

TR-120FF 4th, 5th axis for Tilting NC Rotary Table

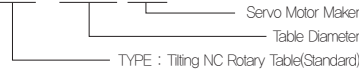


Application / Benefits

Compact Tilting Series, High Precision&High Speed Systems
 Convenient JIG Design, Compact Design, Extremely Rigid Body
 High Clamping power (Hydraulic)

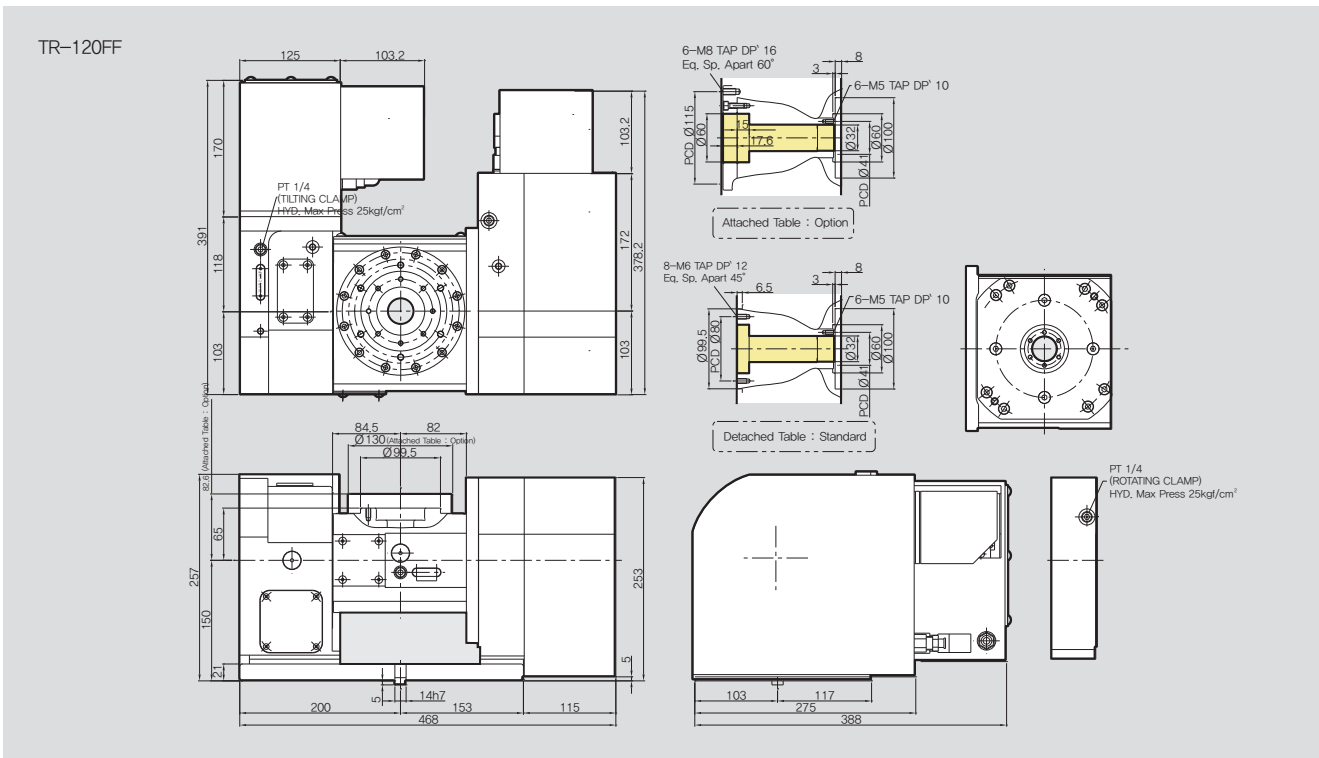
Model No.

TR-120 FF



Servo Motor Maker

- | | |
|----------------|-----------------|
| F : FANUC | H : HEIDENHAIN |
| S : SIEMENS | L : LS MECAPION |
| M : MITSUBISHI | SY : SANYO |
| P : PANASONIC | FA : FAGOR |
| Y : YASKAWA | O : OKUMA |



NC Rotary Table

SPECIFICATIONS

Tilting Range: $-20^{\circ} \sim 110^{\circ}$

Table Dia. [mm]	Ø130	
Center Height [mm]	150	
Resister Dia. On Face Plate	Ø60H7	
Spindle Through Hole Dia. [mm]	Ø32H8	
Clamp Method	Hydraulic Max. 20bar	
Allowable Work Inertia [kgm ²]	0.06	
Weight [kg]	120	
	Rotating Axis	Tilting Axis
Max. Spindle Speed [mm ⁻¹]	33.3	16.6
Gear Ratio [mm]	1/90	1/180
Repeatability Accuracy [sec]	4	4
Indexing Accuracy [sec]	40	60
Clamp Torque [N · m]	200	300
Servo Motor [FANUC]	aiF2 / 5000	aiF2 / 5000

Allowable load	Horizontal [kg]		35
	Vertical [kg]		20
Allowable cutting load	F [kN]		4
	F x L [N·m]		380
Allowable Cutting Torque	F x L [N·m]		240
	[N·m]		190
Moment Of Tilting Weight	W x L [kgf·m]		10

TR-200FF 4th, 5th axis for Tilting NC Rotary Table

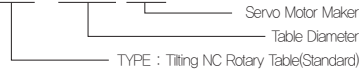


Application / Benefits

Compact Tilting Series, High Precision&High Speed Systems
 Convenient JIG Design, Compact Design, Extremely Rigid Body
 High Clamping power (Hydraulic)

Model No.

