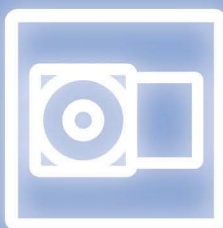




NC ROTARY
TABLE

NC ROTARY TABLE SERIES

kitagawa



NC ROTARY TABLE





NC ROTARY
TABLE

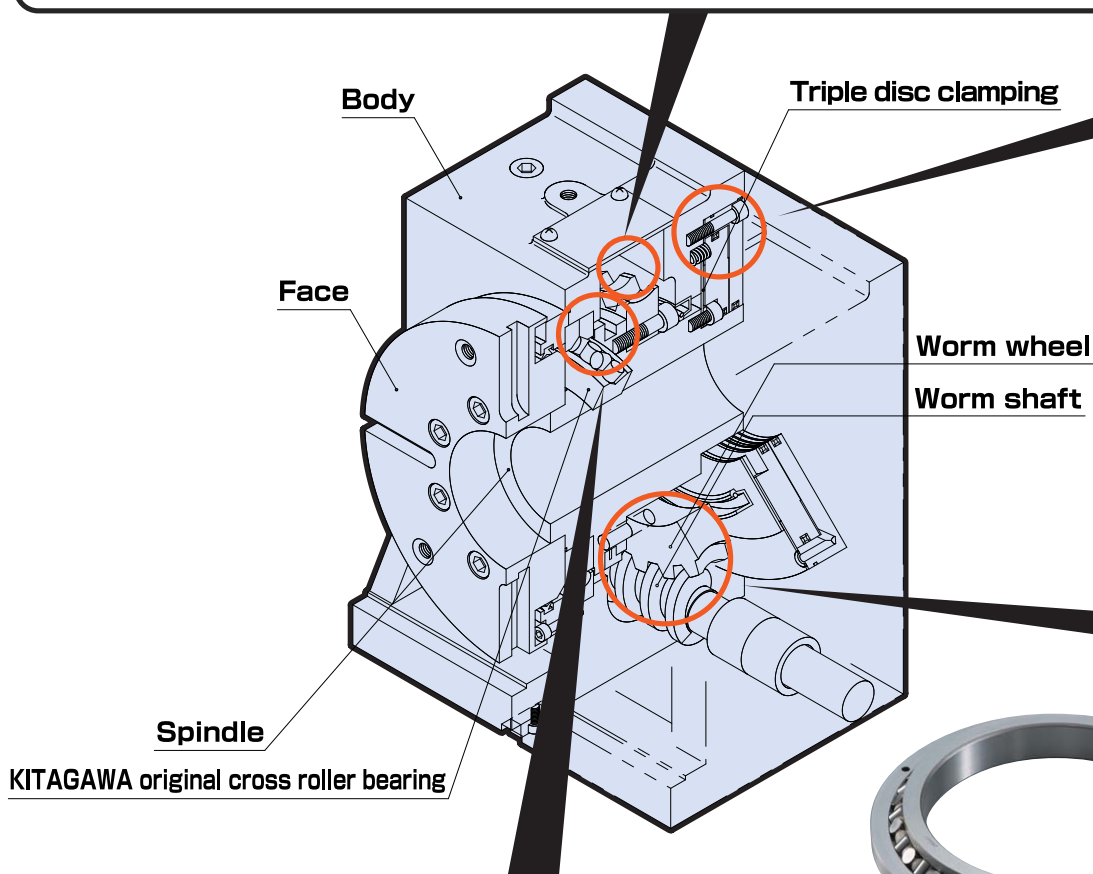
NC ROTARY TABLE FEATURES

High clamping torque, high accuracy
and high rigidity

**KITAGAWA NC Rotary tables feature
proven technology**

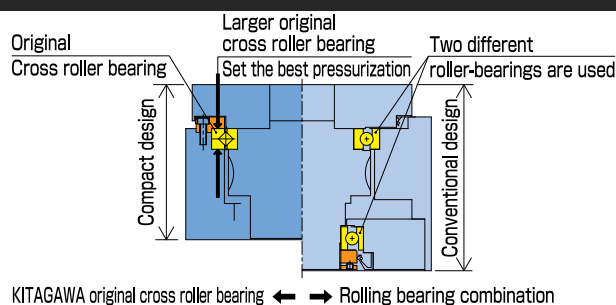
Special material to eliminate worm wheel wear

Kitagawa's special material contains hard inter-metallic compounds to give improved wear characteristics over conventional models.



Original Kitagawa cross roller bearing

KITAGAWA original cross roller bearing supports the main spindle. Construction of the original bearing has high rigidity compared with conventional types, and the original bearing allows the body design to be compact. With over 20 years experience using the original bearing the best pressurization is set meaning high accuracy and high rigidity.



KITAGAWA original cross roller bearing ← → Rolling bearing combination

High clamping brake system

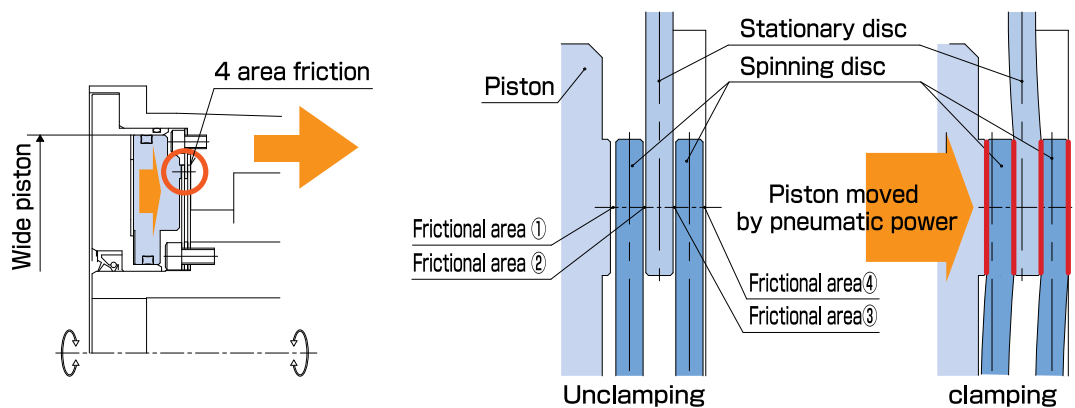
●Air-hydro high clamping system. (T·X series)

Powerful clamping torque can be achieved within a compact design using integrated air-hydraulic booster.
(Part enclosed by a red circle in right figure.)



●Triple disc clamping system. (MR series)

Triple disc clamping system with 4 friction surfaces enables increased clamping torque when compared to conventional air clamped models. Patented in Japan (No. 4328060)

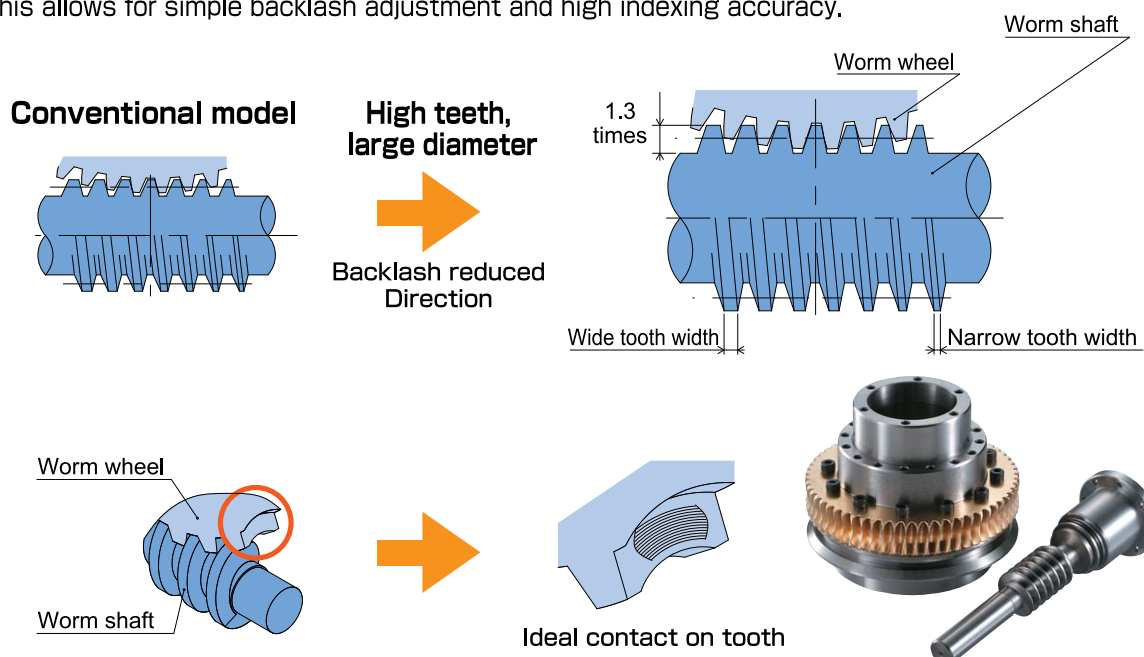


Large diameter gear with high teeth offering increased strength

Large diameter worm wheel and high gear teeth reduces the pressure on the teeth surfaces.
This achieves high accuracy with reduced processing load and wear.

Double-lead worm shaft

Double-lead worm shaft creates ideal contact between the worm shaft and worm wheel.
This allows for simple backlash adjustment and high indexing accuracy.





INDEX [Product description]

NC Rotary Table
MR series P. 5
MR120R(L) V・MR160R(L) V・MR200R(L) V

NC Rotary Table
MR series P. 9
MR250R(L) V・MR320R(L) V

NC Rotary Table
MRT200 P.13

High Speed NC Rotary Table
MX160 P.15

Ultra Compact NC Rotary table
CK(R) series P.17
CK160・CKR160・CK200・CKR200

High Clamping Torque NC Rotary Table
GT series P.19
GT200R(L) V・GT250R(L) V・GT320R(L) V

High Performance NC Rotary Table – Side motor mounted,
Vertical or Horizontal Usage –
TMX series P.23
TMX160・TMX200・TMX250 THX160・THX200

High Performance NC Rotary Table – Side motor mounted,
Vertical or Horizontal Usage –
TR series P.27
TRX320・TR400・TR500・TR630 TLX250・TLX320・TL400

Mega Thru-Hole NC Rotary Table
TP530 P.31

High Performance NC Rotary Table – Back side mounted motor –
TBX series P.33
TBX160・TBX200・TBX250・TBX320

High Performance NC Rotary Table – Top-motor –
TU series P.37
TUX200・TUX250・TUX320・TU400・TU500

Multiple Spindle NC Rotary Table
TM series P.41
TM2100・TM3100・TM2160・TM3160 TH2100・TH3100・TH2160・TH3160

Compact Type Tilting NC Rotary Table
TT101・TW120 P.45

DATA Tilting NC table・Work loadable area P.48
TT101・TW120

Low Centre Line Tilting NC Rotary Table
TT140 P.49

DATA Tilting NC table・Work loadable area P.52
TT140

Tilting NC Rotary Table
TT150 P.53

DATA Tilting NC table・Work loadable area P.56
TT150

Tilting NC Rotary Table
TT182・TW182 P.57

DATA Tilting NC table・Work loadable area P.60
TT182・TW182

Tilting NC Rotary Table
TT200 P.63

Tilting NC Rotary Table
TT251/TW251・TT321/TW321 P.65

DATA Tilting NC table・Work loadable area P.68
TW251・TW321

Horizontal NC Rotary Table
LR series P.69
LR320・LR400・LR500

Two-axis Tilting NC Rotary Table
TW2180 P.71

Exclusive NC Rotary Table for Wire Cutting Electric Discharge Machine
DM100・DME100 P.73

Quick Indexing NC Rotary Table
RK200 P.75

High-speed & Low maintenance NC Rotary Table
RKT180 P.77

High Speed NC Rotary Table
RS100 P.78

NC Rotary Table
TC100 P.79

P.80

Kitagawa own controller
Quinte series P.81
QTC100・QTC200・QTC300

- Features of controller P.81
- Appearance・Dimensions P.83
- Front side of Quinte Panel Functions P.84
- Example of LCD screen P.85
- Program Examples P.86
- Quinte series option P.87
- Quinte series option P.88
- Connection P.89
- Mutual Connection Diagram P.90
- Machine Connection Diagram P.91

DATA Control Detail P.92

Tailstock P.93
Manual・Manual(Multi Spindles) : Air/Hydraulic・Air/Hydraulic(Multi Spindles)

Tail Spindle
TSR(C)・MSR(C) series P.97

Trunnion Assembly
TJ series P.99
TJ16M38E・TJ16M38C

DATA Accuracy specification・TJ Options P.100

Rotary Joint
RJ P.101

Air Hydraulic Booster
AB series P.102
AB10T・AB25T・AB50T

Scroll Chuck
SC・JN series P.103

DATA Detailed mounting sizes P.104

Work Gripper
AS series P.105

DATA Detailed Mounting Sizes P.106

Open Centre Power Chuck
B-200 series P.107

Compact Closed Centre Hydraulic Rotary Cylinder
M series

DATA Detailed Mounting Sizes P.108

Closed Centre Power Chuck
N series P.109

Compact Closed Centre Hydraulic Rotary Cylinder
M series

DATA Detailed Mounting Sizes P.110

Rotary Chuck
NRC series P.111

DATA Detailed Mounting Sizes P.112

Chuck Combinations P.113

Combinations of NC Rotary Table and Servomotor P.114

High-Precision Table with Scale P.115

Accuracy specification P.117

Glossary P.120

Cautions P.122



**NC ROTARY
TABLE**

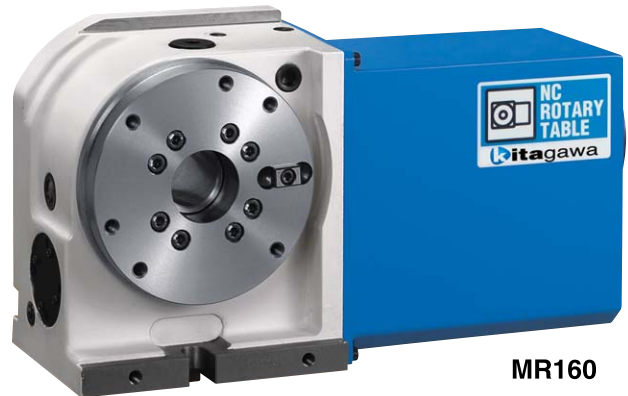
NC Rotary Table

MR series

MR120·MR160·MR200

Industry standard compact rotary table

- Minimum size in its class
 - Pneumatic spec
 - Powerful pneumatic clamping torque by triple disk brake system
 - High speed rotation
 - High accuracy
 - Rotary Joint built in as option
 - Ideal for compact machining centres
- *CE correspondence



MR160

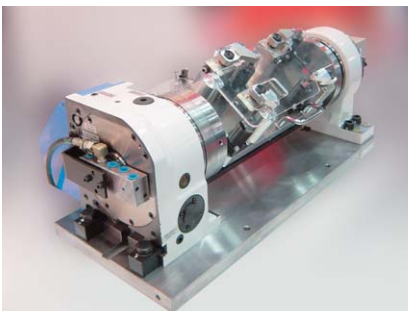


MR160R (L) V
(With Kitagawa own controller)



MR160R (L) V
(Rotary Joint built in as option)

Sample Application



▲ Various trunnion systems available.
(See P.99).



▲ Table with T-slot can also be offered.



▲ Only Kitagawa can offer this combination of NC Rotary Table and chuck

4th axis specifications

MR 160 L A * * *

Type

Table Size
120・160・200

Design No.

Motor type

Clamping method
Only Pneumatic

Right/left hands

R: Right hand

L: Left hand

M signal specification

MR 160 R A V * *

Type

Table Size
120・160・200

Design No.

Quinte specification

Clamping method
Pneumatic

R : Right hand

L : Left hand

Specifications

Model		MR120	MR160	MR200
Right hand		○	○	○
Left hand		○	○	○
Table dia (mm)		φ 128	φ 165	φ 202
Register diameter on Face Plate (mm)		φ 50H7	φ 50H7	φ 65H7
Spindle through hole diameter (mm)		φ 32	φ 40	φ 45
Centre Height (mm)		120	140	140
Clamping method		Pneumatic	Pneumatic	Pneumatic
Clamping torque (N・m) (In pneumatic 0.5MPa)		150	310	350
Motor axis reduced inertia (kg・m ²)		0.00004	0.00008	0.00017
Servomotor (for FANUC specification)		α iF 2/5000	α iF 2/5000	α iF 4/5000
Gear ratio		1/60	1/72	1/90
Max. spindle speed	FANUC specification (for min ⁻¹ /motor3000min ⁻¹)	50	41.6	33.3
	M signal specification (for min ⁻¹ /motor3000min ⁻¹)	50	41.6	33.3
Allowable work inertia (kg・m ²)		0.22	0.51	1.00
Indexing accuracy (sec)		20	20	20
Repeatability (sec)		4	4	4
Mass of product (kg)		33	41	61
Manual Tailstock (as an option・P95 reference)		MR120RN	MR160RN	MR200RN
Tail Spindle (as an option・P99 reference) Note)5		TSR121A	MSR142A/TSR142A	MSR142A/TSR142A
Rotary Joint (as an option・P103 reference)		RJ32-12Q04	RJ40H16Q	RJ40H20Q02
		Hydraulic/Pneumatic3-port	Hydraulic/Pneumatic4-port	Hydraulic/Pneumatic4-port
Allowable Load	Horizontal (kg) 	120	160	200
	Vertical (kg) 	60	80	100
Allowable load (When clamped to table)	F (kN) 	8	10	17
	F×L (N・m) 	350	600	1100
	F×L (N・m) 	150	310	350
Allowable cutting torque	T (N・m) 	180	220	270

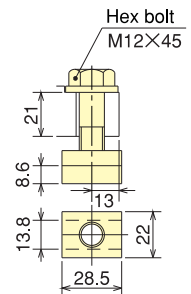
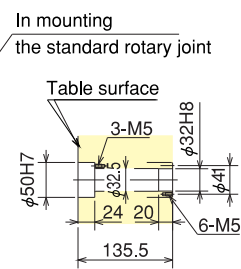
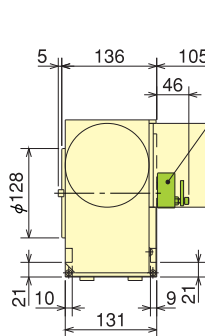
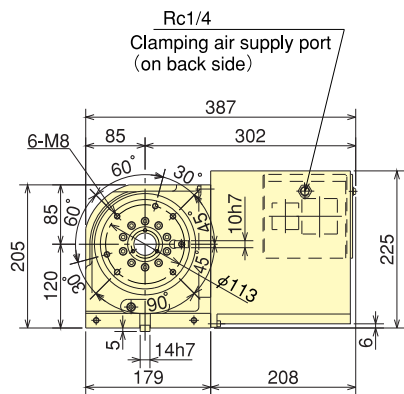
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. The solenoid valve for the table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. In the port part on the table surface jig side of a rotary joint, MR120 or 200 is fixed to the rotary table side and MR160 to jig side. 5. Because a mounting pitch varies with the machines, refer to the pitch of the table spindle size drawing on P99. 6. Each product mass is determined by a Kitagawa M signal spec.



MR series MR120·MR160·MR200

■Dimensions [4th axis specifications]

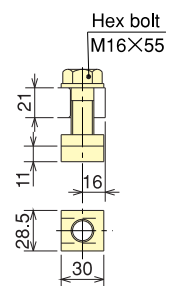
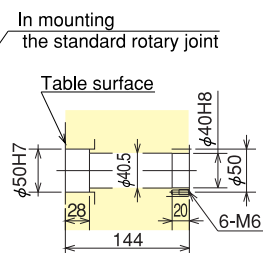
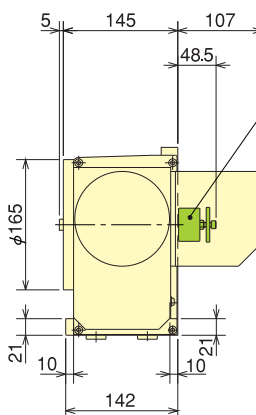
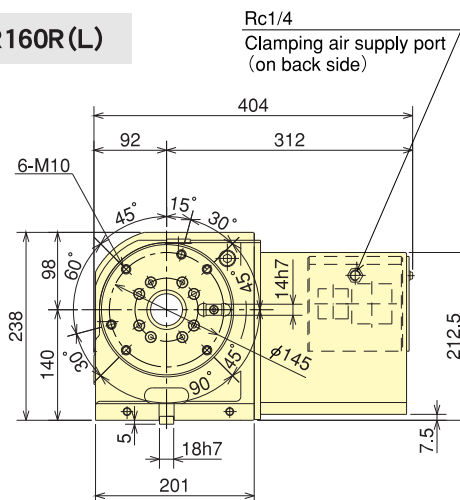
MR120R(L)



Thru-Hole Diameter

Clamping Device

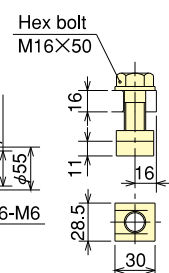
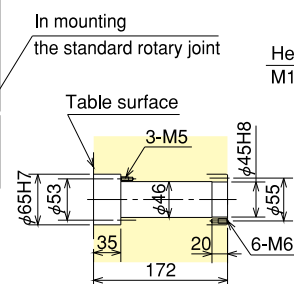
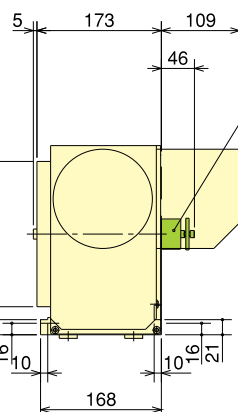
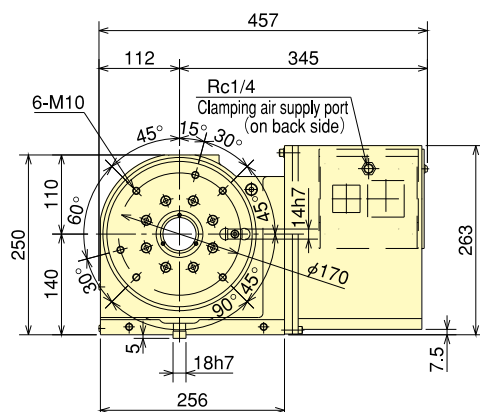
MR160R(L)



Thru-Hole Diameter

Clamping Device

MR200R(L)



Thru-Hole Diameter

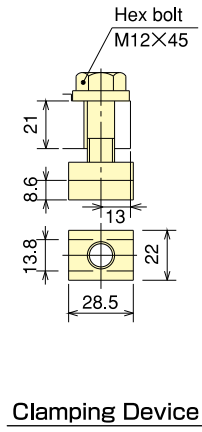
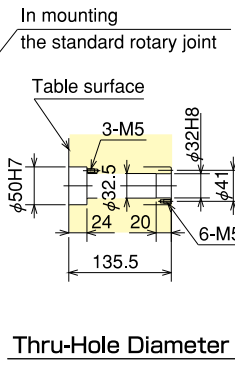
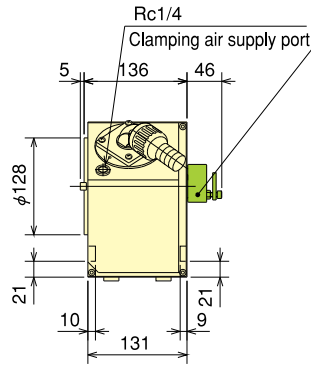
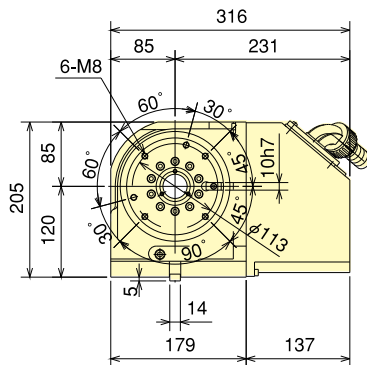
Clamping Device

※The above dimensions are the same as FANUC specifications.
Those dimensions may vary from motor to motor that is mounted.
R is a right hand spec. and L is a left hand spec.

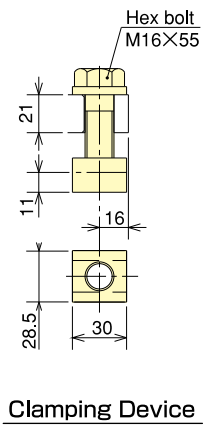
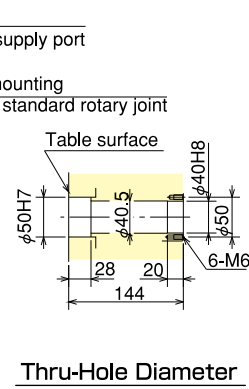
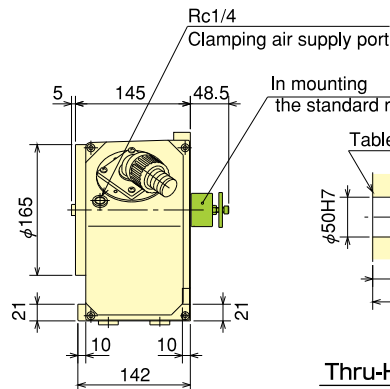
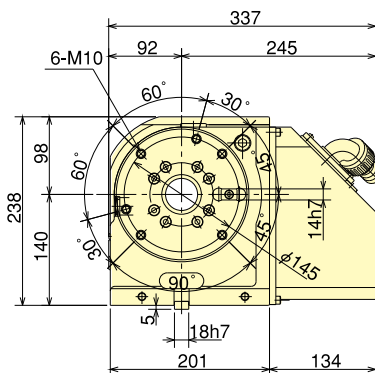
Dimensions [Kitagawa own controller]

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

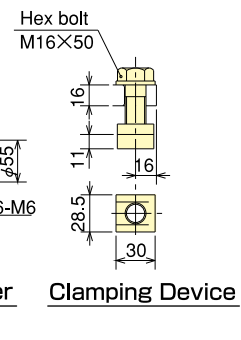
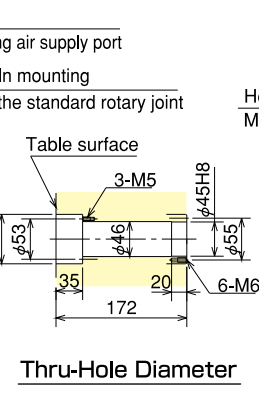
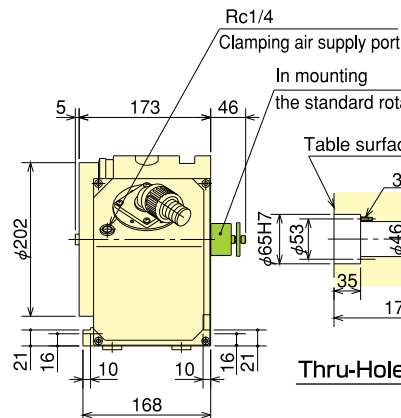
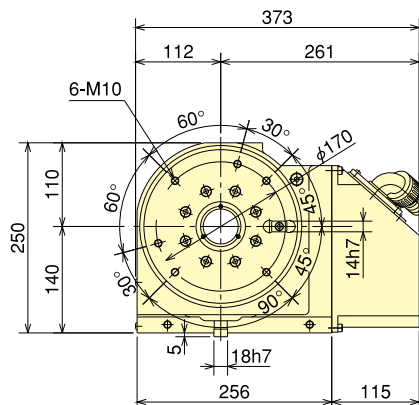
MR120R(L)



MR160R(L)



MR200R(L)



※R is a right hand spec. and L is a left hand spec.



**NC ROTARY
TABLE**

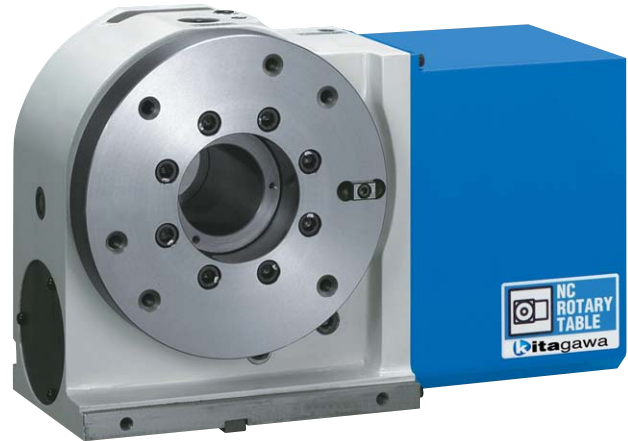
NC Rotary Table

MR series

MR250·MR320

Industry standard compact rotary table

- Compact design
 - Pneumatic spec
 - Powerful pneumatic clamping torque by triple disk brake system
 - High speed rotation
 - High accuracy
 - Rotary Joint built in as option
 - Ideal for compact machining centres
- * CE correspondence



MR250



MRM250
(With Kitagawa own controller)

Sample Application



▲ Specialist trunnion systems allow for multi surface or simultaneous machining.

4th axis specifications

MR	250	L	A	*	*	*
Type	Table Size 250・320	Right/left hands R: Right hand L: Left hand		Design No.	Motor type	Clamping method Only Pneumatic

M signal specification

MR	250	R	A	V	*	*
Type	Table Size 250・320	R : Right hand L : Left hand		Design No.	Quinte specification	Clamping method Pneumatic

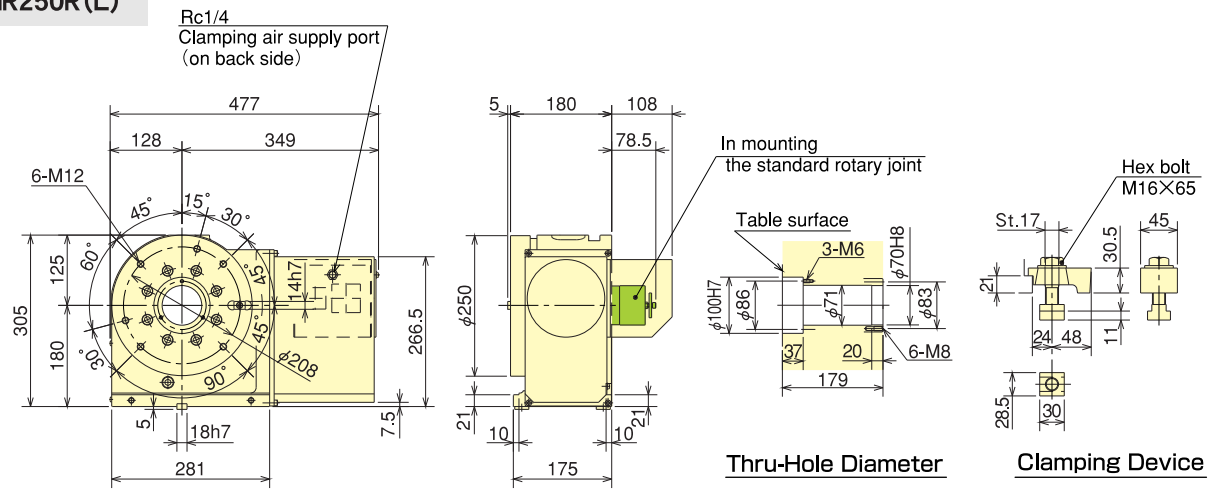
Specifications

Model		MR250	MR320
Right hand		○	○
Left hand		○	○
Table dia (mm)		φ 250	φ 320
Register diameter on Face Plate (mm)		φ 100H7	φ 130H7
Spindle through hole diameter (mm)		φ 70	φ 105
Centre Height (mm)		180	225
Clamping method		Pneumatic	Pneumatic
Clamping torque (N・m) (In pneumatic 0.5MPa)		600	1200
Motor axis reduced inertia (kg・m ²)		0.00031	0.00031
Servomotor (for FANUC specification)		α iF 4/5000	α iF 8/3000
Gear ratio		1/90	1/120
Max. spindle speed	FANUC specification (for min ⁻¹ /motor3000min ⁻¹)	33.3	25
	M signal specification	33.3 (3000min ⁻¹)	16.6 (2000min ⁻¹)
Allowable work inertia (kg・m ²)		1.95	4.49
Indexing accuracy (sec)		20	20
Repeatability (sec)		4	4
Mass of product (kg)		85	135
Manual Tailstock (as an option・P95 reference)		MR250RN	MR320RN
Tail Spindle (as an option・P99 reference) Note)5		MSR181A/TSR181A	TSR181A45
Rotary Joint (as an option・P103 reference)		RJ70H25Q02	RJ70H32Q01
		Hydraulic/Pneumatic6-port	Hydraulic/Pneumatic6-port
Allowable Load	Horizontal (kg)	250	350
	Vertical (kg)	125	180
Allowable load (When clamped to table)	F (kN)	21	25
	F×L (N・m)	1600	2400
	F×L (N・m)	600	1200
Allowable cutting torque	T (N・m)	480	800

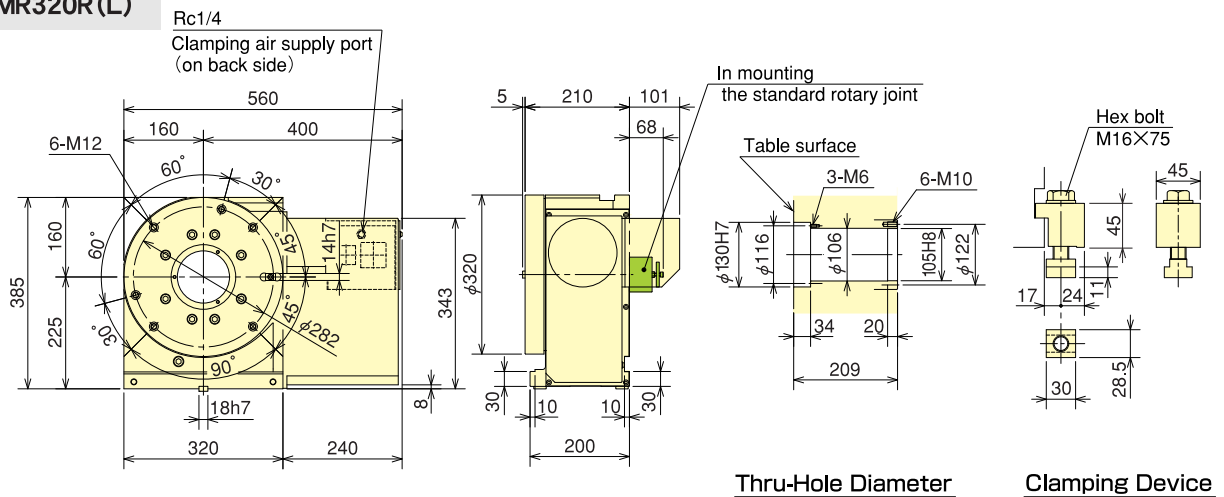
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. The solenoid valve for the table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. In the port part on the table surface jig side of a rotary joint, MR120 or 320 is fixed to the rotary table side. 5. Because a mounting pitch varies with the machines, refer to the pitch of the table spindle size drawing on P99. 6. Each product mass is determined by a Kitagawa M signal spec.

■Dimensions [4th axis specifications]

MR250R (L)



MR320R (L)



※The above dimensions are the same as FANUC specifications.
Those dimensions may vary from motor to motor that is mounted.
R is a right hand spec, and L is a left hand spec.



