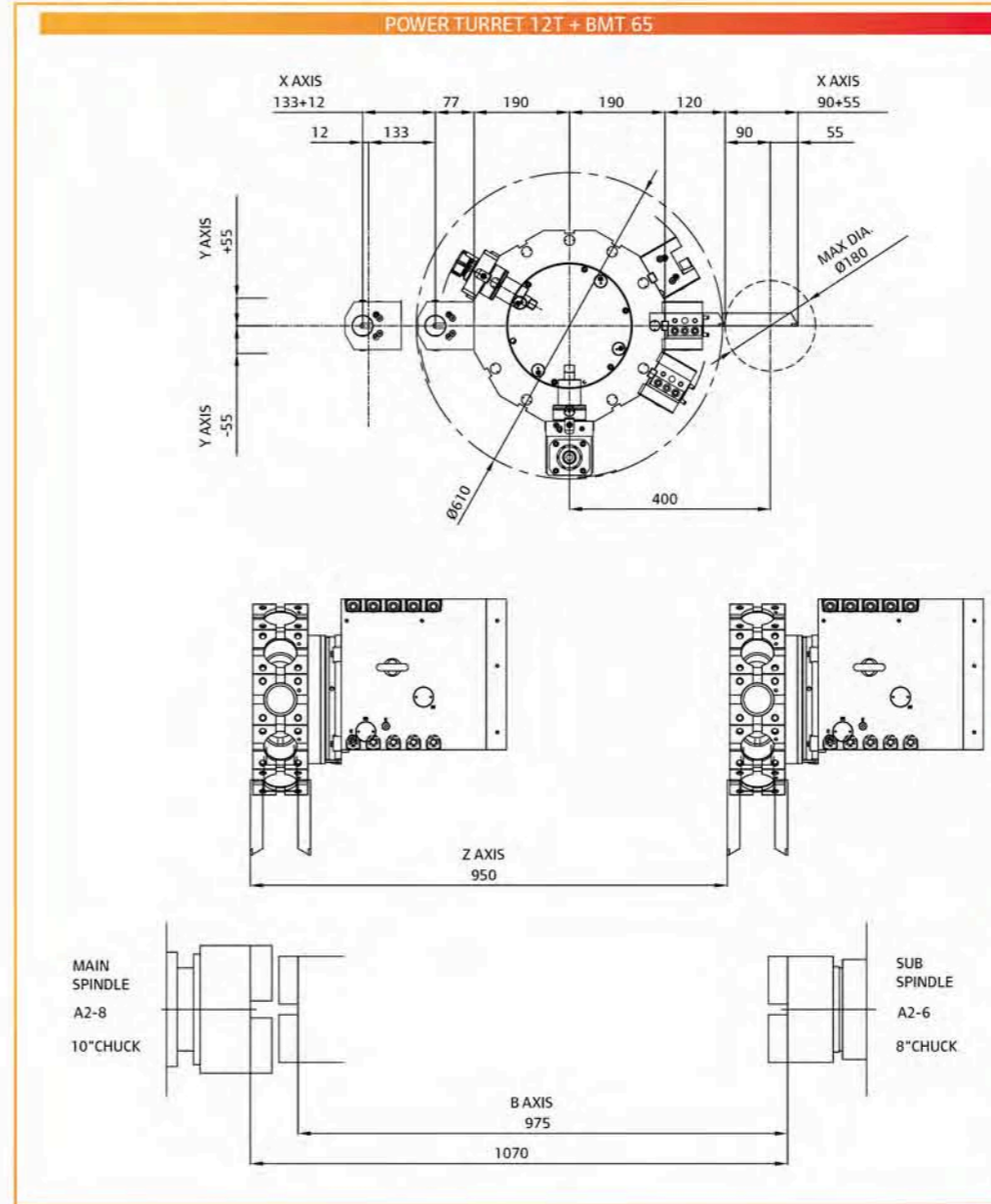
### Precision Spindle

- The cartridge type is conveniently removed allowing for convenient servicing.
- The spindle runs on class P4 precision bearings providing high axial thrust capability and superior radial stability. This ensures high precision during heavy duty turning.

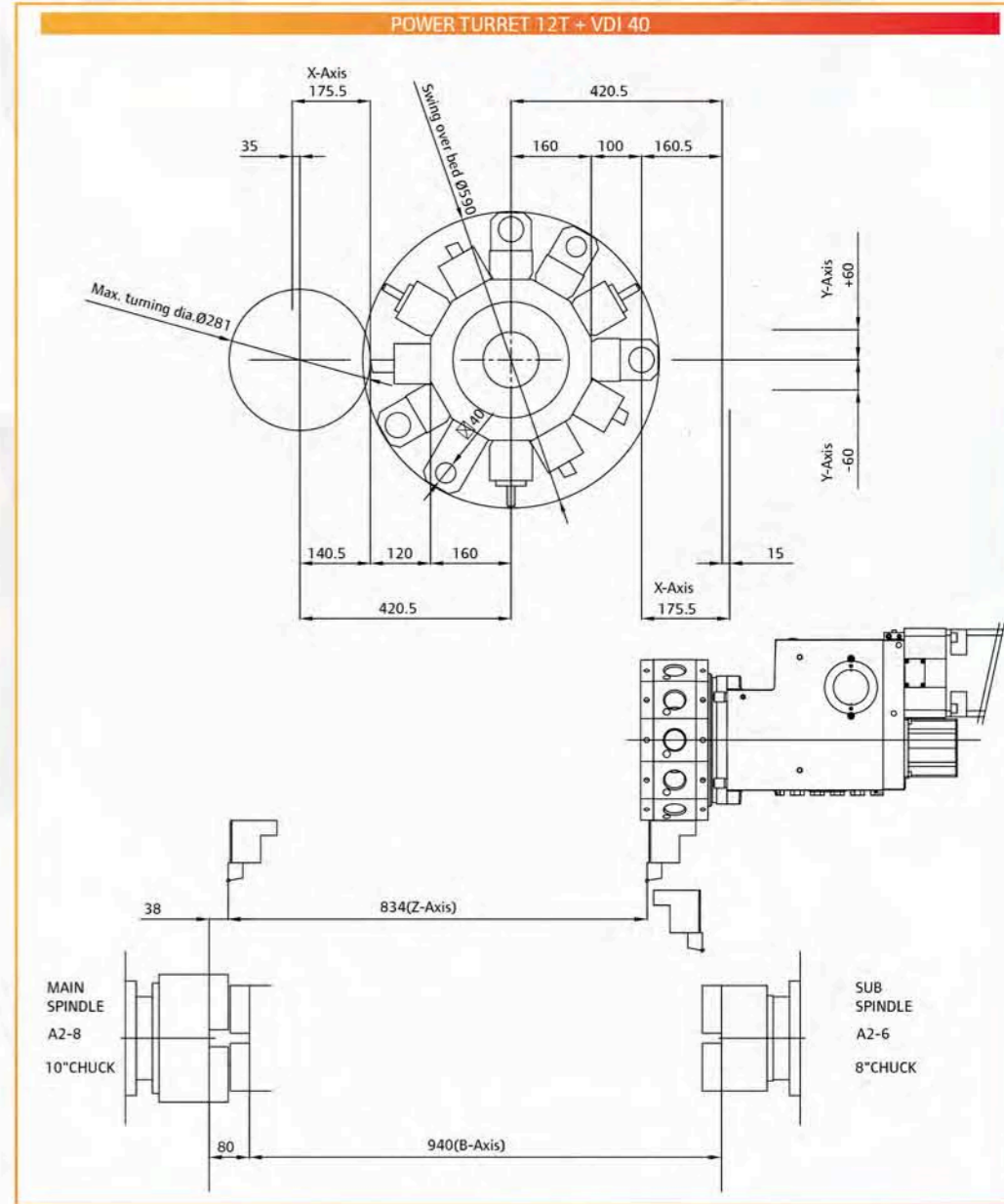
### C axis and TD axis Turret + VDI Disc

- Employs radial type disc, the radial VDI, a 12-position power turret with Fanuc motor. (Rotating toolholder and tools are not included)
- High indexing resolution of 0.001 for precision contour / index control.
- Hydraulic disk brake locking provides maximum stability during milling and contouring.
- The unit allows front and back machining with fast tool change.
- The turret disk and TD axis are driven by a motor.