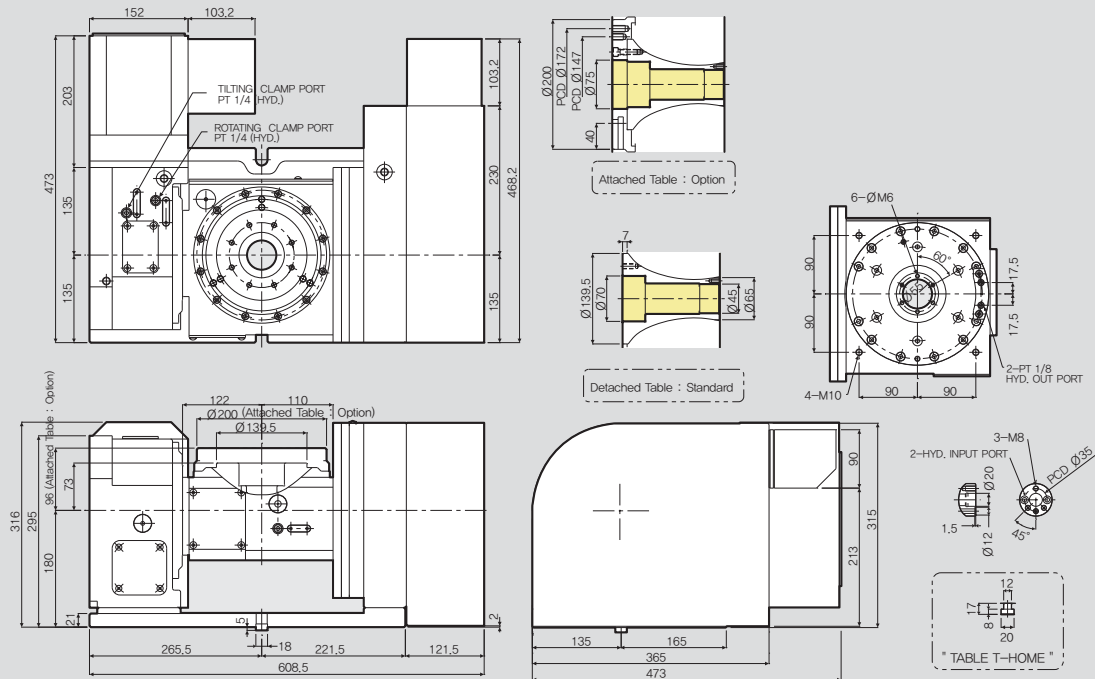
TR-200 FF



Servo Motor Maker

- | | |
|----------------|-----------------|
| F : FANUC | H : HEIDENHAIN |
| S : SIEMENS | L : LS MECAPION |
| M : MITSUBISHI | SY : SANYO |
| P : PANASONIC | FA : FAGOR |
| Y : YASKAWA | O : OKUMA |

TR-200FF



NC Rotary Table

SPECIFICATIONS

Tilting Range: $-20^{\circ} \sim 110^{\circ}$

Table Dia. [mm]	Ø200	
Center Height [mm]	180	
Resister Dia. On Face Plate	Ø70H7	
Spindle Through Hole Dia. [mm]	Ø45H8	
Clamp Method	Hydraulic Max. 35bar	
Allowable Work Inertia [kgm ²]	0.25	
Weight [kg]	250	
	Rotating Axis	Tilting Axis
Max. Spindle Speed [mm ⁻¹]	33.3	16.6
Gear Ratio [mm]	1/90	1/180
Repeatability Accuracy [sec]	4	4
Indexing Accuracy [sec]	30	60
Clamp Torque [N · m]	450	800
Servo Motor [FANUC]	aiF4 / 4000	aiF4 / 4000

Allowable load	Horizontal [kg]		60
	Vertical [kg]		40
Allowable cutting load	F [kN]		5
	F x L [N·m]		800
Allowable Cutting Torque	F x L [N·m]		450
	[N·m]		250
Moment Of Tilting Weight	W x L [kg·m]		12

TR-250FF 4th, 5th axis for Tilting NC Rotary Table

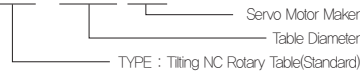


Application / Benefits

Tilting Series, High Precision & High Speed Systems, Convenient JIG Design
Extremely Rigid Body, High Clamping power (Hydraulic)

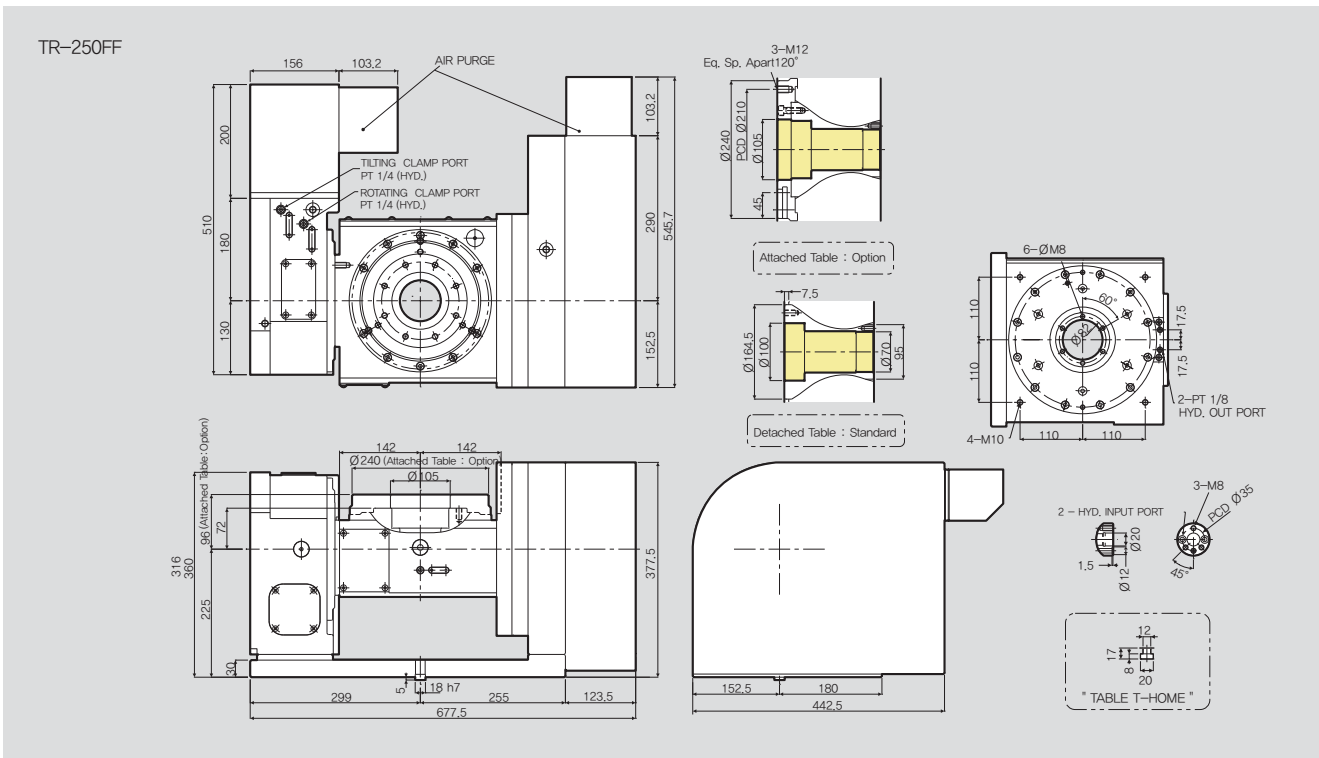
Model No.