NC ROTARY
TABLE

NC Rotary Table MRT200

Top mounted motor position allows optimal stroke for Y-axis

- Less interference
- High cost-performance
- Compact design with pneumatic clamping system

* CE correspondence



MRT200

Specifications

Model		MRT200
Table dia	(mm)	φ 202
Register diameter on Face Plate	(mm)	φ 65 H7
Spindle through hole diameter	(mm)	φ 45
Centre Height	(mm)	140
Clamping method		Pneumatic
Clamping torque	(N·m) (In pneumatic 0.5MPa)	350
Motor axis reduced inertia	(kg·m ²)	0.00017
Servomotor	(for FANUC specification)	α iF4/5000
Gear ratio		1/90
Max. spindle speed	FANUC specification (for min ⁻¹ /motor3000min ⁻¹)	33.3
	M signal specification (for min ⁻¹ /motor3000min ⁻¹)	33.3
Allowable work inertia	(kg·m ²)	1.00
Indexing accuracy	(sec)	20
Repeatability	(sec)	4
Mass of product	(kg)	70
Manual Tailstock	(as an option · P95 reference)	MR200RN
Tail Spindle	(as an option · P99 reference) Note) 5	MSR142A/TSR142A
Rotary Joint	(as an option · P103 reference)	RJ40H20Q02 (Hydraulic/Pneumatic 4-port)
Allowable Load	Horizontal (kg)	—
	Vertical (kg)	100
Allowable load (When clamped to table)	F (kN)	17
	FXL (N·m)	1100
	FXL (N·m)	350
Allowable cutting torque	T (N·m)	270

Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. The solenoid valve for the table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool. 4. In the port part on the table surface jig side of a rotary joint is fixed to the rotary table side. 5. Because a mounting pitch varies with the machines, refer to the pitch of the table spindle size drawing on P99. 6. Each product mass is determined by a Kitagawa M signal spec.

4th axis specifications

MRT 200 A * * *

Type Table Size 200 Design No. Motor type Clamping method Pneumatic

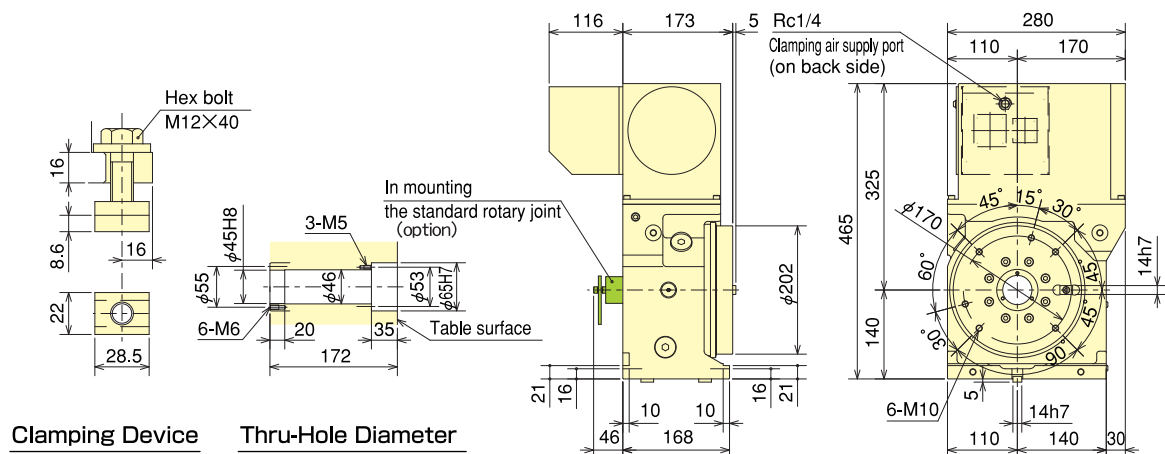
M signal specification

MRT 200 A V * *

Type Table Size 200 Design No. Quinte specification Clamping method Pneumatic

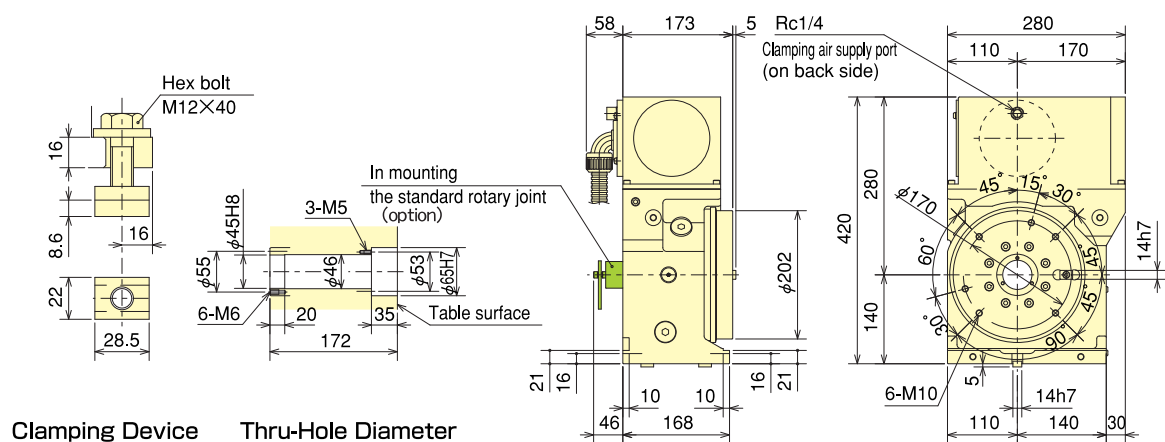
Dimensions

MRT200 [4th axis specifications]



※The above dimensions are the same as SANYO specifications.
In case of other maker motor specifications, dimensions may differ in length.

MRT200 [Kitagawa own controller] *The dimensions may vary from motor to motor that is mounted.





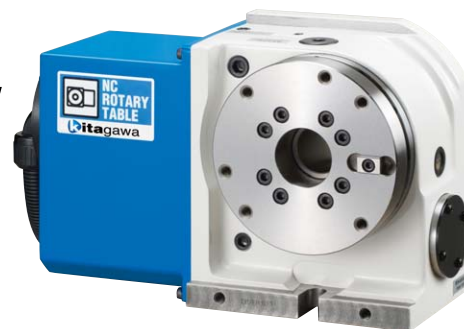
NC ROTARY
TABLE

High Speed NC Rotary Table MX160

**Max. Spindle Speed increased to 75min⁻¹
Reduced Takt Time and Improved Productivity**

- Rotating speed increased
- Indexing time reduced by 39% (With KITAGAWA own controller)
- Mounting dimensions equivalent to MR Series

* CE correspondence



MX160

Specifications

Model		MX160
Right hand		×
Left hand		○
Table dia (mm)		φ 165
Register diameter on Face Plate (mm)		φ 50H7
Spindle through hole diameter (mm)		φ 40
Centre Height (mm)		140
Clamping method		Pneumatic
Clamping torque (N·m) (In pneumatic 0.5MPa)		310
Motor axis reduced inertia (kg·m ²)		0.00023
Servomotor (for SANYO specification)		R2AA08075FXPGPM6
Gear ratio		1 / 40
Max. spindle speed	SANYO specification (for min ⁻¹ /motor3000min ⁻¹)	75
	M signal specification (for min ⁻¹ /motor3000min ⁻¹)	75
Allowable work inertia (kg·m ²)		0.25
Indexing accuracy (sec)		40
Repeatability (sec)		8
Mass of product (kg)		43
Manual Tailstock (as an option · P95 reference)		MR160RN
Tail Spindle (as an option · P99 reference) Note) 5		MSR142A/TSR142A
Rotary Joint (as an option · P103 reference)		RJ40H16P01
		(Hydraulic/Pneumatic 4-port)
Allowable Load	Horizontal (kg)	80
	Vertical (kg)	40
Allowable load (When clamped to table)	F (kN)	10
	FXL (N·m)	600
	FXL (N·m)	310
Allowable cutting torque	T (N·m)	350

Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. The solenoid valve for the table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. The ports of Rotary Joint at the table surface is fixed on to the jig. 5. Because a mounting pitch varies with the machines, refer to the pitch of the table spindle size drawing on P99. 6. Each product mass is determined by a Kitagawa M signal spec.

4th axis specifications

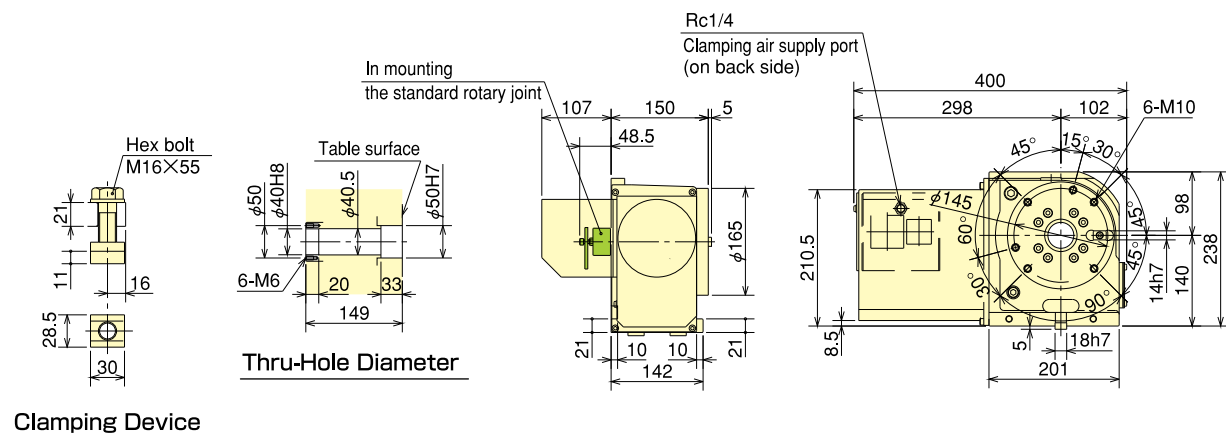
MX	160	L	A	*	*	*
Type	Table Size 160					Design No.
						Motor type
						Clamping method Pneumatic
						Left hand

M signal specification

MX	160	L	A	V	*	*
Type	Table Size 160					Design No.
						Quinte specification
						Clamping method Pneumatic
						L : Only left hand

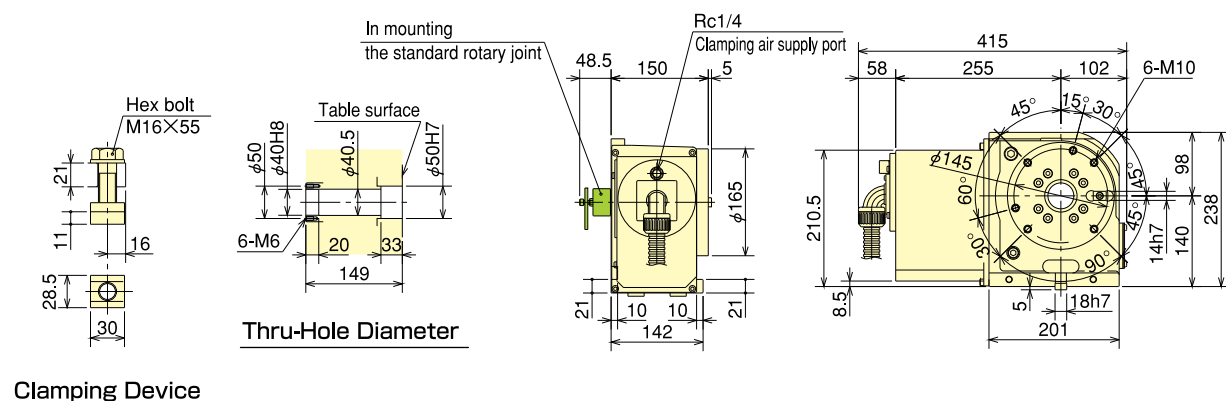
■ Dimensions

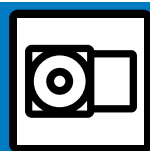
MX160L (4th axis specifications)



※The above dimensions are the same as SANYO specifications.
In case of other maker motor specifications, dimensions may differ in length.

MX160L (Kitagawa own controller) *The dimensions may vary from motor to motor that is mounted.





NC ROTARY
TABLE

Ultra Compact NC Rotary table

CK(R) series

CK160・CKR160
CK200・CKR200

※1 CKR160/CKR200 : All ports are available for both pneumatic and hydraulic, not available for Coolant.

Ultra compact body Smallest-footprint NC Rotary Table

- Suitable for using with trunnion jig
- Block-less rotary joint※¹
- Suitable for small-footprint machines

* CE correspondence



CK160R

Specifications

Model		CK160	CKR160	CK200	CKR200
Table dia (mm)		φ 114	φ 114	φ 130	φ 130
Register diameter on Face Plate (mm)		φ 65 H 7	φ 65 H 7	φ 65 H 7	φ 65 H 7
Spindle through hole diameter (mm)		φ 65	—	φ 65	—
Centre Height (mm)		140	140	150	150
Clamping method		Pneumatic	Pneumatic	Pneumatic	Pneumatic
Clamping torque (N·m) (In pneumatic 0.5MPa)		340	340	400	400
Motor axis reduced inertia (kg·m ²)		0.00009	0.00009	0.00017	0.00017
Servomotor (for FANUC specification)		α iF2/5000	α iF2/5000	α iF2/5000	α iF2/5000
Gear ratio		1／72	1／72	1／120	1／120
Max. spindle speed	FANUC specification (for min ⁻¹ /motor3000min ⁻¹)	41.6	41.6	25	25
	M signal specification (for min ⁻¹ /motor3000min ⁻¹)	41.6	41.6	25	25
Allowable work inertia (kg·m ²)		0.51	0.51	1.00	1.00
Indexing accuracy (sec)		20	20	20	20
Repeatability (sec)		4	4	4	4
Mass of product (kg)		40	41	47	49
Tail Spindle (as an option・P97 reference) Note)5		MSRC140/TSRC140 MSR142A/TSR142A	MSRC140/TSRC140 MSR142A/TSR142A	MSRC150 TSRC150	MSRC150 TSRC150
Rotary Joint (Maximum operating pressure 7Mpa)		—	※2 (Hydraulic/Pneumatic 7-port)	—	※2 (Hydraulic/Pneumatic 8-port)
Allowable Load	Horizontal (kg) 	160			
	Vertical (kg) 	80			
Allowable load (When clamped to table)	F (kN) 	10			
	FXL (N·m) 	600			
	FXL (N·m) 	340		400	
Allowable cutting torque		220 			

Note) 1. The switch for pressure checking is incorporated to all series except TC / DM/ LR series. 2. The solenoid valve for the table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. Rotary joint is fixed to jig side. 5 Because a mounting pitch varies with the machines, refer to the pitch of the tail spindle size drawing on P97. 6. Each product mass is determined by a Kitagawa M signal spec.

4th axis specifications

CK 160 R * * *

Table Size
160·200

Design No.
Motor type

Type

CK: without rotary joint
CKR: with rotary joint

Right/Left hand

R: Right hand
L: Left hand

M signal specification

CK 160 R V * *

Table Size
160·200

Design No.
Quinte specification

Type

CK: without rotary joint
CKR: with rotary joint

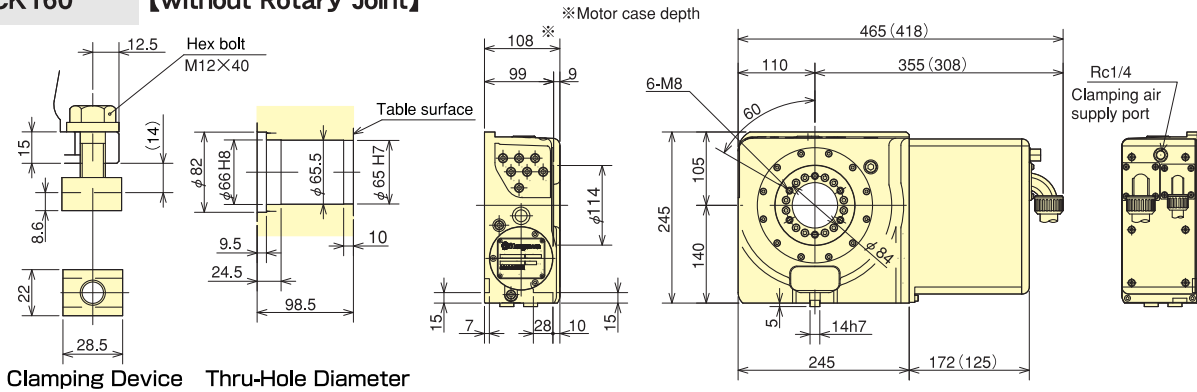
Right/Left hand

R: Right hand
L: Left hand

■ Dimensions

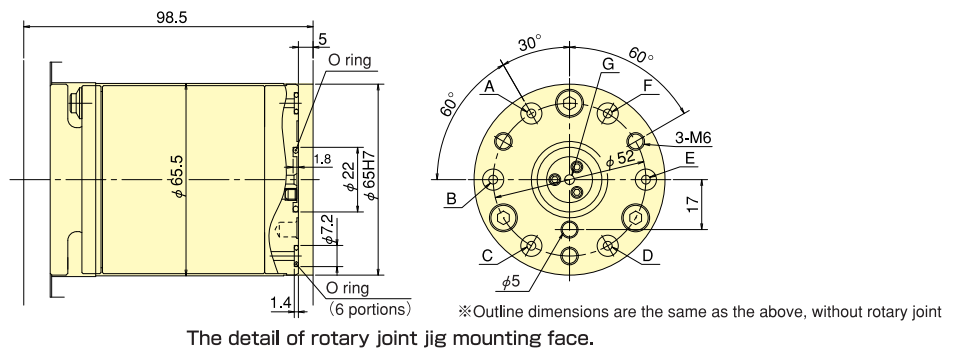
CK160

【without Rotary Joint】



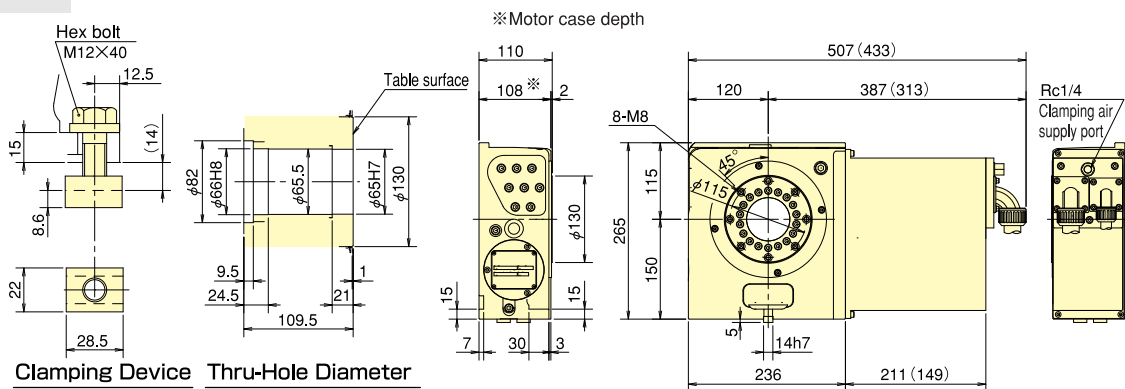
CKR160

【with Rotary Joint】



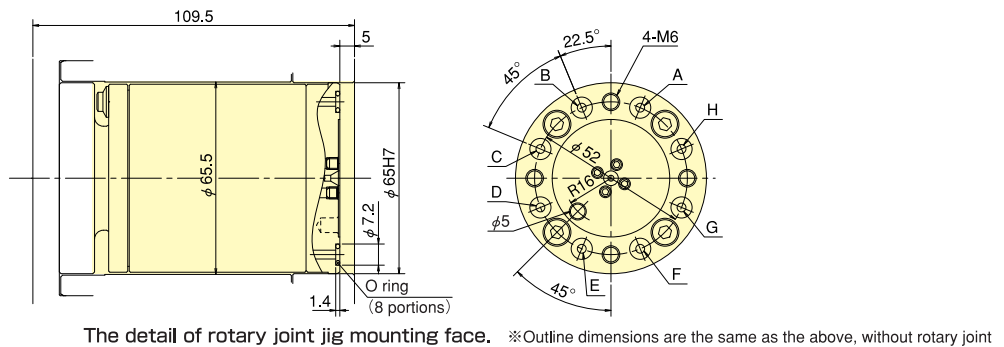
CK200

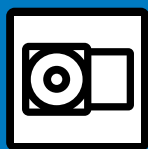
【without Rotary Joint】



CKR200

【with Rotary Joint】





**NC ROTARY
TABLE**

High Clamping Torque NC Rotary Table

GT

series

GT200·GT250·GT320

NC Rotary Table suitable for heavy machining

* CE correspondence



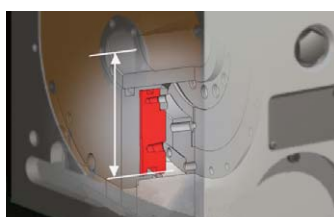
GT200



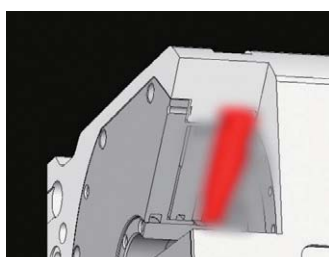
GT320

Sample Application

High Clamping Torque



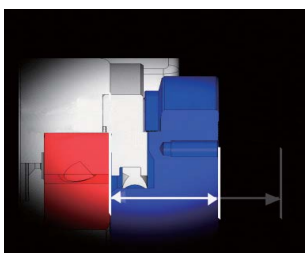
Piston designed at a maximum



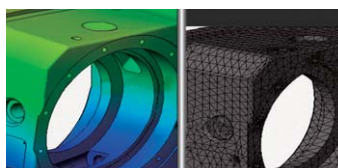
New Clamping Mechanism
(Patent pending)

Increased clamping torque is achieved by increased piston area and new clamping mechanism.

High rigidity



Moment loading reduced



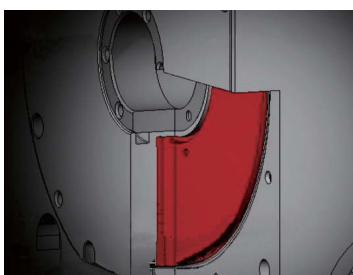
Perfect design



Best Clamping

Rigid Body Design allows heavy machining.
Improved Brake Piston design reduces distortion.

High speed



Air circuit improved

High clamping Torque allows increased machining speed.
Improved clamping speed reduces takt time.

4th axis specifications						M signal specification									
GT 200		L	A	* * *		GT 200		L	A	V * *					
Table Size 200·250·320		Right/Left hand R: Right hand L: Left hand	Motor type Clamping method Pneumatic	Design No.		Table Size 200·250·320		R : Right hand L : Left hand	Clamping method Pneumatic	Design No.					
Type						Type				Quinte specification					

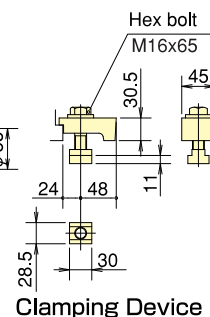
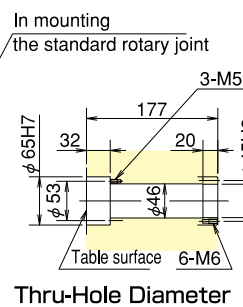
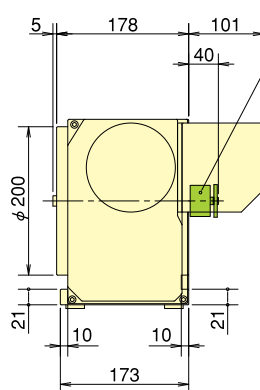
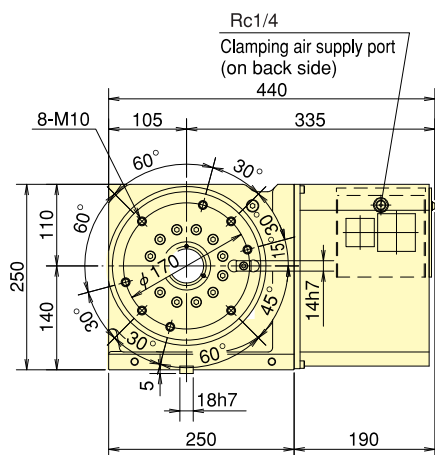
Specifications

Model		GT200	GT250	GT320
Right hand		○	○	○
Left hand		○	○	○
Table dia (mm)		φ 200	φ 250	φ 320
Register diameter on Face Plate (mm)		φ 65 H 7	φ 100 H 7	φ 130 H 7
Spindle through hole diameter (mm)		φ 45	φ 70	φ 105
Centre Height (mm)		140	180	225
Clamping method		Pneumatic	Pneumatic	Pneumatic
Clamping torque (N·m) (In pneumatic 0.5MPa)		820	1600	2800
Motor axis reduced inertia (kg·m ²)		0.00023	0.00036	0.00039
Servomotor		α iF 4/5000	α iF 4/5000	α iF 8/3000
Gear ratio		1/72	1/90	1/120
Max. spindle speed	FANUC specification (for min ⁻¹ /motor 3000min ⁻¹)	41.6	33.3	25
	M signal specification (for min ⁻¹)	41.6 (3000min ⁻¹)	33.3 (3000min ⁻¹)	16.6 (2000min ⁻¹)
Allowable work inertia (kg·m ²)		1.00	1.95	4.49
Indexing accuracy (sec)		20	20	20
Repeatability (sec)		4	4	4
Mass of product (kg)		64	87	145
Manual Tailstock (as an option · P93 reference)		MR200RN	MR250RN	MR320RN
Tail Spindle (as an option · P97 reference) Note)5		MSR142A/TSR142A	MSR181A/TSR181A	TSR181A45
Rotary Joint (as an option · P101 reference)		RJ40H20J01 Hydraulic/Pneumatic4-port	RJ70H25J01 Hydraulic/Pneumatic6-port	RJ70H32J01 Hydraulic/Pneumatic6-port
Allowable Load	Horizontal (kg)	200	250	350
	Vertical (kg)	100	125	180
Allowable load (When clamped to table)	F (kN)	17	21	26
	FXL (N·m)	1100	1600	2500
	FXL (N·m)	820	1600	2800
Allowable cutting torque	T (N·m)	310	480	800

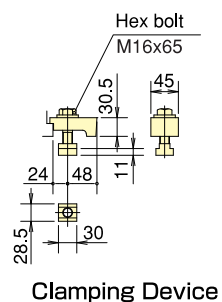
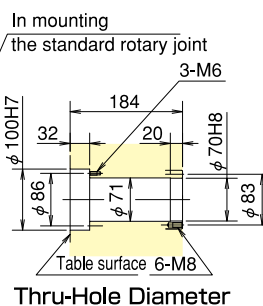
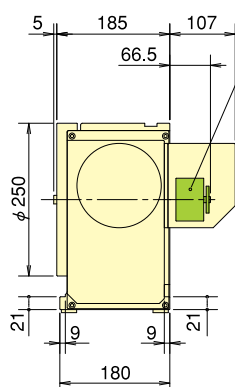
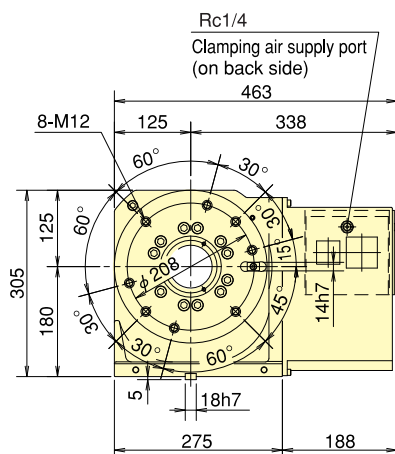
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. The solenoid valve for the table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. In the port part on the table surface jig side of a rotary joint is fixed to the rotary table side. 5. Because a mounting pitch varies with the machines, refer to the pitch of the table spindle size drawing on P97. 6. Each product mass is determined by a Kitagawa M signal spec.

■Dimensions [4th axis specifications]

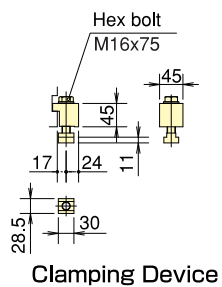
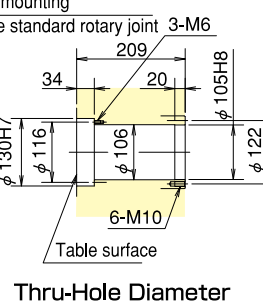
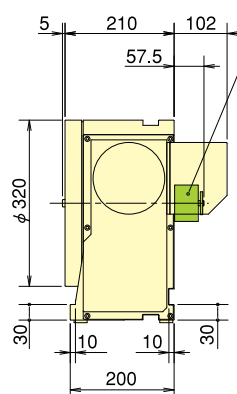
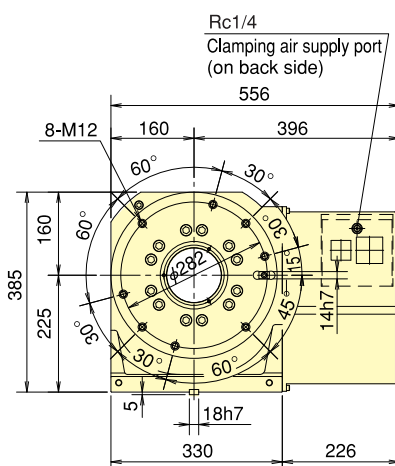
GT200R(L)



GT250R(L)



GT320R(L)

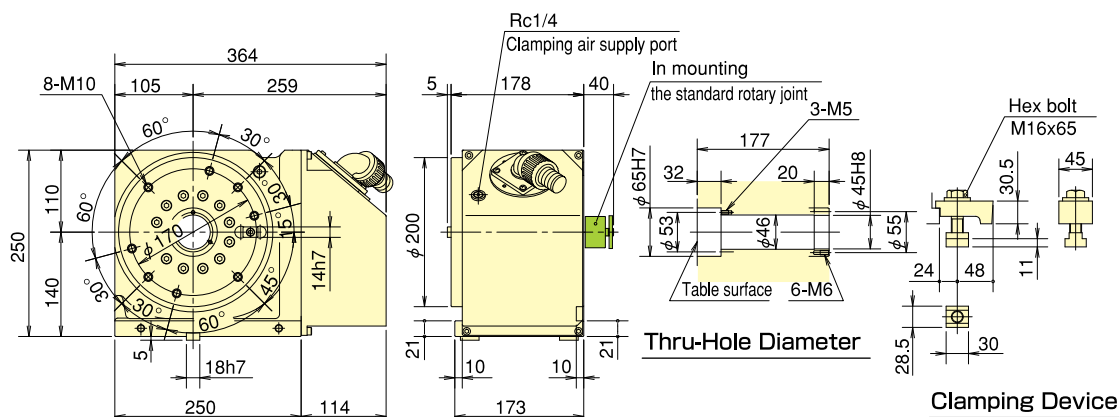


※The above outline dimensions are shown with FANUC motor specifications.
Those dimensions may vary from motor to motor that is mounted.
R is a right hand spec. and L is a left hand spec.

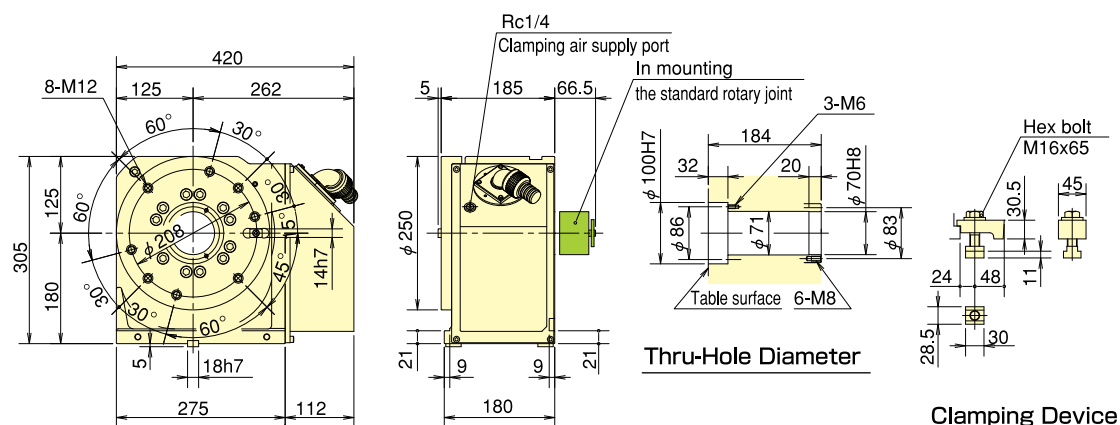
■ Dimensions

[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

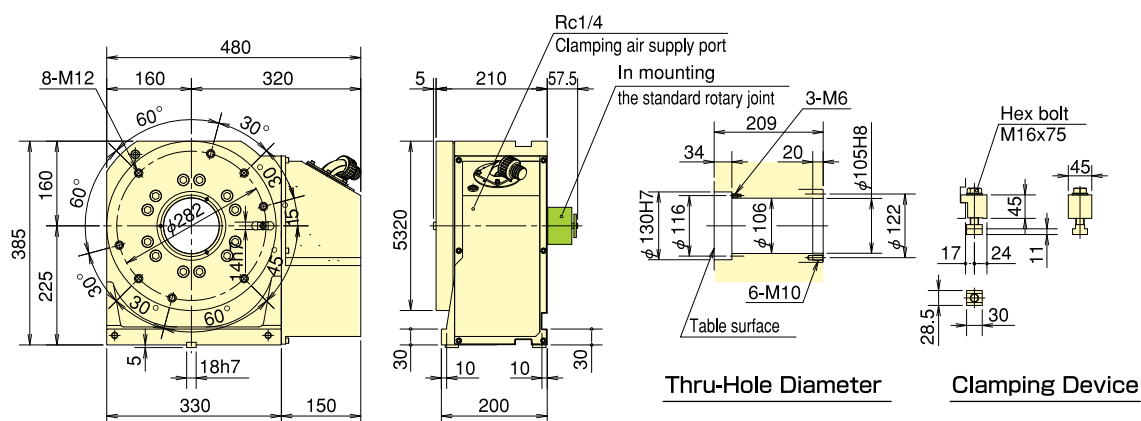
GT200R(L)



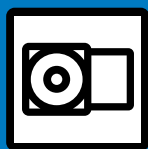
GT250R(L)



GT320R(L)



※R is a right hand spec, and L is a left hand spec.