### RIC-TC580TMSY



### RIC-TC580TMSY



# SPECIFICATION

		RIC-TC250Y	RIC-TC250LY	RIC-TC300Y	RIC-TC450TMSY	RIC-TC550TMSY	RIC-TC580TMSY	RIC-TC450TMY	RIC-TC550TMY	RIC-TC580TMY						
CAPACITY	Swing Over Bed	mm (in) Ø780 (30.7")		Ø780 (30.7")			Ø780 (30.7")			Ø780 (30.7")						
	Max. Turning Diameter	mm (in) Ø300 (11.8")		Ø430 (16.9")			Ø300 (11.8")			Ø300 (11.8")						
	Working Length	mm 365	590	605	260	500	495	Ø290 (11.4")								
MAIN & SUB SPINDLE	Spindle Nose	A2-6		A2-6	A2-8	Main: A2-5 Sub: A2-5	Main: A2-6 Sub: A2-5	Main: A2-8 Sub: A2-6	Main: A2-5 Sub: A2-5	Main: A2-6 Sub: A2-5	Main: A2-6 Sub: A2-6					
	Spindle Bore	mm (in) Ø61 (2.4")	Ø77 (3")	Ø90 (3.5")	Ø56 (2.2")	Ø56 (2.2")	Ø61 (2.4")	Ø56 (2.2")	Ø90 (3.5")	Ø61 (2.4")	Ø56 (2.2")	Ø90 (3.5")	Ø61 (2.4")			
	Bar Capacity	mm (in) Ø52 (2")	Ø65 (2.6")	Ø77 (3")	Ø45 (1.7")	Ø45 (1.7")	Ø51 (2")	Ø45 (1.7")	Ø77 (3")	Ø51 (2")	Ø45 (1.7")	Ø45 (1.7")	Ø75 (2.95")	Ø52 (2")		
	Spindle Speed	rpm 4200	3500	3500 (Opt. 2800)	10~6000	10~6000	10~4200	10~6000	10~3500	10~4200	10~6000	10~6000	10~4200	10~6000	10~3500	10~4200
	Living Tools Speed	rpm 4000	4000			4000			4000			4000				
	No. of Spindle Speed	-	Infinitely variable			Infinitely variable			Infinitely variable			Infinitely variable				
CHUCK	Hydraulic Chuck	mm (in) Ø210 (8")	Ø254 (10")	Ø254 (10") (Opt. 12")	Ø169 (6")	Ø169 (6")	Ø210 (8")	Ø169 (6")	Ø254 (10")	Ø210 (8")	Ø169 (6")	Ø169 (6")	Ø210 (8")	Ø169 (6")	Ø254 (10")	Ø210 (8")
TURRET	Tool Number	Power Turret 12T + VDI 30		Power Turret 12T + VDI 40		Power Turret 12T + VDI 30		Power Turret 12T + VDI 40		Power Turret 12T + VDI 30 x 2		Power Turret 12T + VDI 40				
	O.D. Tool Shank	mm 20 x 20	20 x 20	25 x 25	20 x 20	20 x 20	25 x 25	20 x 20		20 x 20		25 x 25				
	I.D. Tool Bore	mm Ø32	Ø32	Ø40	Ø32	Ø32	Ø40	Ø32		Ø32		Ø32				
CROSS SLIDE (X-AXIS) & CARRIAGE (Z, B-AXIS) & Y-AXIS	X-axis (Y, TMSY) / X1, X2 Axis (TMY) Travel	mm 175	175	220	175	175	220	175		175		175				
	Z-axis (Y, TMSY) / Z1, Z2 Axis (TMY) Travel	mm 410	685	650	224	500	540	295		295		295				
CROSS SLIDE (X-AXIS) & CARRIAGE (Z, B-AXIS) & Y-AXIS	B-axis Travel	mm -	-	-	250	500	460	520		500		465				
	Y-axis (Y, TMSY) / Y1, Y2 Axis (TMY) Travel	mm ±40	±40	±60	±40	±40	±60	±40		±40		±40				
	X-axis (Y, TMSY) / X1, X2 Axis (TMY) Rapid Traverse	m/min 30	30			30			20			20				
	Z-axis (Y, TMSY) / Z1, Z2 Axis (TMY) Rapid Traverse	m/min 30	30			30			20			20				
	B-axis Rapid Traverse Speed	m/min -	-			20			20			20				
	Y-axis (Y, TMSY) / Y1, Y2 Axis (TMY) Rapid Traverse	m/min 7	7			7			7			7				
	X, Y, Z Axis Cutting Feed Rate	mm/rev. 0.001 ~ 500	0.001 ~ 500			0.001 ~ 500			0.001 ~ 500			0.001 ~ 500				
MOTOR	Main Spindle (Continuous)	-	α P18i 9kW (12HP)	α P22i 11kW (15HP)	α P30i 15kW (20HP)	α P12i 5.5kW (7.5HP)	α P18i 9kW (12HP)	α P22i 11kW (15HP)	α P12i 5.5kW (7.5HP)	α P18i 9kW (12HP)	α P22i 11kW (15HP)	α P12i 5.5kW (7.5HP)	α P18i 9kW (12HP)	α P22i 11kW (15HP)		
	Main Spindle (30 min. Rating)	-	α P18i 11kW (15HP)	α P22i 15kW (20HP)	α P30i 18kW (25HP)	α P12i 7.5kW (10HP)	α P18i 11kW (15HP)	α P22i 15kW (20HP)	α P12i 7.5kW (10HP)	α P18i 11kW (15HP)	α P22i 15kW (20HP)	α P12i 7.5kW (10HP)	α P18i 11kW (15HP)	α P22i 15kW (20HP)		
	Sub Spindle (Continuous)	-	-	-	-	α 6i 5.5kW (7.5HP)	α 6i 5.5kW (7.5HP)	α 8i 7.5kW (10HP)	α 6i 5.5kW (7.5HP)	α 6i 5.5kW (7.5HP)	α 8i 7.5kW (10HP)	α 6i 5.5kW (7.5HP)	α 6i 5.5kW (7.5HP)	α 8i 7.5kW (10HP)		
	Sub Spindle (30 min. Rating)	-	-	-	-	α 6i 7.5kW (10HP)	α 6i 7.5kW (10HP)	α 8i 11kW (15HP)	α 6i 7.5kW (10HP)	α 6i 7.5kW (10HP)	α 8i 11kW (15HP)	α 6i 7.5kW (10HP)	α 6i 7.5kW (10HP)	α 8i 11kW (15HP)		
	X-axis (Y, TMSY) / X1, X2 Axis (TMY)	-	α 12Bi 3kW (4HP)	α 12Bi 3kW (4HP)	α 22Bi 4kW (5HP)	α 12Bi 3kW (4HP)	α 12Bi 3kW (4HP)	α 22Bi 4kW (5HP)	α 12i 3kW (4HP)		α 12Bi 3kW (4HP)		α 12Bi 3kW (4HP)			
	Z-axis (Y, TMSY) / Z1, Z2 Axis (TMY)	-	α 12i 3kW (4HP)		-	α 12i 3kW (4HP)		α 8i 1.6kW (2HP)		α 8i 1.6kW (2.1HP)		α 8i 1.6kW (2.1HP)				
	B-axis	-	-	-	-	α 8i 1.6kW (2HP)		α 8i 1.6kW (2HP)		α 8i 1.6kW (2.1HP)		α 8i 1.6kW (2.1HP)				
	Y-axis (Y, TMSY) / Y1, Y2 Axis (TMY)	-	α 4Bi 1.4kW (1.9HP)	α 4Bi 1.4kW (1.9HP)	α 8Bi 1.6kW (2HP)	α 4Bi 1.4kW (1.9HP)	α 4Bi 1.4kW (1.9HP)	α 8Bi 1.6kW (2HP)	α 4Bi 1.4kW (1.9HP)		α 4Bi 1.4kW (1.9HP)		α 4Bi 1.4kW (1.9HP)			
	TD-axis (Y, TMSY) / TD1, TD2 Axis (TMY)	-	α 12i 3kW (4HP)		α 22i 4kW (5.4HP)	α 12i 3kW (4HP)		α 22i 4kW (5.4HP)		α 12i 3kW (4HP)		α 12i 3kW (4HP)				
	Hydraulic Pump	-	1.5kW (2HP)			1.5kW (2HP)			1.5kW (2HP)			1.5kW (2HP)				
Coolant Pump	-	750W (1HP)			750W (1HP)			750W (1HP) x 2			750W (1HP) x 2					
PROGRAMMABLE TAILSTOCK	Quill Diameter	mm Ø75	Ø75			-			-			-				
	Quill Travel	mm 80	80			-			-			-				
	Quill Taper	-	MT4	MT4	MT5	-			-			-				
	Tailstock Travel	mm 360	500	550	-			-			-					
TANK CAPACITY	Hydraulic Tank	Liter 60	60			60			60			60				
	Coolant Tank	Liter 100	200			100			100			100				
MEASUREMENT (APPROX.)	Floor Space (L x W)	mm 3550 x 2000	4000 x 2200	4000 x 2200	3750 x 2000	4000 x 2200	4000 x 2200	4150 x 2150		4150 x 2150		4150 x 2150				
	Height	mm 2200	2200			2200			2335			2335				
	Weight (N.W./G.W.)	kg 5500 / 5820	6320 / 6820	7000 / 7640	5480 / 6030	6640 / 7230	6830 / 7480	7670 / 8100	7800 / 8280	8000 / 8500		8000 / 8500				

