



NC ROTARY
TABLE

Multiple Spindle NC Rotary Table

TM series

TM2100・TM3100・TM2160・TM3160
TH2100・TH3100・TH2160・TH3160

Multi spindle range for multiple work piece machining
Reduces set up time and increases productivity

- Mono-block body & compact design
- Ideal for tapping machines with high speed rotation
- Working time reduced
- Multi spindle for simultaneous work piece machining

*CE correspondence



TM3100

Sample Application



▲Work holding device combining NC Rotary Table and Chuck.

4th axis specifications

※Table Size 100 can be used for only pneumatic type.

Type	Table Size	Design No.	Motor type
TM:Right hand TH:Left hand	100・160		
	Number of tables 2・3	Clamping method A :Pneumatic B : Air-Hydraulic/Hydraulic(external air hydraulic booster) H :Hydraulic	

M signal specification

※Table Size 100 can be used for only pneumatic type.

Type	Table Size	Design No.	Quinte specification
TM:Right hand TH:Left hand	100・160		
	Number of tables 2・3	Clamping method A : Pneumatic B : Air-Hydraulic (external air hydraulic booster) H : Hydraulic	

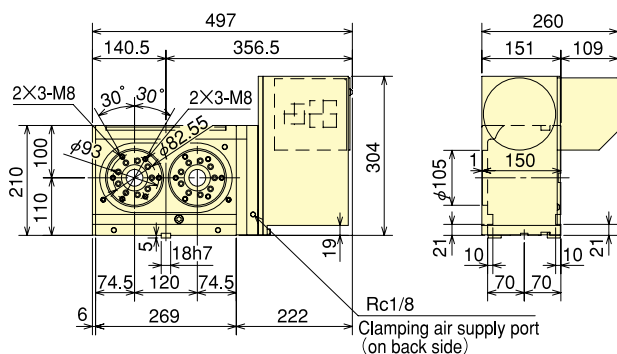
Specification

Model		TM2100	TM3100	TM2160	TM3160
Right hand		○	○	○	○
Left hand		○	○	○	○
Table dia (mm)		φ 105	φ 105	φ 165	φ 165
Register diameter on Face Plate (mm)		φ 50 H 7	φ 50 H 7	φ 50 H 7	φ 50 H 7
Spindle through hole diameter (mm)		φ 32	φ 32	φ 40	φ 40
Centre Height (mm)		110	110	140	140
Clamping method		Pneumatic	Pneumatic	Pneumatic/Air-Hydraulic/Hydraulic	Pneumatic/Air-Hydraulic/Hydraulic
Clamping torque (N・m)	Pneumatic 0.5MPa	117	117	176	176
	air-Hydraulic 0.45MPa Hydraulic 3.5MPa	—	—	400	400
Motor axis reduced inertia (kg・m ²)		0.000353	0.000475	0.000145	0.000188
Servomotor (for FANUC specification)		α iF 4/5000	α iF 4/5000	α iF 4/5000	α iF 4/5000
Gear ratio (Decel. Ratio in M signal)		1/36	1/36 (1/60)	1/90	1/90 (1/120)
Max. spindle speed	FANUC specification (for min ⁻¹)	83.3 (for 3000min ⁻¹)	69.4 (for 2500min ⁻¹)	33.3 (for 3000min ⁻¹)	33.3 (for 3000min ⁻¹)
	M signal specification (min ⁻¹)	83.3 (for 3000min ⁻¹)	50 (for 3000min ⁻¹)	33.3 (for 3000min ⁻¹)	16.6 (for 2000min ⁻¹)
Allowable work inertia (kg・m ²)		0.054	0.054	0.51	0.51
Indexing accuracy (sec)		60	60	30	30
Repeatability (sec)		5	5	4	4
Mass of product (kg)		85	100	100	150
Manual Tailstock (Option・P90 reference)		TS2100RN	TS3100RN	TS2160RN	TS3160RN
Allowable Load	Horizontal (kg)	60	60	160	160
	Vertical (kg)	30	30	80	80
Allowable load (When clamped to table)	F (kN)	6	6	10	10
	F _{XL} (N・m)	200	200	600	600
	F _{XL} (N・m)	117	117	176 (Pneumatic) 400 (air-Hydraulic)	176 (Pneumatic) 400 (air-Hydraulic)
Allowable cutting torque	T (N・m)	180	180	300	300

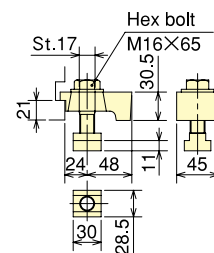
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM of NC tables. 2. In case of air/air-hydraulic clamp specifications, the solenoid valve(s) for table clamp is (are) incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. Solenoid valve is not incorporated in case of hydraulic clamp method. Consequently, customer shall prepare it. 5. Each product mass is determined by a Kitagawa M signal spec. 6. Contact to Kitagawa about rotary joint and tail spindle.