NC ROTARY
TABLE

High Performance NC Rotary Table

TMX series

Side motor mounted,
Vertical or Horizontal Usage

TMX160 • TMX200 • TMX250
THX160 • THX200

High performance range with high rigidity for heavy cutting

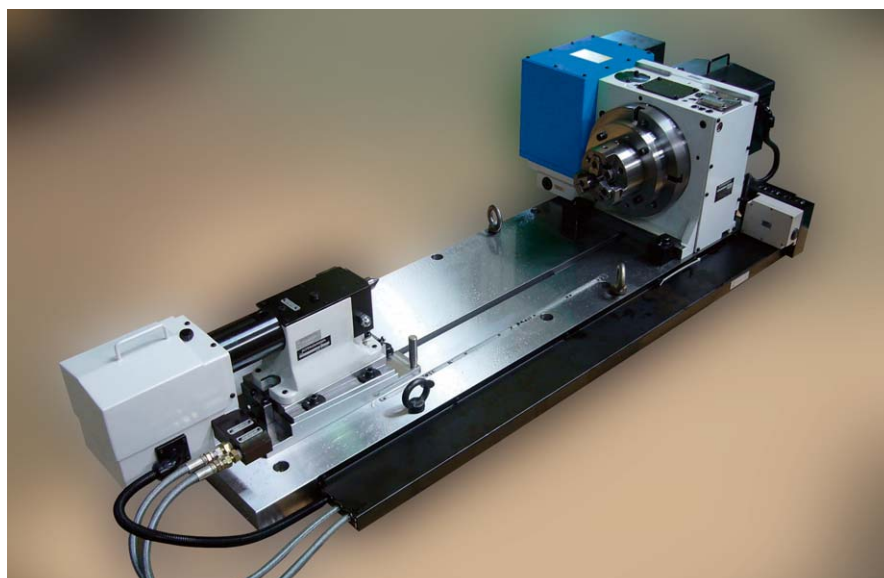
- High rigidity for heavy cutting
- High accuracy
- Integrated air booster provides high clamping torque (comparable to hydraulic) from a standard air supply
- Air booster or direct hydraulic clamping options available
- Rotary joint options available
- Can be used vertically and horizontally
- Rotary scale can be fitted to further increase accuracy

*CE correspondence



TMX160

Sample Application



▲Combine with tailstocks on p93 and 95 to suit machining of long work pieces.



▲Only Kitagawa can offer this combination of NC Rotary Table and chuck

4th axis specifications

TMX 160 B * * *

Table Size
TMX: 160·200·250
THX: 160·200

Design No.
Motor type

Type
Right hand: TMX
Left hand: THX

Clamping method
B: Air-Hydraulic (integrated air hydraulic booster)
H: Hydraulic

M signal specification

TMX 160 B V * *

Table Size
TMX: 160·200·250
THX: 160·200

Design No.
Quinte specification

Type
Right hand: TMX
Left hand: THX

Clamping method
B: Air-Hydraulic (integrated air hydraulic booster)
H: Hydraulic

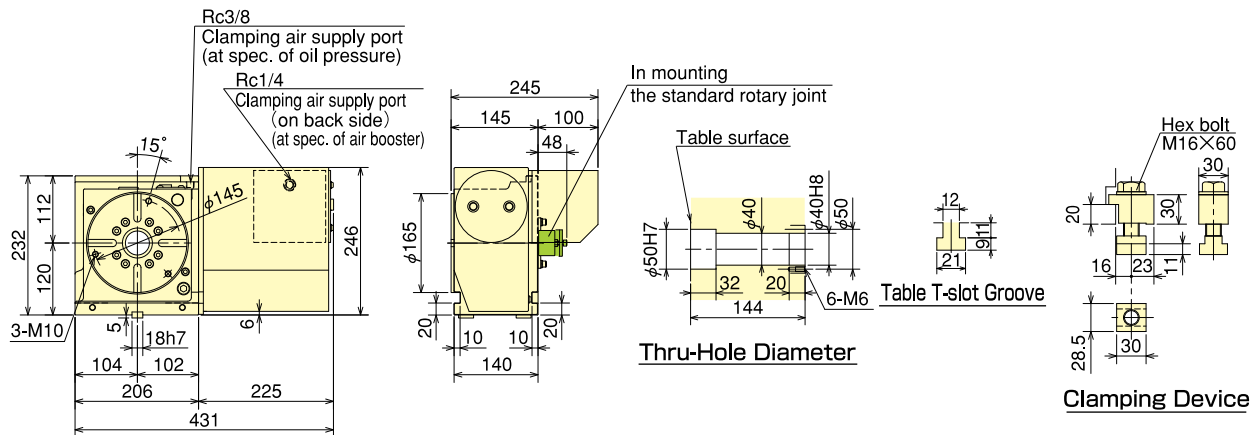
Specifications

Model		TMX160	TMX200	TMX250
Right hand		○	○	○
Left hand		○	○	×
Table dia (mm)		φ 165	φ 200	φ 250
Register diameter on Face Plate (mm)		φ 50 H7	φ 75 H7	φ 105 H7
Spindle through hole diameter (mm)		φ 40	φ 52	φ 78
Centre Height (mm)		120	140	180
Clamping method		Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic
Clamping torque (N·m) (In pneumatic 0.5MPa/hydraulic 3.5MPa)		450	600	1100
Motor axis reduced inertia (kg·m ²)		0.00012	0.00032	0.00056
Servomotor (for FANUC specification)		α iF 2/5000	α iF 4/5000	α iF 4/5000
Gear ratio		1/72	1/90	1/90
Max. spindle speed	FANUC specification (for min ⁻¹ /motor3000min ⁻¹)	41.6	33.3	33.3
	M signal specification (for min ⁻¹ /motor3000min ⁻¹)	41.6	33.3	33.3
Allowable work inertia (kg·m ²)		0.51	1.00	1.95
Indexing accuracy (sec)		20	20	20
Repeatability (sec)		4	4	4
Mass of product (kg)		56	71	101
Manual Tailstock (as an option · P93 reference)		TS160RN	TS200RN	TS250RN
Tail Spindle (as an option · P97 reference) Note)5		TSR121A	MSR142A/TSR142A	MSR181A/TSR181A
Rotary Joint (as an option · P101reference)		RJ40H16D01	RJ40H20D03	RJ70H25D05
		Hydraulic/Pneumatic4-port	Hydraulic/Pneumatic4-port	Hydraulic/Pneumatic6-port
Allowable Load	Horizontal (kg)	160	200	250
	Vertical (kg)	80	100	125
Allowable load (When clamped to table)	F (kN)	10	17	21
	F×L (N·m)	600	1100	1600
	F×L (N·m)	450	600	1100
Allowable cutting torque	T (N·m)	240	310	730

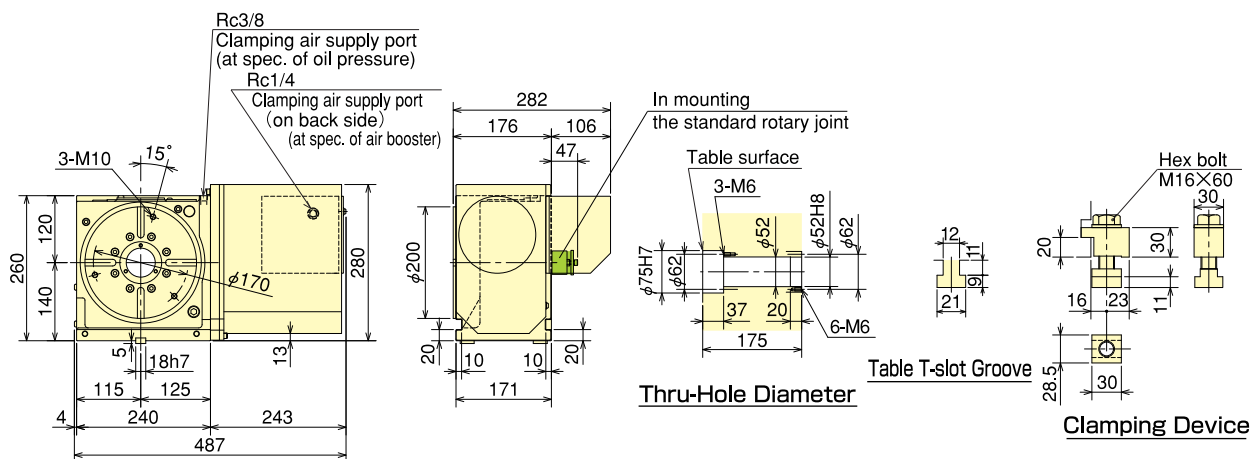
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. In case of air + hyd. clamp specification, the solenoid valve for table clamp is incorporated. 3. Solenoid valve is not incorporated in case of hydraulic clamp spec. Consequently, customer shall prepare it. 4. Neither cable nor hose is fitted between NC rotary table and machine tool... 5. In the port side on a table surface jig side of a rotary joint, TMX200 or 250 is fixed to the rotary table side, and TMX160 to jig side. 6. Because a mounting pitch varies with the machines, refer to the pitch of the table spindle size drawing on P97. 7. Each product mass is determined by a Kitagawa M signal spec.

■Dimensions [4th axis specifications]

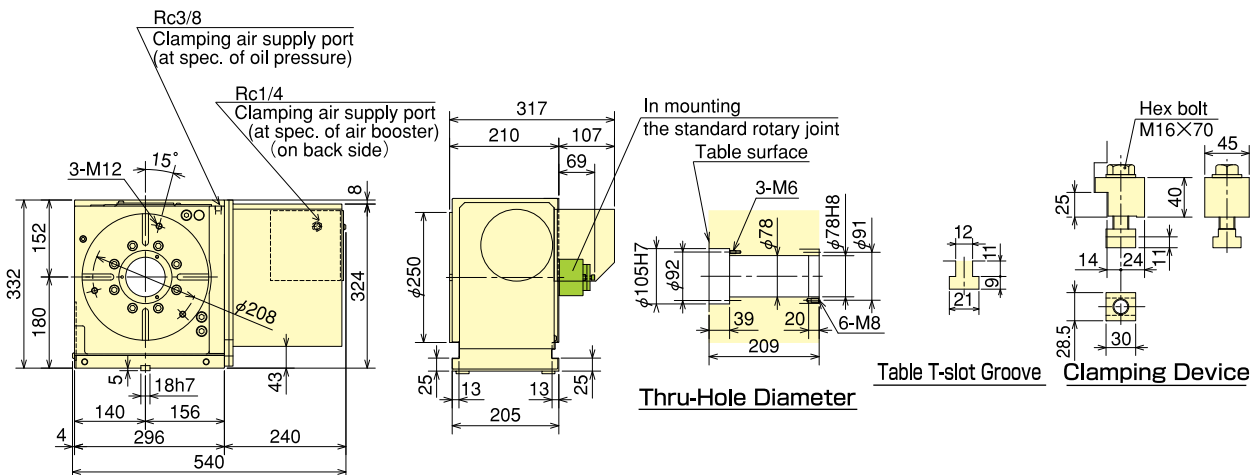
TMX160(THX)



TMX200(THX)



TMX250

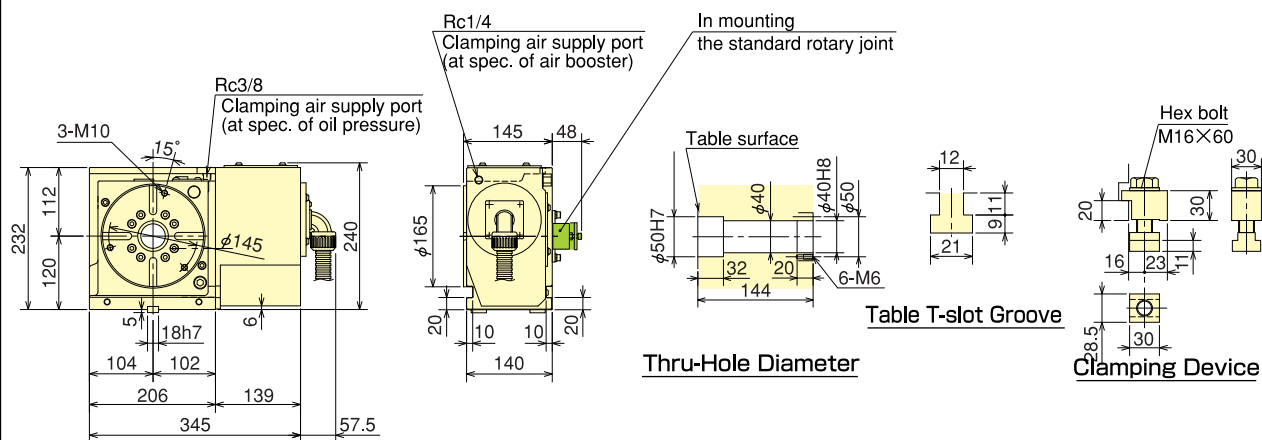


※The above outline dimensions are shown with FANUC motor specifications.
Those dimensions may vary from motor to motor that is mounted.
TMX is a right hand spec. and THX is a left hand spec.

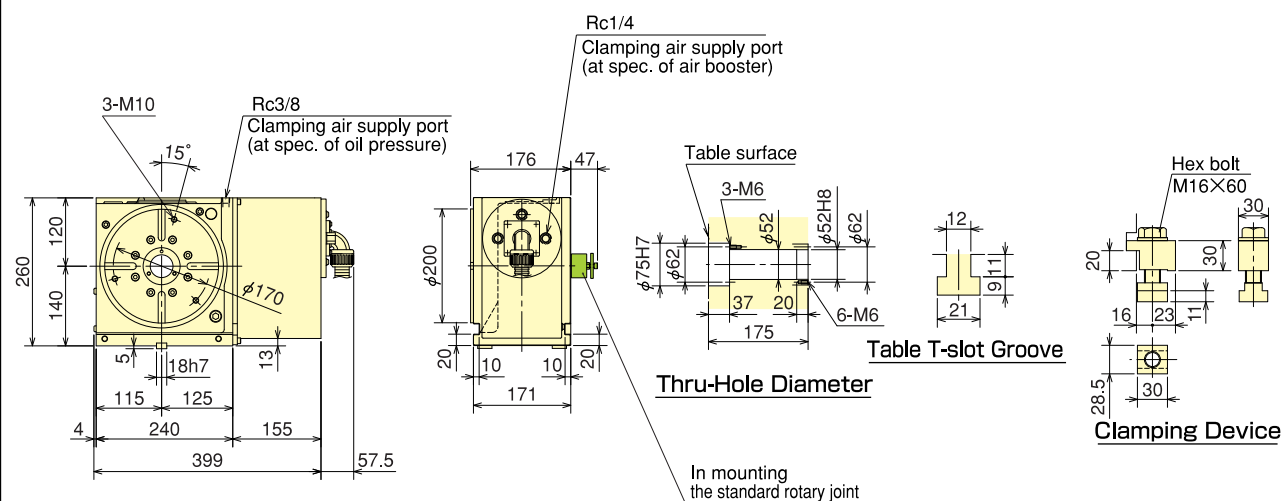
■ Dimensions

[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

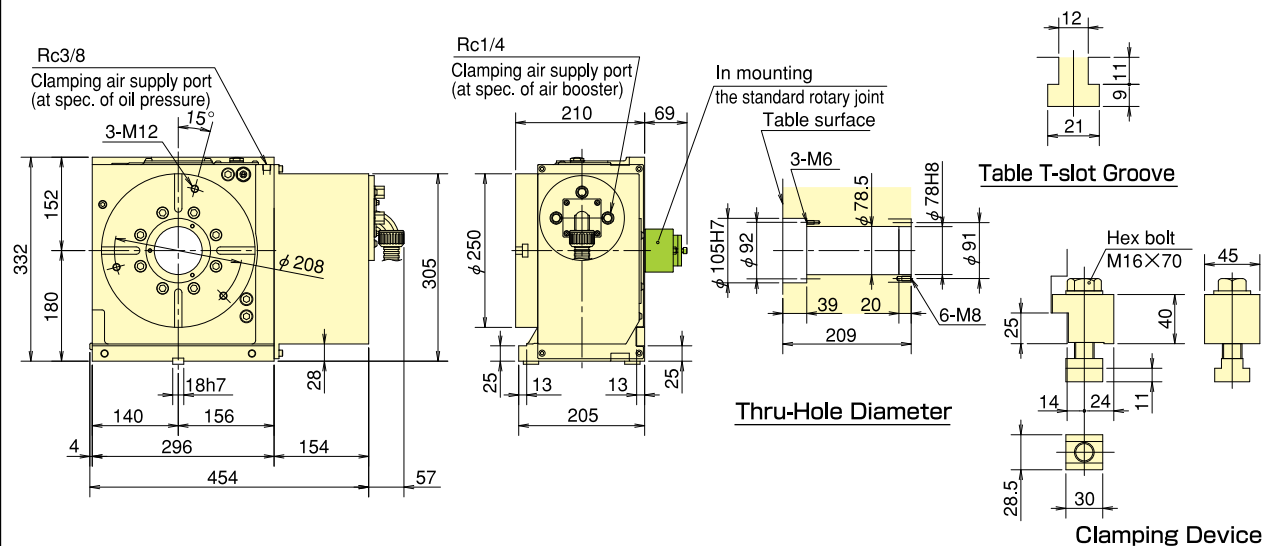
TMX160 (THX)



TMX200 (THX)

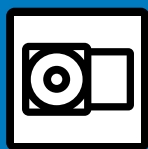


TMX250



※TMX is a right hand spec, and THX is a left hand spec.

TMX



**NC ROTARY
TABLE**

High Performance NC Rotary Table

TR series

Side motor mounted,
Vertical or Horizontal Usage

TRX320 • TR400 • TR500 • TR630
TLX250 • TLX320 • TL400

High performance range for machining large work pieces

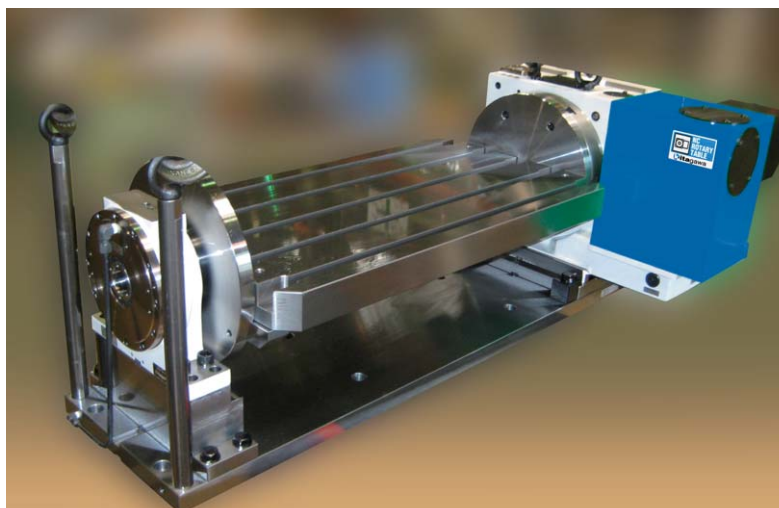
- High rigidity for heavy cutting
- Hydraulic clamping method
- High accuracy
- Hydraulic clamping torque obtained by pneumatic pressure via air hydraulic booster. (TRX, TLX)
- Rotary joint options available
- Vertically and horizontally installed type
- Large thru-hole
- Vertical mounted motor
- Rotary scale can be fitted to further increase accuracy

* CE correspondence

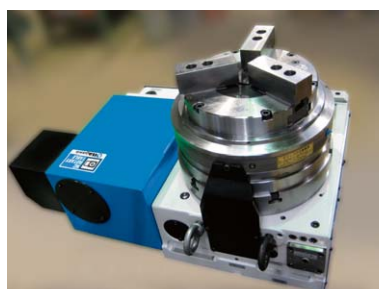


TRX320

Sample Application



▲ Only Kitagawa can offer this combination of NC Rotary Table and chuck



▲ Can be used vertically and horizontally. Left and right hand versions available to suit machining area.

4th axis specifications				M signal specification			
TRX 320 H * * *		TRX 320 B V * *		TR 400 H 2 * * *		TR 400 H V * *	
Table Size TRX: 320 TLX: 250·320		Table Size TRX: 320 TLX: 250·320		Table Size TR: 400·500·630 TL: 400		Table Size TR: 400·500·630 TL, TU: 400·500	
Type Right hand: TRX Left hand: TLX		Type Right hand: TRX Left hand: TLX		Type Right hand: TR Left hand: TL Top-motor : TU		Type Right hand: TR Left hand: TL Top-motor : TU	
Design No. Motor type		Design No. Motor type		Design No. Motor type		Design No. Motor type	
Clamping method B: Air-Hydraulic(integrated air hydraulic booster) H: Hydraulic		Clamping method B: Air-Hydraulic(integrated air hydraulic booster) H: Hydraulic		Clamping method B: Air-Hydraulic(external air hydraulic booster) H: Hydraulic		Clamping method B: Air-Hydraulic(external air hydraulic booster) H: Hydraulic	
Gear Ratio 2: 1/180		Quinte specification		Quinte specification		Quinte specification	

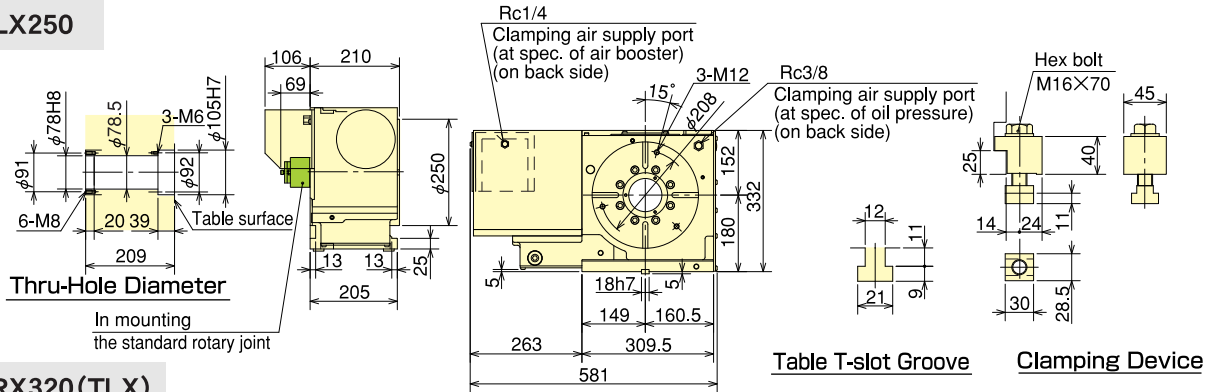
Specifications

Model		TLX250	TRX320	TR400	TR500	TR630
Right hand		×	○	○	○	○
Left hand		○	○	○	○	×
Table dia (mm)		φ 250	φ 320	φ 400	φ 500	φ 630
Register diameter on Face Plate (mm)		φ 105H7	φ 135H7	φ 180 H 7	φ 200 H 7	φ 280 H 7
Spindle through hole diameter (mm)		φ 78	φ 110	φ 150	φ 170	φ 250
Centre Height (mm)		180	225	255	310	400
Clamping method		Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic
Clamping torque (N·m) (Pneumatic TRX·TLX 0.5MPa, TR·TL 0.45MPa) Hydraulic 3.5MPa		1100	2600	2500	3200	4000
Motor axis reduced inertia (kg·m ²)		0.00073	0.00085	0.0028	0.0028	0.0064
Servomotor (for FANUC specification)		α iF 4/5000	α iF 8/3000	α iF 12/4000	α iF 12/4000	α iF 22/3000
Gear ratio (Decel. Ratio in M signal)		1/90(1/120)	1/120(1/180)	1/180	1/180	1/180
Max. spindle speed	FANUC specification (min ⁻¹)	33.3(3000min ⁻¹)	25 (3000min ⁻¹)	11.1(2000min ⁻¹)	11.1(2000min ⁻¹)	11.1(2000min ⁻¹)
	M signal specification (min ⁻¹)	25 (3000min ⁻¹)	16.6(3000min ⁻¹)	8.3(1500min ⁻¹)	8.3(1500min ⁻¹)	8.3(1500min ⁻¹)
Allowable work inertia (kg·m ²)		1.95	4.48	10.00	18.73	49.62
Indexing accuracy (sec)		20	20	20	20	20
Repeatability (sec)		4	4	4	4	4
Mass of product (kg)		142	181	350	550	900
Manual Tailstock (as an option · P93 reference)		TS250RN	TS320RN	TS400RN	TS500RN	TS630RN
Tail Spindle (as an option · P97 reference) Note) 1		MSR181A/TSR181A	TSR181A45	Order production	Order production	Order production
Rotary Joint (as an option · P101 reference)		RJ70H25D05 Hydraulic/Pneumatic6-port	RJ70H32K02 Hydraulic/Pneumatic6-port	Order production	Order production	Order production
Allowable Load	Horizontal (kg) 	250	350	500	600	1000
	Vertical (kg) 	125	180	250	300	400
Allowable load (When clamped to table)	F (kN) 	21	26	32	50	70
	F×L (N·m) 	1600	2500	5000	8000	10000
	F×L (N·m) 	1100	2600	2500	3200	4000
Allowable cutting torque	T (N·m) 	730	1000	1700	2600	5000

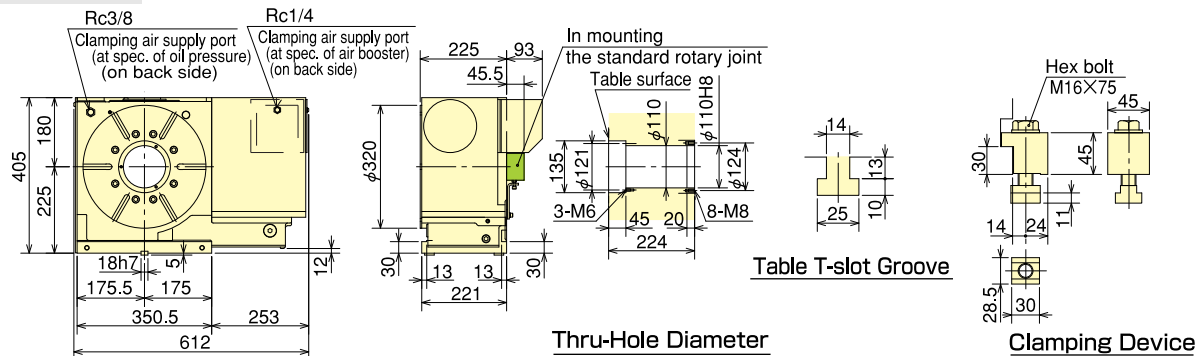
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. In case of air + hyd. clamp specification, the solenoid valve for table clamp is incorporated. 3. Solenoid valve is not incorporated in case of hydraulic clamp method. Consequently, customer shall prepare it. 4. Neither cable nor hose is fitted between NC rotary table and machine tool... 5. In the port part on the table surface jig side of a rotary joint, TRX320 is fixed to the rotary table side. 6. Because a mounting pitch varies with the machines, refer to the pitch of the table spindle size drawing on P97. 7. Contact to Kitagawa about rotary joint and tail spindle of 400-size or more. 8. Each product mass is determined by a Kitagawa M signal spec.

■Dimensions [4th axis specifications]

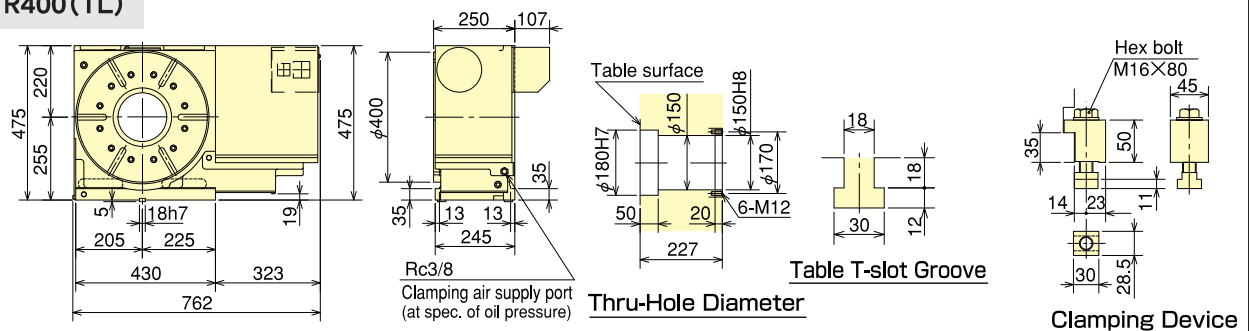
TLX250



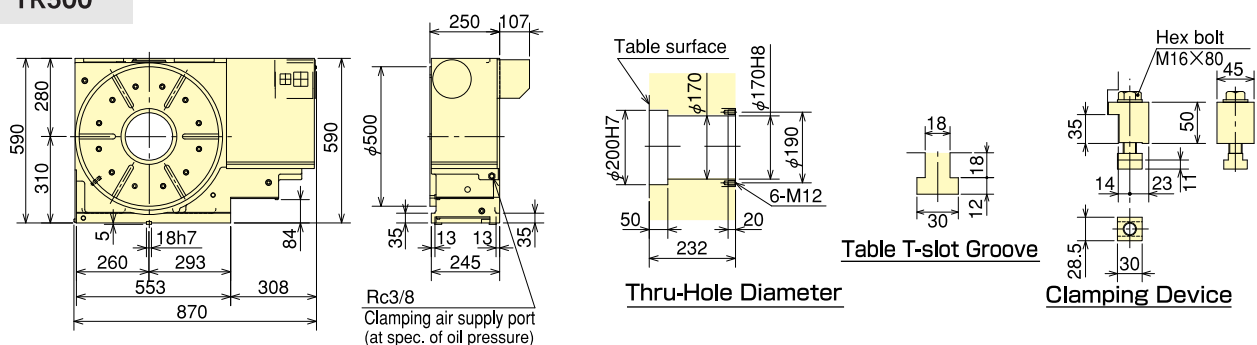
TRX320(TLX)



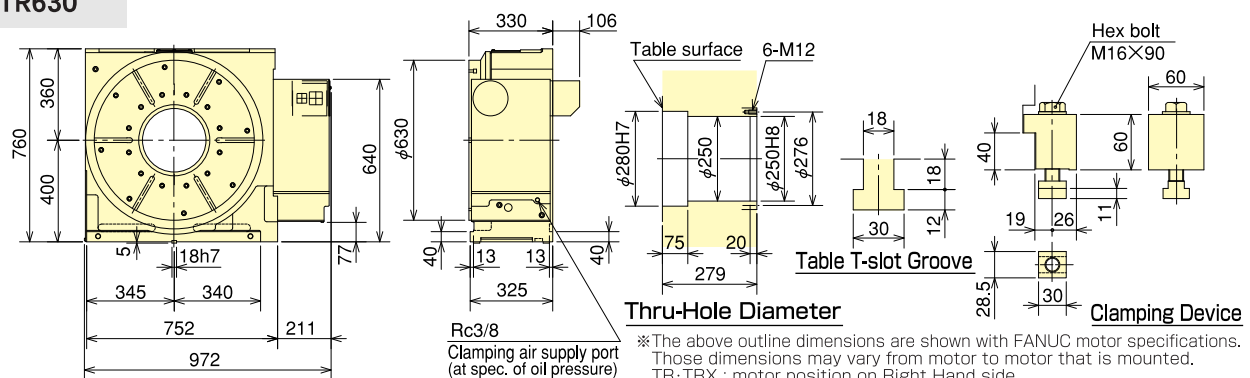
TR400(TL)



TR500



TR630

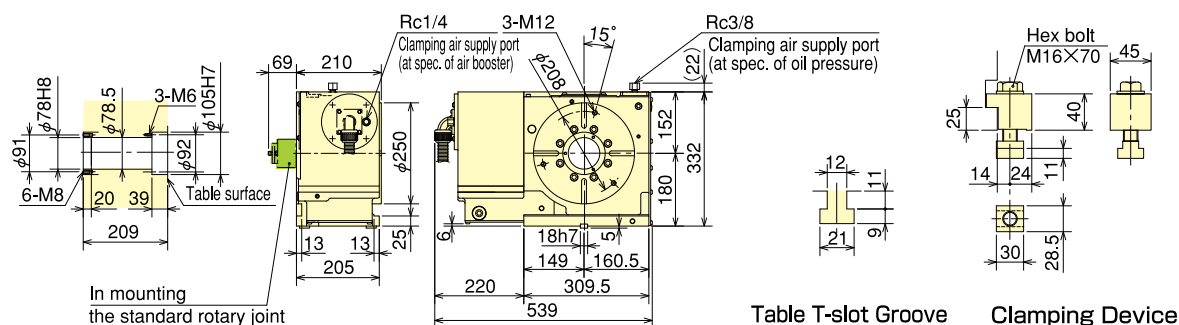


*The above outline dimensions are shown with FANUC motor specifications.
Those dimensions may vary from motor to motor that is mounted.
TR·TRX : motor position on Right Hand side.
TL·TLX : motor position on Left Hand side.

■ Dimensions

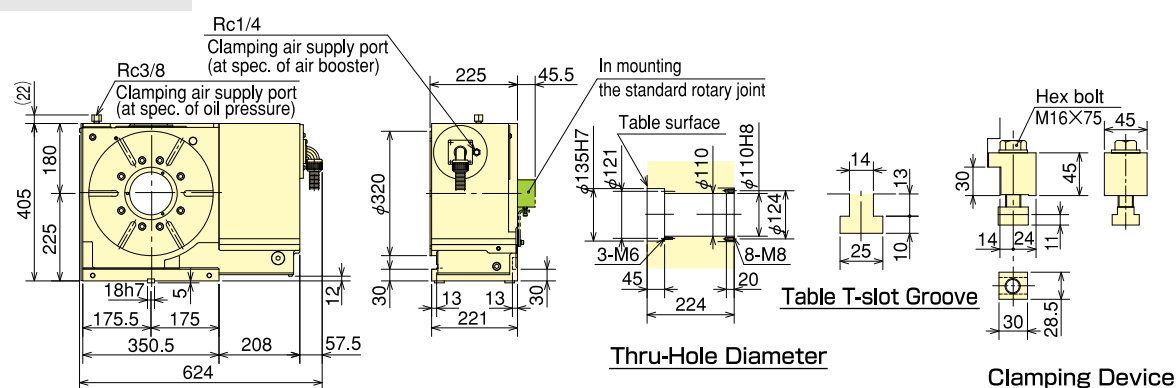
[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

TLX250



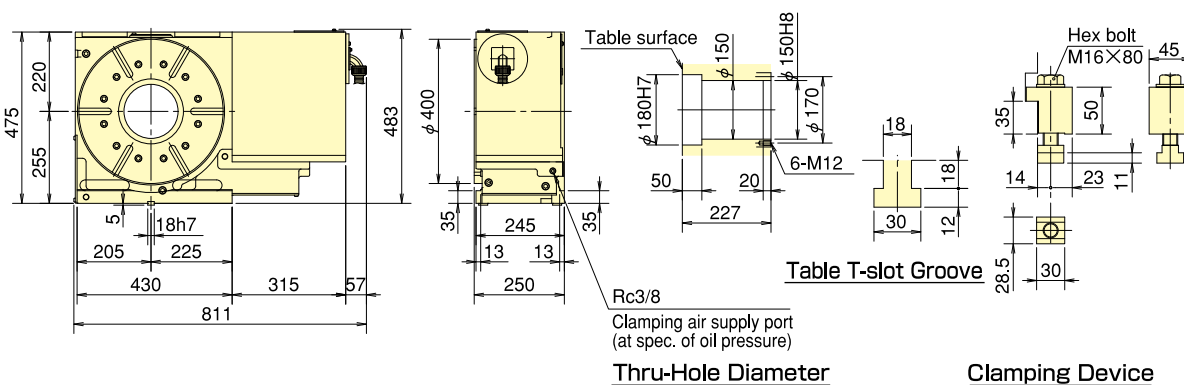
Thru-Hole Diameter

TRX320 (TLX)



Thru-Hole Diameter

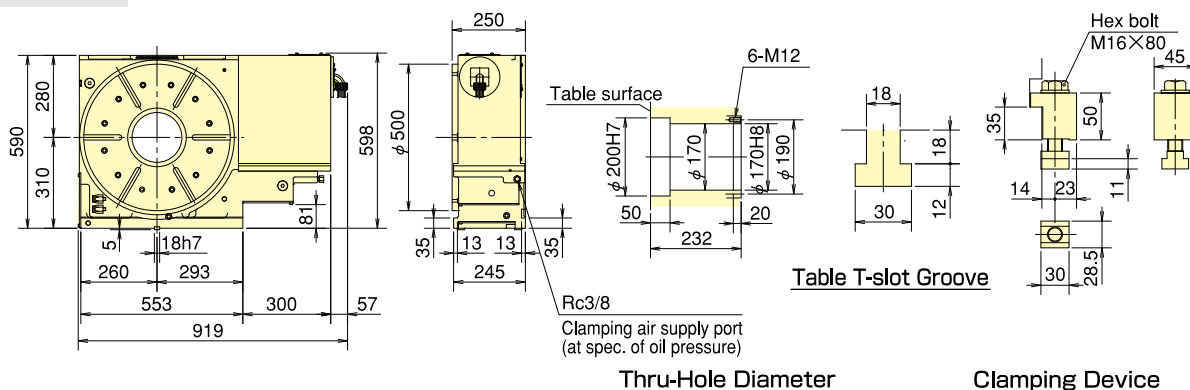
TR400 (TL)



Thru-Hole Diameter

Clamping Device

TR500



Thru-Hole Diameter

Clamping Device

*TR · TRX : motor position on Right Hand side. TL · TLX : motor position on Left Hand side.
*Contact to Kitagawa on TR630 with MAC mini i Series, Kitagawa about M signal spec. of 630-size.