\*Specifications are subject to change without prior notice.

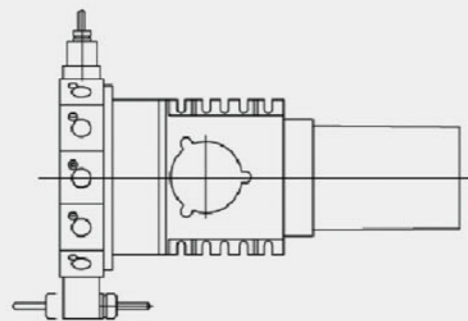
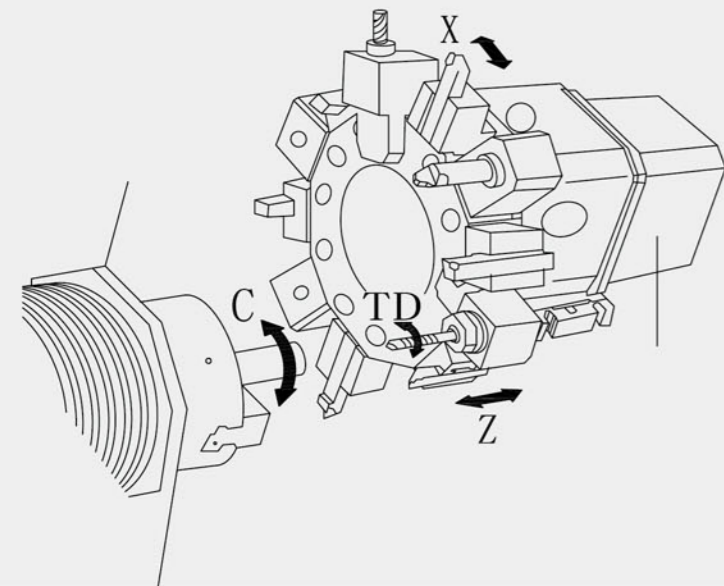
## STANDARD ACCESSORIES

- Hydraulic 3-jaw chuck with cylinder
- Cs axis + Y axis power turret
- 3 Bar-750W coolant pump
- 100 Liter capacity coolant tank
- 12-Position power turret
- Auto. lubrication system
- Work light
- 3 Color alarm light
- Hydraulic unit
- Heat exchanger for electrical cabinet
- Chip conveyor and bucket
- Tool box and tools

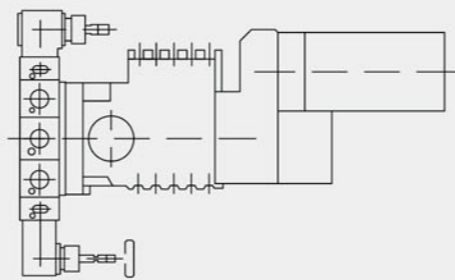
## OPTIONAL ACCESSORIES

- CE norm
- Auto. tool setter measurement
- Manual tool setter measurement
- Parts catcher
- Bar feeder
- Oil mist collector
- Oil skimmer
- Transformer

\*Please refer to quotation for full options.



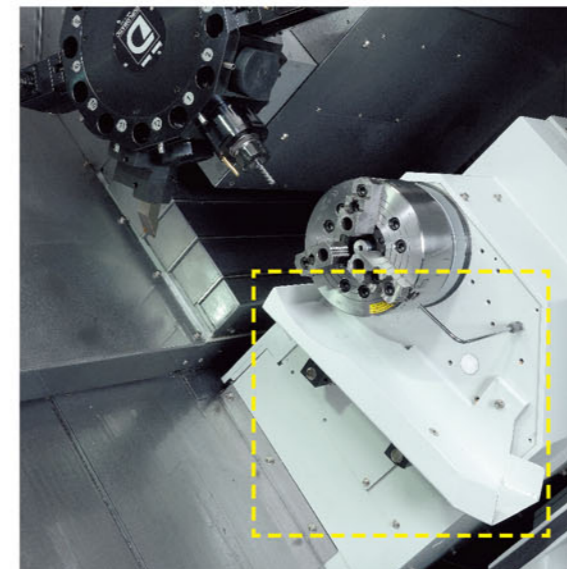
Radial VDI turret front & back machining  
(Hydraulic turret for TMS series /  
Servo turret for TM series)



Radial driven tool system  
front & back machining (Y-axis series)  
(Opt. for TM / TMS series)

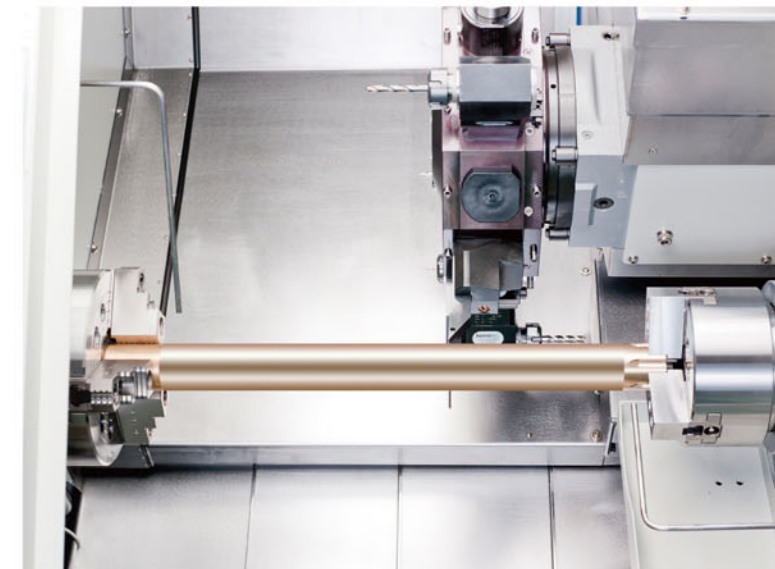


Auto Parts Catcher (Opt.)