TR-250 FF



Servo Motor Maker

F : FANUC H : HEIDENHAIN
S : SIEMENS L : LS MECAPION
M : MITSUBISHI SY : SANYO
P : PANASONIC FA : FAGOR
Y : YASKAWA O : OKUMA



NC Rotary Table

SPECIFICATIONS

Table Dia. [mm]	Ø240	
Center Height [mm]	225	
Resister Dia. On Face Plate	Ø100H7	
Spindle Through Hole Dia. [mm]	Ø70H8	
Clamp Method	Hydraulic Max. 35bar	
Allowable Work Inertia [kgm ²]	0.78	
Weight [kg]	295	
	Rotating Axis	Tilting Axis
Max. Spindle Speed [mm ⁻¹]	33.3	16.6
Gear Ratio [mm]	1/90	1/180
Repeatability Accuracy [sec]	4	4
Indexing Accuracy [sec]	30	60
Clamp Torque [N · m]	900	1200
Servo Motor [FANUC]	αiF4 / 4000	αiF4 / 4000

Tilting Range: $-20^{\circ} \sim 110^{\circ}$

Allowable load	Horizontal [kg]		100
	Vertical [kg]		60
Allowable cutting load	F [kN]		12
	F x L [N·m]		1200
Allowable Cutting Torque	F x L [N·m]		900
	[N·m]		600
Moment Of Tilting Weight	W x L [kgf·m]		26

TR-320FF 4th, 5th axis for Tilting NC Rotary Table



Application / Benefits

Tilting Series, High Precision & High Speed Systems, Convenient JIG Design
Extremely Rigid Body, High Clamping power (Hydraulic)

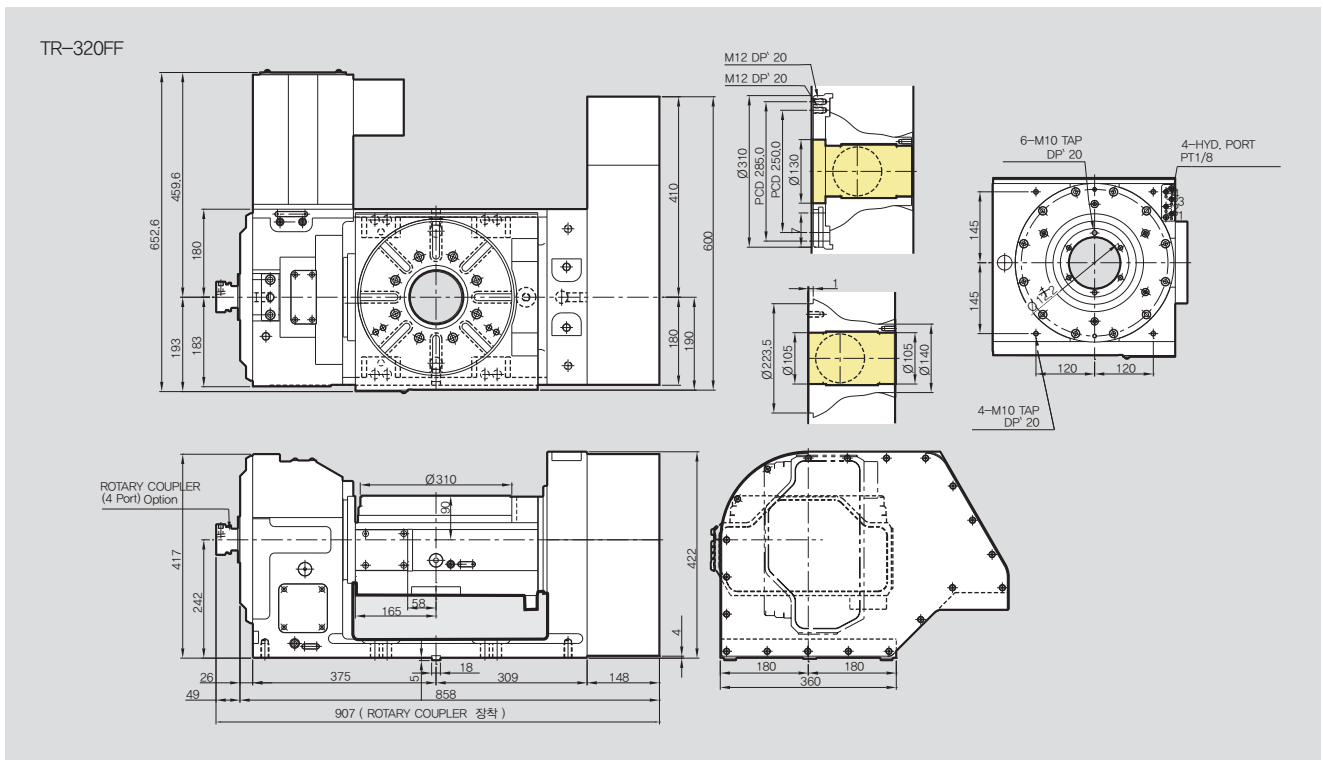
Model No.

TR-320 FF

— Servo Motor Maker
— Table Diameter
— TYPE : Tilting NC Rotary Table(Standard)

Servo Motor Maker

F : FANUC H : HEIDENHAIN
S : SIEMENS L : LS MECAPION
M : MITSUBISHI SY : SANYO
P : PANASONIC FA : FAGOR
Y : YASKAWA O : OKUMA



SPECIFICATIONS

Tilting Range: $-20^{\circ} \sim 110^{\circ}$

Table Dia. [mm]	Ø320	
Center Height [mm]	242	
Resister Dia. On Face Plate	Ø130H7	
Spindle Through Hole Dia. [mm]	Ø105H8	
Clamp Method	Hydraulic Max. 35bar	
Allowable Work Inertia [kgm ²]	-	
Weight [kg]	410	
	Rotating Axis	Tilting Axis
Max. Spindle Speed [mm ⁻¹]	25	25
Gear Ratio [mm]	1/120	1/120
Repeatability Accuracy [sec]	4	8
Indexing Accuracy [sec]	30	60
Clamp Torque [N · m]	2300	2600
Servo Motor [FANUC]	aiF8 / 3000	aiF12 / 3000

Allowable load	Horizontal [kg]		150
	Vertical [kg]		100
Allowable cutting load	F [kN]		13.5
	F x L [N·m]		2600
Allowable Cutting Torque	F x L [N·m]		2300
	[N·m]		800
Moment Of Tilting Weight	W x L [kgf·m]		-