TR



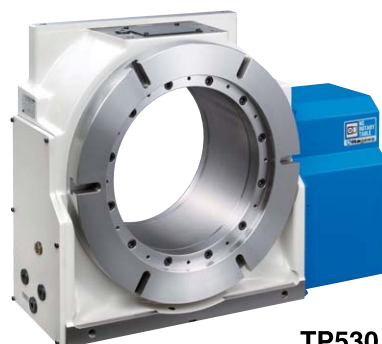
**NC ROTARY
TABLE**

Mega Thru-Hole NC Rotary Table TP530

**Very large through hole: $\phi 345\text{mm}$
Suitable for machining large workpieces**

- Suitable for machining large workpieces such as oil pipes
- High accuracy heavy duty machining
- Low weight and compact design

* CE correspondence



TP530

Specifications

Model		TP530
Right hand		○
Left hand		Order production
Table dia (mm)		$\phi 530$
Register diameter on Face Plate (mm)		$\phi 400\text{H}7$
Spindle through hole diameter (mm)		$\phi 345$
Centre Height (mm)		310
Clamping method		Hydraulic
Clamping torque (N·m)		6100
Motor axis reduced inertia ($\text{kg}\cdot\text{m}^2$)		0.00231
Servomotor (for FANUC specification)		α iF 12/4000
Gear ratio	4th axis	1/180
	M signal	1/180
Max. spindle speed	FANUC specification (for $\text{min}^{-1}/\text{motor}2000\text{min}^{-1}$)	11.1
	M signal specification (for $\text{min}^{-1}/\text{motor}1500\text{min}^{-1}$)	8.33
Allowable work inertia ($\text{kg}\cdot\text{m}^2$)		12.29
Indexing accuracy (sec)		20
Repeatability (sec)		4
Mass of product (kg)		350
Manual Tailstock (as an option · P93 reference)		TS500RN
Tail Spindle (as an option)		Order production
Rotary Joint (as an option)		Order production
Allowable Load	Vertical (kg) 	350
Allowable load (When clamped to table)	F (kN) 	50
	FXL (N·m) 	8000
	FXL (N·m) 	6100
Allowable cutting torque	T (N·m)	2600

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

4th axis specifications

TP 530 R * * * *

Type Table Size
530

Design No.

Motor type

Clamping method
B : Air-Hydraulic/Hydraulic
H : Hydraulic

Left hand
R : Right hand
L : Left hand

M signal specification

TP 530 R H V * *

Type Table Size
530

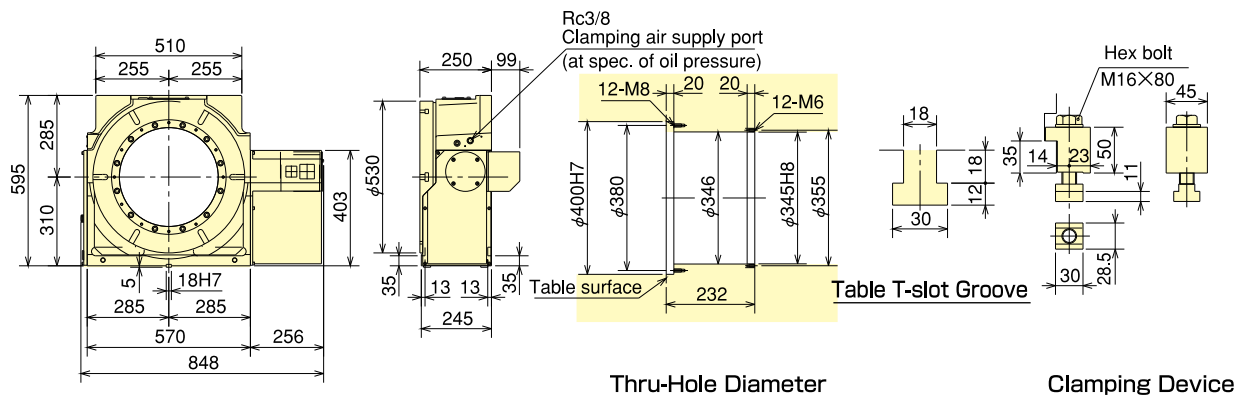
Design No.

Quinte specification
H : Hydraulic
B : Air-Hydraulic
(external air hydraulic booster)

R : Right hand
L : Left hand

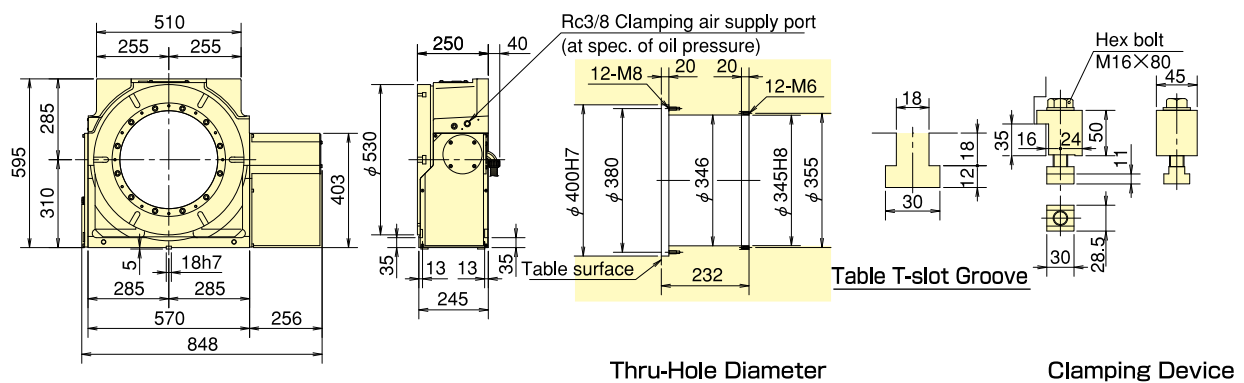
■ Dimensions

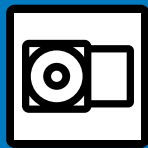
TP530 【4th axis specifications】



TP530 【Kitagawa's control device Quinte specification】

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





**NC ROTARY
TABLE**

High Performance NC Rotary Table – Back side mounted motor

TBX series

TBX160·TBX200
TBX250·TBX320

High performance range with back mounted motor to reduce interference with machining area

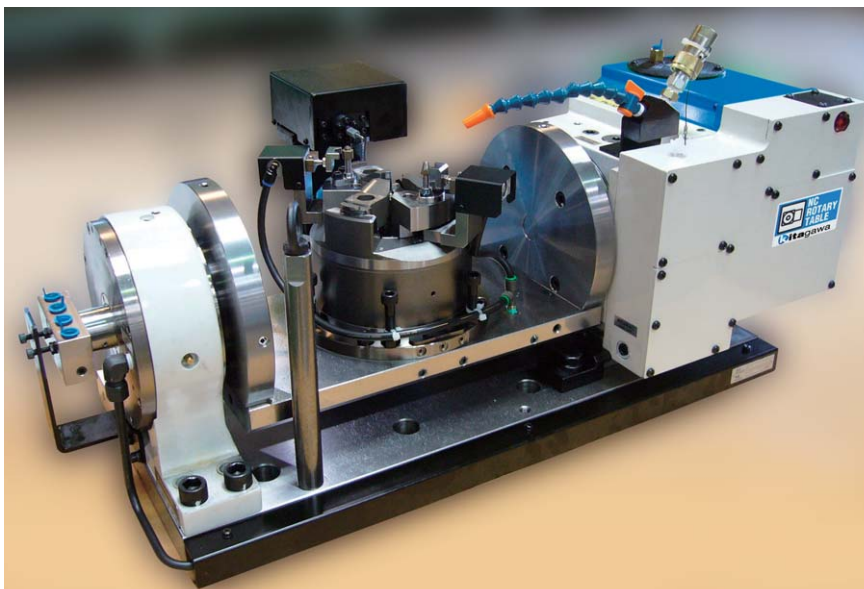
- High rigidity for heavy cutting
- High accuracy
- Space saving
- Integrated air booster provides high clamping torque (comparable to hydraulic) from a standard air supply
- Air booster or direct hydraulic clamping options available

*CE correspondence



TBX320

Sample Application



▲Space saving design reduces footprint size.

4th axis specifications

TBX 160 B * * *

Type

Table Size
160·200·250·
320

Design No.

Motor type

Clamping method

B: Air-Hydraulic(integrated air hydraulic booster)
H: Hydraulic

M signal specification

TBX 160 B V * *

Type

Table Size
160·200·250
320

Design No.

Quinte specification

Clamping method

B: Air-Hydraulic(integrated air hydraulic booster)
H: Hydraulic

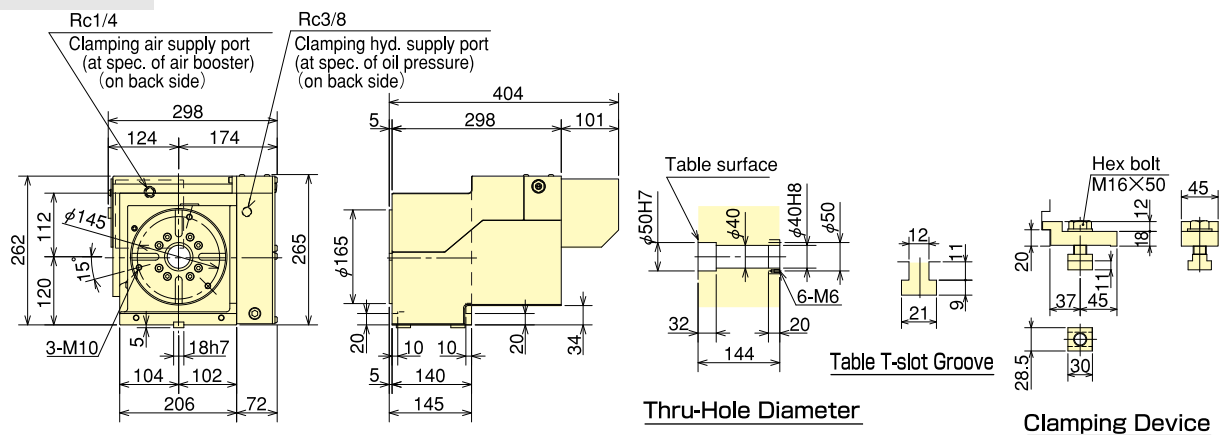
Specifications

Model		TBX160	TBX200	TBX250	TBX320
Table dia (mm)		φ 165	φ 200	φ 250	φ 320
Register diameter on Face Plate (mm)		φ 50 H 7	φ 75 H 7	φ 105 H 7	φ 135 H 7
Spindle through hole diameter (mm)		φ 40	φ 52	φ 78	φ 110
Centre Height (mm)		120	140	180	225
Clamping method		Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic
Clamping torque (N·m) (In Pneumatic 0.5MPa / Hydraulic 3.5MPa)		450	600	1100	2600
Motor axis reduced inertia (kg·m ²)		0.00032	0.00087	0.00112	0.00147
Servomotor (for FANUC specification)		α iF 2/5000	α iF 4/5000	α iF 4/5000	α iF 8/3000
Gear ratio (Decel. Ratio in M signal)		1/72	1/90	1/90 (1/120)	1/120 (1/180)
Max. spindle speed	FANUC specification (for min ⁻¹ /motor 3000min ⁻¹)	41.6	33.3	33.3	25
	M signal specification (for min ⁻¹ /motor 3000min ⁻¹)	41.6	33.3	25	16.6
Allowable work inertia (kg·m ²)		0.26	0.50	0.98	2.24
Indexing accuracy (sec)		20	20	20	20
Repeatability (sec)		4	4	4	4
Mass of product (kg)		66	74	135	220
Manual Tailstock (as an option · p93 reference)		TS160RN	TS200RN	TS250RN	TS320RN
Tail Spindle (as an option · p97 reference) Note) 5		TSR121A	MSR142A/TSR142A	MSR181A/TSR181A	TSR181A45
Allowable load	Horizontal (kg)	—	—	—	—
	Vertical (kg)	80	100	125	180
Allowable load (When clamped to table)	F (kN)	10	17	21	26
	FXL (N·m)	600	1100	1600	2500
	FXL (N·m)	450	600	1100	2600
Allowable cutting torque	T (N·m)	240	310	730	1000

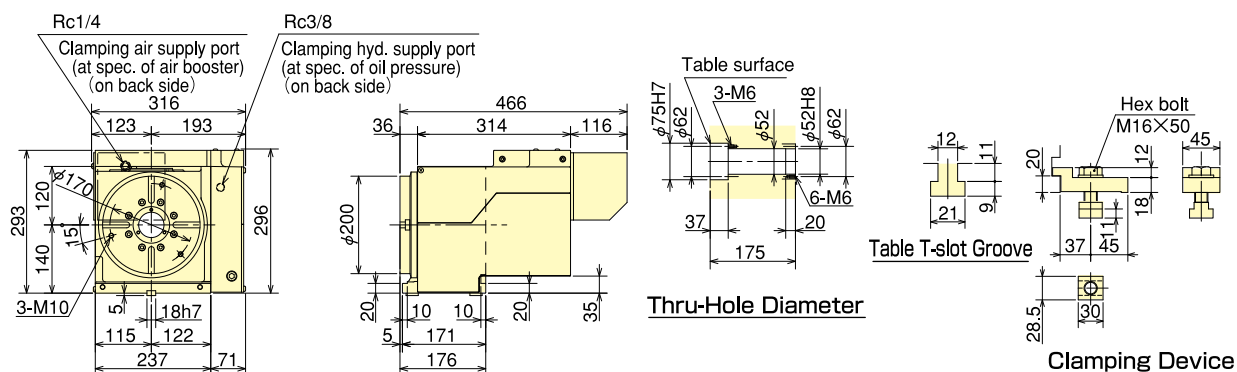
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. In case of air + hyd. clamp specification, the solenoid valve for table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. Solenoid valve is not incorporated in case of hydraulic clamp method. Consequently, customer shall prepare it. 5. Because a mounting pitch varies with the machines, refer to the pitch of the table spindle size drawing on P97. 6. Each product mass is determined by a Kitagawa M signal spec.

■Dimensions [4th axis specifications]

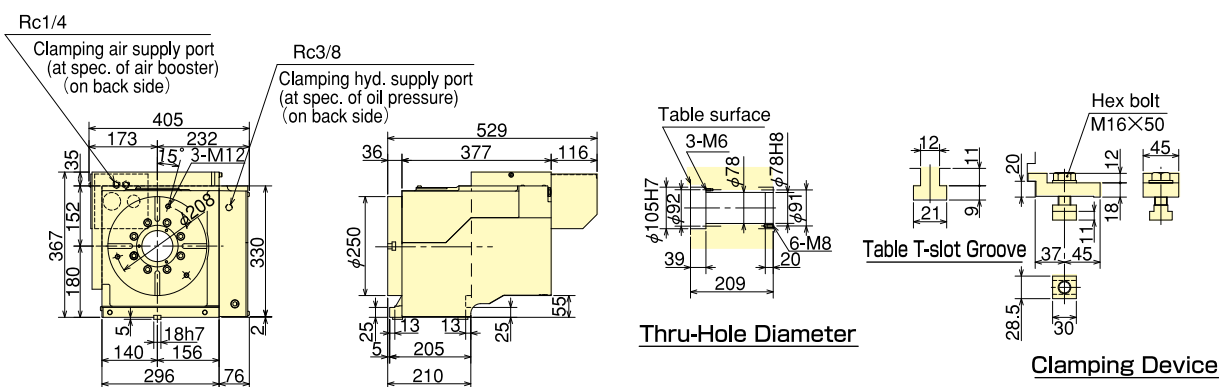
TBX160



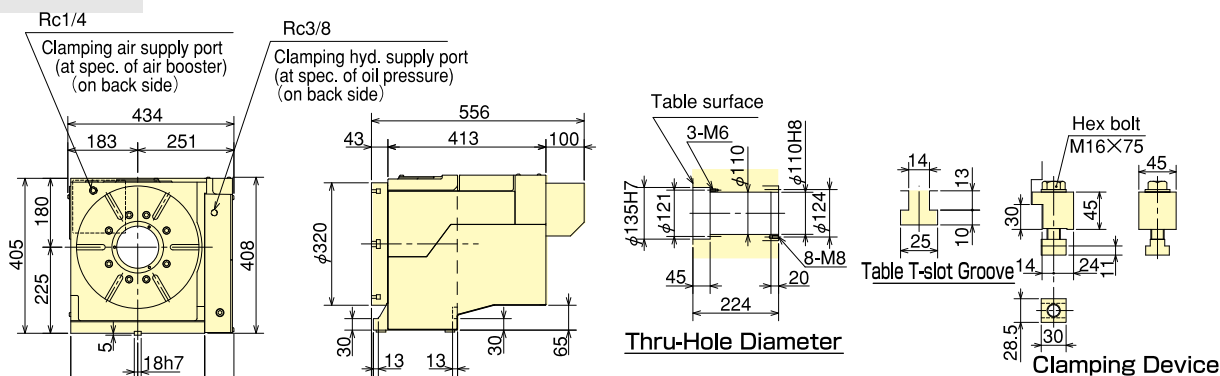
TBX200



TBX250



TBX320

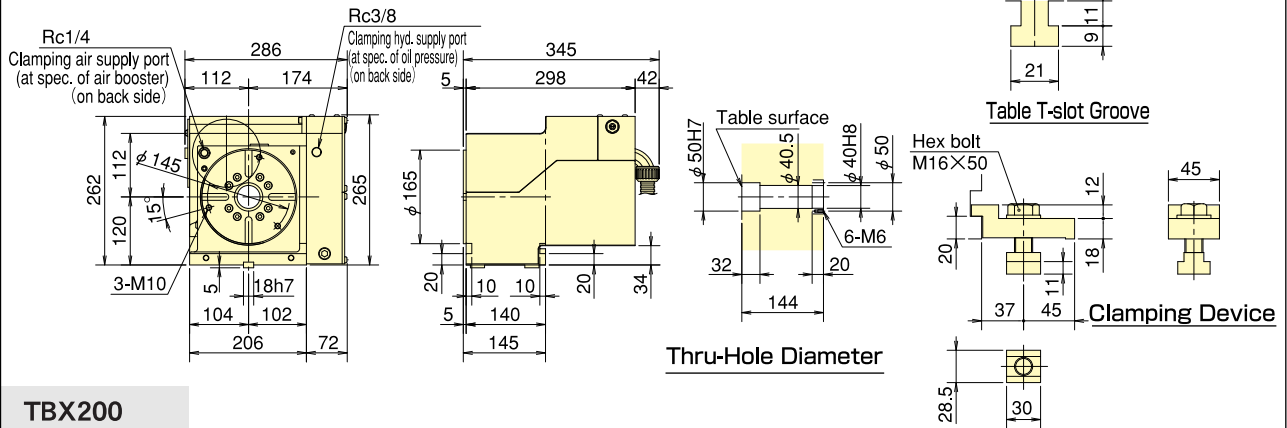


※The above outline dimensions are shown with FANUC motor specifications.
Those dimensions may vary from motor to motor that is mounted.

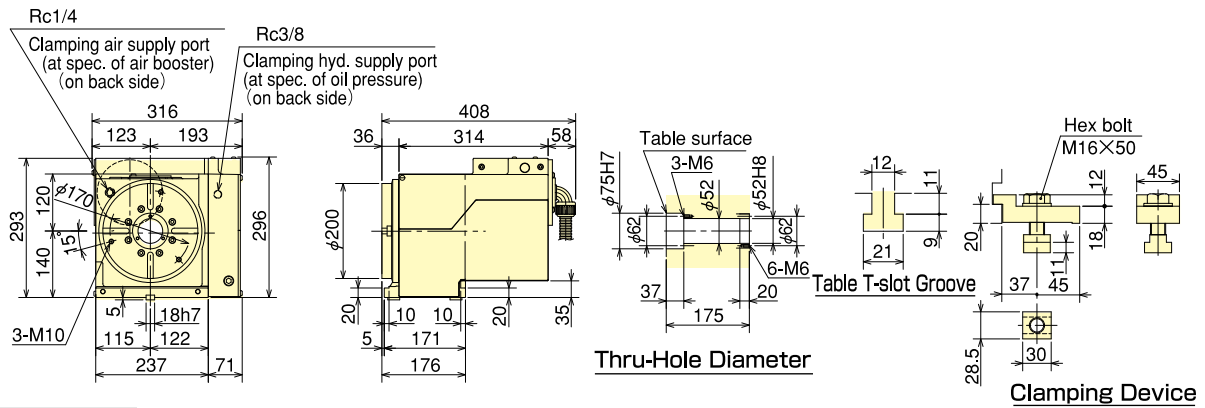
■ Dimensions

[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

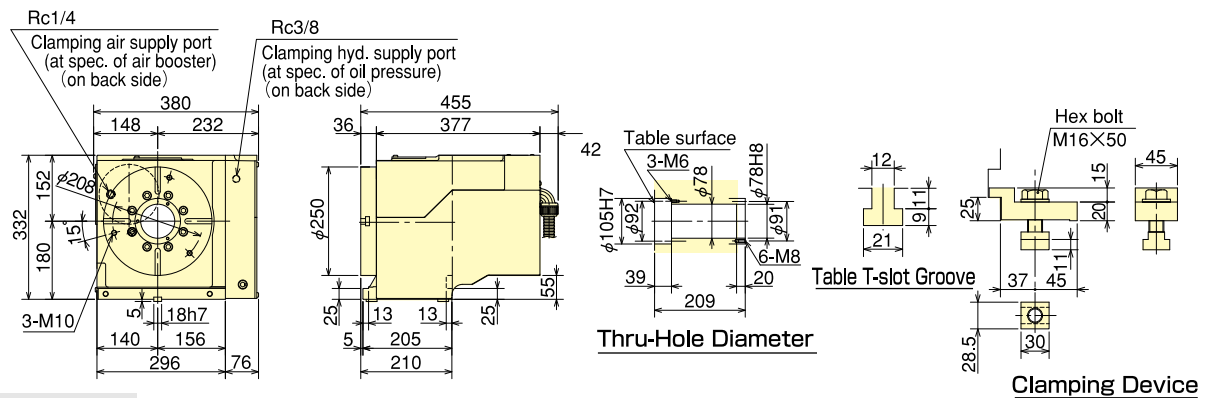
TBX160



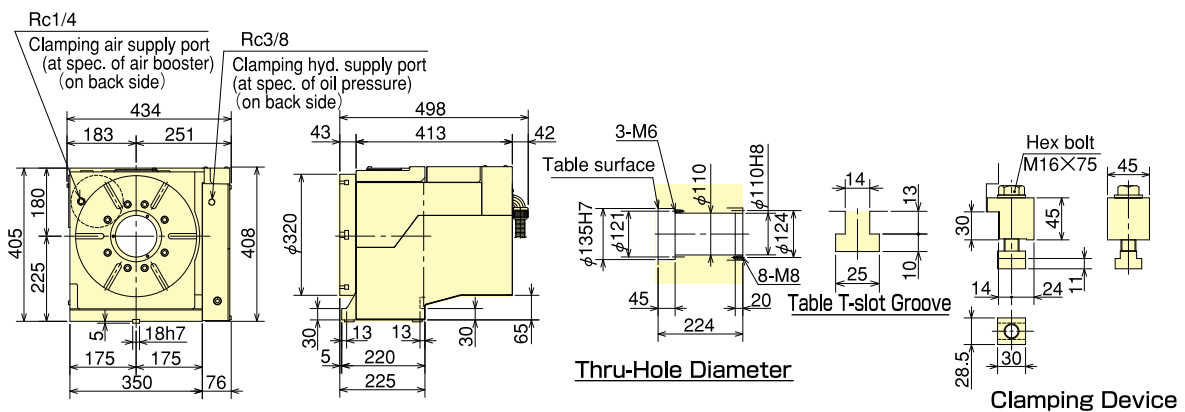
TBX200

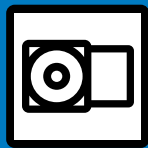


TBX250



TBX320





**NC ROTARY
TABLE**

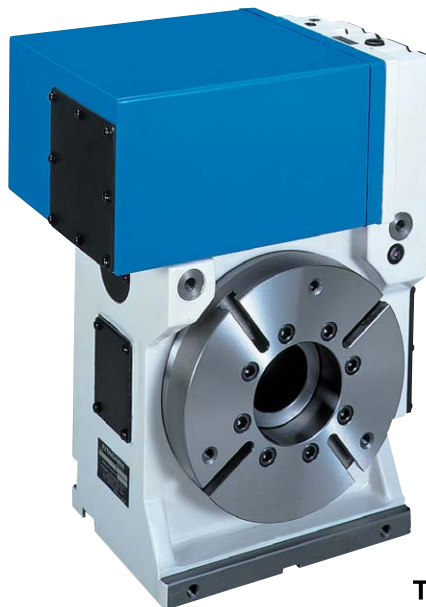
High Performance NC Rotary Table – Top-motor – **TU** series

TUX200·TUX250·TUX320
TU400·TU500

High performance range suitable for 5th axis machining on horizontal machining centres

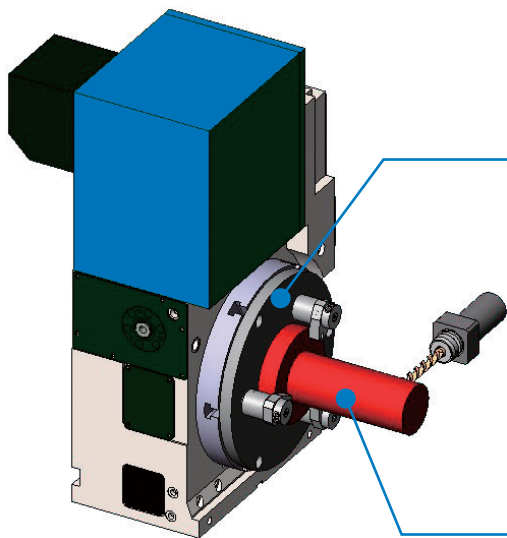
- High rigidity for heavy cutting
- High accuracy
- Top mounted motor position allows optimal machining area for vertical 5 axis machining
- Integrated air booster provides high clamping torque (comparable to hydraulic) from a standard air supply
- Rotary Joint built in as option

* CE correspondence



TUX200

Machining time shortened by high rigidity



● High rigidity

Original Kitagawa cross roller bearing provides high rigidity and allows for high cutting speeds.

● Large through hole

Suitable for machining long work pieces.

4th axis specifications

TUX 200 B * * *

Type Table Size 200·250·320 Design No. Motor type

Clamping method

B: Air-Hydraulic/Hydraulic(integrated air hydraulic booster)
H: Hydraulic

TU 400 H 4 * * *

Type Table Size 400·500 Design No. Motor type

Gear Ratio
2: 1/180
3: 1/120
4: 1/90

Clamping method

B: Air-Hydraulic/Hydraulic(external air hydraulic booster)
H: Hydraulic

M signal specification

TUX 200 B V * *

Type Table Size 200·250·320 Design No. Quinte specification

Clamping method

B: Air-Hydraulic/Hydraulic
(integrated air hydraulic booster)
H: Hydraulic

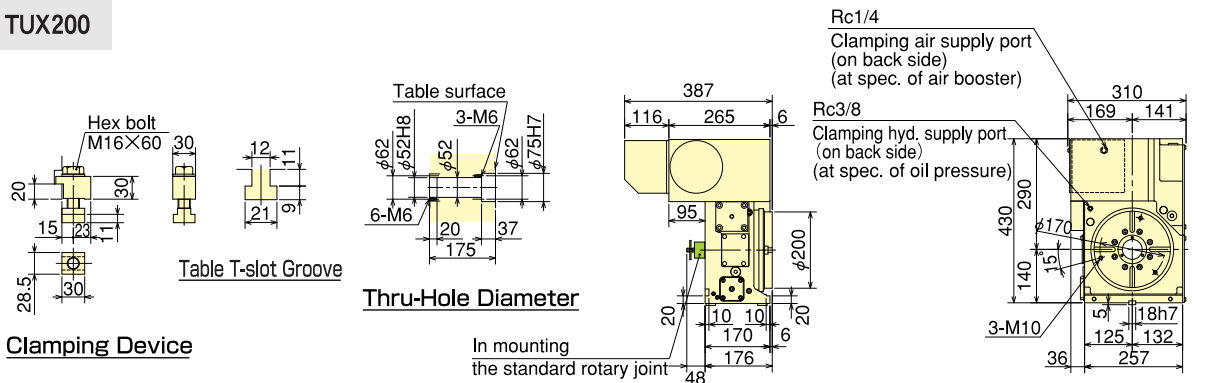
Specifications

Model		TUX200	TUX250	TUX320	TU400	TU500
Table dia (mm)		φ 200	φ 250	φ 320	φ 400	φ 500
Register diameter on Face Plate (mm)		φ 75 H7	φ 105 H7	φ 135 H7	φ 180 H7	φ 210 H7
Spindle through hole diameter (mm)		φ 52	φ 78	φ 110	φ 154	φ 182
Centre Height (mm)		140	180	225	255	310
Clamping method		Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic
Clamping torque (N·m)	(Pneumatic TUX 0.5MPa, TU 0.45MPa) (Hydraulic 3.5MPa)	600	1100	2600	2500	3200
Motor axis reduced inertia (kg·m ²)		0.00055	0.00068	0.00085	0.00293	0.00320
Servomotor (for FANUC specification)		α iF 4/5000	α iF 4/5000	α iF 8/3000	α iF 12/4000	α iF 12/4000
Gear ratio (Decel. Ratio in M signal)		1/90	1/90(1/120)	1/120	1/90	1/120
Max. spindle speed	FANUC specification (for min ⁻¹ /motor 3000min ⁻¹)	33.3 (3000min ⁻¹)	33.3 (3000min ⁻¹)	25 (3000min ⁻¹)	22.2 (2000min ⁻¹)	16.6 (2000min ⁻¹)
	M signal specification (for min ⁻¹ /motor 3000min ⁻¹)	33.3 (3000min ⁻¹)	25 (3000min ⁻¹)	25 (3000min ⁻¹)	16.6 (1500min ⁻¹)	12.5 (1500min ⁻¹)
Allowable work inertia (kg·m ²)		0.50	0.98	2.24	5.00	9.38
Indexing accuracy (sec)		20	20	20	20	20
Repeatability (sec)		4	4	4	4	4
Mass of product (kg)		87	142	200	350	550
Manual Tailstock (Option · P93 reference)		TS200RN	TS250RN	TS320RN	TS400RN	TS500RN
Tail Spindle (Option · P97 reference) Note)6		MSR142A/TSR142A	MSR181A/TSR181A	TSR181A45	Order production	Order production
Rotary Joint (Option · P101 reference)		RJ40H20V02	RJ70H25V01	RJ70H32V01	Order production	Order production
		Hydraulic/Pneumatic4-port	Hydraulic/Pneumatic6-port	Hydraulic/Pneumatic6-port		
Allowable Load	Horizontal (kg)	—	—	—	—	—
	Vertical (kg)	100	125	180	250	300
Allowable load (When clamped to table)	F (kN)	17	21	26	32	50
	FXL (N·m)	1100	1600	2500	5000	8000
	FXL (N·m) (Note 5)	600	1100	2600	2500	3200
Allowable cutting torque	T (N·m)	310	730	1000	1700	2600

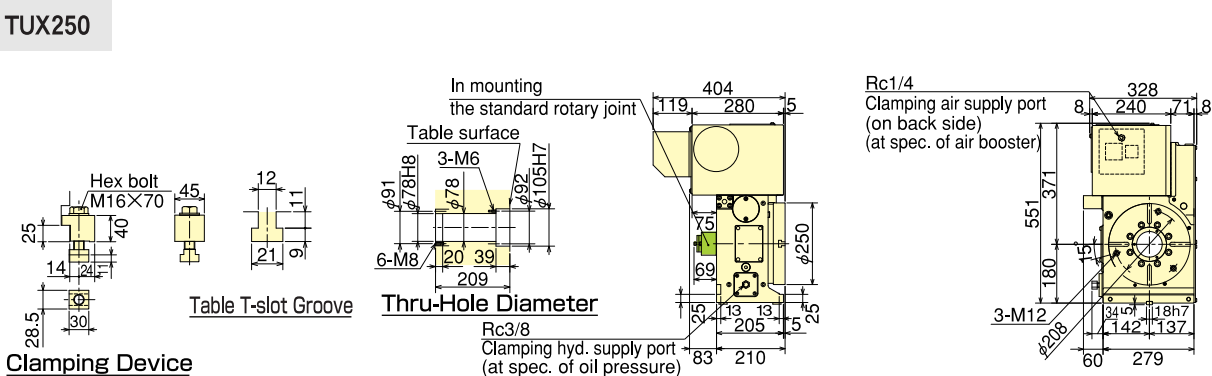
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. In case of air-hydraulic pressure clamp specification, the solenoid valve for table clamp is incorporated. 3. Solenoid valve(s) is (are) not incorporated in case of hydraulic clamp method. Consequently, customer shall prepare it. 4. Neither cable nor hose is fitted between NC rotary table and machine tool... 5. In the port part on the table surface jig side of a rotary joint, each TUX200, 250 or 320 is fixed to the rotary table side. 6. Because a mounting pitch varies with the machines, refer to the pitch of the table spindle size drawing on P97. 7. Contact to Kitagawa about rotary joint and tail spindle of 400-size or more. 8. Each product mass is determined by a Kitagawa M signal spec.