Sub Spindle Parts Catcher (Opt.)

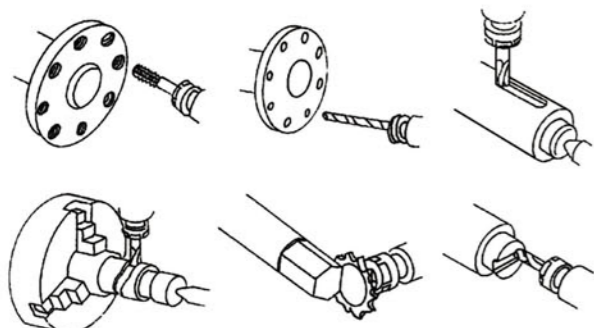
- For TM/TMS/TMY/TMSY series.



Synchronized Machining on Two Spindles

- For TM/TMS/TMY/TMSY series.
- One cycle can finish front side & back side machining.
- The main spindle and the sub spindle run synchronizely permitting workpiece machining at one time.

C-Axis Process Drawing



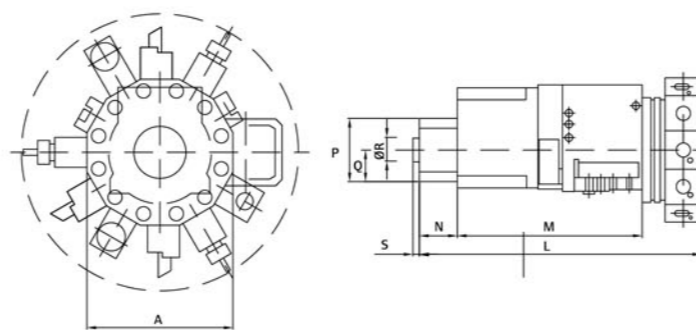
DIRECT MOUNT

No.	Tool/Model	RIC-TC450TMS/TC550TMS	RIC-TC580TMS
1	Bore	Ø8, Ø10, Ø12, Ø16, Ø20, Ø25, Ø32	Ø8, Ø10, Ø12, Ø16, Ø20, Ø25, Ø32, Ø40
2	Shank Dia.	□20 (25 Opt.)	□25
3	End	□20 (25 Opt.)	□25
4	Cut	20	25
5	Tap	Ø16	Ø20
6	Drill	MT#2, #3	MT#2, #3, #4

SPECIFICATIONS

Model	RIC-TC250Y / TC250LY / TC450TMS / TC550TMS / TC450TMSY / TC550TMSY / TC450TMY / TC550TMY	RIC-TC300Y / TC580TMS / TC580TMSY
C-Axis Precision	0.001	
Power Turret	Type 16	Type 20
Max. Speed	4000rpm	4000rpm
Drilling	Ø1-13mm	Ø2.5-20mm
Milling	Ø1-13mm	Ø2.5-20mm
Taper	M1-M10	M3-M12
Tool Shank Size	Ø32mm	Ø40mm
Motor	• TC250Y / TC250LY : AC 2.2/3.7kW • TC450TMS / TC550TMS / TC450TMSY / TC550TMSY / TC450TMY / TC550TMY : AC 3.0kW	• TC300Y : AC 3.7/5.5kW • TC580TMS / TC580TMSY : AC 3.0kW

VDI for reference only



VDI

No.	Tool/Model	RIC-TC250Y / TC250LY / TC450TMS / TC550TMS / TC450TMSY / TC550TMSY / TC450TMY / TC550TMY	RIC-TC300Y / TC580TMS / TC580TMSY
1	Bore	Ø8, Ø10, Ø12, Ø16, Ø20, Ø25, Ø32	Ø8, Ø10, Ø12, Ø16, Ø20, Ø25, Ø32, Ø40
2	Shank Dia.	□20 (25 Opt.)	□25
3	End	□20 (25 Opt.)	□25
4	Cut	20	25
5	Tap	M10(TMS series), Ø16	M16(TMS series), Ø20
6	Drill	MT#1, #2, #3	MT#2, #3, #4

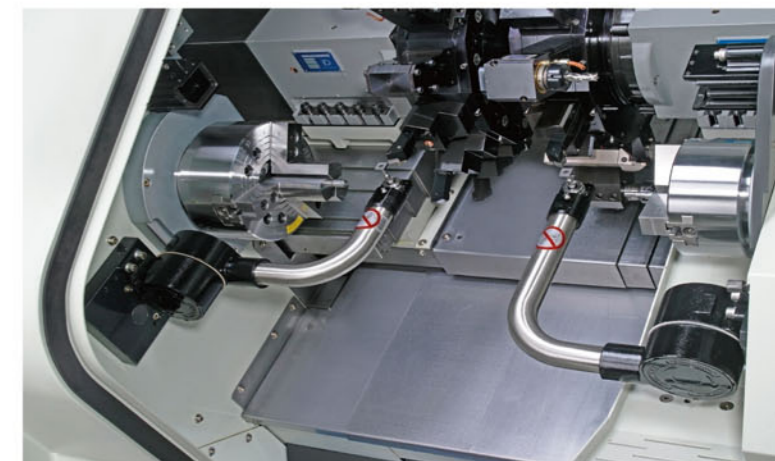


Parts Cut-off Detector (Opt.)

- The detector is used for detecting if the part is completely cut off.
- It prevents cutting problem on twin spindles caused by cut-off failure.



Tool Setter (Opt.)



Main Spindle Tool Setter and Sub Spindle Tool Setter (Opt.)

- For TM/TMS/TMY/TMSY series.
- Designed for reducing tool set-up time, the tool setter automatically detects tool wear condition.



For TM/TMS series



For TC20/30

**Hydraulic Power Unit**

- The hydraulic power unit employs high quality components for long service life and stable motions.
- The unit delivers high pressure to the turret, Cs brake and 3-jaw chuck.



**Programmable Tailstock**

- Not for TM/TMS/TMY/TMSY series.
- Designed for saving time and mainpower.
- The orientation of tailstock is high-precision.



**Power Turret + VDI Disc (Opt.)**



**C Axis and TD Axis with Power Turret + VDI Disc (Opt.)**

- Employs VDI30, VDI40, 12 station power turret with Fanuc servo motor. (Rotating toolholder and tools are not included.)
- High indexing resolution of 0.001 for precision contour/ index control.
- Hydraulic disk brake locking provides maximum stability during milling and contouring.