TR-120, 200i Controller type for Tilting NC Rotary Table



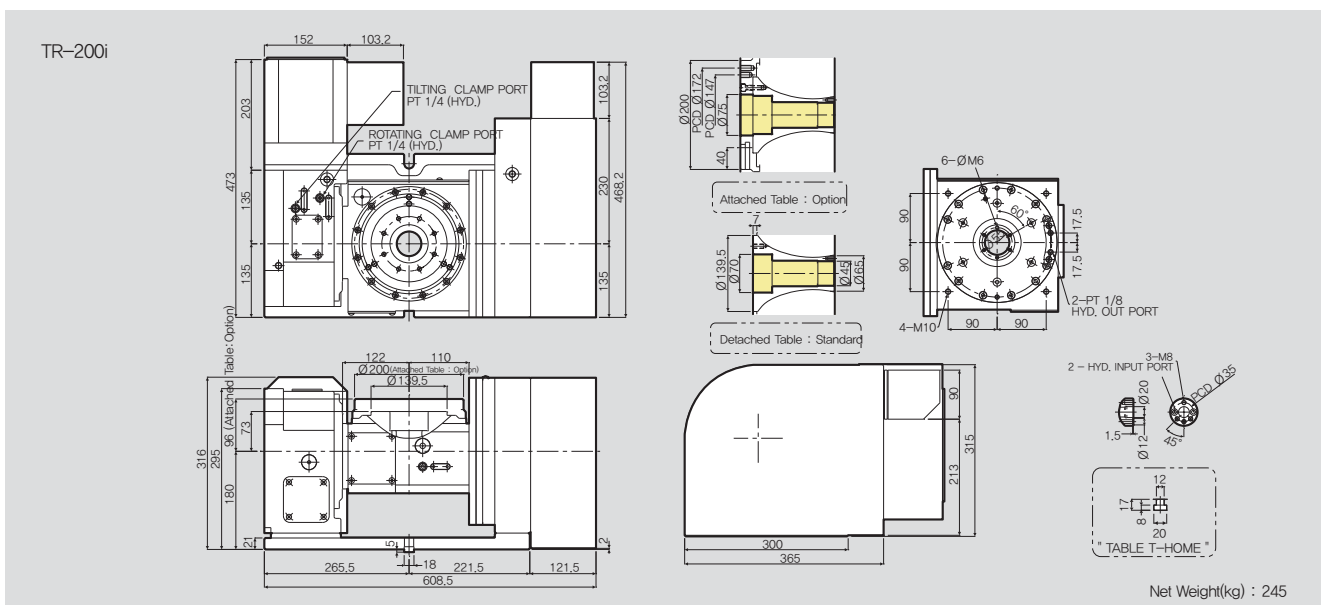
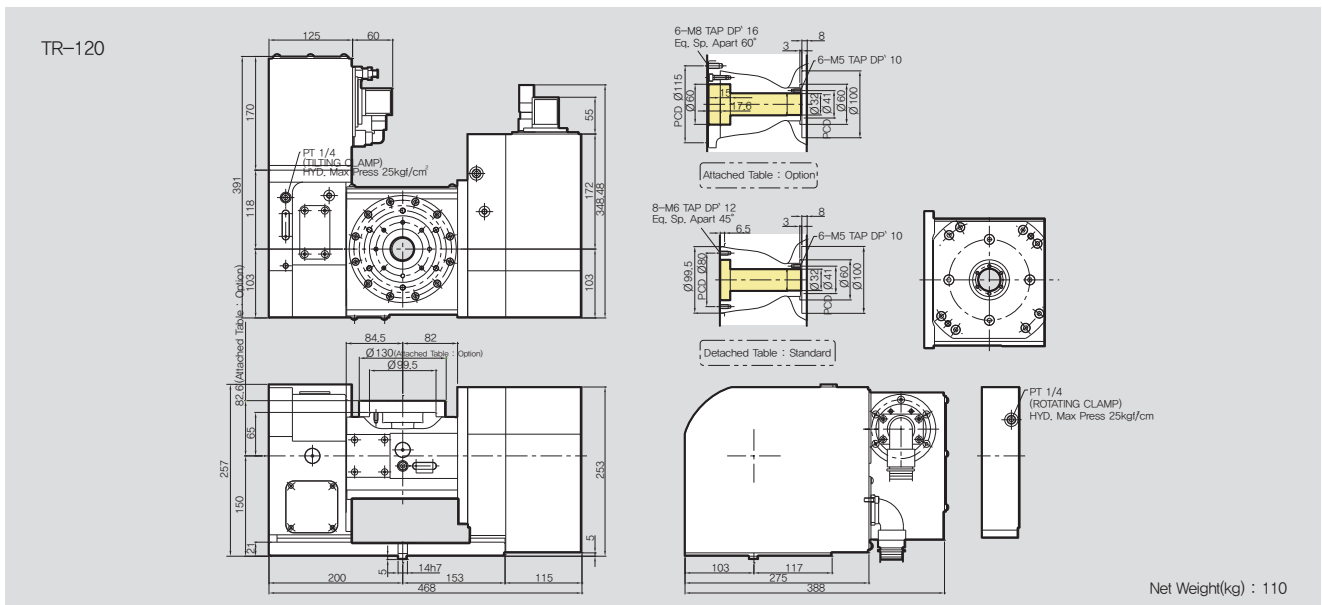
Application / Benefits

Tilting Series, High Precision&High Speed Systems, Convenient JIG Design
Compact Design, Extremely Rigid Body

Model No.

TR-120

Table Diameter
TYPE : Tilting NC Rotary Table



※Product contents : The same with TR-120FF(without servo motor)

TR-250i Controller type for Tilting NC Rotary Table

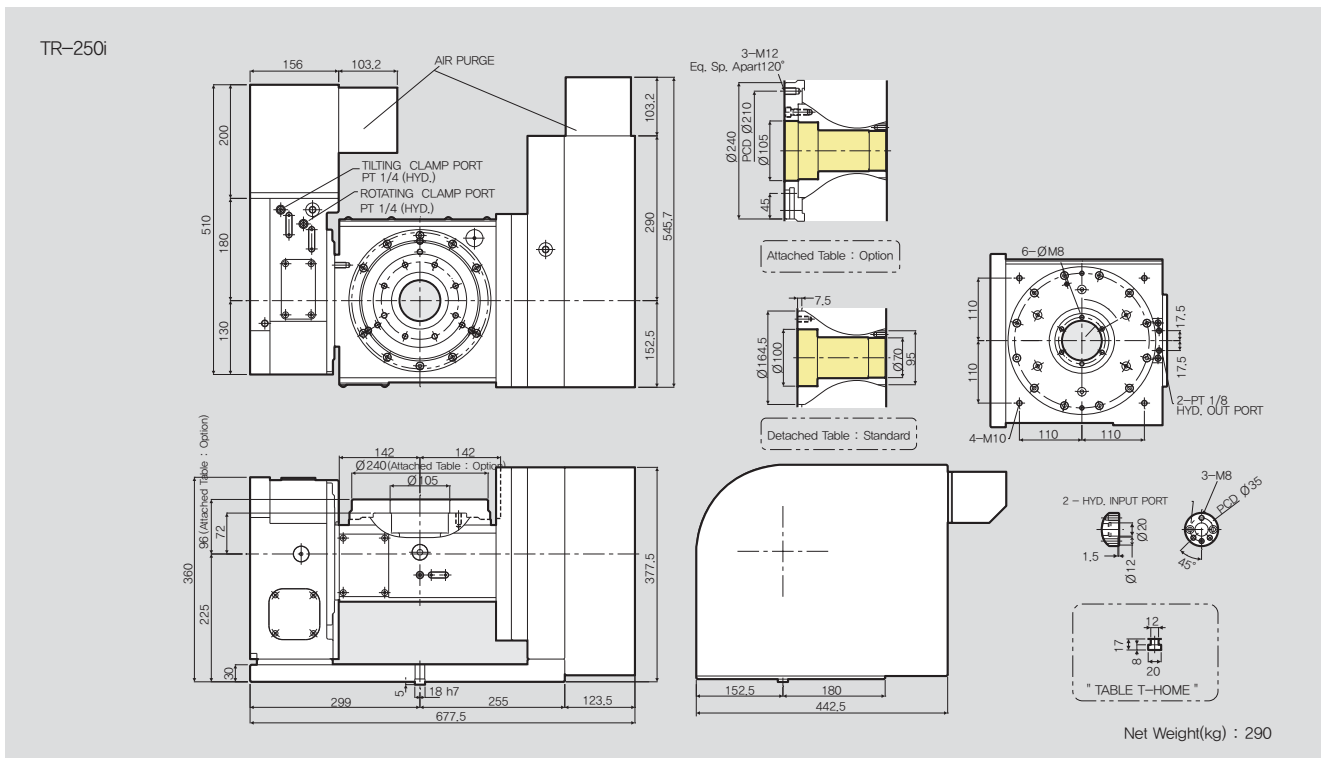
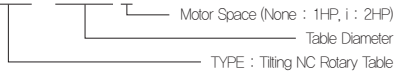


Application / Benefits

Tilting Series, High Precision&High Speed Systems, Convenient JIG Design
Extremely Rigid Body, High Clamping power (Hydraulic)

Model No.