■ Dimensions (4th axis specifications)

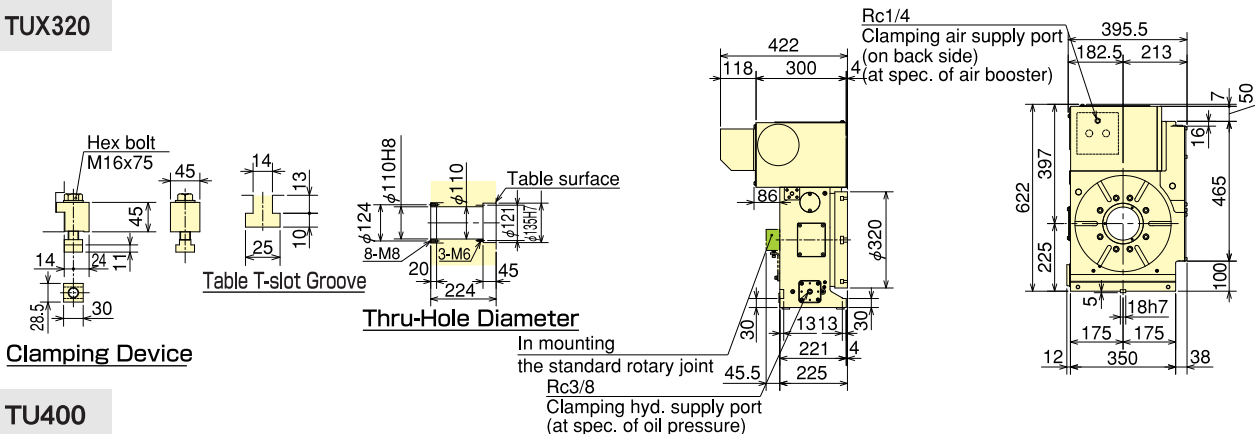
TUX200



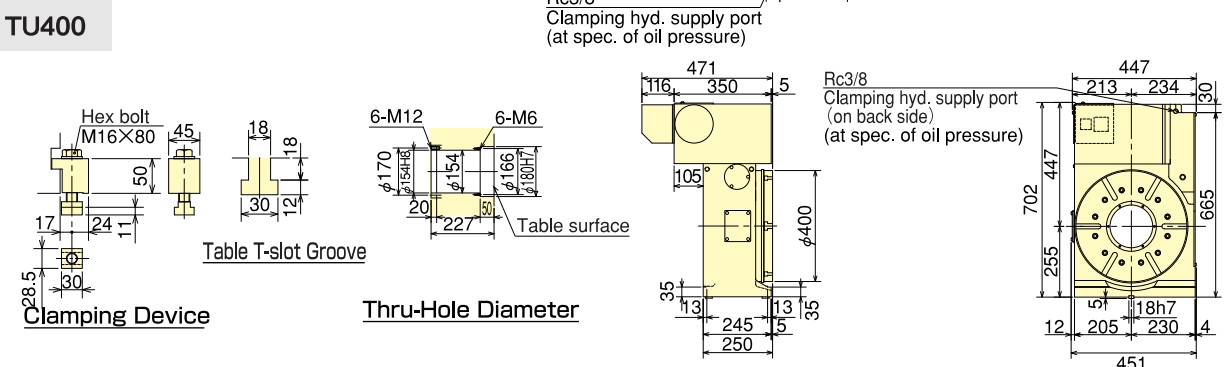
TUX250



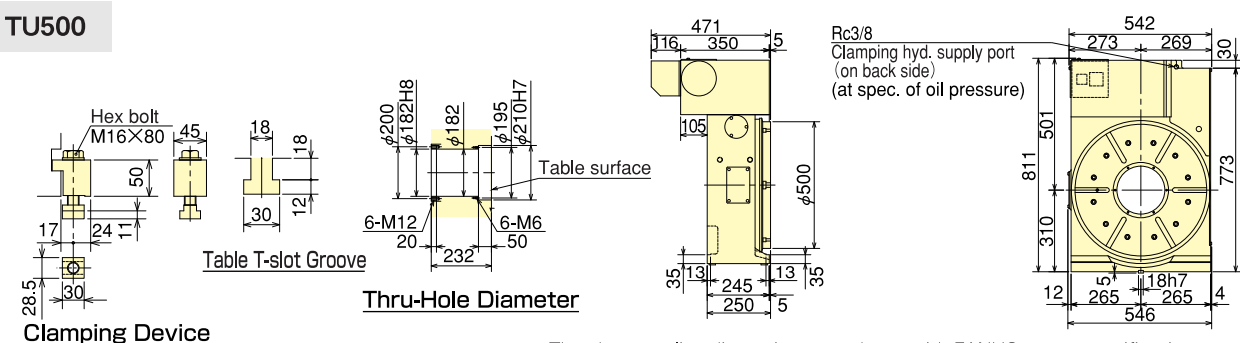
TUX320



TU400



TU500

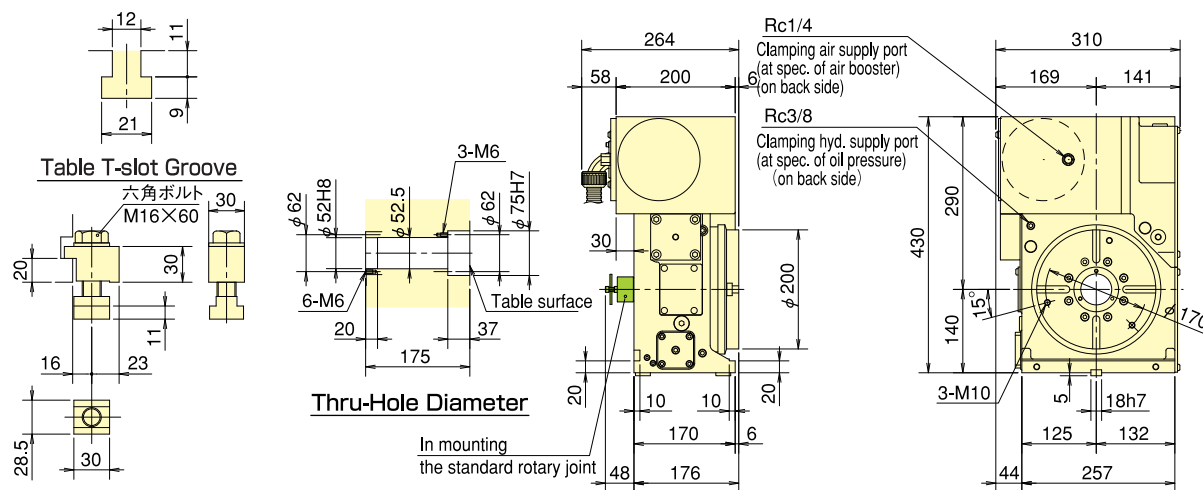


※The above outline dimensions are shown with FANUC motor specifications.
Those dimensions may vary from motor to motor that is mounted.

■ Dimensions

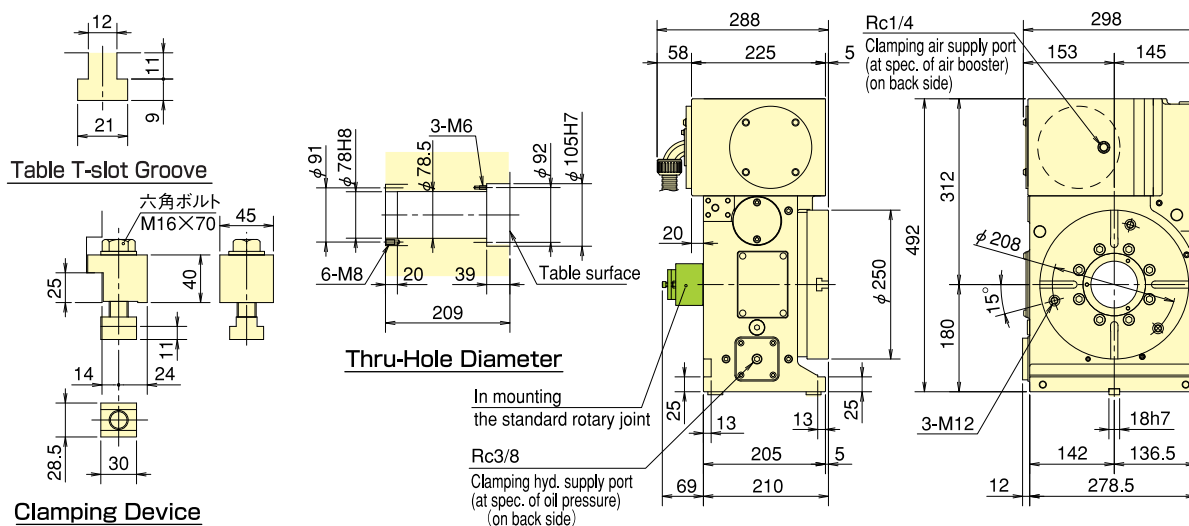
[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

TUX200



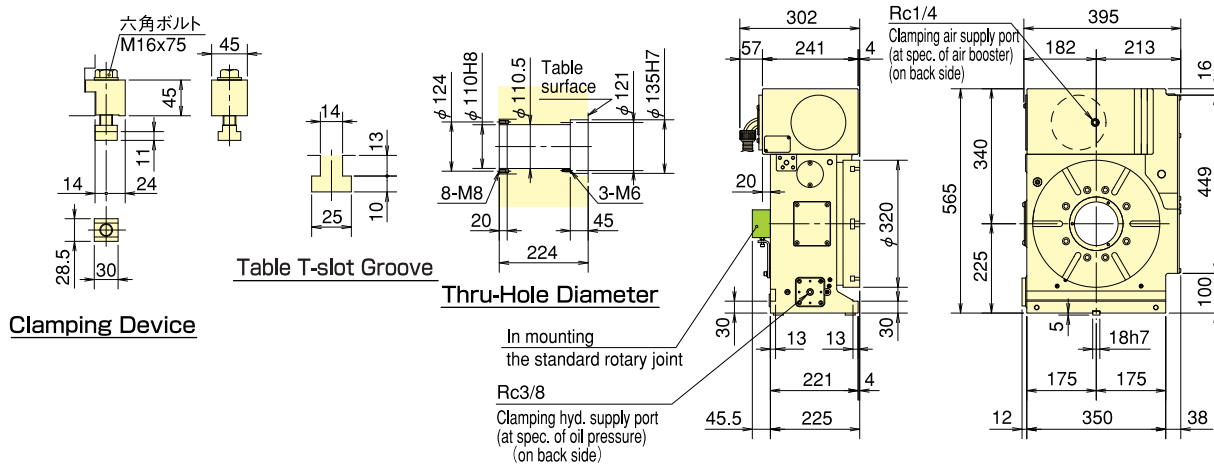
Clamping Device

TUX250

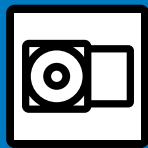


Clamping Device

TUX320



Clamping Device



**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	

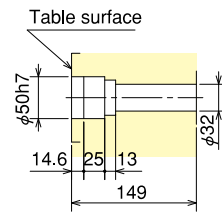
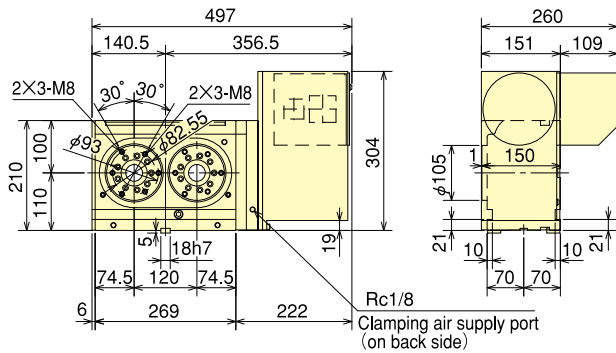
Specification

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・P94 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
	FXL (N・m)	200	200	600	600
	FXL (N・m)	117	117	176 (Pneumatic) 400 (air-Hydraulic)	176 (Pneumatic) 400 (air-Hydraulic)
Allowable cutting torque	T (N・m)	180	180	300	300

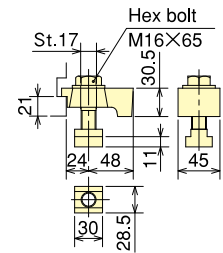
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. In case of air/air-hydraulic clamp specifications, the solenoid valve(s) for table clamp is (are) incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. Solenoid 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)

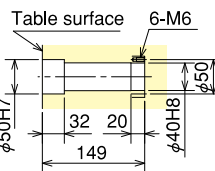
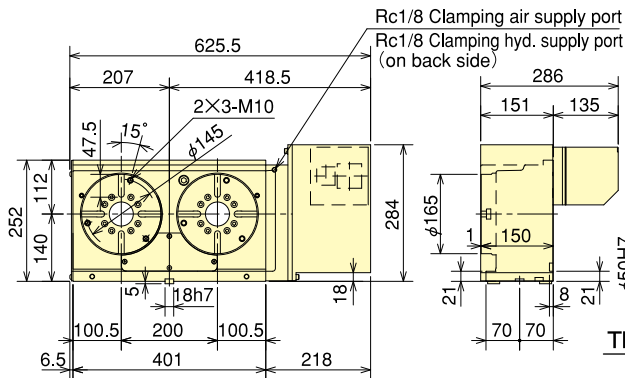


Thru-Hole Diameter



Clamping Device

TM2160 (TH)



Thru-Hole Diameter

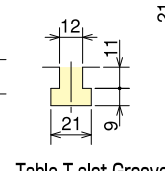
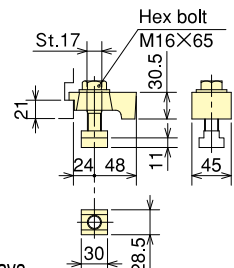
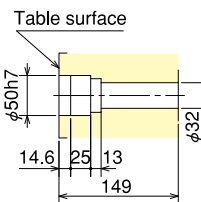
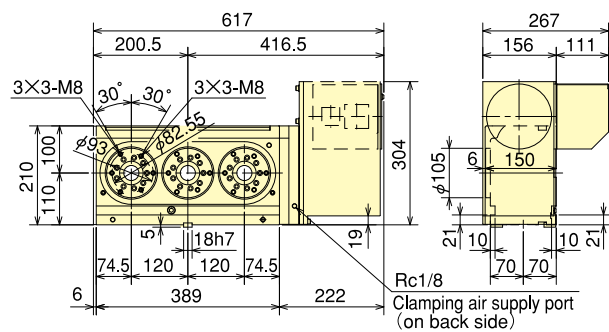


Table T-slot Groove

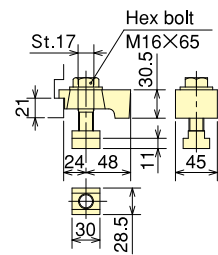


Clamping Device

TM3100 (TH)

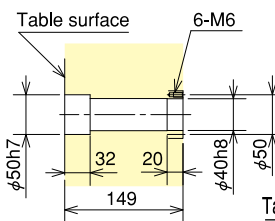
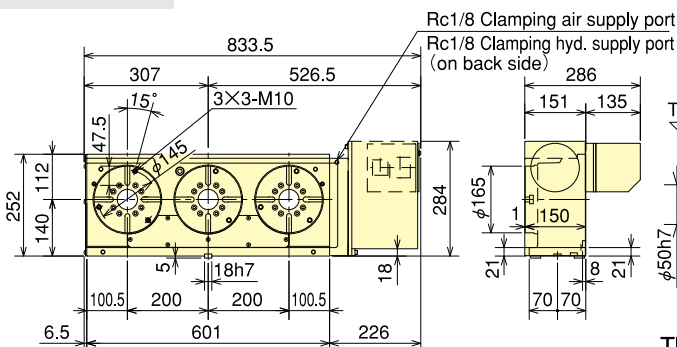


Thru-Hole Diameter



Clamping Device

TM3160 (TH)



Thru-Hole Diameter

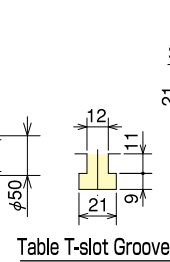
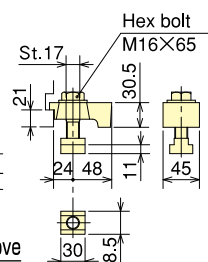


Table T-slot Groove



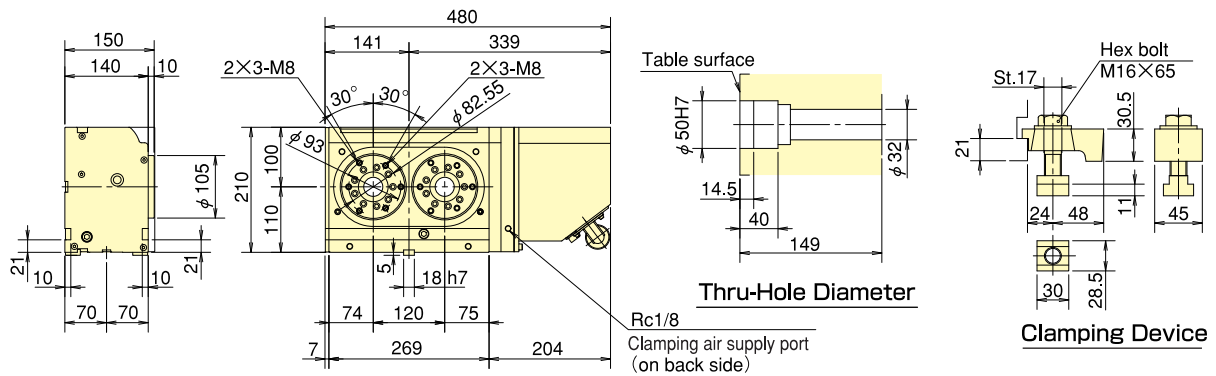
Clamping Device

※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.

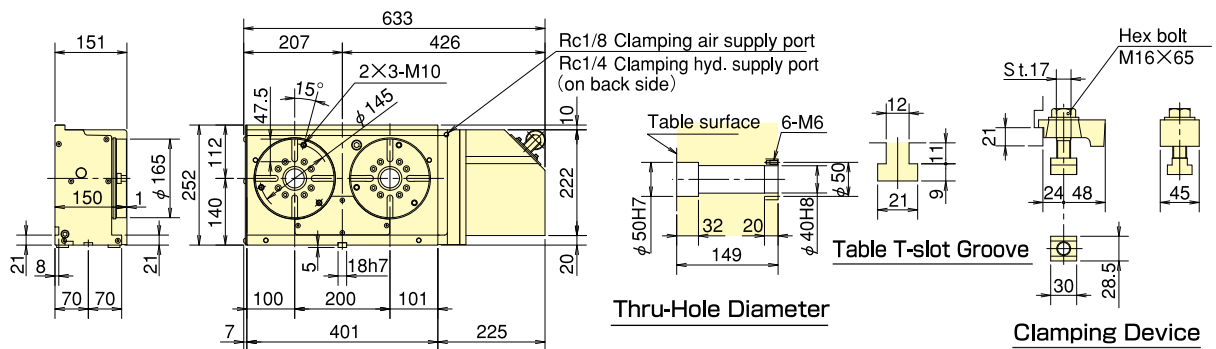
■ Dimensions

[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

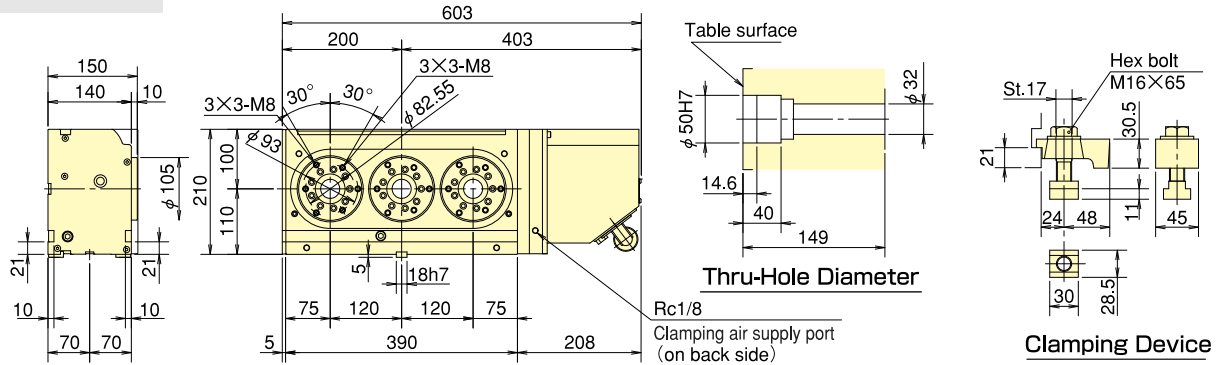
TM2100 (TH)



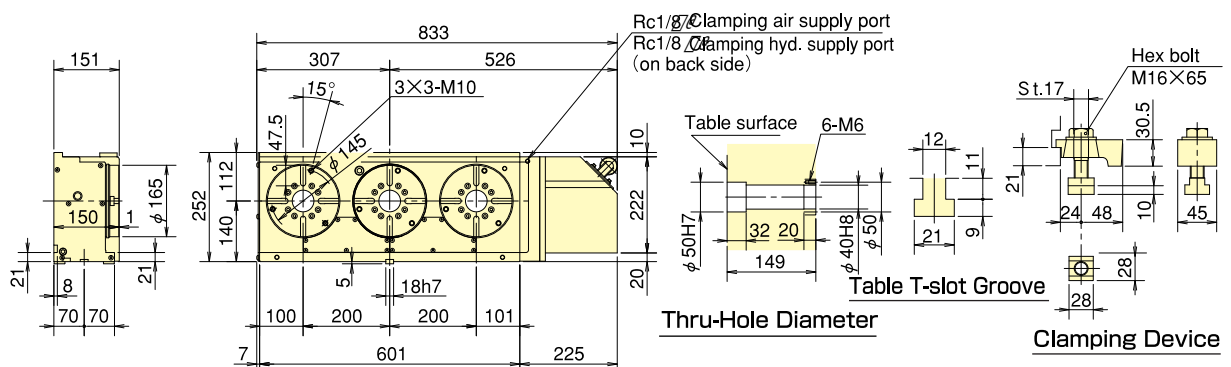
TM2160 (TH)



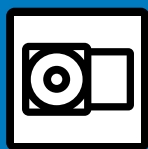
TM3100 (TH)



TM3160 (TH)



*TM is used at a right hand and TH is used at a left hand.



**NC ROTARY
TABLE**

Compact Type Tilting NC Rotary Table TT101·TW120

※TW is Straight tilting table

Compact tilting range to suit 5 axis machining on small work pieces

- Minimum size in its class
- Light weight
- High rigidity
- High speed rotation
- Rotary Joint built in as option
- Cylinder mountable
- Pneumatic clamping specification
- Ideal design for compact machining centres

*CE correspondence

※In specification with the foreign trade control ordinance, permission of the ministry of economy, trade and industry is required when exporting twin axis products overseas.

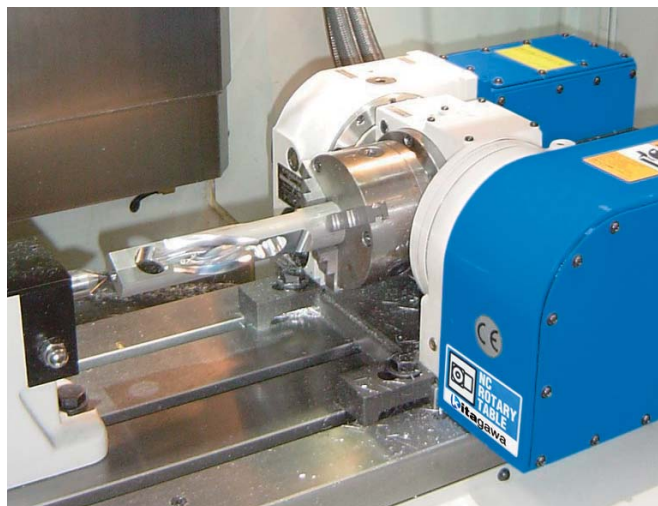


TT101

Sample Application



▲Only Kitagawa can offer this combination of NC Rotary Table and chuck



▲Combine with tailstocks on p93, 95 to suit machining of long work pieces.

4th axis specifications

TT 101	A * * * *
Table Size TT: 101 TW: 120	Design No.
Type TT: STD type TW: Tilting straight type (only 120 size)	Tilting motor type Rotary axis motor type
	Clamping method Only Pneumatic

M signal specification

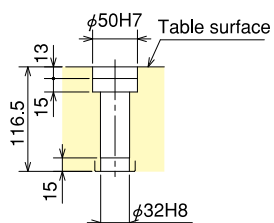
TT 101	A V * *
Table Size TT: 101 TW: 120	Design No.
Type TT: STD type TW: Tilting straight type	Quinte specification
	Clamping method Pneumatic

Specifications

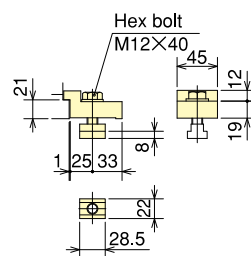
Model		TT101	TW120
Tilting angle		-20° ~ +120°	-20° ~ +110°
Table dia (mm)		φ 110	φ 125
Register diameter on Face Plate (mm)		φ 50H7	φ 60 H 7
Spindle through hole diameter (mm)		φ 32	φ 32
Centre Height (mm)		140	150
Clamping method		Pneumatic	Pneumatic
Clamping torque (N·m) (In pneumatic 0.5MPa)	Rotating axis	180	120
	Tilting axis	300	200
Motor axis reduced inertia (kg·m ²)	Rotating axis	0.000082	0.000072
	Tilting axis	0.000081	0.000034
Servomotor (for FANUC specification)		Rotating axis αIF 1/5000 Tilting axis αIF 2/5000	αIF 2/5000
Gear ratio	Rotating axis	1/72	1/90
	Tilting axis	1/120	1/180
Max. spindle speed	for FANUC specification	Rotating axis (for min ⁻¹ /motor3000min ⁻¹)	33.3
		Tilting axis (for min ⁻¹ /motor3000min ⁻¹)	16.6
	M signal specification	Rotating axis (for min ⁻¹ /motor3000min ⁻¹)	33.3
		Tilting axis (for min ⁻¹ /motor3000min ⁻¹)	16.6
Allowable work inertia (kg·m ²)		0.05	0.06
Indexing accuracy (sec)	Rotating axis	30	30
	Tilting axis	60	60
Repeatability (sec)		4	4
Mass of product (kg)		73	105
Rotary Joint (Option · P101reference)		RJ32-10T05 Hydraulic/Pneumatic3-port	RJ32-12T08 Hydraulic/Pneumatic3-port
Allowable Load	at horizontal (kg) 	35	35
	at tilted (kg) 	20	20
Allowable load (When clamped to table)	F (kN) 	4	4
	FXL (N·m) 	300	200
	FXL (N·m) 	180	120
Allowable cutting torque	T (N·m) 	160	190
Moment of tilting weight capacity	WXL (kgf · m) 	7	10

Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. The solenoid valve for the table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. Each product mass is determined by a Kitagawa M signal spec. 5. Contact to Kitagawa about rotary joint.

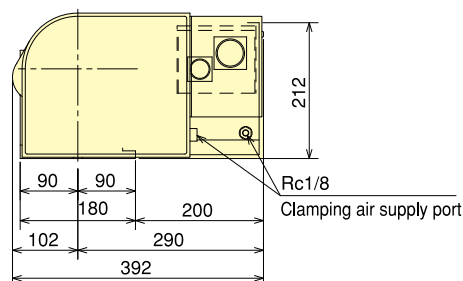
TT101



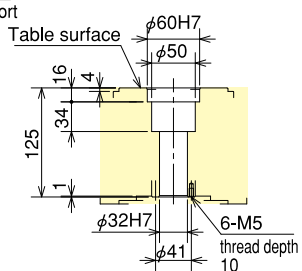
Thru-Hole Diameter



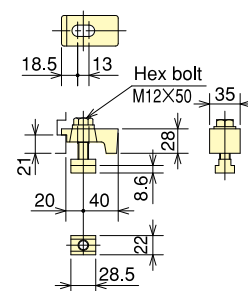
Clamping Device



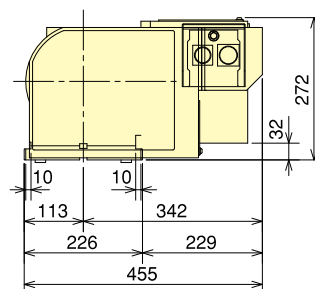
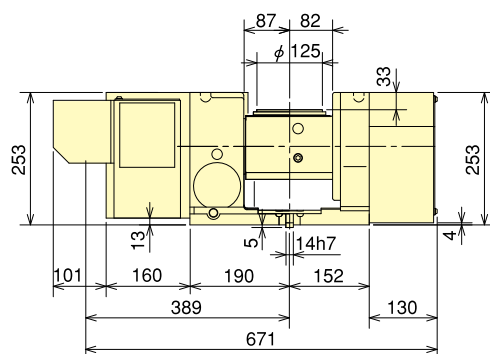
TW120



Thru-Hole Diameter



Clamping Device



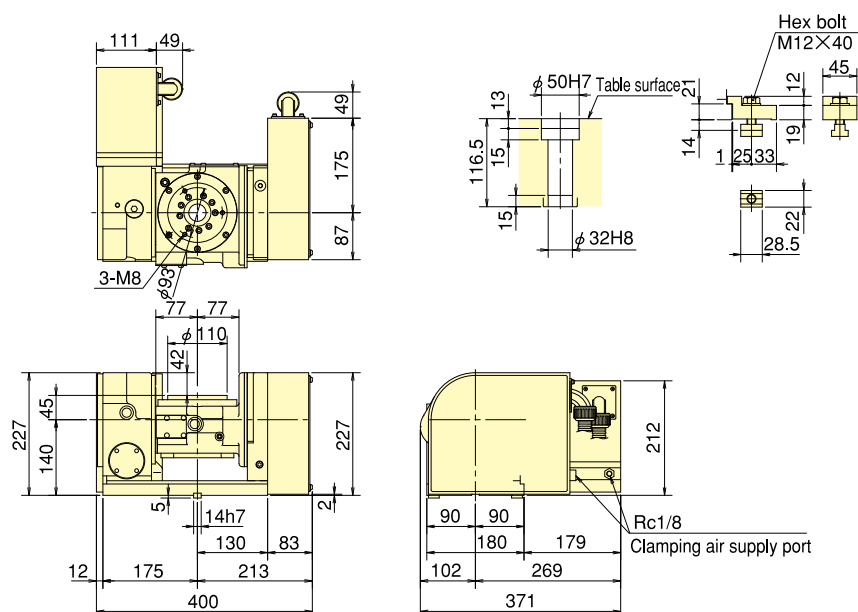
TW120

※The above dimensions are the same as FANUC spec.
Those dimensions may vary from motor to motor that is mounted.

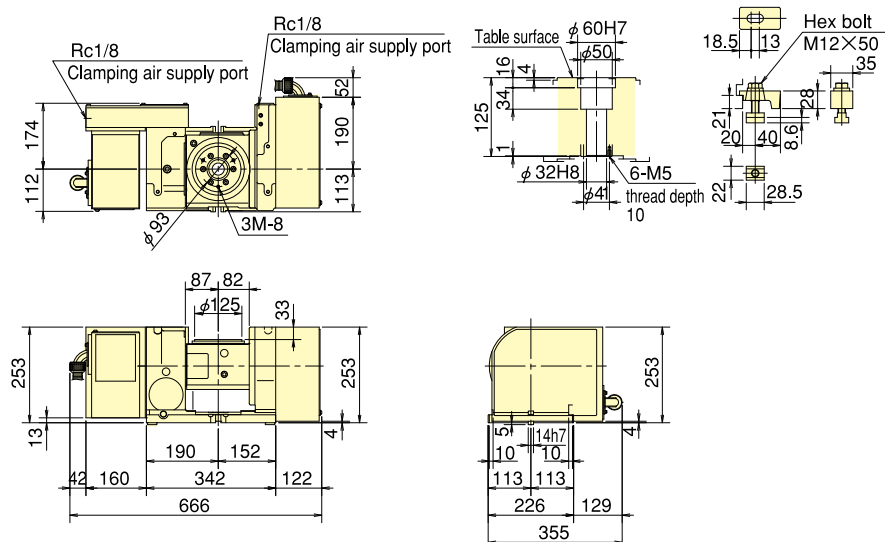
■ Dimensions

[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

TT101

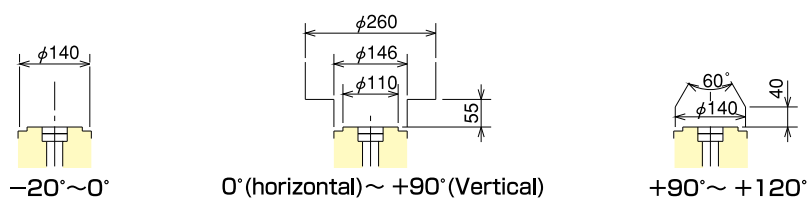


TW120

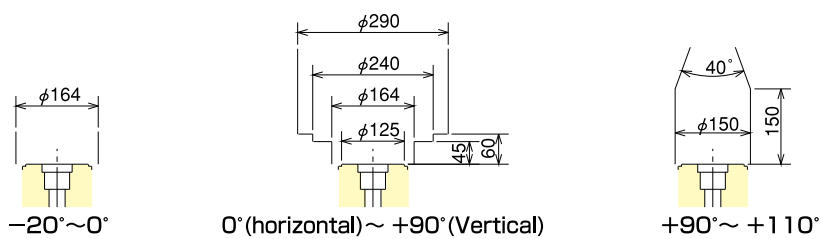


DATA Tilting NC table • Work loadable area

TT101



TW120





NC ROTARY
TABLE

Low centre line tilting NC Rotary Table TT140

Tilting type to suit 5 axis machining with decreased input on the Z axis

- Wide machining area and tilting axis index 220° ($\pm 110^{\circ}$)
- Compact and high speed
Ideal for use on small machining centres
- Highest clamping torque in its class
- Built in rotary joint (option) allows simple and secure jig piping
- Table surface on tilt axis centre line
- Pneumatic clamping mechanism

*CE correspondence

※In specification with the foreign trade control ordinance, permission of the ministry of economy, trade and industry is required when exporting twin axis products overseas.