**High Pressure Coolant Pump (Opt.)**



For TM/TMS series



For Y series

**Electrical Cabinet**

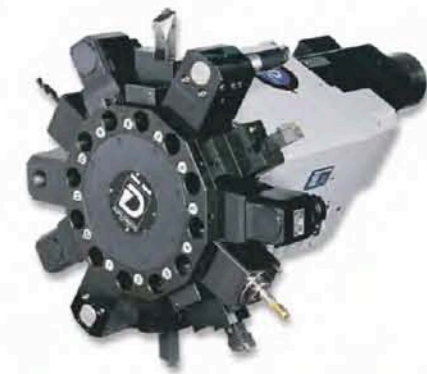
- The entire control circuit in the electrical cabinet is well planned for easy maintenance.
- Top quality electronic components assure extra stable control performance and long service life.



**Bar Feeder (Opt.)**



**Cs Axis with Power Turret + VDI Disc (Opt.)**



**TD Axis with Power Turret + VDI Disc (Opt.)**

- TD-Axis & turret with a servo motor turret. The unit allows front and back machining with fast tool change.
- The turret disk and TD axis are driven by a motor.



RIC-TC6680



RIC-TC110160

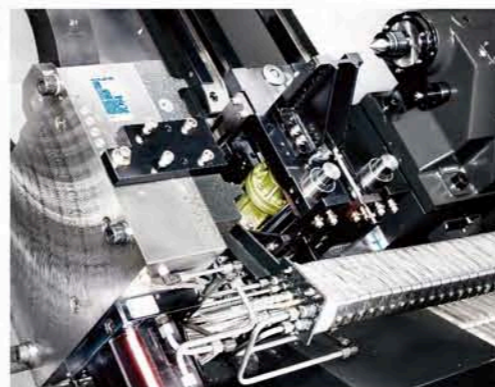
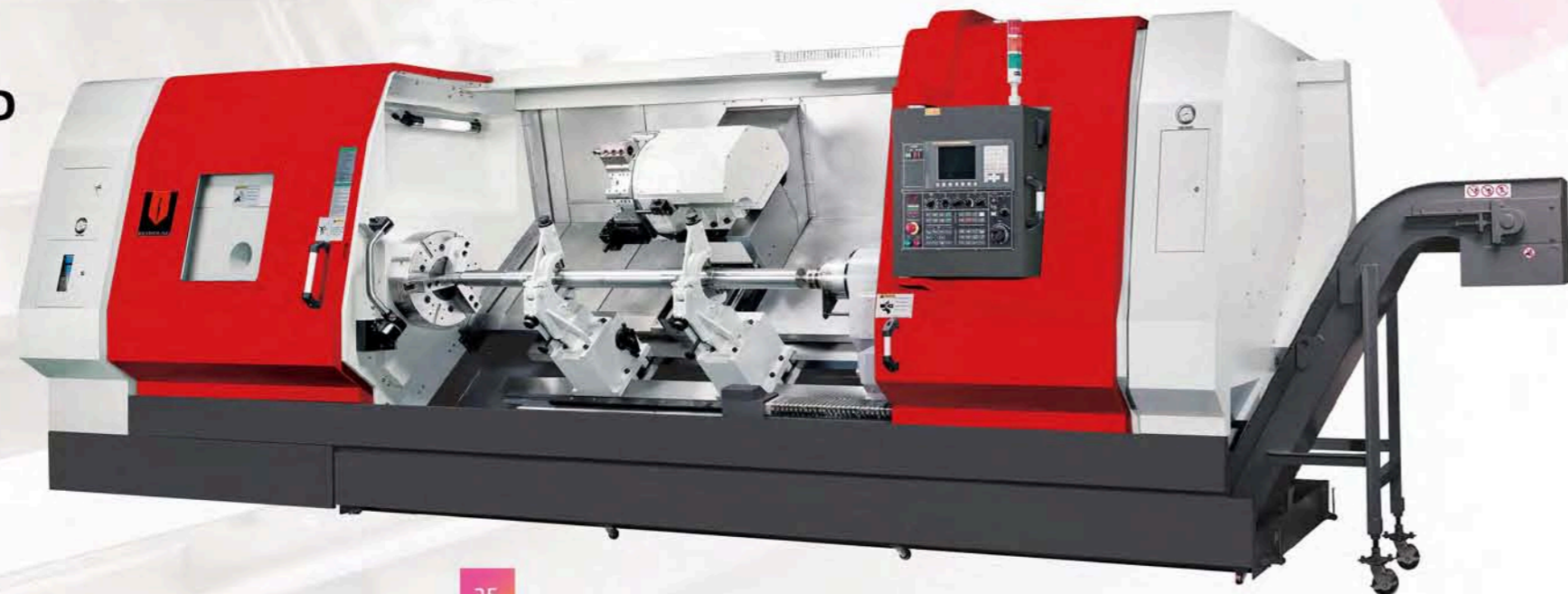


### FEATURES

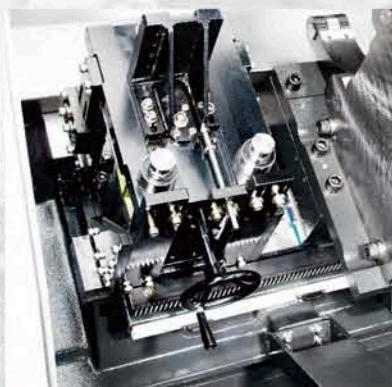
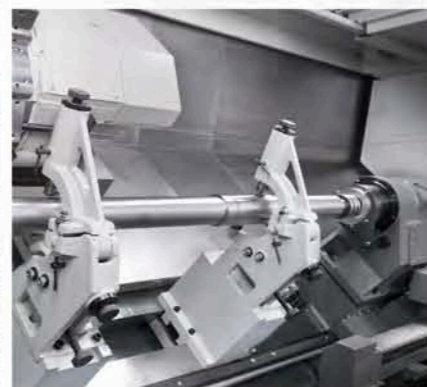
- Provide users with significantly greater cutting capabilities, better cut quality and increased accuracy.
- The design concept of RIC-TC660/ 850/ 970 / 1100 series service of CNC Lathe is to enhance their heavy cutting capability high efficiency.
- With 500-1200 diameter of cutting, these machines are applicable for cutting large pipes and shafts in traffic and energy industries, etc.

## HEAVY DUTY CNC LATHE

RIC-TC97120



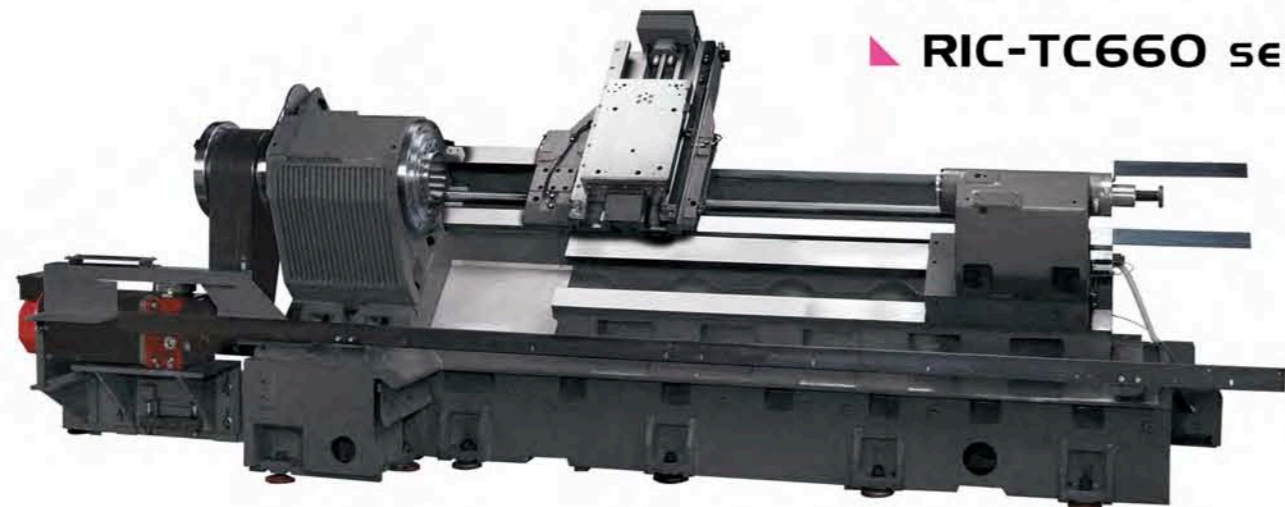
Steady Rest (OPT.)  
Designed for support long workpiece.