TR-250 i



※Product contents : The same with TR-250FF(without servo motor)

MTR2-17432ii

Controller type for Multi Spindle
Tilting NC Rotary Table

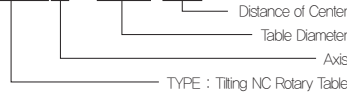


Application / Benefits

Multi Spindle Tilting Series, High Precision&High Speed Systems
Convenient JIG Design, Extremely Rigid Body, High Clamping power (Hydraulic)

Model No.

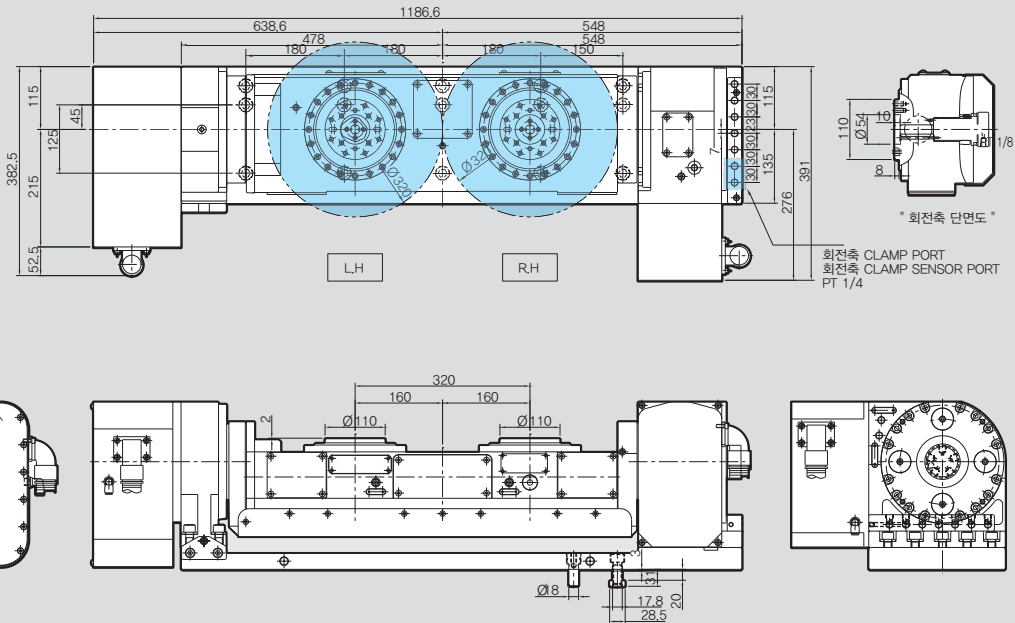
MTR2-174 32ii



Servo Motor Maker

F : FANUC H : HEIDENHAIN
S : SIEMENS L : LS MECAPION
M : MITSUBISHI SY : SANYO
P : PANASONIC FA : FAGOR
Y : YASKAWA O : OKUMA

MTR2-17432ii



SPECIFICATIONS

Tilting Range: $-20^{\circ} \sim 120^{\circ}$

Table Dia. [mm]	Ø110	
Center Height [mm]	240	
Resister Dia. On Face Plate	Ø54 (Ø110)	
Distance between spindles [mm]	320	
Clamp Method	Hydraulic Max. 35 bar	
Allowable Work Inertia [kgm ²]	-	
Weight [kg]	295	
	Rotating Axis	Tilting Axis
Max. Spindle Speed [mm ⁻¹]	25	25
Gear Ratio [mm]	1/120	1/120
Repeatability Accuracy [sec]	4	4
Indexing Accuracy [sec]	40	60
Clamp Torque [N · m]	600	900
Servo Motor [FANUC]	SGMPS-15A2A6S	SGMPS-15A2A6S

Allowable load	Horizontal [kg]		40, 40
	Vertical [kg]		40, 40
Allowable cutting load	F [kN]		4
	F x L [N·m]		900
Allowable Cutting Torque	F x L [N·m]		600
	[N·m]		160

MTR2-20435ii, 20435FF

5th axis for Multi Spindle
Tilting NC Rotary Table

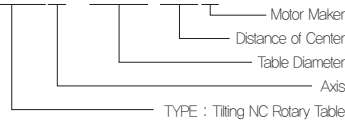


Application / Benefits

Multi Spindle Tilting Series, High Precision&High Speed Systems
Convenient JIG Design, Extremely Rigid Body, High Clamping power (Hydraulic)

Model No.

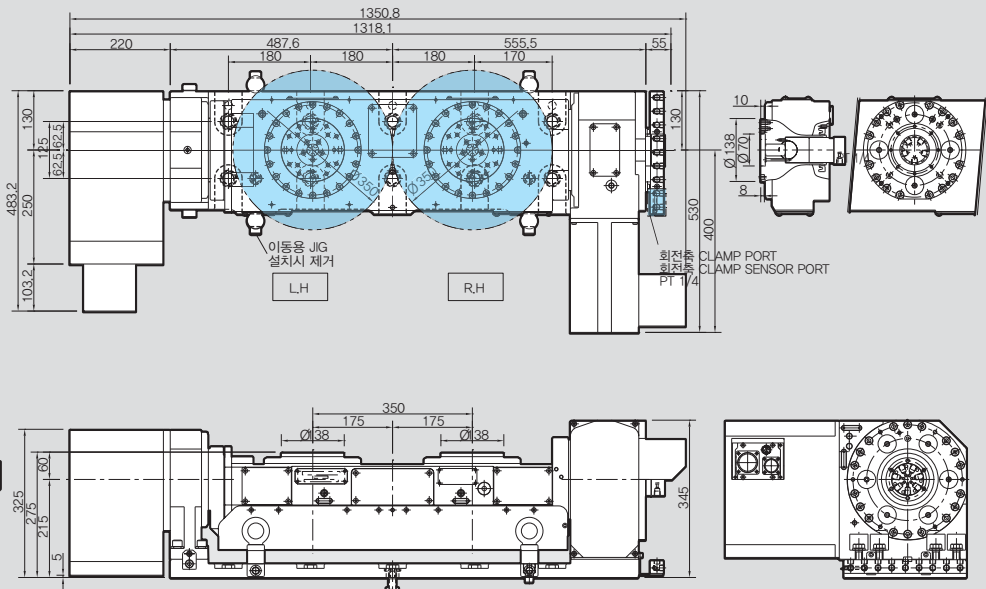
MTR2-204 35FF



Servo Motor Maker

- F : FANUC H : HEIDENHAIN
- S : SIEMENS L : LS MECAPION
- M : MITSUBISHI SY : SANYO
- P : PANASONIC FA : FAGOR
- Y : YASKAWA O : OKUMA