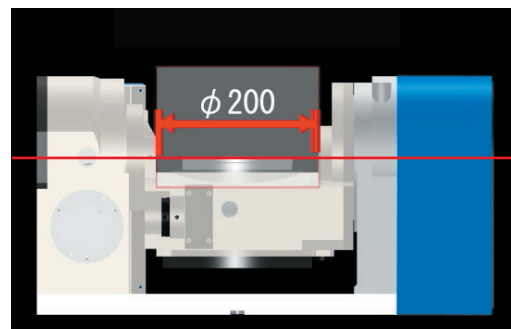
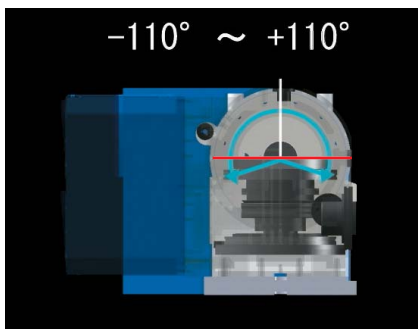


TT140

Wide Machining Area



● Tilting axis index 220°



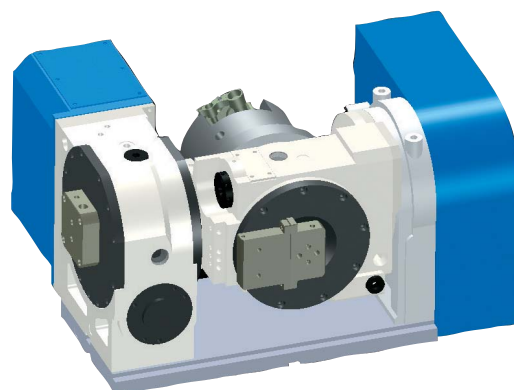
● Max. dia. $\phi 200$ mm of loadable work

Complete built-in rotary joint (option)



PHOTO:TT181

Simplified
Pipework



● Installation of optional rotary joint

4th axis specifications

TT	140	A	*	R	*	*
Type	Table Size 140	Motor type				Design No.
		Clamping method				Option spec. R:Rotary joint -:Non- option
		Only Pneumatic				

M signal specification

TT	140	A	V	R	*	*
Type	Table Size 140	Clamping method				Design No.
		Only Pneumatic				Option spec. R:Rotary joint -:Non- option
						Quinte specification

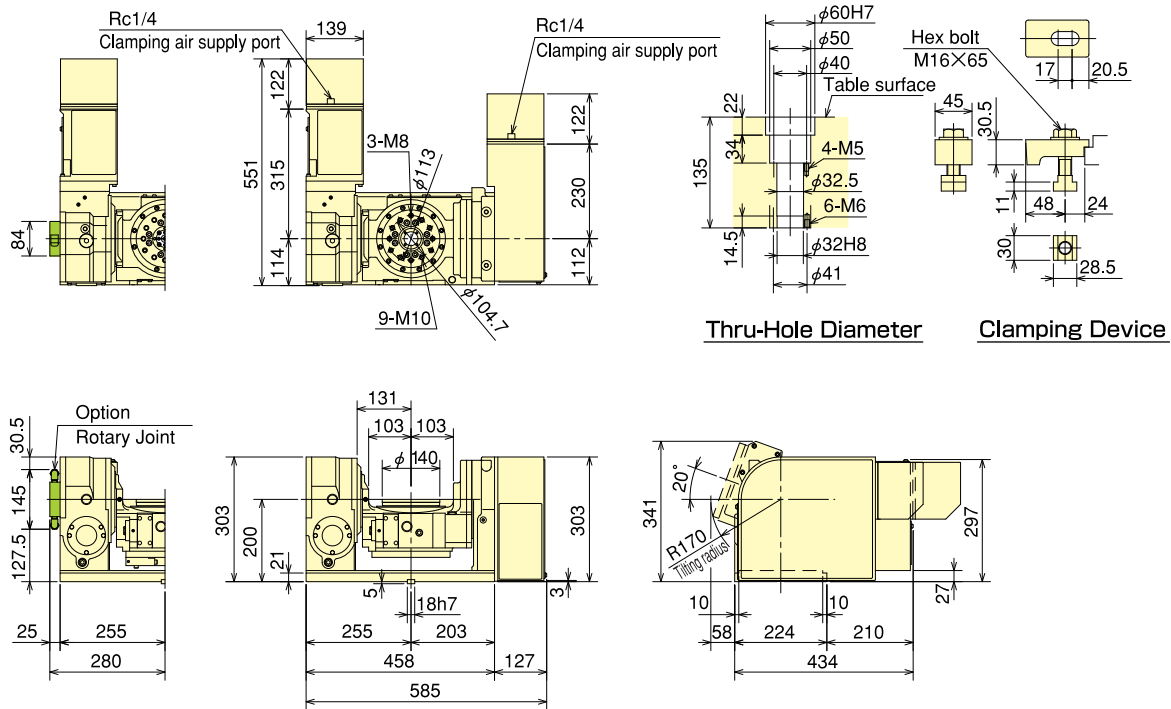
Specifications

Model			TT140	
Tilting angle			- 110° ~ + 110°	
Table dia (mm)			φ 140	
Register diameter on Face Plate (mm)			φ 60H7	
Spindle through hole diameter (mm)			φ 32	
Centre Height (mm)			200	
Clamping method			Pneumatic	
Clamping torque (N·m) (In pneumatic 0.5MPa)		Rotating axis	280	
		Tilting axis	500	
Motor axis reduced inertia (kg·m ²)		Rotating axis	0.000269	
		Tilting axis	0.000288	
Servomotor (for FANUC specification)			α iF 2/5000	
Gear ratio		Rotating axis	1/72	
		Tilting axis	1/180	
Max. spindle speed	for FANUC specification	Rotating axis (for min ⁻¹ /Motor3000min ⁻¹)	41.6	
		Tilting axis (for min ⁻¹ /Motor3000min ⁻¹)	16.6	
	M signal specification	Rotating axis (for min ⁻¹ /Motor3000min ⁻¹)	41.6	
		Tilting axis (for min ⁻¹ /Motor3000min ⁻¹)	16.6	
Allowable work inertia (kg·m ²)			0.12	
Indexing accuracy (sec)		Rotating axis	30	
		Tilting axis	60	
Repeatability (sec)			4	
Mass of product (kg)			158	
Built-in rotary joint (as an option・P101reference)			RJ32TT140 (Hydraulic/Pneumatic 4-port)	
Allowable Load		at horizontal (kg) 	50	
		at tilted (kg) 	30	
Allowable load (When clamped to table)		F (kN) 	4	
		F×L (N·m) 	500	
		F×L (N·m) 	280	
Allowable cutting torque		T (N·m) 	190	
Moment of tilting weight capacity		W×L (kgf・m) 	11	

Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. The solenoid valve for the table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. Each product mass is determined by a Kitagawa M signal spec.

■Dimensions [4th axis specifications]

TT140

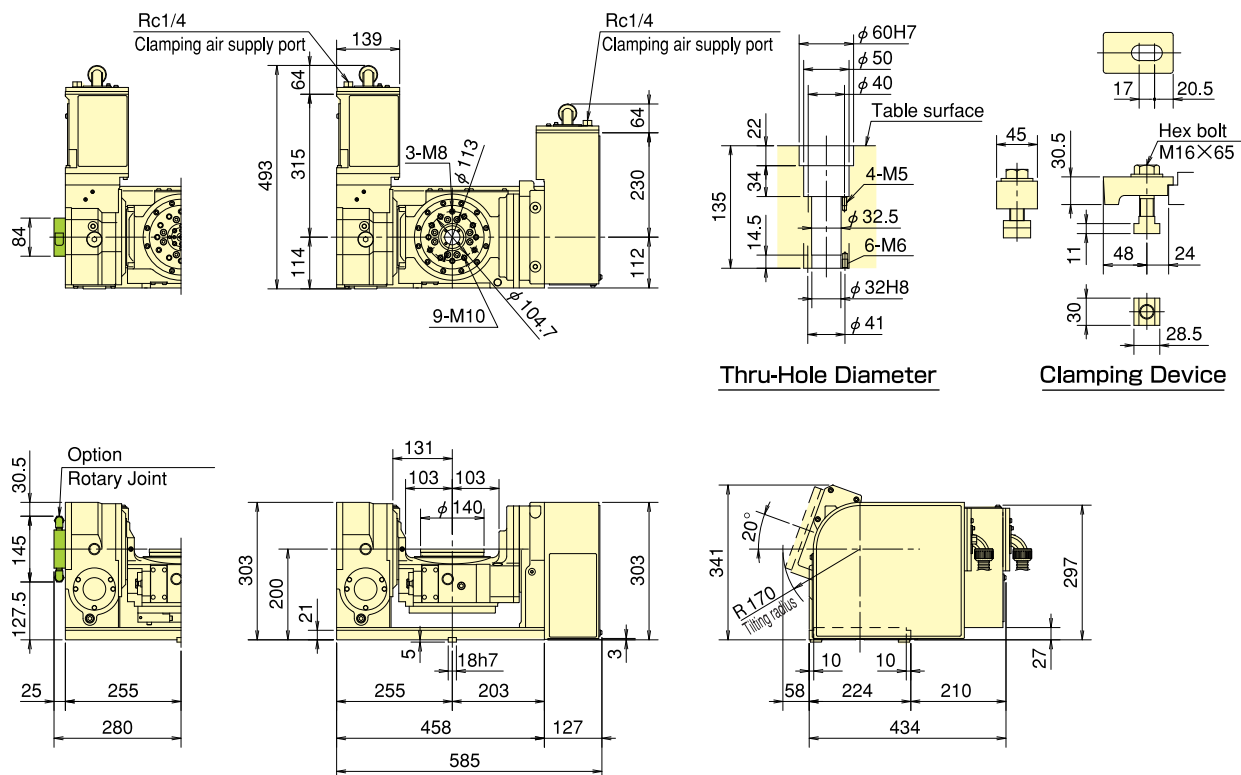


※The above dimensions are the same as FANUC spec.
Those dimensions may vary from motor to motor that is mounted.

■ Dimensions

[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

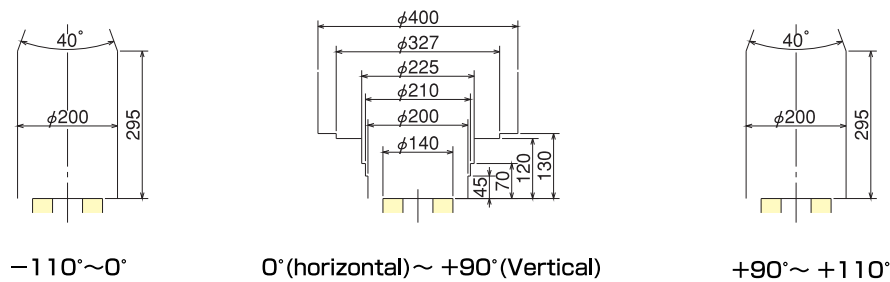
TT140



*The above dimensions are the same as FANUC spec.
Those dimensions may vary from motor to motor that is mounted.

DATA Tilting NC table • Work loadable area

TT140





**NC ROTARY
TABLE**

Tilting NC Rotary Table TT150

**High stiffness and clamp torque of main spindle!
Compact designed body with minimized total height
keeps less high-column of machine.**

- Suitable for No.30 machining centers
(*High-column specification may be required to suit a variety of machine models.)
- High clamp torque
- Built-in Rotary Joint as option*

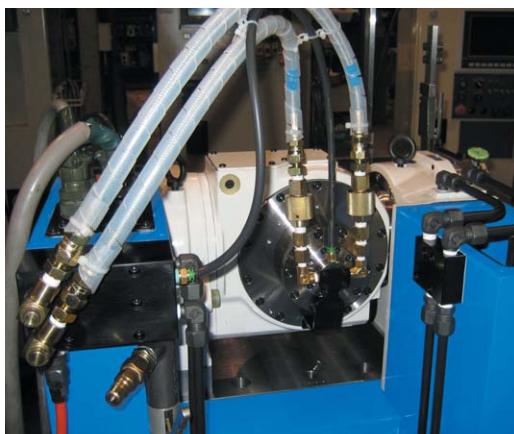
*CE correspondence

※In specification with the foreign trade control ordinance, permission of the ministry of economy, trade and industry is required when exporting twin axis products overseas.

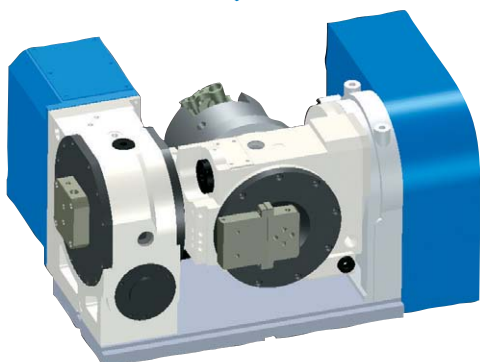


TT150

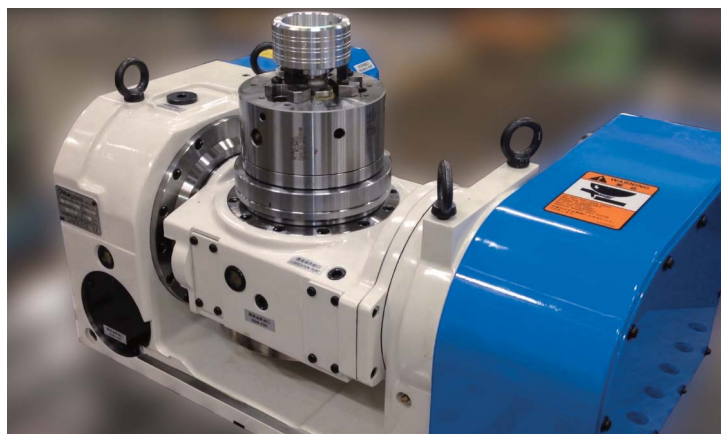
Complete built-in rotary joint (option)



Simplified
Pipework



Sample Application



▲Only Kitagawa can offer this combination of NC Rotary Table and chuck

- Installation of optional rotary joint

4th axis specifications

TT	150	A	*	R	*	*
Type	Table Size 150	Motor type				Design No.
		Clamping method				Option spec. R:Rotary joint -:Non- option
		Only Pneumatic				

M signal specification

TT	150	A	V	R	*	*
Type	Table Size 150	Clamping method				Design No.
		Only Pneumatic				Option spec. R:Rotary joint -:Non- option
						Quinte specification

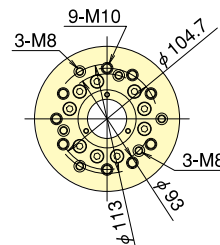
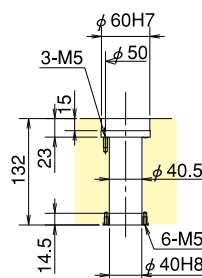
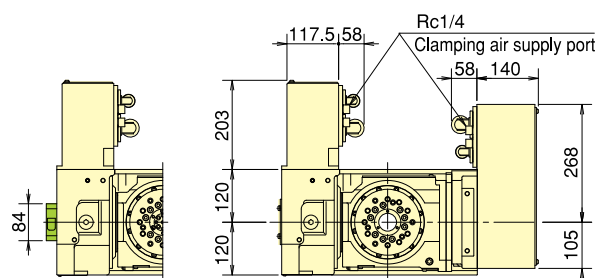
Specifications

Model			TT150
Tilting angle			-20° ~ +110°
Table dia (mm)			φ 150
Register diameter on Face Plate (mm)			φ 60H7
Spindle through hole diameter (mm)			φ 40
Centre Height (mm)			150
Clamping method			Pneumatic
Clamping torque (N·m) (In pneumatic 0.5MPa)		Rotating axis	350
		Tilting axis	550
Motor axis reduced inertia (kg·m ²)		Rotating axis	0.000242
		Tilting axis	0.000132
Servomotor (for FANUC specification)			α iF 2/5000
Gear ratio		Rotating axis	1/72
		Tilting axis	1/180
Max. spindle speed	for FANUC specification	Rotating axis (for min ⁻¹ /Motor3000min ⁻¹)	41.6
		Tilting axis (for min ⁻¹ /Motor3000min ⁻¹)	16.6
	M signal specification	Rotating axis (for min ⁻¹ /Motor3000min ⁻¹)	41.6
		Tilting axis (for min ⁻¹ /Motor3000min ⁻¹)	16.6
Allowable work inertia (kg·m ²)			0.14
Indexing accuracy (sec)		Rotating axis	30
		Tilting axis	60
Repeatability (sec)			4
Mass of product (kg)			141
Built-in rotary joint (as an option・P101reference)			RJ40FTT150 Hyd./pneumatic 4-port + Exclusive pneumatic 1 port of air
Allowable Load		at horizontal (kg) 	50
		at tilted (kg) 	30
Allowable load (When clamped to table)		F (kN) 	4
		FXL (N·m) 	550
		FXL (N·m) 	350
Allowable cutting torque		T (N·m) 	190
Moment of tilting weight capacity		WXL (kgf・m) 	11

Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. The solenoid valve for the table clamp is incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. Each product mass is determined by a Kitagawa M signal spec.

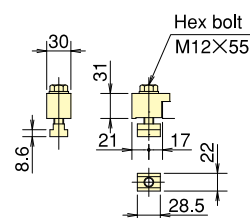
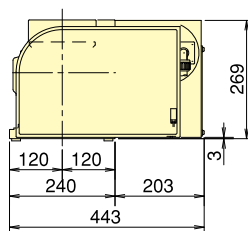
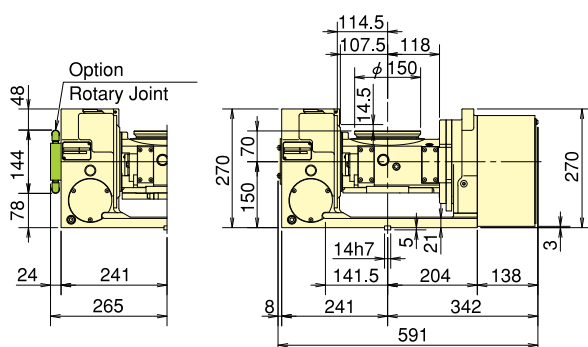
■Dimensions [4th axis specifications]

TT150



Thru-Hole Diameter

Detailed table hole



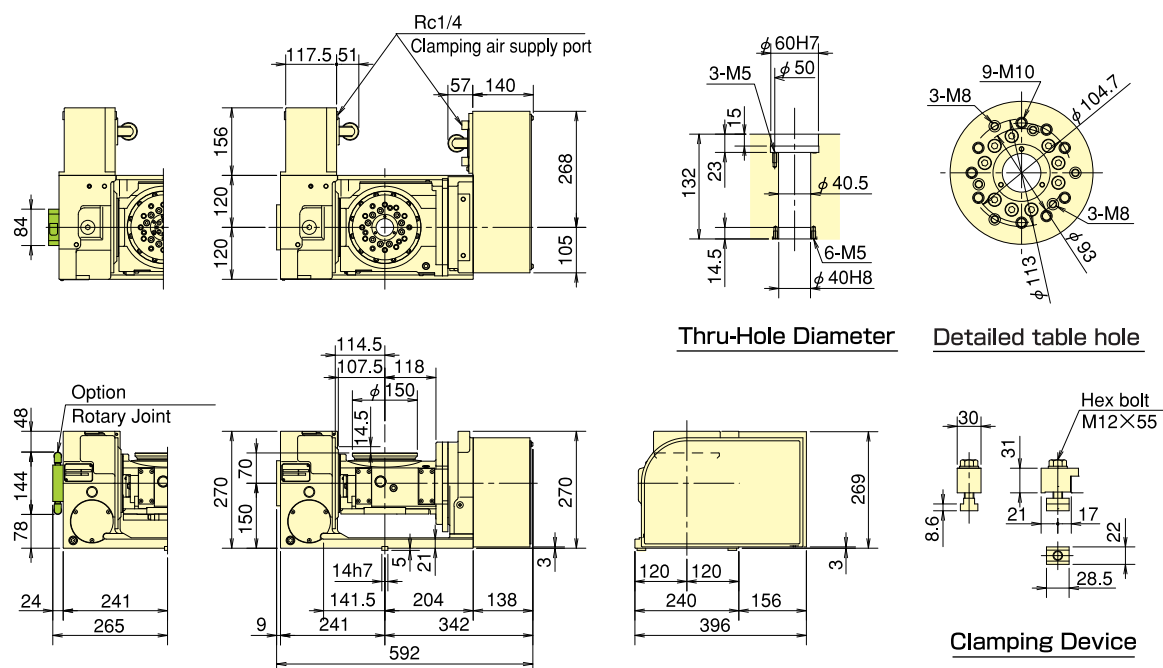
Clamping Device

※The above dimensions are the same as FANUC spec.
Those dimensions may vary from motor to motor that is mounted.

■ Dimensions

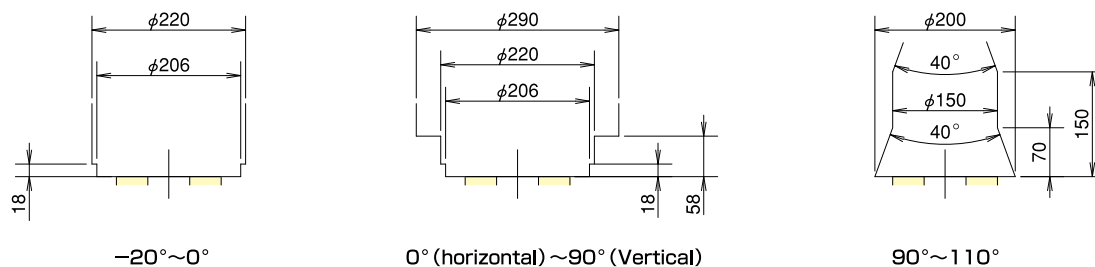
[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

TT150



DATA Tilting NC table • Work loadable area

TT150





**NC ROTARY
TABLE**

Tilting NC Rotary Table TT182·TW182

※TW is the side motor type tilting table

High stability tilting table to suit 5 axis machining

- Built in air hydraulic boosters deliver high clamping torque on both axes
- Compact design
- High speed
- High rigidity
- Built in rotary joint (option) allows simple and secure jig piping
- Air booster or direct hydraulic clamping options available

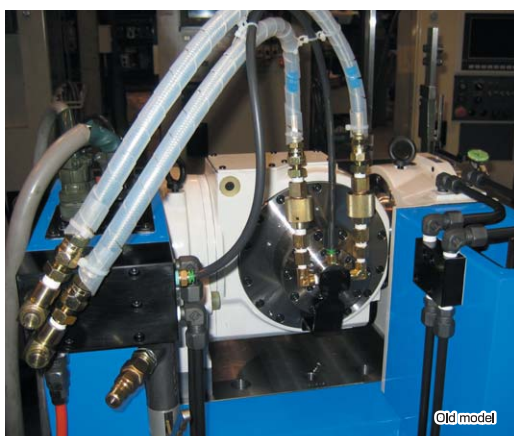
* CE correspondence

※In specification with the foreign trade control ordinance, permission of the ministry of economy, trade and industry is required when exporting twin axis products overseas.



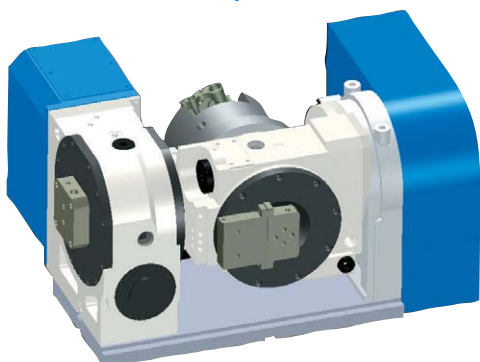
TT182

Complete built-in rotary joint (option)



Old model

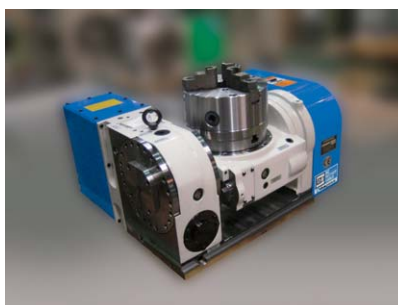
Simplified
Pipework



Sample Application



◀ Provided for high accuracy 5-axis machining.



◀ Only Kitagawa can offer this combination of NC Rotary Table and chuck

- Installation of optional rotary joint

4th axis specifications

TT	182	B	*	R	*	*
Table size		Motor type	Design No.			
182			Option spec.			
Type		Clamping method	R : Rotary Joint			
TT:STD type			C:Outer cylinder			
TW:Tilting straight type			- :Non- option			
		(integrated air hydraulic booster)				
		H:Hydraulic				

M signal specification

TT		182		BVR		**	
Table size 182				Design No.			
Type		Clamping method		Option spec.			
TT:STD type		B:Air-Hydraulic (Integrated air hydraulic booster)		R:Rotary Joint			
TW:Tilting straight type		H:Hydraulic		C:Outer cylinder			
				-:Non- option			
						Quinte specification	

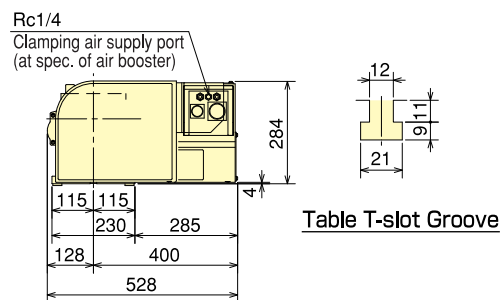
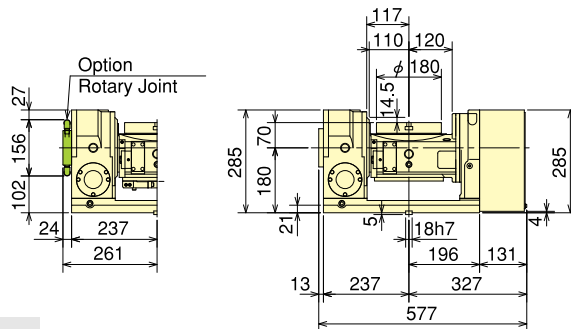
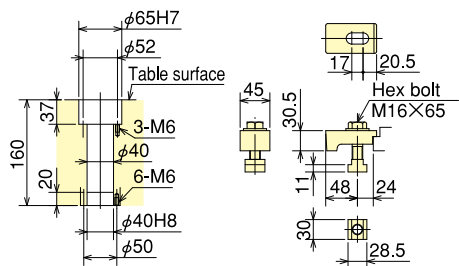
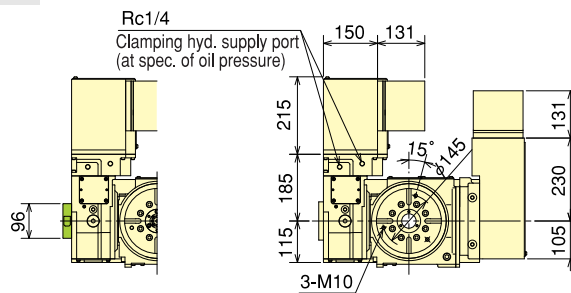
Specifications

Model			TT182／TW182	
Tilting angle			－35° ～＋110°	
Table dia (mm)			φ 180	
Register diameter on Face Plate (mm)			φ 65 H 7	
Spindle through hole diameter (mm)			φ 40	
Centre height at verticality (mm)			180	
Clamping method			Air-Hydraulic/Hydraulic	
Clamping torque (N・m) (In pneumatic 0.5MPa/hydraulic 3.5MPa)		Rotating axis	450	
		Tilting axis	800	
Motor axis reduced inertia (kg・m ²)		Rotating axis	0.000242	
		Tilting axis	0.000135	
Servomotor (for FANUC specification)			α iF 2/5000	
Gear ratio		Rotating axis	1／90	
		Tilting axis	1／180	
Max. spindle speed	for FANUC specification	Rotating axis (for min ⁻¹ /motor3000min ⁻¹)	33.3	
		Tilting axis (for min ⁻¹ /motor3000min ⁻¹)	16.6	
	M signal specification	Rotating axis (for min ⁻¹ /motor3000min ⁻¹)	33.3	
		Tilting axis (for min ⁻¹ /motor3000min ⁻¹)	16.6	
Allowable work inertia (kg・m ²)			0.25	
Indexing accuracy (sec)		Rotating axis	20	
		Tilting axis	60	
Repeatability (sec)			4	
Mass of product TT/TW (kg)			163／178	
Built-in rotary joint (option・P101 reference)			RJ40FTT182 Hyd./pneumatic 4-port＋Exclusive pneumatic 1 port of air	
Pneumatic outer cylinder (option・P63, 64 reference)			NY1312T18B	
Hydraulic outer cylinder (option・P63, 64 reference)			NY0912T18A	
Allowable Load		at horizontal (kg) 	60	
		at tilted (kg) 	40	
Allowable load (When clamped to table)		F (kN) 	5	
		F×L (N・m) 	800	
		F×L (N・m) 	450	
Allowable cutting torque		T (N・m) 	250	
Moment of tilting weight capacity		W×L (kgf・m) 	12	

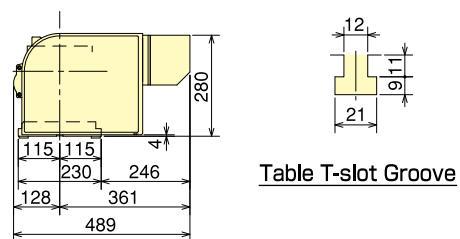
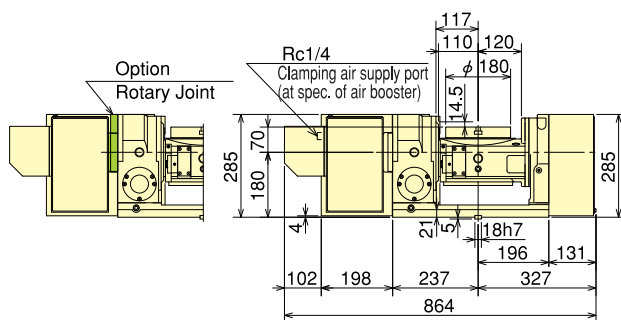
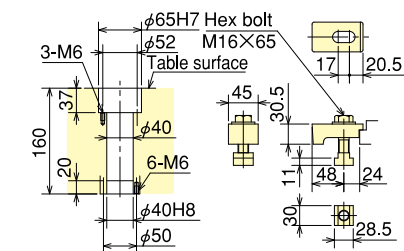
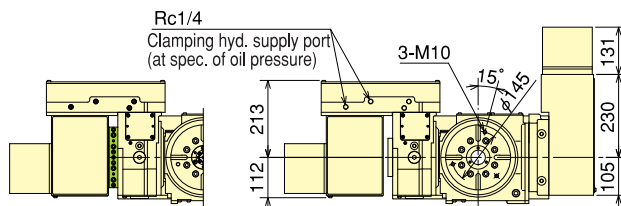
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. In case of air + hyd. clamp specification, the solenoid valve for table clamp is incorporated. 3. In a hyd. clamp spec., the solenoid valve is not incorporated. Consequently, customer shall prepare it. 4. Neither cable nor hose is fitted between NC rotary table and machine tool... 5. Each product mass is determined by a Kitagawa M signal spec.

■Dimensions [4th axis specifications]

TT182



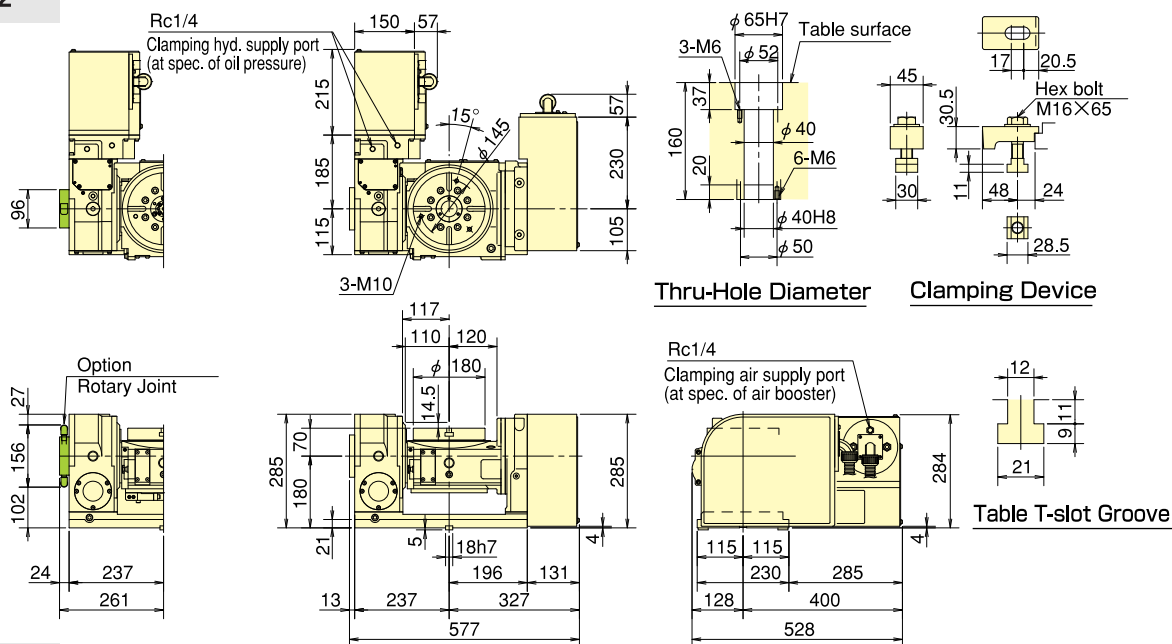
TW182



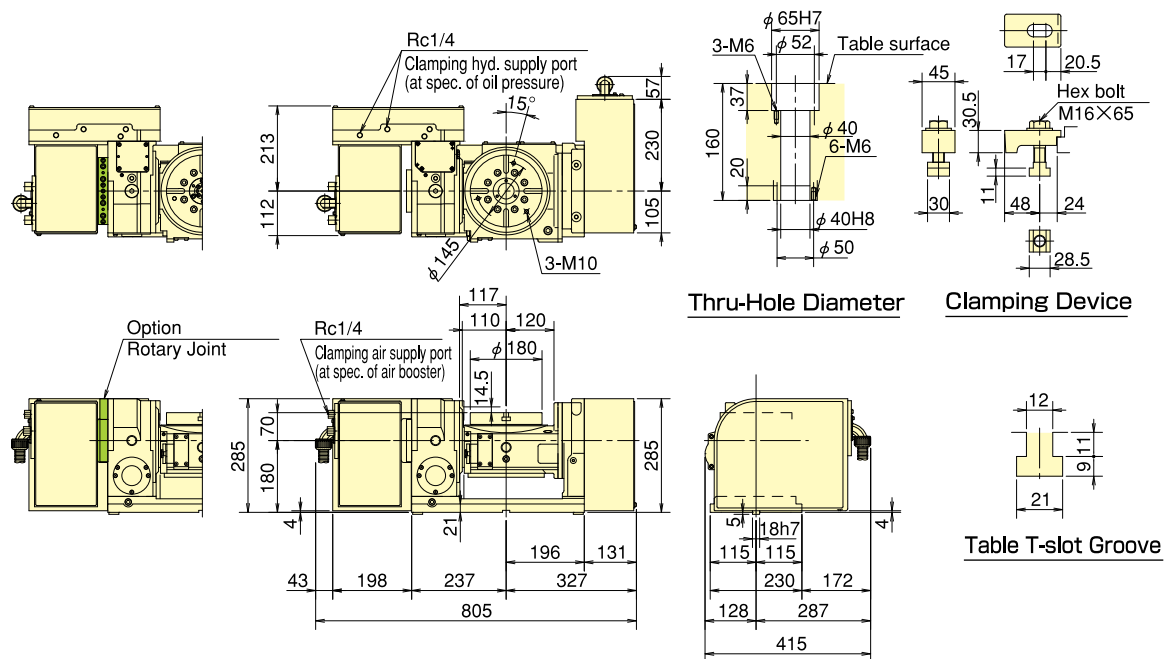
■ Dimensions

[Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

TT182

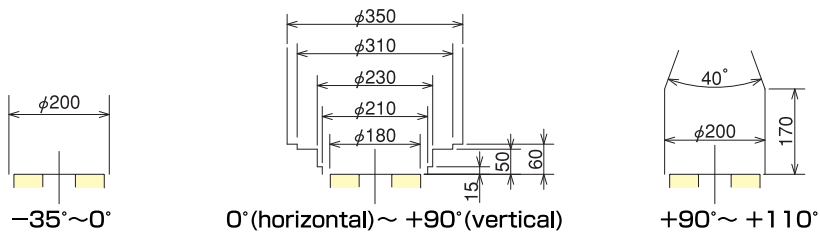


TW182



DATA Tilting NC table • Work loadable area

TT182/TW182



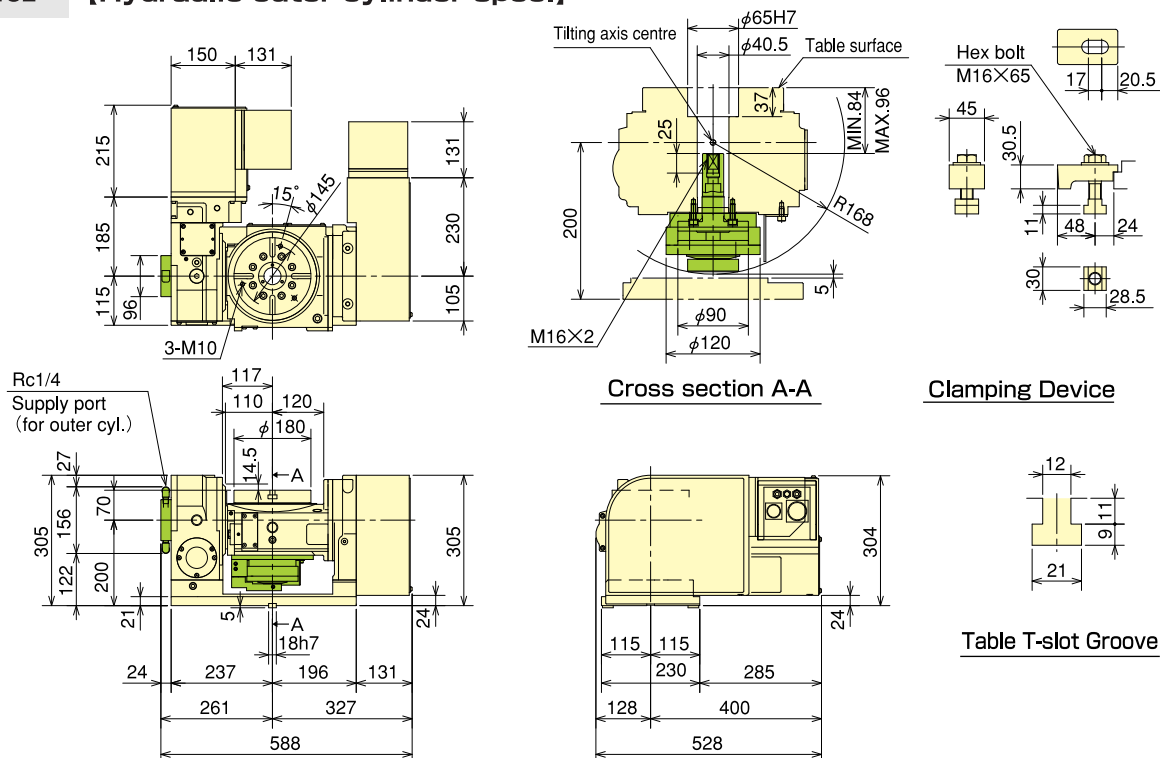
■Dimensions [4th axis specifications]

TT182 【Pneumatic outer cylinder spec.】



■ Pneumatic outer cylinder spec.