■ Dimensions [4th axis specifications]

TM2100 (TH)

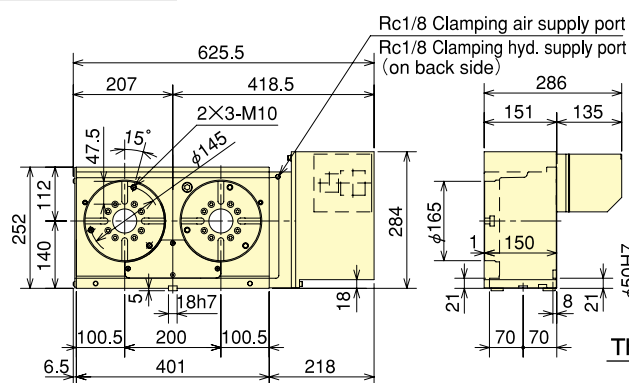


Thru-Hole Diameter



Clamping Device

TM2160 (TH)



Thru-Hole Diameter

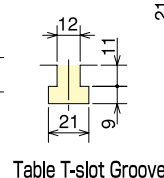
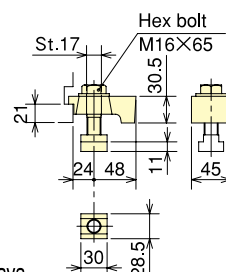
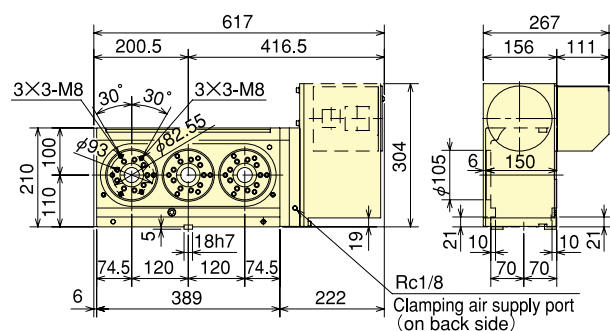


Table T-slot Groove

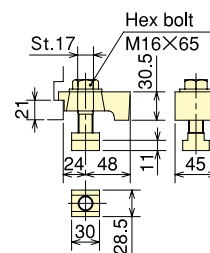


Clamping Device

TM3100 (TH)

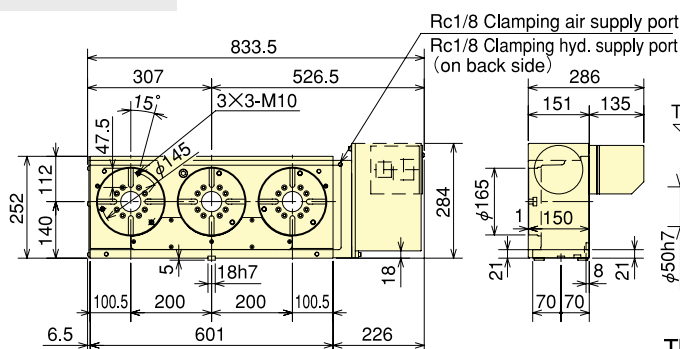


Thru-Hole Diameter

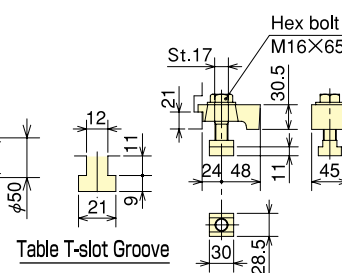


Clamping Device

TM3160 (TH)



Thru-Hole Diameter



Clamping Device

※The above outline dimensions are shown with FANUC motor specifications.
Those dimensions may vary from motor to motor that is mounted.
TM is used at a right hand and TH is used at a left hand.

*The dimensions may vary from motor to motor that is mounted.

Clamping Device

Clamping Device

Clamping Device

Clamping Device

44