MTR2-20435FF



NC Rotary Table

SPECIFICATIONS

Tilting Range: $-20^{\circ} \sim 120^{\circ}$

Table Dia. [mm]	Ø138	
Center Height [mm]	275	
Resister Dia. On Face Plate	Ø70 (Ø138)	
Distance between spindles [mm]	350	
Clamp Method	Hydraulic Max. 35 bar	
Allowable Work Inertia [kgm ²]	-	
Weight [kg]	360	
Max. Spindle Speed [mm ⁻¹]	Rotating Axis	Tilting Axis
	25	25
Gear Ratio [mm]	1/120	1/120
Repeatability Accuracy [sec]	4	4
Indexing Accuracy [sec]	40	60
Clamp Torque [N · m]	800	1200
Servo Motor [FANUC]	aiF4 / 4000	aiF8 / 3000

Allowable load	Horizontal [kg]		50, 50
	Vertical [kg]		50, 50
Allowable cutting load	F [kN]		5
	F x L [N·m]		1200
	F x L [N·m]		800
Allowable Cutting Torque [N·m]			180

MTR2-25440ii,25440FF

5th axis for Multi Spindle
Tilting NC Rotary Table

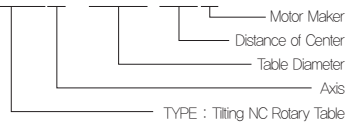


Application / Benefits

Multi Spindle Tilting Series, High Precision&High Speed Systems
Convenient JIG Design, Extremely Rigid Body, High Clamping power (Hydraulic)

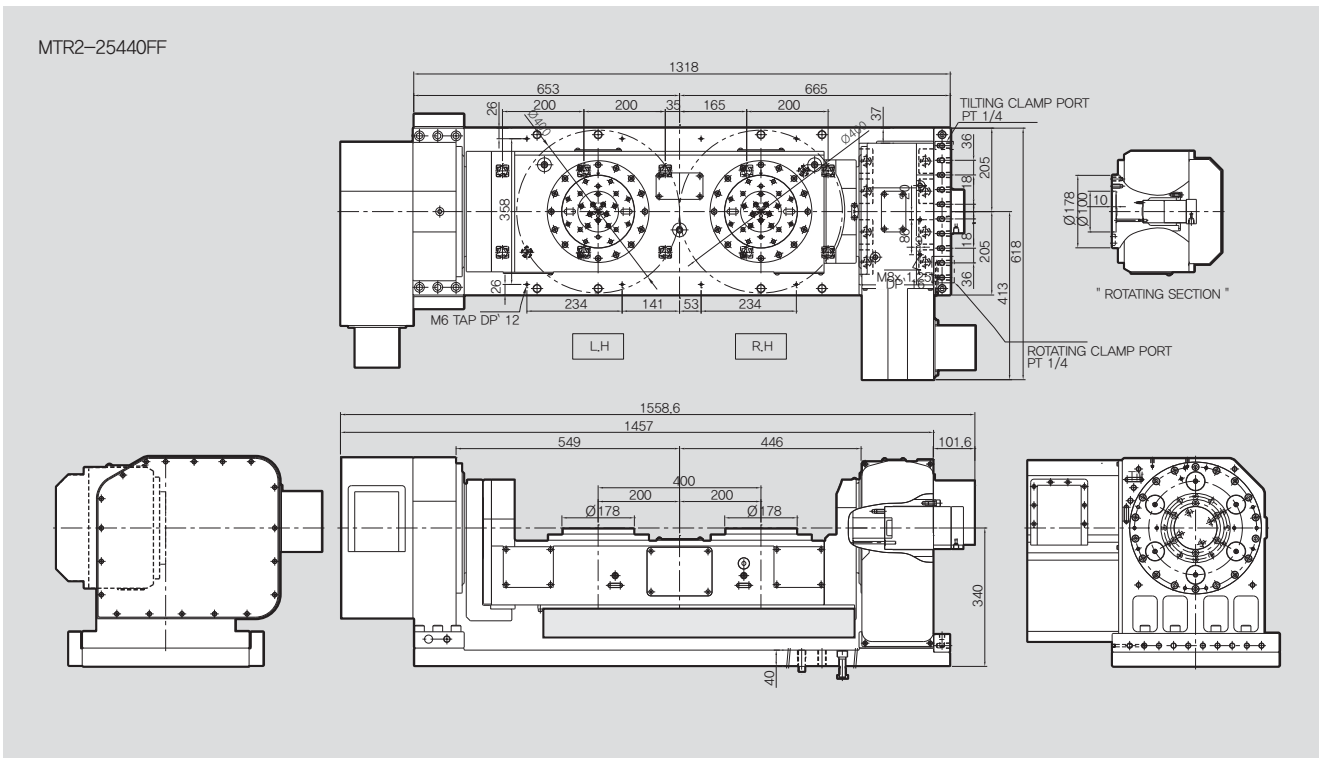
Model No.

MTR2-254 40FF



Servo Motor Maker

F : FANUC H : HEIDENHAIN
S : SIEMENS L : LS MECAPION
M : MITSUBISHI SY : SANYO
P : PANASONIC FA : FAGOR
Y : YASKAWA O : OKUMA



NC Rotary Table

SPECIFICATIONS

Tilting Range: $-20^{\circ} \sim 120^{\circ}$

Table Dia. [mm]	Ø178	
Center Height [mm]	340	
Resister Dia. On Face Plate	Ø100 (178)	
Distance between spindles [mm]	Ø400	
Clamp Method	Hydraulic Max. 35bar	
Allowable Work Inertia [kgm ²]	0.78	
Weight [kg]	890	
	Rotating Axis	Tilting Axis
Max. Spindle Speed [mm ⁻¹]	25	25
Gear Ratio [mm]	1/120	1/120
Repeatability Accuracy [sec]	4	4
Indexing Accuracy [sec]	40	60
Clamp Torque [N · m]	1600	2600
Servo Motor [FANUC]	αiF4 / 3000	αiF8 / 3000

Allowable load	Horizontal [kg]		100, 100
	Vertical [kg]		60, 60
Allowable cutting load	F [kN]		12
	F x L [N·m]		2600
	F x L [N·m]		1600
Allowable Cutting Torque	[N·m]		800

MS2-170F4 4th axis type for Multi Spindle NC Rotary Table

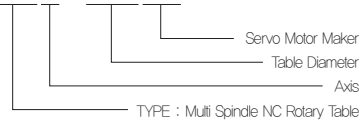


Application / Benefits

Doubles production output, Ideal for balanced workpieces
Realize High Clamping Force by applying Double Piston