Cylinder	Number of ports	Inner dia. of cyl. (mm)	Piston stroke (mm)	Piston thrust (kN)				Max. allowable air pressure (MPa)	Mass (kg)
				Air pressure 0.5MPa		Air pressure 1.0MPa			
				Push	Pull	Push	Pull		
NY1312T18B	Air: 3-port	135	12	4.9	4.7	9.8	9.4	1.0	9.0

TT182 **[Hydraulic outer cylinder spec.]**

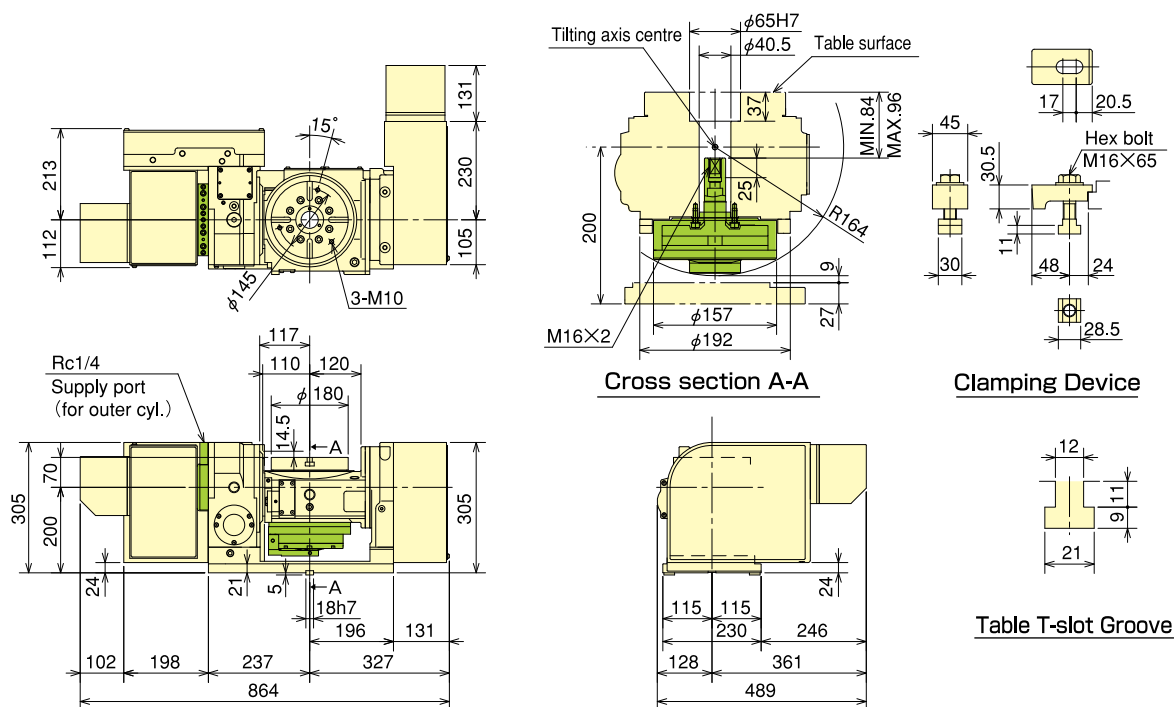
■ Hydraulic outer cylinder spec.

Cylinder	Number of ports	Inner dia. of cyl. (mm)	Piston stroke (mm)	Piston thrust (kN)		Max. allowable hyd. pressure (MPa)	Mass (kg)
				Hydraulic pressure 3.5MPa			
				Push	Pull		
NY0912T18A	Hyd.: 2-port+Air: 1-port	90	12	18.2	17.1	3.5	7.7

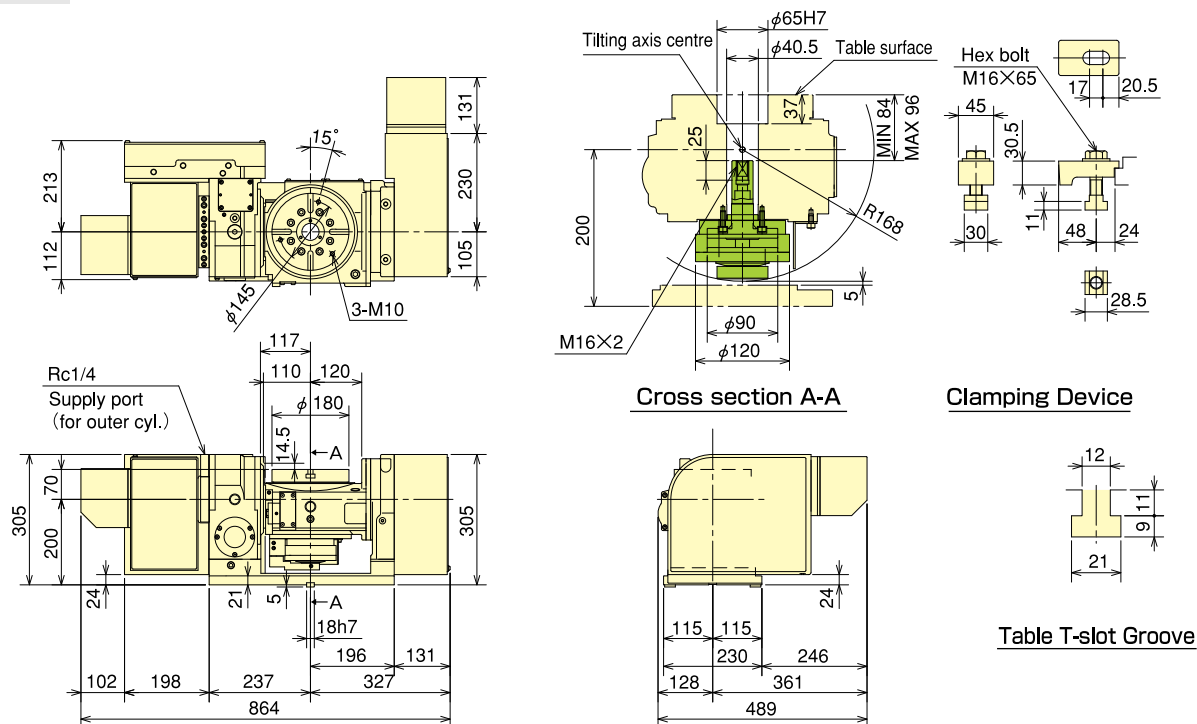
※ 1. The above dimensions are the same as FANUC spec. Those dimensions may vary from motor to motor that is mounted.
2. In outer cylinder mounting spec., centre height varies to 200 from 180.

■Dimensions [4th axis specifications]

TW182 [Pneumatic outer cylinder spec.]



TW182 [Hydraulic outer cylinder spec.]



※ 1. The above dimensions are the same as FANUC spec. Those dimensions may vary from motor to motor that is mounted.
 ※ 2. In outer cylinder mounting spec., centre height varies to 200 from 180.



**NC ROTARY
TABLE**

Tilting NC Rotary Table TT200

High clamp torque and Compact design
Flagship model of Kitagawa tilting rotary table

- High clamp torque in its class by built-in booster and double disk clamp system
- Suitable for No.30 machining centers (200mm high column) without stroke limitation
- Built-in rotary joint (hydraulic 4P/ pneumatic 1P) available as option



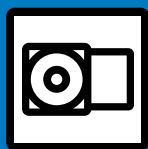
* CE correspondence

※ In specification with the foreign trade control ordinance, permission of the ministry of economy, trade and industry is required when exporting twin axis products overseas.

Specifications

Model			TT200
Tilting angle			− 35° ~ + 110°
Table dia (mm)			φ 200
Register diameter on Face Plate (mm)			φ 65 H 7
Spindle through hole diameter (mm)			φ 40
Centre height at verticality (mm)			180
Clamping method			Air-Hydraulic/Hydraulic
Clamping torque (N·m) (In pneumatic 0.5MPa/hydraulic 3.5MPa)		Rotating axis	600
		Tilting axis	1200
Motor axis reduced inertia (kg·m ²)		Rotating axis	0.000225
		Tilting axis	0.000125
Servomotor (for FANUC specification)			α iF 2/5000
Gear ratio		Rotating axis	1／90
		Tilting axis	1／180
Max. spindle speed	for FANUC specification	Rotating axis (for min ⁻¹ /motor3000min ⁻¹)	33.3
		Tilting axis (for min ⁻¹ /motor3000min ⁻¹)	16.6
	M signal specification	Rotating axis (for min ⁻¹ /motor3000min ⁻¹)	33.3
		Tilting axis (for min ⁻¹ /motor3000min ⁻¹)	16.6
Allowable work inertia (kg·m ²)			0.3
Indexing accuracy (sec)		Rotating axis	20
		Tilting axis	60
Repeatability (sec)			4
Mass of product (kg)			170
Built-in rotary joint (option・P101 reference)			RJ40FTT200 Hyd./pneumatic 4-port + Exclusive pneumatic 1 port of air
Allowable Load		at horizontal (kg) 	60
		at tilted (kg) 	40
Allowable load (When clamped to table)		F (kN) 	5
		FXL (N·m) 	1200
		FXL (N·m) 	600
Allowable cutting torque		T (N·m) 	250
Moment of tilting weight capacity		W×L (kgf・m) 	12

Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. In case of air + hyd. clamp specification, the solenoid valve for table clamp is incorporated. 3. In a hyd. clamp spec., the solenoid valve is not incorporated. Consequently, customer shall prepare it. 4. Neither cable nor hose is fitted between NC rotary table and machine tool... 5. Each product mass is determined by a Kitagawa M signal spec.



NC ROTARY
TABLE

Tilting NC Rotary Table TT251/TW251·TT321/TW321

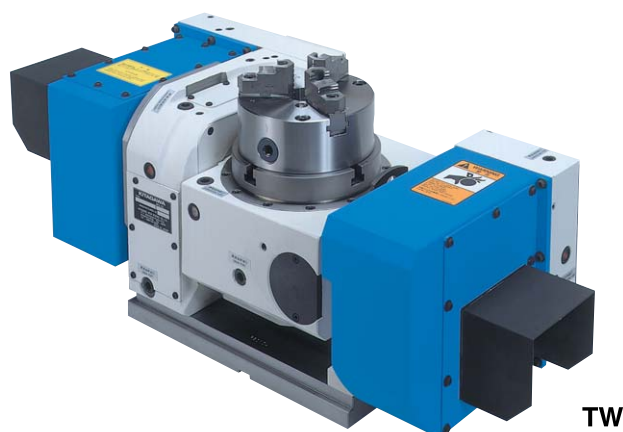
※TW is the side motor type tilting table

High rigidity tilting tables to suit 5 axis machining on large work pieces with heavy cutting

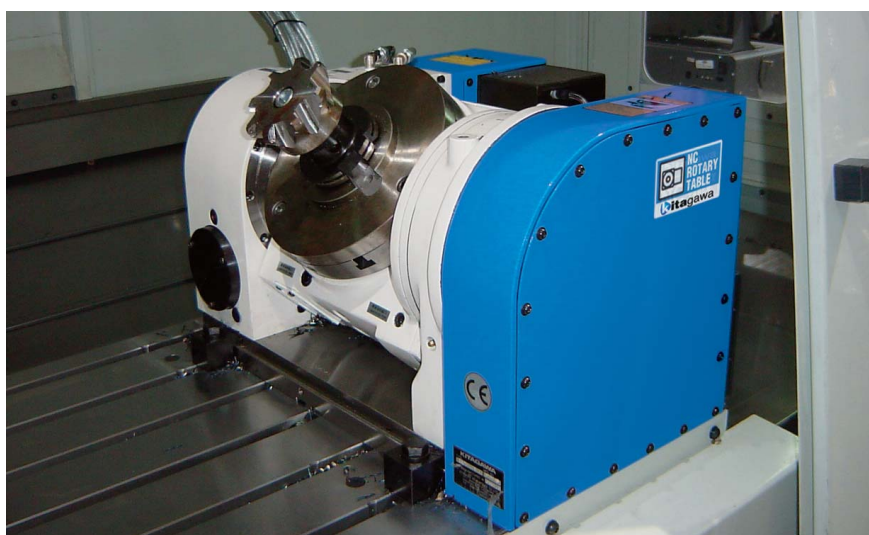
- Minimum size in its class
- High rigidity for heavy cutting
- High accuracy
- Rotary Joint built in as option
- Cylinder mountable
- Hydraulic clamping method
- Integrated air booster provides high clamping torque (comparable to hydraulic) from a standard air supply

*CE correspondence

※In specification with the foreign trade control ordinance, permission of the ministry of economy, trade and industry is required when exporting twin axis products overseas.



Sample Application



▲Allows the complex machining of large work pieces.

4th axis specifications

TT 251 B * * * *

Table Size
251·321

Type

TT:STD type
TW:Tilting straight type

Design No.

Tilting axis motor type
Rotary axis motor type

Clamping method

B:External air hydraulic booster
H:Hydraulic

M signal specification

TT 251 H V * *

Table Size
251·321

Type

TT:STD type
TW:Tilting straight type

Design No.

Quinte specification

B: Air-Hydraulic
(external air hydraulic booster)
H: Hydraulic

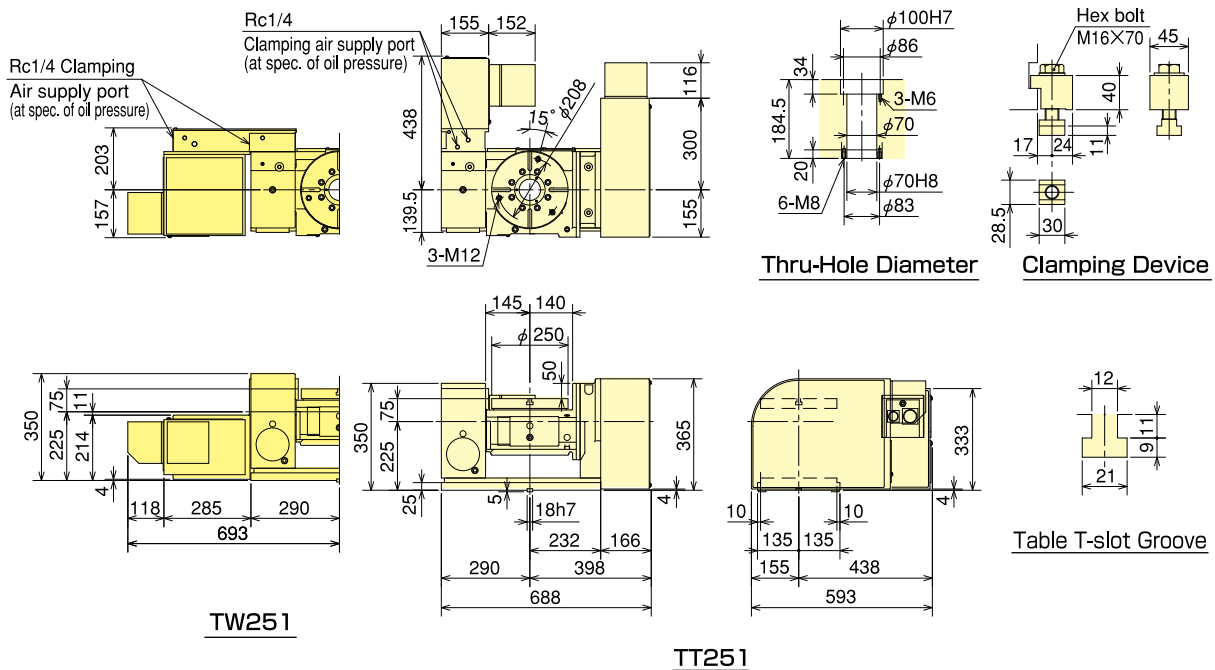
Specifications

Model			TT251／TW251	TT321／TW321
Tilting angle			－35°～＋110°	－35°～＋110°
Table dia (mm)			φ 250	φ 320
Register diameter on Face Plate (mm)			φ 100H 7	φ 135H 7
Spindle through hole diameter (mm)			φ 70	φ 110
Centre Height (mm)			225	255
Clamping method			Air-Hydraulic/Hydraulic	Air-Hydraulic/Hydraulic
Clamping torque (N・m) (In pneumatic 0.45MPa/hydraulic 3.5MPa)	Rotating axis		900	2600
	Tilting axis		1200	2600
Motor axis reduced inertia (kg・m ²)	Rotating axis		0.00070	0.00083
	Tilting axis		0.00054	0.00046
Servomotor (for FANUC specification)			α iF 4/5000	α iF 8/3000
Gear ratio	for FANUC specification	Rotating axis	1／90	1／120
		Tilting axis	1／180	1／360
	M signal specification	Rotating axis	1／90	1／180
		Tilting axis	1／180	1／360
Max. spindle speed	for FANUC specification	Rotating axis (for min ⁻¹ /motor3000min ⁻¹)	33.3	25
		Tilting axis (for min ⁻¹ /motor3000min ⁻¹)	16.6	8.3
	M signal specification	Rotating axis (for min ⁻¹ /motor3000min ⁻¹)	33.3	16.6
		Tilting axis (for min ⁻¹ /motor3000min ⁻¹)	16.6	8.3
Allowable work inertia (kg・m ²)			0.78	1.92
Indexing accuracy (sec)	Rotating axis		20	20
	Tilting axis		45	45
Repeatability (sec)			4	4
Mass of product TT/TTS (kg)			260 / 270	350 / 360
Rotary Joint (Option・P99 reference)			RJ70H25T02 Hydraulic/Pneumatic6-port	RJ70H32T03 Hydraulic/Pneumatic6-port
Allowable Load	at horizontal (kg)		100	150
	at tilted (kg)		60	100
Allowable load (When clamped to table)	F (kN)		12	16
	F×L (N・m)		1200	2600
	F×L (N・m)		900	2600
Allowable cutting torque	T (N・m)		600	1000
Moment of tilting weight capacity	W×L (kgf・m)		26	75

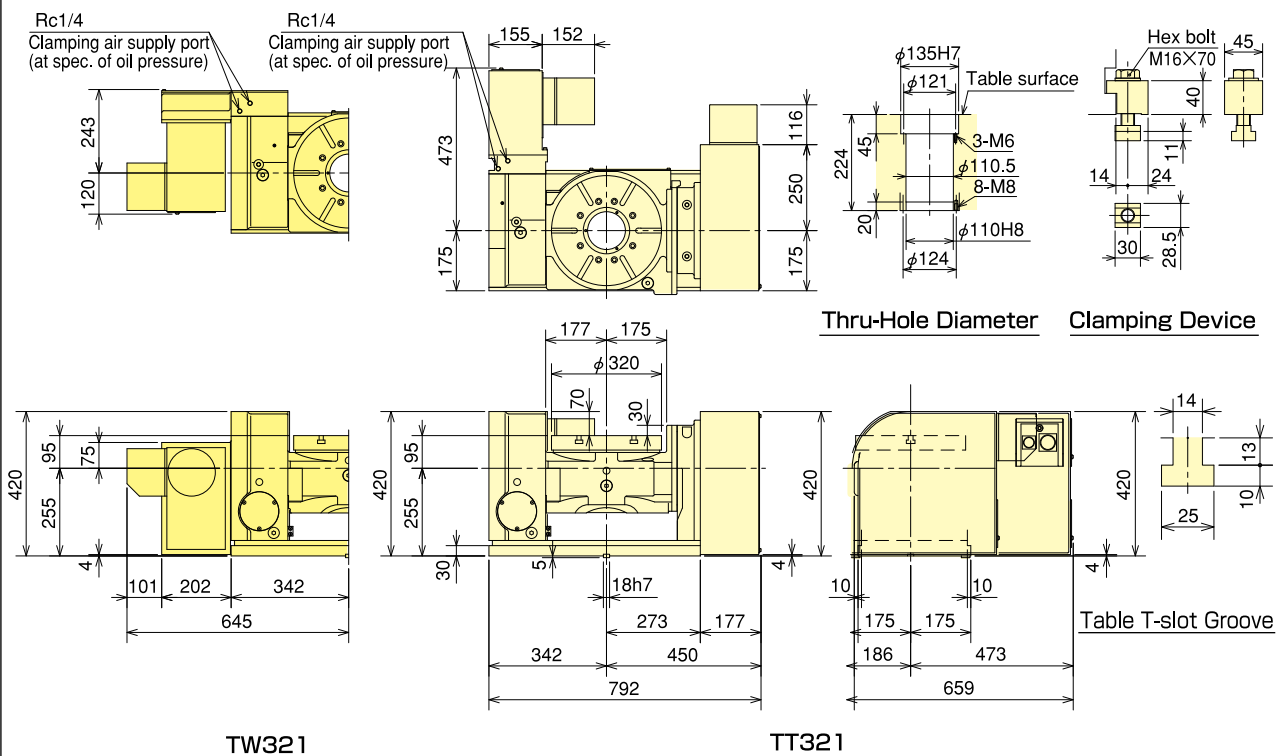
Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. In case of hydraulic clamp specification, the solenoid valve for the table clamp not incorporated. Consequently, customer shall prepare it. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. Each product mass is determined by a Kitagawa M signal spec.

■Dimensions [4th axis specifications]

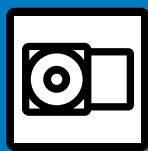
TT251 (TW)



TT321 (TW)



※The above dimensions are the same as FANUC spec.
Those dimensions may vary from motor to motor that is mounted.



Special purpose machine axis range for high durability and safe operation

- Large diameter worm shaft and worm gear
- Large module
- Special purpose, high durability for integration with machining centre
- Built-in rotary joint



LR400

Specifications

Model		LR320	LR400	LR500
Table dia	(mm)	φ 320	φ 400	φ 500
Table height	(mm)	250	260	270
Clamping method		Hydraulic	Hydraulic	Hydraulic
Clamping torque	(N·m) (In hydraulic 3.5MPa)	2100	3500	3500
Motor axis reduced inertia	(kg·m ²)	0.0031	0.0061	0.0033
Servomotor	(for FANUC specification)	α iF 12/4000	α iF 22/3000	α iF 22/3000
Gear ratio		1/45	1/45	1/90
Max. spindle speed	(for min ⁻¹ /motor 2000min ⁻¹)	44.4	44.4	22.2
Allowable work inertia	(kg·m ²)	7.2	11.9	33.6
Indexing accuracy	(sec)	20	20	20
Repeatability	(sec)	4	4	4
Mass of product	(kg)	200	330	490
Number of ports of built-in rotary joint		Hydraulic/Pneumatic 9-port + Coolant/Pneumatic 1-port	Hydraulic/Pneumatic 10-port + Coolant/Pneumatic 1-port	Hydraulic/Pneumatic 10-port + Coolant/Pneumatic 1-port
Allowable load	Horizontal (kg)	450	650	650
Allowable load (When clamped to table)	F (kN)	30.4	39.2	39.2
	FXL (N·m)	2500	5000	5000
	FXL (N·m)	2100	3500	3500
Allowable cutting torque	T (N·m)	1225	1922	1922

- Note) 1. The solenoid valve for table clamp is not incorporated. Customer to prepare it.
 2. Pressure switch for clamp/unclamp checking is not incorporated. Consequently, customer shall prepare it and mount it to the hydraulic circuit for clamp near the solenoid valve.
 3. Zero Return confirmation system is not fitted on LR series in order to suit Servo motors with Absolute encoder as standard specification. Thus Zero Return confirmation system is required in using Servo motors with Incremental encoder, please contact.
 4. Neither Cable nor Hose is fitted between NC Rotary Table and Machine.
 5. Mass of product is the same as the additional axis of FANUC.
 6. Contact to Kitagawa about rotary joint.
 7. The cylinder for clamp is the reciprocating type.

LR 320 H 8 * * *

Type

Table Size
320·400·500

Design No.

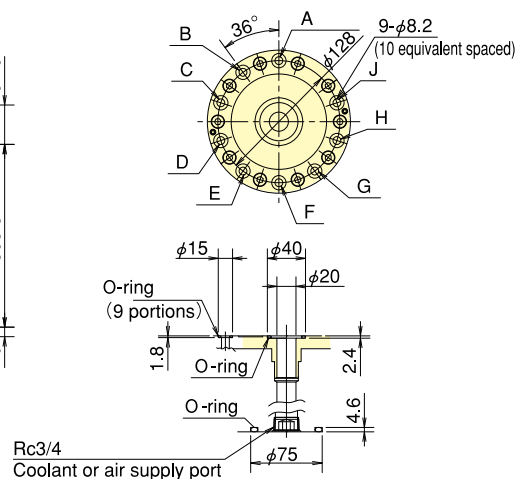
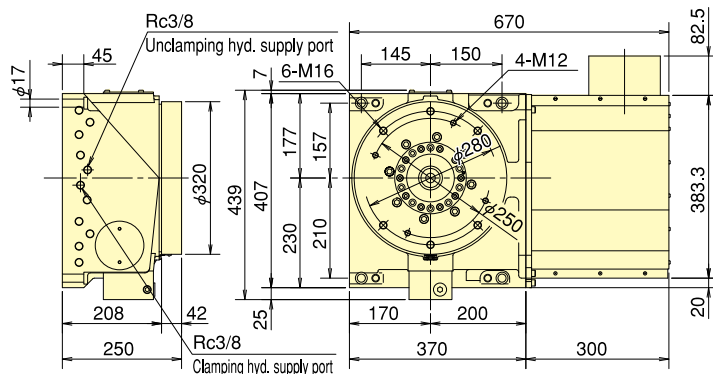
Motor type

Gear ratio 8:1/45 4:1/90

Clamping method
Only Hydraulic

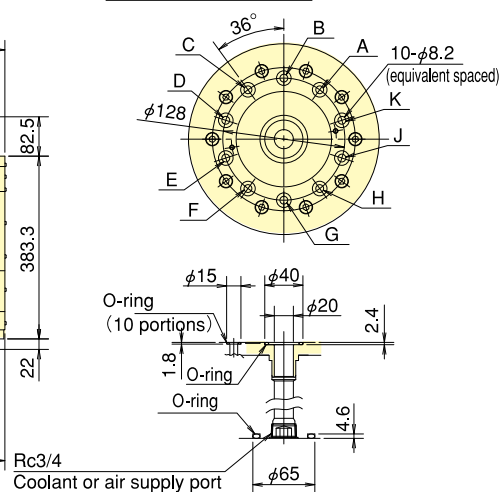
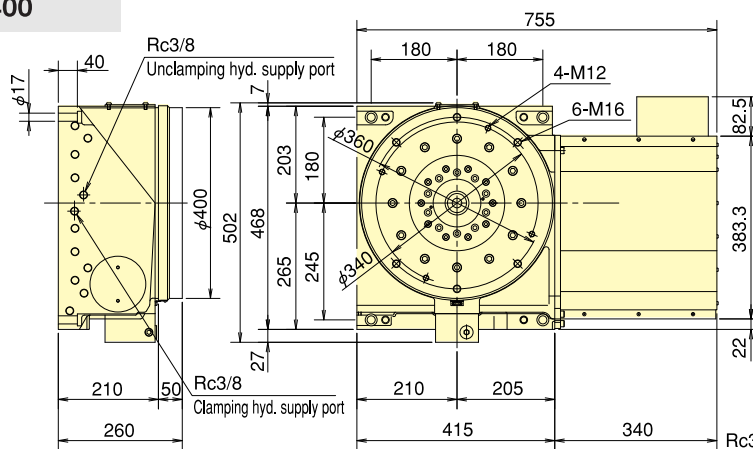
■Dimensions [4th axis specifications]

LR320



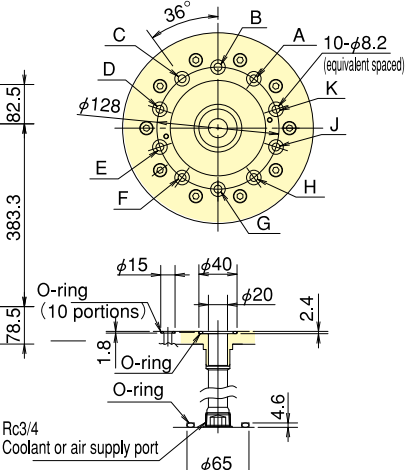
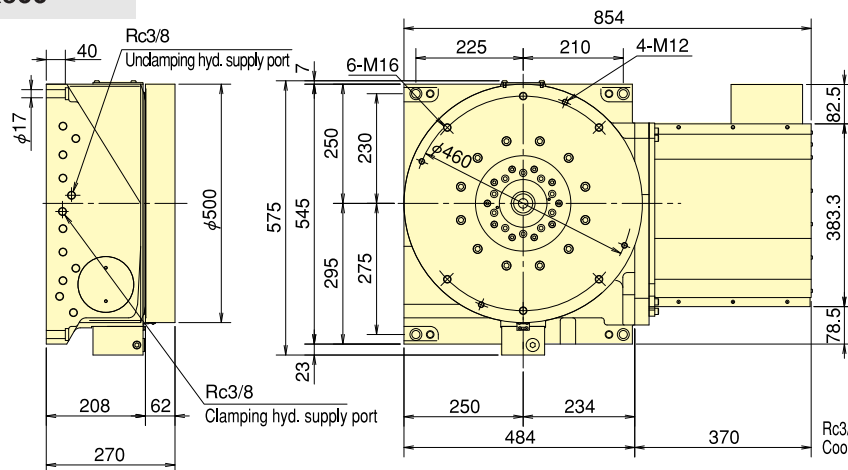
Detailed table hole

LR400



Detailed table hole

LR500



Detailed table hole

※The above outline dimensions are shown with FANUC motor specifications.
Those dimensions may vary from motor to motor that is mounted.



NC ROTARY
TABLE

Two-axis Tilting NC Rotary Table TW2180

High performance twin spindle tilting table

- Mountable to a compact M/C
- Smallest width in its class 999mm
- Built in rotary joint (option) allows simple and secure jig piping
- High clamping torque

*CE correspondence

※In the specifications of both two additional axes, since this product is applied to (8) of item 6 of a separate list No.1 of the Foreign Trade Control Ordinance, when exporting it overseas, the permission of the Ministry of Economy, Trade and Industry is required.



TW2180

Specifications

Model			TW2180	
Tilting angle			-110° ~ +110°	
Table dia (mm)			φ 180	
Register diameter on Face Plate (mm)			φ 65H7	
Spindle through hole diameter (mm)			φ 40	
Distance between axes (mm)			250	
Centre height at right angle on table face (mm)			200	
Clamping method		Rotating axis	Pneumatic	
		Tilting axis	Air-Hydraulic	
Clamping torque (N·m) (In pneumatic 0.5MPa)		Rotating axis	400	
		Tilting axis	800	
Motor axis reduced inertia (kg·m ²)		Rotating axis	0.000383	
		Tilting axis	0.00035	
Servomotor (for FANUC specification)			α iF 2/5000	
Gear ratio		Rotating axis	1/90	
		Tilting axis	1/180	
Max. spindle speed	FANUC specification	Rotating axis (for min-1/motor 3000min-1)	33.3	
		Tilting axis (for min-1/motor 3000min-1)	16.6	
	M signal specification	Rotating axis (for min-1/motor 3000min-1)	33.3	
		Tilting axis (for min-1/motor 3000min-1)	16.6	
Allowable work inertia (kg·m ²)			0.12	
Indexing accuracy (sec)		Rotating axis	30	
		Tilting axis	60	
Repeatability (sec)			4	
Mass of product (kg)			247	
Built-in rotary joint (as an option)			RJ40TW2180	
			Rotation per axis Hydraulic per axis/Pneumatic 2-port + Exclusive Pneumatic 3-port	
Allowable Load		at horizontal (kg) 	Rotation per axis	30
		at tilted (kg) 	Rotation per axis	30
Allowable load (When clamped to table)		F (kN) 	Rotation per axis	5
		F×L (N·m) 	Rotation per axis	800
		F×L (N·m) 	Rotation per axis	400
Allowable cutting torque		T (N·m) 	Rotation per axis	250
Moment of tilting weight capacity		W×L (kgf · m) 	6	

Note) 1. The switch for pressure checking is incorporated to all series except TC/DM/LR of NC tables. 2. Solenoid valve(s) is (are) incorporated. 3. Neither cable nor hose is fitted between NC rotary table and machine tool... 4. Each product mass is determined by a Kitagawa M signal spec. 5. In case of additional axis spec., the position and type of supply port may be changed. Contact to Kitagawa on it separately.

sign No.