Parts Supporting Device  
Offer stable support to the long workpiece.



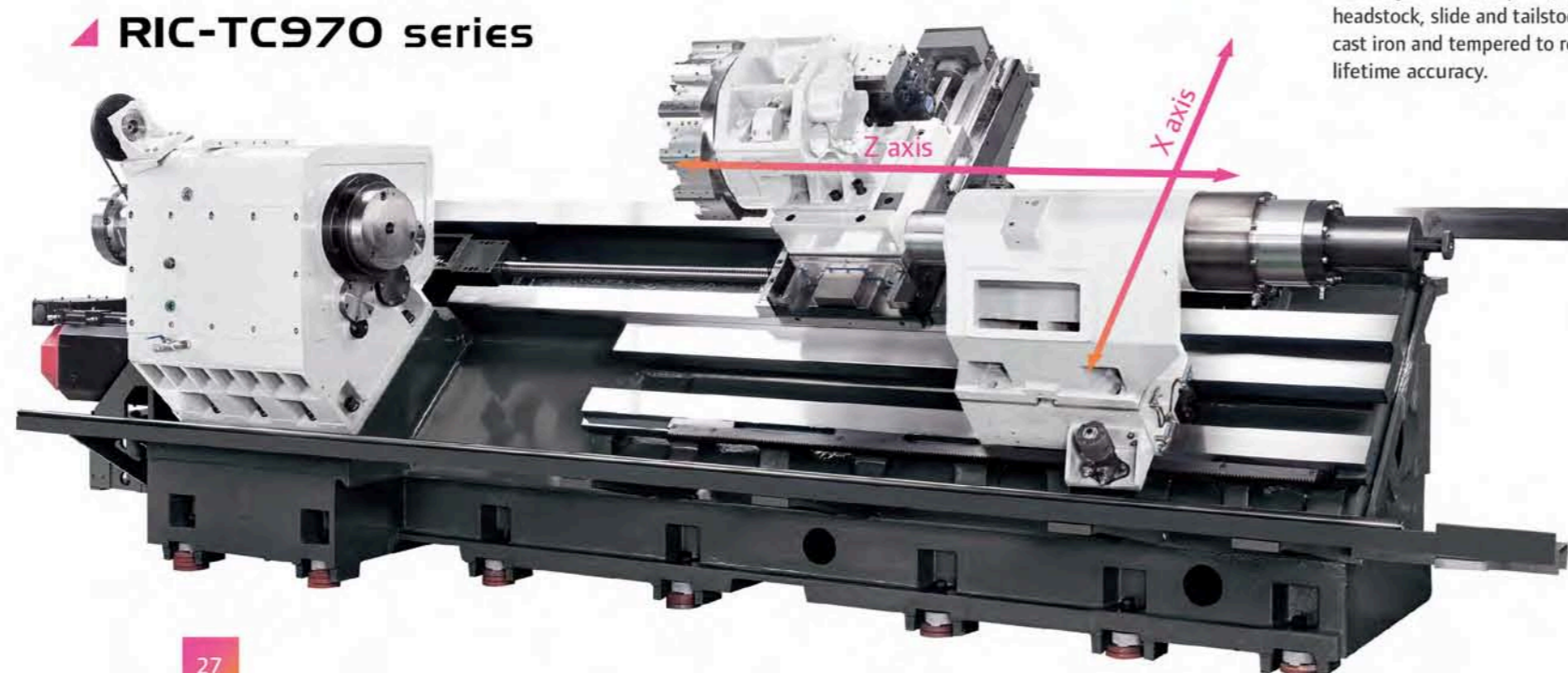
45 degree slant bed construction features efficient chip removal and firm support



RIC-TC660 series



The major machine parts, such as the base, saddle, headstock, slide and tailstock are made of Meehanite cast iron and tempered to relieve stress thereby ensuring lifetime accuracy.



RIC-TC970 series

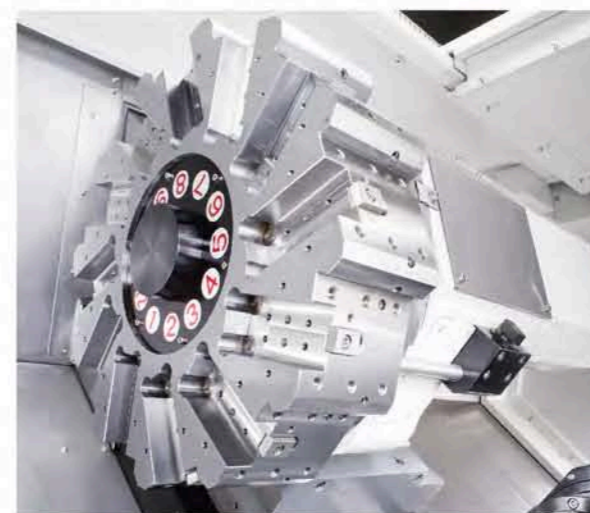
### Rigid and Precisely Constructed Throughout

- Box ways on X, Z axis exhibit outstanding accuracy and load-resistance capacity.
- Rigid and stable construction throughout.
- One-piece constructed bed offers the optimal bending-resistance and torsion-resistance capabilities especially when performing heavy cutting on extra large workpiece.
- The spindles on RIC-TC660 / RIC-TC850 series are driven by an imported gearbox with 1:4 gear ratio. Full power output is possible when spindle speeds range 208-2500rpm.
- The heavy duty headstock on RIC-TC970 / RIC-TC1100 series is of one piece casting, and it is with 3 or 4 speed gear head, providing extra large torque output and making the machine ideal for heavy cutting.