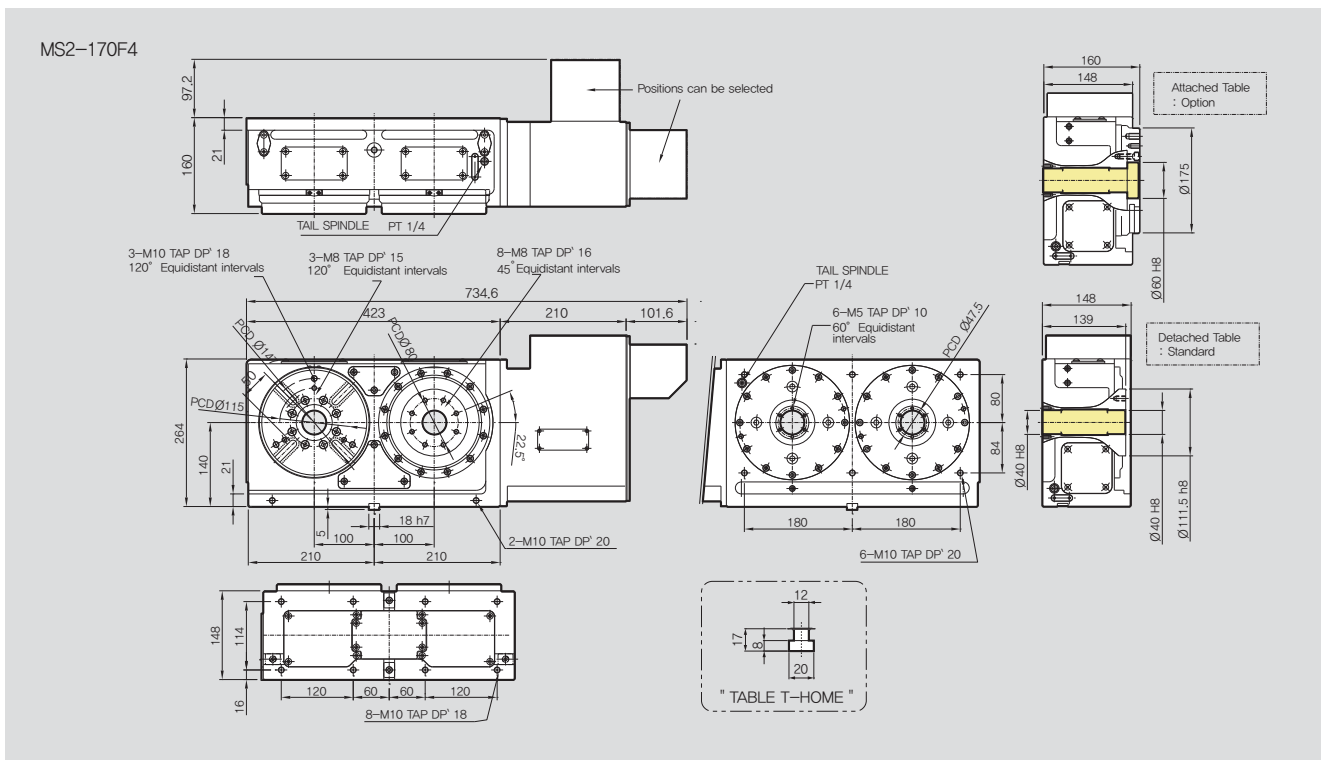
Model No.

MS2-170F4



Servo Motor Maker

F : FANUC	H : HEIDENHAIN
S : SIEMENS	L : LS MECAPION
M : MITSUBISHI	SY : SANYO
P : PANASONIC	FA : FAGOR
Y : YASKAWA	O : OKUMA



SPECIFICATIONS

Table Dia. [mm]	(Table: Option) Ø175
Center Height [mm]	140
Resister Dia. On Face Plate	Ø60H8
Spindle Through Hole Dia. [mm]	Ø40H8
Clamp Method	Pneumatic
Allowable Work Inertia [kgm ²]	0.51
Clamp Torque [N · m]	380
Max. Spindle Speed [mm ⁻¹]	44.4
Gear Ratio [mm]	1/90
Repeatability Accuracy [sec]	4
Indexing Accuracy [sec]	30
Weight [kg]	87
Servo Motor [FANUC]	αiF4 / 4000

Allowable load	Horizontal [kg]		160, 160
	Vertical [kg]		80, 80
Allowable cutting load	F [kN]		10
	F x L [N·m]		600
Allowable Cutting Torque	F x L [N·m]		380
	[N·m]		300

MS2-170LF4 4th axis type for Multi Spindle NC Rotary Table

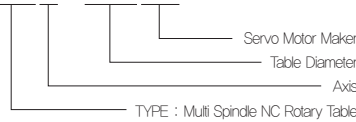


Application / Benefits

Doubles production output, Ideal for balanced workpiece
Realize High Clamping Force by applying Double Piston

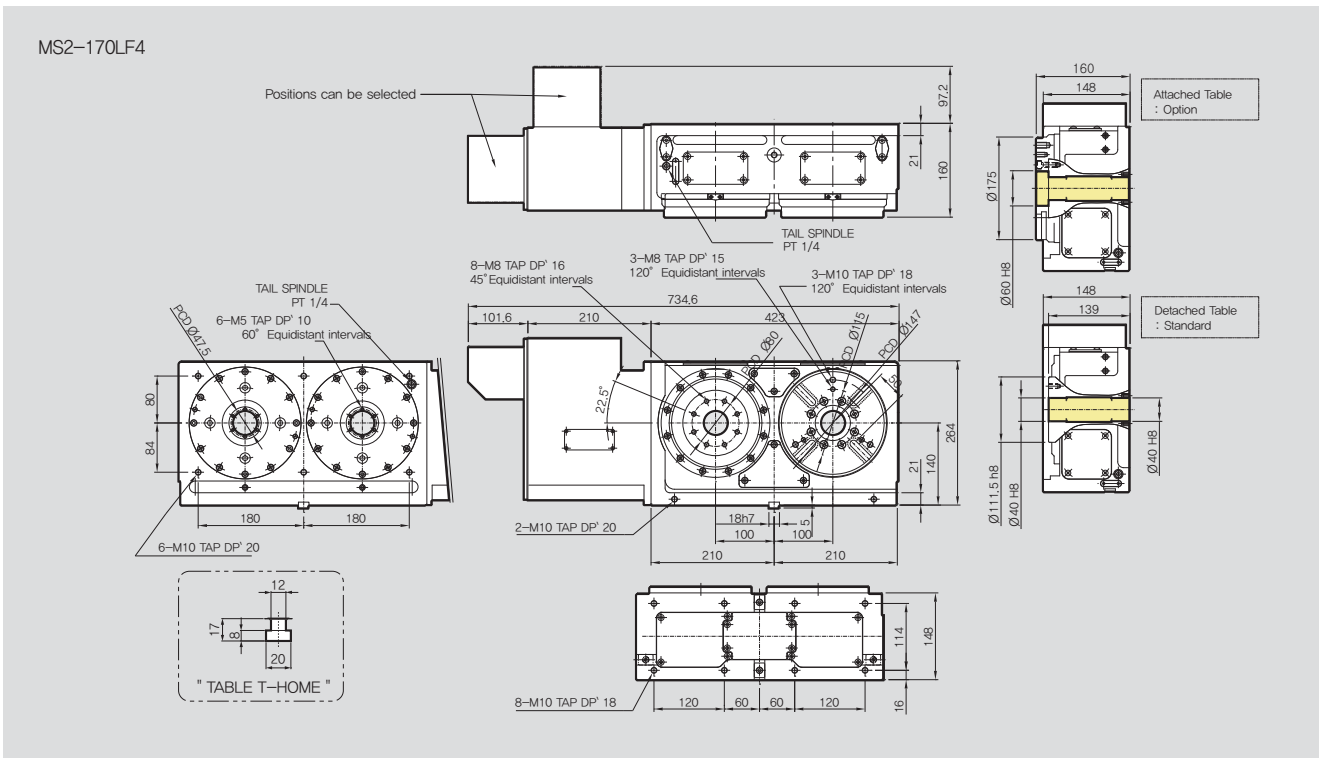
Model No.