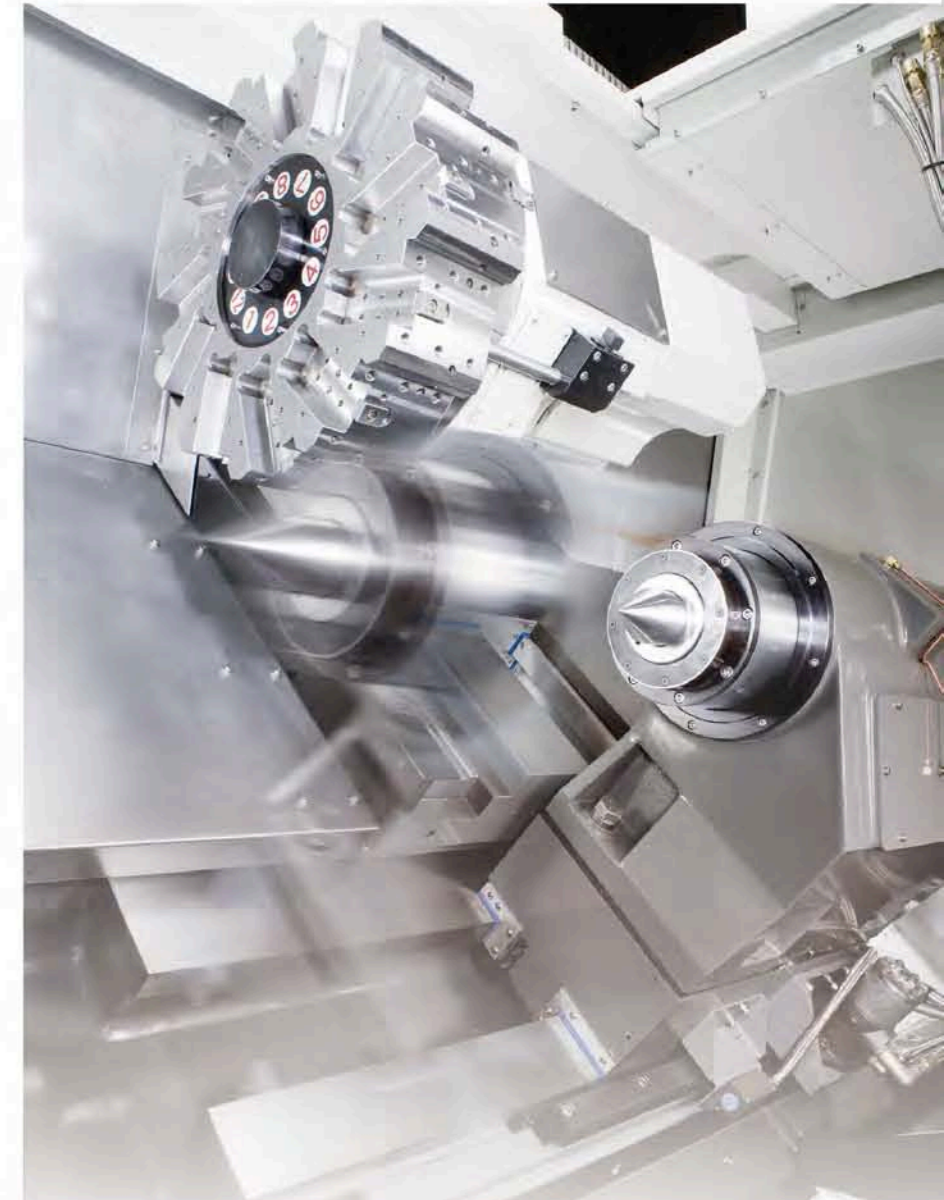
### Power Turret (Opt.)

- Employs VDI 50 axial turret disk, 12 position power turret. High indexing resolution for contour / index control.
- Hydraulic disk brake locking provides maximum stability during milling and contouring.



### Hydraulic Turret Indexing

- Heavy duty station tool turret is driven by low noise, high torque hydraulic indexing motor.
- It's high accuracy positioning and features bidirectional random selection to shortest path, achieves high productivity.



### Programmable Tailstock (RIC-TC970 / RIC-TC1100 series)

- The tailstock movement is driven by a hydraulic motor and transmitted through rack.
- The tailstock is conveniently controlled by M code.



### Well-Planned Electrical Cabinet

- The entire control circuit in the electrical cabinet is well planned for easy maintenance.
- Top quality electronic components assure extra stable control performance and long service life.



### 2-Speed Gearbox (RIC-TC660 / TC850 series)

- RIC-TC660 / TC850 series equipped with "high precision" stages gearbox (gear ratio 1:4) provides full horsepower cutting from 208–2500rpm.
- The maximum cutting torque is 660Nm.



### Oil Cooler of Spindle (RIC-TC970 / TC1100 series)

Control the oil temperature in spindle gearbox.



### FANUC CNC Controller

User-friendly operations are designed and more convenient for users.



### Gearbox (RIC-TC970 / TC1010 series)

- The headstock is with 3 or 4 speed gear head.
- Gears are precision ground for quiet running.



### Powerful Hi-Speed and Hi-Rigid Spindle (RIC-TC660 / TC850 series)

Spindle supported by cylindrical roller bearings and hi-speed angular thrust bearings marks the spindle faultless and ideal for heavy-duty and hi-speed turning.



### Hydraulic Power Unit

- The hydraulic power unit employs high quality components for long service life and stable motions.
- The unit delivers high pressure to the turret, Cs brake and 3-jaw chuck.

### RIC-TC660-TC1100 series

HYDRAULIC TURRET + DIRECT TYPE DISC

CHUCK 12"(A2-8)      RIC-TC970 (A2-11)  
RIC-TC850      RIC-TC1100

Item	RIC-TC6640	RIC-TC6660	RIC-TC6680	RIC-TC66120
A	820	1580	2315	3100
B	780	1540	2250	3060
C		30		
D		480		
X		250		

Item	RIC-TC8540	RIC-TC8560	RIC-TC8580	RIC-TC85120
A	820	1580	2315	3100
B	780	1540	2250	3060
C		30		
D		710		
X		355		

Item	RIC-TC9740	RIC-TC9760	RIC-TC9780	RIC-TC97120
A	1100	1700	2200	3200
B	850	1450	1950	2950
C	80	130	130	130
D		850		
X		425		

Item	RIC-TC11080	RIC-TC110120	RIC-TC110160	RIC-TC110200
A	2200	3200	4200	5200
B	2000	3000	4000	5000
C		30		
D		1020		
X		510		

### RIC-TC660 series

POWER TURRET + VDI 50 (OPT.)

CHUCK 12"(A2-8)

Item	RIC-TC6640	RIC-TC6660	RIC-TC6680	RIC-TC66120
A	820	1580	2315	3100
B	780	1540	2250	3060
D			510	
X1		250		
X2		25		

### RIC-TC850 series

SAUTER 0.5.434.025 + BMT 75 (OPT.)

CHUCK 12"(A2-8)

Item	RIC-TC8540	RIC-TC8560	RIC-TC8580	RIC-TC85120
A	820	1580	2300	3100
B	780	1540	2250	3000
D			710	
X			355	



# SPECIFICATION

		RIC-TC6640	RIC-TC6660	RIC-TC6680	RIC-TC66120	RIC-TC8540	RIC-TC8560	RIC-TC8580	RIC-TC85120	
CAPACITY	Swing Over Bed	Ø660 (26")				Ø850 (33.5")				
	Swing Over Saddle	Ø480 (18.9")				Ø660 (26")				
	Max. Turning Diameter	Ø500 (19.7")				Ø710 (28")				
	Working Length	760 (29.9")	1520 (59.8")	2280 (89.8")	3040 (119.7")	760	1520	2280	3040	
SPINDLE & CHUCK	Spindle Nose	-	A2-8	A2-11	A2-11	A2-8	A2-11	A2-11	A2-15	
	Spindle Bore	Ø105				Ø131				
	Bar Capacity	Ø89				Ø117				
	Hydraulic Chuck	12" / 15" / 18"		15" / 18" / 20"		15" / 18" / 20"		12" / 15" / 18"		15" / 18" / 20" / 24"
	Spindle Speed	2500 (Opt.2000 / 1650)				2500 (Opt.2000 / 1650 / 1300)				
	Living Tools Speed (Opt.)	Opt. 0~3000				Opt. 0~3000				
TURRET	Tool Number	10T (Opt. 12T)				10T (Opt. 12T)				
	O.D. Tool Shank	32 x 32 (Opt. 25 x 25)				32 x 32 (Opt. 25 x 25)				
	I.D. Tool Bore	Ø50				Ø50				
CROSS SLIDE (X-AXIS) & CARRIAGE (Z-AXIS)	X-axis Travel	250+25				355+25				
	Z-axis Travel	860	1620	2380	3140	860	1620	2380	3140	
CROSS SLIDE (X-AXIS) & CARRIAGE (Z-AXIS)	X-axis Rapid Traverse	12				12				
	Z-axis Rapid Traverse	15 / 15 / 15 / 12				15 / 15 / 15 / 10				
	Cutting Feed Rate	0.001 ~ 500				0.001 ~ 500				
	MOTOR	Spindle (Continuous)	α 22i 22kW (30HP)				α 22i 22kW (30HP)			
Spindle (30 min. Rating)		α 22i 26kW (35HP)				α 22i 26kW (35HP)				
X-axis		α 22Bi 4kW (5.3HP)				α 22Bi 4kW (5.3HP)				
Z-axis		α 22i 4kW (5.3HP)				α 22i 4kW (5.3HP)				
Hydraulic Pump		2.2kW (3HP)				2.2kW (3HP)				
Coolant Pump		0.75kW (1HP)				0.75kW (1HP)				
TAILSTOCK	Tailstock Type	Programmable				Programmable				
	Tailstock Travel	640	1400	2160	2920	640	1400	2160	2920	
	Quill Type	Stable (Opt. Rotary)				Stable (Opt. Rotary)				
	Quill Stroke	100				100				
	Quill Diameter	Ø110				Ø110 (Opt. Ø160)				
TANK CAPACITY	Taper of Center	MT5				MT5				
	Hydraulic Tank	80				80				
MEASUREMENT (APPROX.)	Coolant Tank	480	580	680	780	480	580	680	780	
	Floor Space (L x W)	5304 x 2130	6064 x 2130	6824 x 2130	7584 x 2130	5304 x 2130	6064 x 2130	6824 x 2130	7584 x 2130	
	Height	2235				2235				
MEASUREMENT (APPROX.)	Weight (N.W.)	138000	14500	16000	17100	15800	16500	18000	19100	

\*Specifications are subject to change without prior notice.

## STANDARD ACCESSORIES

- 2-Step gearbox
- Manual tailstock
- Stable quill and live center for tailstock
- 10-Position hydraulic turret
- Unexpected disturbance torque detection function (for FANUC only)
- Heat exchanger for electrical cabinet
- 6 Bar coolant pump
- Internal coolant system to turret
- Auto. lubrication system
- Chip conveyor and bucket
- Work light
- 3 Color alarm light
- Tool box and tools

## OPTIONAL ACCESSORIES

- CE norm
- Torque limiter for Z-axis (for SIEMENS/FAGOR only)
- Programmable tailstock
- Rotary quill and stable center for tailstock
- Auto. tool setter measurement
- Manual tool setter measurement
- Cs axis and power turret
- 12-Position hydraulic turret
- MPG hand wheel
- Larger spindle motor
- Larger hydraulic chuck
- Transformer
- Air conditioner for electrical cabinet
- Manual steady rest
- Programmable hydraulic steady rest
- Programmable hydraulic follow rest
- Oil mist collector
- Oil skimmer

\*Please refer to quotation for full options.

# SPECIFICATION

		RIC-TC9740	RIC-TC9760	RIC-TC9780	RIC-TC97120	RIC-TC11080	RIC-TC110120	RIC-TC110160	RIC-TC110200
CAPACITY	Swing Over Bed	mm (in) Ø970 (38.2")				Ø1100 (43.3")			
	Swing Over Saddle	mm (in) Ø720 (28.3")				Ø940 (37")			
	Max. Turning Diameter	mm (in) Ø850 (33.5")				Ø1020 (40.2")			
	Working length	mm 1130	1630	2130	3090	2200	3190	4120	5110
SPINDLE & CHUCK	Spindle Nose	A2-11		A2-15	A2-20	A2-11		A2-15	A2-20
	Spindle Bore	mm (in) Ø160		Ø230	Ø320	Ø160		Ø230	Ø320
	Bar Capacity	mm (in) Ø142		Ø205	Ø205	Ø142		Ø205	Ø205
	Hydraulic Chuck	mm (in) W/O CHUCK / 15" / 18"		20" / 21" / 24" / 32"	24"	W/O CHUCK / 15" / 18"		20" / 21" / 24" / 32"	24"
	Spindle Speed	rpm 1500 (Opt. 700 / 550 / 450)				1500 (Opt. 700 / 550 / 450)			
	Living Tools Speed (Opt.)	rpm Opt. 0~3000				Opt. 0~3000			
TURRET	Tool Number	- 12T				12T			
	O.D. Tool Shank	mm 32 x 32				32 x 32			
	I.D. Tool Bore	mm Ø50				Ø50			
CROSS SLIDE (X-AXIS) & CARRIAGE (Z-AXIS)	X-axis Travel	mm 425+25				510+25			
	Z-axis Travel	mm 1250	1750	2250	3210	2260	3220	4200	5190
CROSS SLIDE (X-AXIS) & CARRIAGE (Z-AXIS)	X-axis Rapid Traverse	m/min 12				12			
	Z-axis Rapid Traverse	m/min 15 / 15 / 15 / 10				15 / 10 / 8 / 8			
	Cutting Feed Rate	mm/rev. 0.001 ~ 500				0.001 ~ 500			
	MOTOR	Spindle (Continuous)	- α 30i 30kW (40HP)				α 40i 37kW (49HP)		
Spindle (30 min. Rating)		- α 30i 37kW (49HP)				α 40i 45kW (60HP)			
X-axis		- α 22Bi 4kW (5.3HP)				α 22Bi 4kW (5.3HP)			
Z-axis		- α 30i 7kW (9HP)				α 30i 7kW (9HP)			
Hydraulic Pump		- 3.75kW (5HP)				3.75kW (5HP)			
TAILSTOCK	Coolant Pump	- 0.75kW (1HP)				0.75kW (1HP)			
	Tailstock Type	- Programmable				Programmable			
	Tailstock Travel	mm 950	1450	1950	2910	1900	2900	3900	4900
	Quill Type	- Stable (Opt. Rotary)				Stable (Opt. Rotary)			
	Quill Stroke	mm 160				200			
	Quill Diameter	mm Ø160				Ø200			
TANK CAPACITY	Taper of Center	- MT6				MT6			
	Hydraulic Tank	Liter 80				80			
	Coolant Tank	Liter 520	600	670	810	670	810	950	1050
MEASUREMENT (APPROX.)	Floor Space (L x W)	mm 6160 x 2230	6660 x 2230	7160 x 2230	8160 x 2230	8700 x 3158	9700 x 3158	10700 x 3158	11700 x 3158
	Height	mm 2445				3050			
	Weight (N.W.)	kg 16000	17200	18400	19600	19100	20600	22100	23600

\*Specifications are subject to change without prior notice.

## STANDARD ACCESSORIES

- 3-Step gearbox (TC970)
- 4-Step gearbox (TC1100)
- Programmable tailstock
- Stable quill and live center for tailstock
- 12-Position hydraulic turret
- Unexpected disturbance torque detection function (for FANUC only)
- Heat exchanger for electrical cabinet
- 6 Bar coolant pump
- Internal coolant system to turret
- Auto. lubrication system
- Spindle oil cooler (TC1100)
- Chip conveyor and bucket
- Work light
- 3 Color alarm light
- Tool box and tools

## OPTIONAL ACCESSORIES

- CE norm
- Torque limiter for Z-axis (for SIEMENS/FAGOR only)
- Rotary quill and stable center for tailstock
- Auto. tool setter measurement
- Manual tool setter measurement
- Cs axis and power turret
- MPG hand wheel
- Larger hydraulic chuck
- Transformer
- Air conditioner for electrical cabinet
- Manual steady rest
- Programmable hydraulic follow rest
- Oil mist collector
- Oil skimmer

\*Please refer to quotation for full options.