MS2-170F4



Servo Motor Maker

- | | |
|----------------|-----------------|
| F : FANUC | H : HEIDENHAIN |
| S : SIEMENS | L : LS MECAPION |
| M : MITSUBISHI | SY : SANYO |
| P : PANASONIC | FA : FAGOR |
| Y : YASKAWA | O : OKUMA |



SPECIFICATIONS

Table Dia. [mm]	(Table: Option) Ø175
Center Height [mm]	140
Resister Dia. On Face Plate	Ø60H8
Spindle Through Hole Dia. [mm]	Ø40H8
Clamp Method	Pneumatic
Allowable Work Inertia [kgm ²]	0.51
Clamp Torque [N · m]	380
Max. Spindle Speed [mm ⁻¹]	44.4
Gear Ratio [mm]	1/90
Repeatability Accuracy [sec]	4
Indexing Accuracy [sec]	30
Weight [kg]	87
Servo Motor [FANUC]	αiF4 / 4000

Allowable load	Horizontal [kg]		160, 160
	Vertical [kg]		80, 80
Allowable cutting load	F [kN]		10
	F x L [N·m]		600
Allowable Cutting Torque	F x L [N·m]		380
	[N·m]		300

MS2-170i, 170Li Controller type for Multi Spindle NC Rotary Table

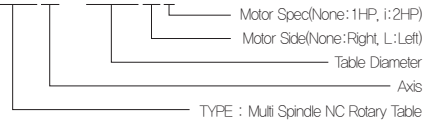


Application / Benefits

Doubles production output, Ideal for balanced workpiece
Realize High Clamping Force by applying Double Piston

Model No.

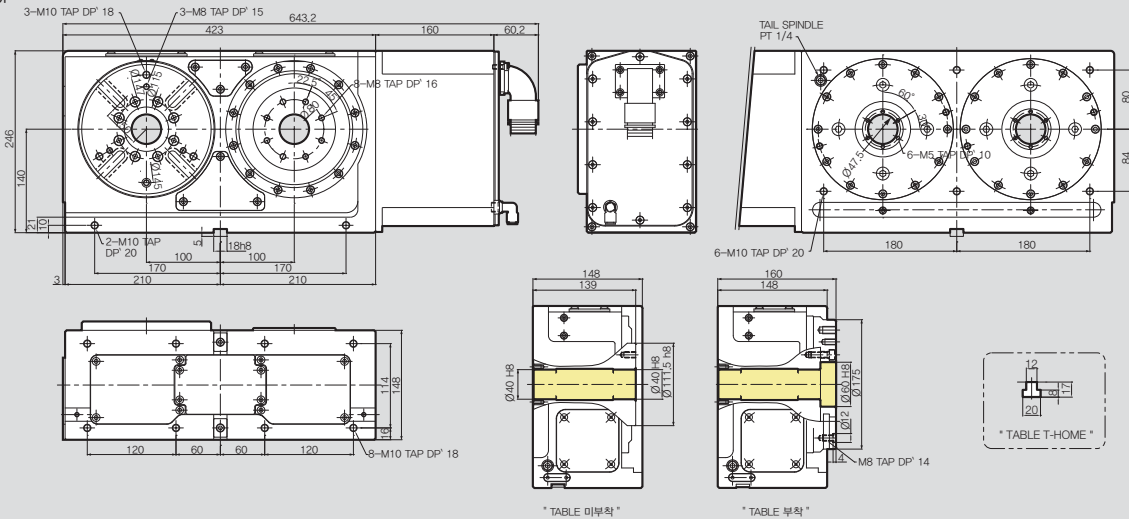
MS2-170Li



Servo Motor Maker

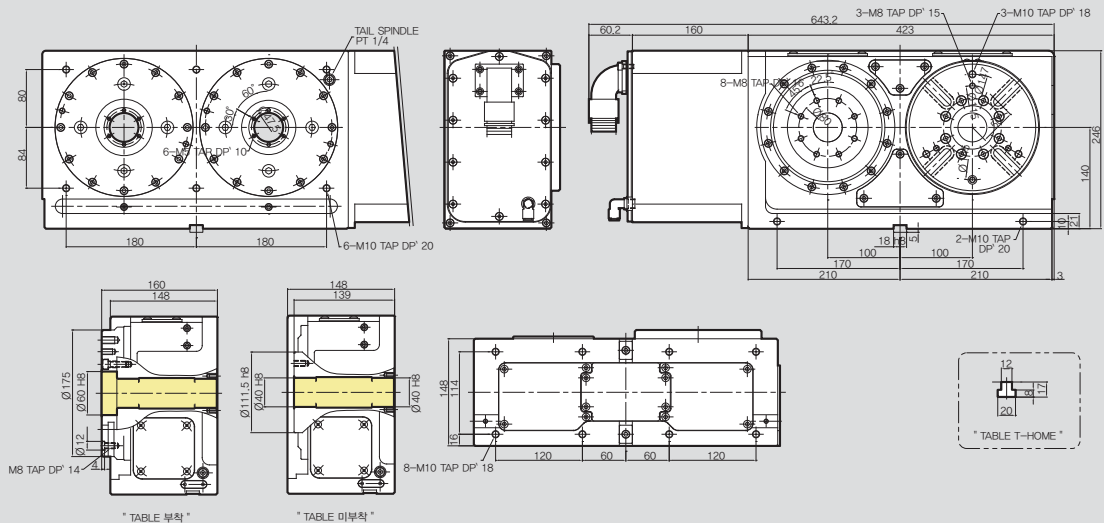
- | | |
|----------------|-----------------|
| F : FANUC | H : HEIDENHAIN |
| S : SIEMENS | L : LS MECAPION |
| M : MITSUBISHI | SY : SANYO |
| P : PANASONIC | FA : FAGOR |
| Y : YASKAWA | O : OKUMA |

MS2-170i



Net Weight(kg) : 87

MS2-170Li



Net Weight(kg) : 87

※Product contents : The same with MS2-170F4(without servo motor)