72



**NC ROTARY
TABLE**

Exclusive NC Rotary Table for Wire Cutting Electric Discharge Machinery

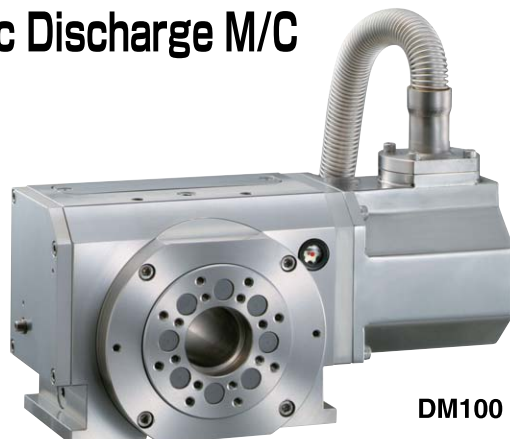
DM100・DME100

※DME100 : with Encoder type

Exclusive table for Wire Cutting Electric Discharge M/C Reliable Performance for use in water

- Light weight・Compact
- Stainless Steel construction and special seals prevent rust and ensure waterproofing
- Large through hole for long work pieces (DM100)
- High accuracy and function
- Maintenance free accomplished by built-in current collector
- Special purpose vertical use
- Patented in Japan (No. 4354773)

* CE correspondence

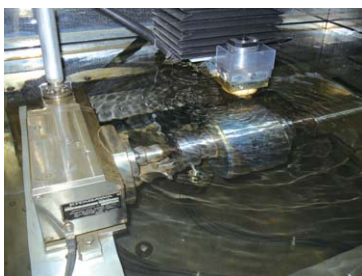


DM100

Specifications

Model		DM100	DME100
Table dia (mm)		φ 100	φ 100
Register diameter on Face Plate (mm)		φ 45H7	φ 45H7
Spindle through hole diameter (mm)		φ 40	φ 26 / φ 36
Centre Height (mm)		65	65
Motor axis reduced inertia (kg・m ²)		0.000054	0.000054
Servomotor (for FANUC specification)		β M 0.5/4000 / β iS 0.5/6000	β M 0.5/4000 / β iS 0.5/6000
Gear ratio		1 / 120	1 / 120
Max. spindle speed	for FANUC specification (for min ⁻¹ / motor 360min ⁻¹)	3.0	3.0
	M signal specification (for min ⁻¹ / motor 360min ⁻¹)	3.0	—
Min. spindle speed	for FANUC specification (for min ⁻¹ / motor 0.33min ⁻¹)	0.00275	0.00275
	M signal specification (for min ⁻¹ / motor 3.6min ⁻¹)	0.03	—
Allowable work inertia (kg・m ²)		0.025	0.025
Indexing accuracy (sec)		30	16
Repeatability (sec)		5	4
Mass of product (kg)		20	25
Manual Tailstock (as an option)		DM100RN01	DM100RN01
Allowable Load	Vertical (kg) 	20	20
Max. Machine current (A)		20 or less	20 or less
Protection grade		IP68 (submerged 0.5m) However, piping opening part is excluded.	IP68 (submerged 0.5m) However, piping opening part is excluded.

Sample Application



▲Rust and waterproof for safe use in water.

(Note)

- ・ There is no clamping method. The described fully-closed spec. Is with Fanuc absolute α iCZ sensor A860-2164-T411.
- ・ Product mass of DM100 is determined by Kitagawa own controller spec.
- ・ Product mass of DME100 is determined by a FANUC spec.
- ・ DME100 is available for 4th axis spec only.

4th axis specifications

DM 100 R * * *

Type
DM: Standard
DME: with Encoder type

Table Size
100

Design No.
Motor type

Right hand

M signal specification

DM 100 R V * *

Type

Table Size
100

Design No.
Quinte specification

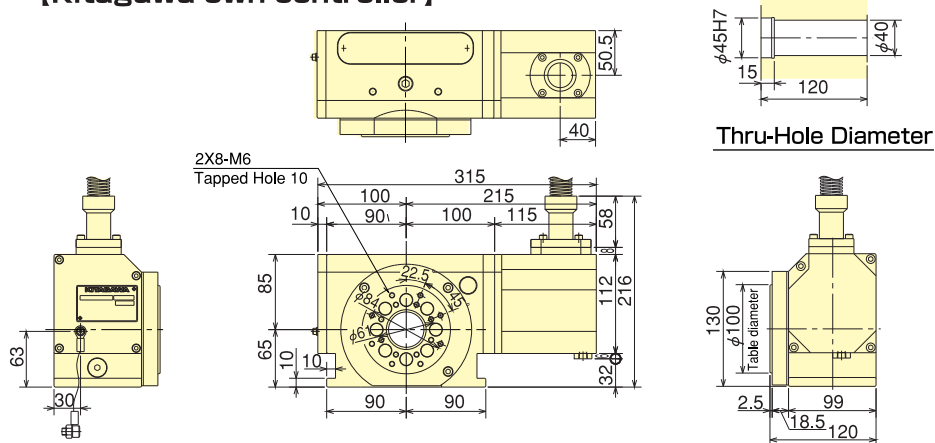
R: Only Right hand

DM

■ Dimensions

DM100

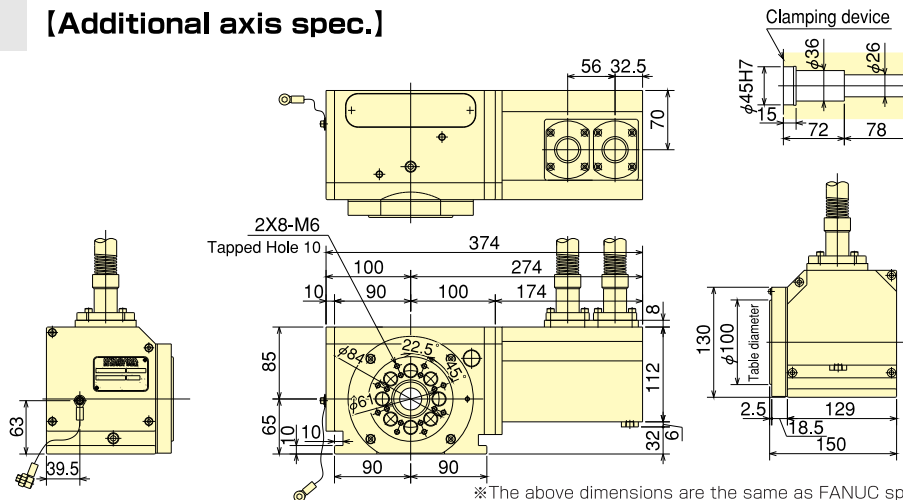
[Additional axis spec.] *The dimensions may vary from motor to motor that is mounted.
[Kitagawa own controller]



※The above dimensions are the same as Kitagawa own controller and FANUC specifications.
Those dimensions may vary from motor to motor that is mounted.

DME100

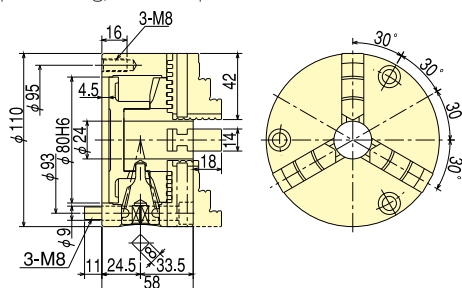
[Additional axis spec.]



※The above dimensions are the same as FANUC specifications.
In case of other maker motor specifications, dimensions may differ in length.

Scroll chuck SC-4D dimensions.

※Rustproof casing, cover and pinion.

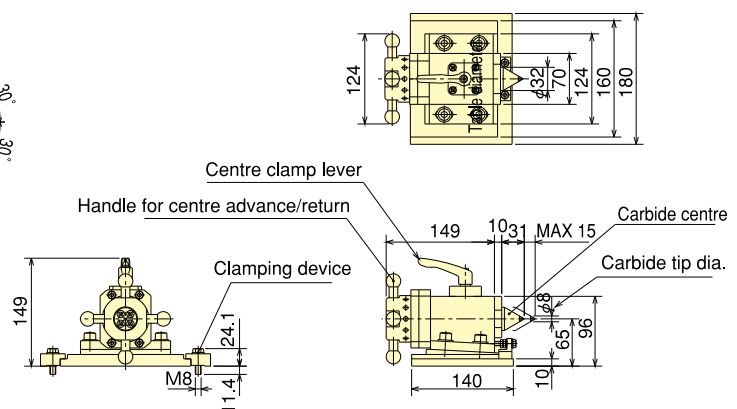


■ Specifications

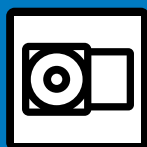
Max. allowable handle torque (N·m)	Max. static gripping force (kN)	Max. allowable speed (min ⁻¹)
44.1	12	100
Mass (kg)	Moment of inertia (kg·m ²)	Gripping diameter(mm)
3.1	0.004	Outside gripping φ 3~φ 95 Inside gripping φ 29~φ 84

Manual tailstock DM100RN01 dimensions.

※Rust proof and waterproof. Long work pieces can be supported securely.



Product mass 11kg



**NC ROTARY
TABLE**

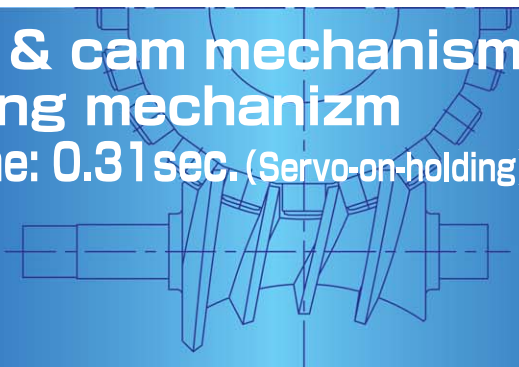
Quick Indexing NC Rotary Table RK200

(Clamping mechanism is available)

Roller gear & cam mechanism
Non Clamping mechanism
90° Indexing time: 0.31 sec. (Servo-on-holding)

- Quick Indexing
- Non Backlash
- Maintenance

* CE correspondence



RK200LA

■ Specifications

Model		RK200	
Right hand		○	
Left hand		○	
Table dia (mm)		φ114	
Register diameter on Face Plate (mm)		φ80	
Spindle through hole diameter (mm)		φ70	
Centre Height (mm)		150	
Clamping method		Pneumatic	
Clamping torque (N·m)		Note2) 340	
Max. instantaneous holding torque (N·m)		Note1) (240)	
Max. continuous holding torque (N·m)		Note1) (108)	
Motor axis reduced inertia (kg·m ²)		0.000433	
Servomotor (for FANUC specification)		Note5) αis8/4000	
Gear ratio	4th axis	1/20	
	M signal	1/20	
Max. spindle speed	FANUC	100	
	M signal	100	
Max. spindle speed (kg·m ²)		0.6	
Indexing accuracy (sec)		20	
Repeatability (sec)		4	
Mass of product (kg)		68	
Rotary joint		RJ70H20Z**Hydraulic/Pneumatic 8-port	
Allowable Load	Horizontal (kg) 	120	
	Vertical (kg) 	60	
Allowable load	F (kN) 	8	
	FXL (N·m) 	677	
	FXL (N·m) 	Note1) 108 (Servo-on-holding)	340 (Clamping mechanism)
Allowable cutting torque	T (N·m) 	622	

Note 1) The holding torque limits and allowable load (N·m) above are with Kitagawa's control device Quinte. The limits vary per motor used.

Note 2) To shorten the cycle time using RK200LA, not using the clamping mechanism is recommended. For this case, clamping torque changes to the number at the continuous holding torque.

Note 3) There is no mechanical brake for RK200L. Please hold the position by the motor torque when the rotating axis is stopping.

Note 4) RK200L cannot hold the position when the power is turned off or the servo alarm is occurred. There is a possibility that the rotating axis revolve when the power is turned on or restart.

Note 5) When installing RK200 on Fanuc Robodrill, motor is αiF8/3000 and specifications are different.

Note 6) All rotary tables (except TC, DM and LR) have pressure switches.

4th axis specifications

RK 200 LA * * *

Type

Table Size

Design No.

Motor type

RA: Right hand
LA: Left hand

M signal specification

RK 200 LA V * *

Type

Table Size

Design No.

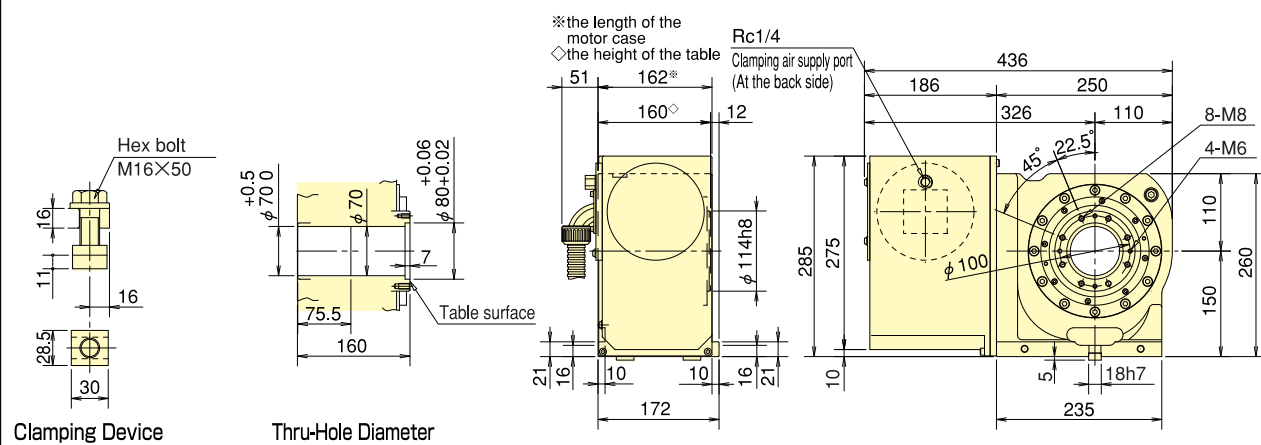
Quinte specification

RA: Right hand
LA: Left hand

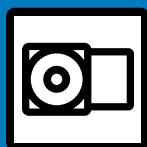
■ Dimensions

RK200

【Kitagawa's control device Quinte specification】



RK



**NC ROTARY
TABLE**

High-speed & Low maintenance NC Rotary Table

RKT180

Optimum solution for the automotive industry Roller Gear and Cam structure

- Optimum solution for No.30 compact machining centre
 - Complete built-in Rotary Joint available (Hyd. 5 ports - Pneumatic 1 port)
 - Low maintenance achieved.
- * CE correspondence



RKT180

※In specification with the foreign trade control ordinance, permission of the ministry of economy, trade and industry is required when exporting twin axis products overseas.

4th axis specifications

RKT 180 * R * *

Type Table Size Design No.

Option spec.
R: Rotary Joint
C: external cylinder
—: Non- option

Motor type

Note) Only pneumatic spec. available for RKT180.

M signal specification

RKT 180 V R * *

Type Table Size Design No.

Option spec.
R: Rotary Joint
C: external cylinder
—: Non- option

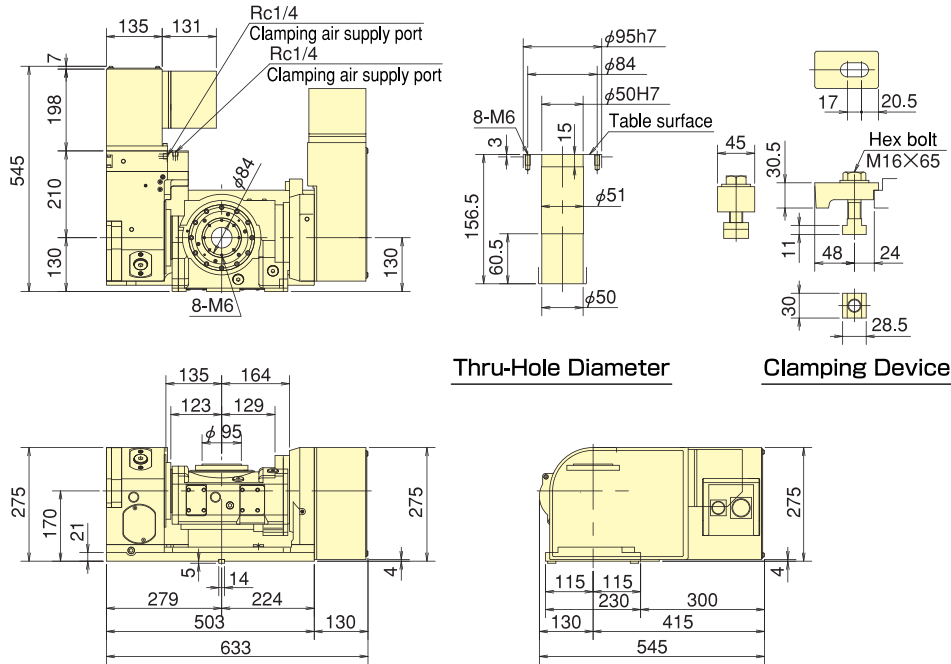
Quinte specification

Specifications

Model		RKT180
Tilting angle		-35° ~ +110°
Table dia (mm)		φ95
Register diameter on Face Plate (mm)		φ50H7
Spindle through hole diameter (mm)		φ50
Centre Height (mm)		170
Clamping method		Pneumatic
Clamping torque (N·m) (In pneumatic 0.5MPa)	Rotating axis	350
	Tilting axis	550
Motor axis reduced inertia (kg·m ²)	Rotating axis	0.000239
	Tilting axis	0.000425
Servomotor (for FANUC specification)		αiF2/5000
Gear ratio	Rotating axis	1/72
	Tilting axis	1/120
Max. spindle speed	FANUC specification	Rotating axis (for min ⁻¹ /motor 3000min ⁻¹)
		41.6
		Tilting axis (for min ⁻¹ /motor 3000min ⁻¹)
		25
M signal specification	Rotating axis (for min ⁻¹ /motor 3000min ⁻¹)	41.6
	Tilting axis (for min ⁻¹ /motor 3000min ⁻¹)	25
Allowable work inertia (kg·m ²)		0.25
Indexing accuracy (sec)	Rotating axis	20
	Tilting axis	20
Repeatability (sec)	Rotating axis	8
	Tilting axis	4
Mass of product (kg)		193
Built-in rotary joint (Option · P99 reference)		RJ50RKT180 Hydraulic/Pneumatic 5-port + Exclusive Pneumatic 1-port
Allowable Load	at horizontal (kg)	60
	at tilted (kg)	40
Allowable Load (When clamped to table)	F (kN)	7.8
	F×L (N·m)	550
	F×L (N·m)	350
Allowable cutting torque	T (N·m)	262
Moment of tilting weight capacity	W×L (kgf·m)	36

■ Dimensions [4th axis specifications]

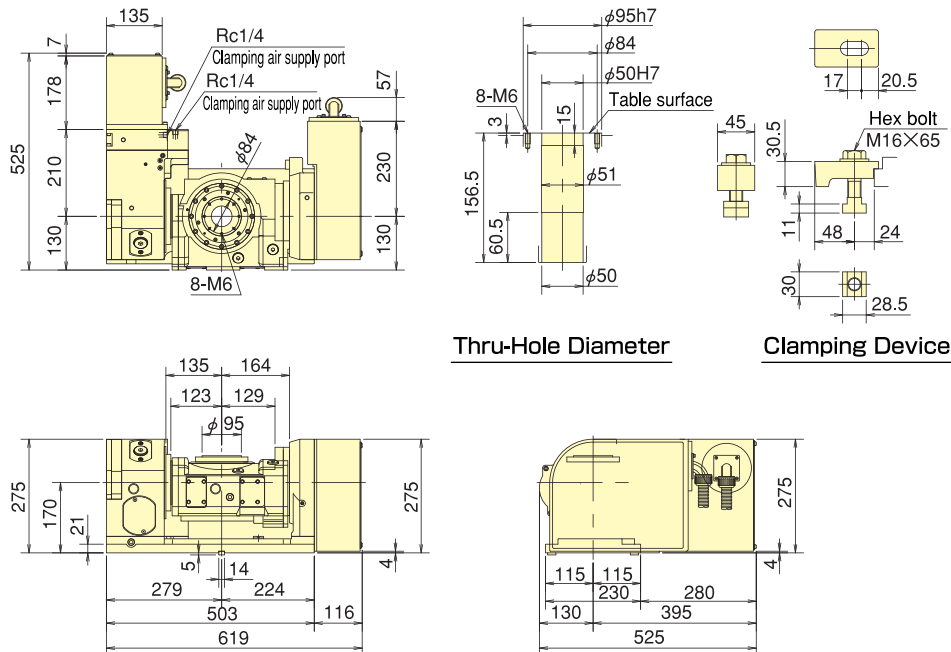
RKT180



※Those dimensions may vary from motor to motor that is mounted. Confer with Kitagawa about clamping devices.

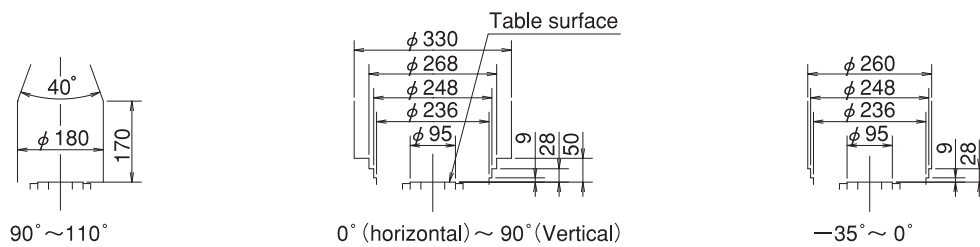
■ [Kitagawa's control device Quinte specification] *The dimensions may vary from motor to motor that is mounted.

RKT180



DATA Tilting NC table • Work loadable area

RKT180





**NC ROTARY
TABLE**

High Speed NC Rotary Table RS100

High Speed Table for Machining Small Work Pieces

- With exclusive controller
- Simple design
- Light weight/compact
- Max. speed 83.3min⁻¹



RS100

■ Kitagawa own controller

Model	RS100
Right hand	○
Left hand	○
Table dia (mm)	φ 105
Register diameter on Face Plate (mm)	φ 50H7
Spindle through hole diameter (mm)	φ 32
Centre Height (mm)	110
Clamping method	Pneumatic
Clamping torque (N·m) (In pneumatic 0.5MPa)	80
Gear ratio	1/36
Max. spindle speed (for min ⁻¹ /motor 3000min ⁻¹)	83.3
Allowable work inertia (kg·m ²)	0.054
Indexing accuracy (sec)	50
Repeatability (sec)	10
Mass of product (kg)	23
Manual Tailstock (as an option · P93.95 reference)	RS100RN

Model	RS100
Allowable Load	Horizontal (kg)  60
	Vertical (kg)  30
Allowable load (When clamped to table)	F (kN)  6
	FXL (N·m)  200
	FXL (N·m)  82
Allowable cutting torque	T (N·m)  40

Note) This model is for only M signal spec., and it is not provided for 4th axis specification.

■ Dimensions

RS100R(L)

[Kitagawa's control device Quinte specification]

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

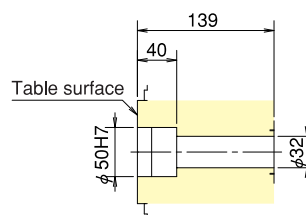
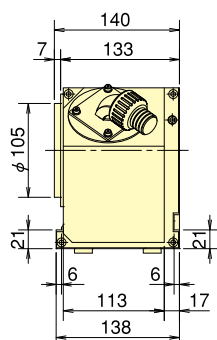
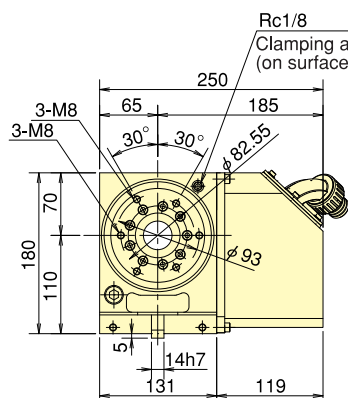
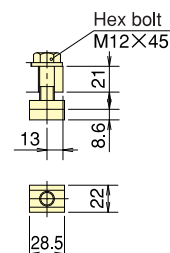


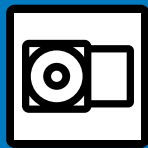
Table T-slot Groove



Clamping Device

※The notation "R" means right handed ; "L" means left handed model.





NC ROTARY
TABLE

Kitagawa own controller

Quinte series



【Features】

■Color LCD enables to show various information

As well as current position, the high resolution color LCD can show the running program, motor information and more.

■Easy to input a program

In editing program, interactive display screen prevents easy mistakes.

■Reduce indexing time

Adopting EtherCAT enables high speed communication and shortens the time of indexing.

■Select motors in accordance to a use or environment.

Various types of machining are available due to lots of variety motors to choose.

【Selectable motor list】

Quinte		Single Axis	Double Axis	Powered
Model		QTC100	QTC200	QTC300
Matching motor	200W	○	○	—
	400W	○	○	—
	750W	○	○	—
	1000W	○	○	—
	1200W	○	○	—
	1800W	—	—	○
	2000W	—	—	○
	3500W	—	—	○

■Easy to manage programs

Input/output programs and parameters can be managed by MMC (multimedia card) that is on the market.

■Conforming to CE and KC standard

As well as EMC Directive, all models conform to KC mark.

■To use extension I/O enables a variety of usage.

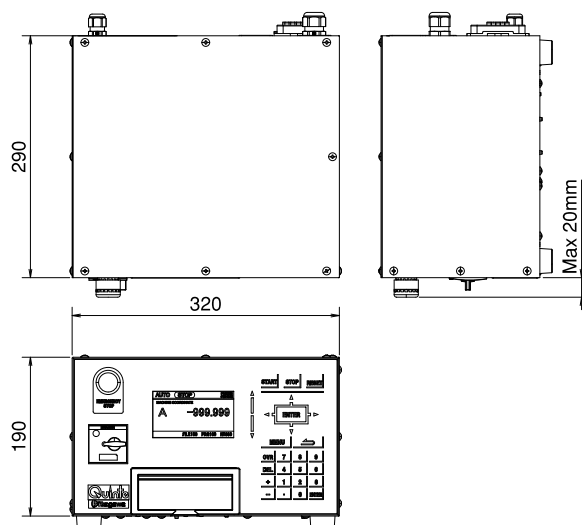
To use extension I/O option enables to select programs and to output WZRN position and M signal from machines.

■Manual pulse generator is available.

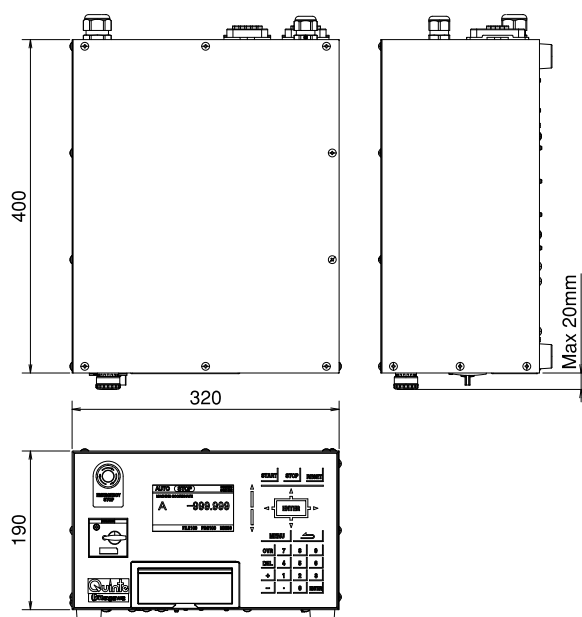
Manual pulse generator is available to all models as option.

Outside view / Dimensions

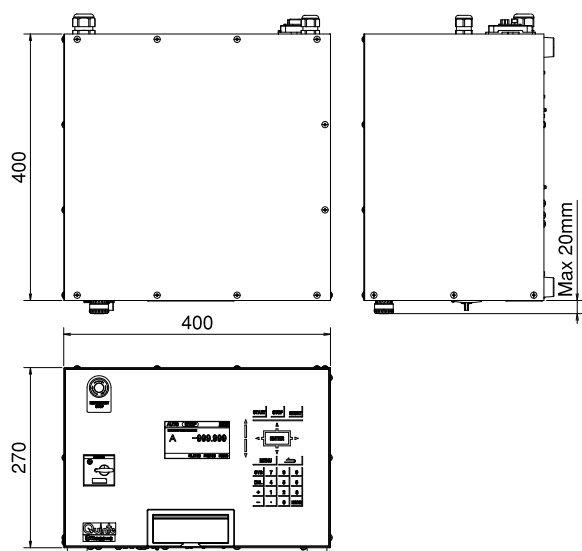
■ QTC100



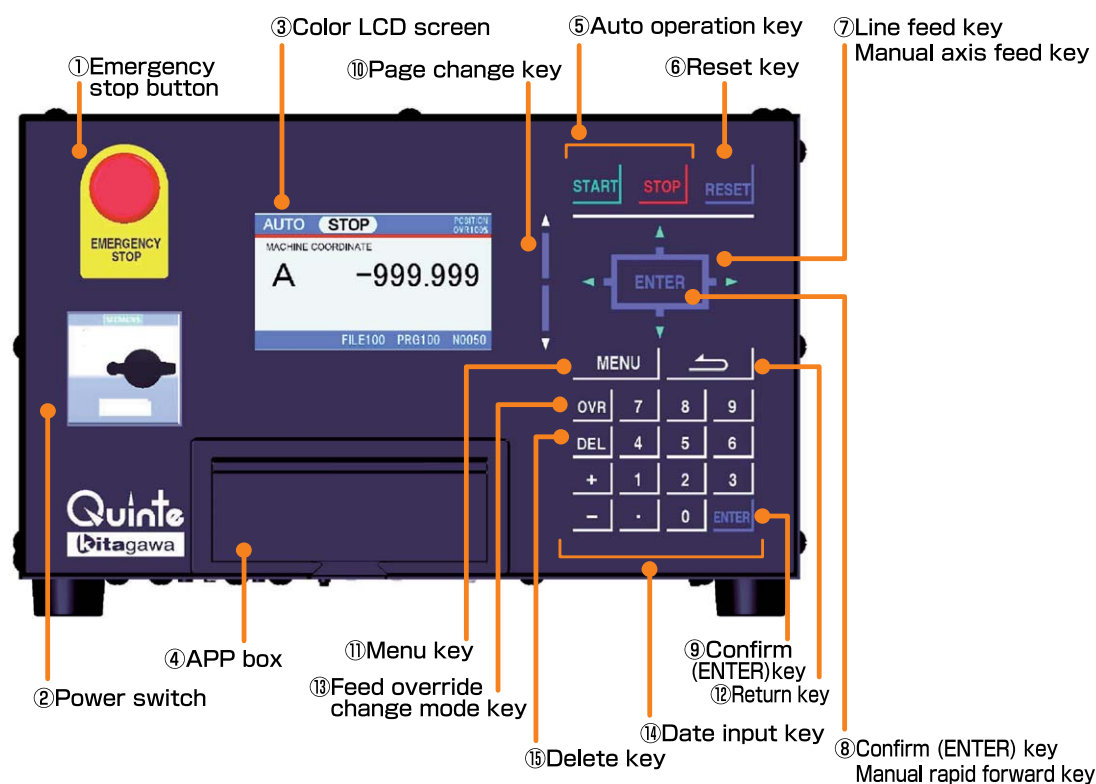
■ QTC200



■ QTC300



Quinte front surface



①Emergency stop button

Stop the table during operation in an emergency.

②Power switch

Turn ON/OFF controller power.

③Color LCD screen

Display current position, programs, parameters and more.

④APP box

Battery and MMC slot are in the APP box.

⑤Auto operation key

The key to start and stop the program.

⑥Reset key

Reset programs and alarms.

⑦Line feed key/Manual axis feed key

The key is for cursor movement and for jog feed operation in manual mode.

⑧Confirm (ENTER) key/Manual rapid forward key

Determine and confirm things that have been selected and perform a Manual rapid forward by sliding from the manual axis feed key in the manual mode.

⑨Confirm (ENTER)key

Determine and confirm input for each part, popup etc., in various ways.

⑩Page change key

The key to change the page.

⑪Menu key

Display menu window.

⑫Return key

Return to the previous screen

⑬Feed override change mode key

Adjust the feed speed.

⑭Date input key

Input program and data.

⑮Delete key

Delete one letter of numerical values input such as program or parameter.

LCD EXAMPLES

AUTO STOP		POS RT OVR 100%
WORKPIECE		
A	-111.111	CLAMP A ☐
B	987.654	UNCLAMP A ☒
		SOLENOID A ☒
PRG100 (FILE010)		
N0050		
G 91		
A-999.999		CLAMP B ☐
B-999.999		UNCLAMP B ☒
F 999.999		SOLENOID B ☒
M 98 P 1000		+OVER TRAVEL ☒
		-OVER TRAVEL ☒

[Screen for Auto mode]

Monitoring the present coordinate (machining coordinate), programming and condition of the Rotary table in real-time.

MANU STOP		POSITION OVR 100%
WORKPIECE COORDINATE		
A	-999.999	
B	45.123	
7:ORIGIN-A 9:ORIGIN-B JOG OPERATION		
4:WZERO-A 6:WZERO-B ◀/▶/ENTER: A-axis		
1:MZERO-A 3:MZERO-B ▲/▼/ENTER: B-axis		

[Present coordinate screen at manual mode]

Enlarged to show present coordinate
At the bottom of the screen, the wizard for origin return and Jog operation are displayed.

PRG RESET		PRG EDIT OVR 100%
PRG001 (FILE001)		
N0010		
G 91 A-999.999 B-999.999		
F 999.999 D 9999 M 98 P 999 L 999		
PROGRAM EDIT		
N 0010	D	Overwrite Insert Cancel
G	C	
A	M	
B	P	
F	L	

[Program edit screen]

Reducing the mistakes and shortening the programming time are expected through inserting the section corresponding to the code

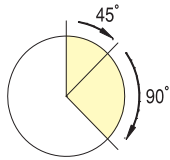
ALM RESET		ALM HISTORY OVR 100%
ALM No	AXIS	DATE
SV020	<A>	2012-07-09T08:25
SV020		2012-07-09T08:25
SY005		2012-06-25T13:40
SY022		2012-06-12T10:38
SY045	<A>	2012-05-30T19:20
SY071	<A>	2012-05-29T23:15
SY071	<A>	2012-05-29T23:01
SY071	<A>	2012-05-29T22:05
SY071	<A>	2012-05-29T21:45

[Alarm history screen]

This screen displays history of the past 100 alarms.

PROGRAM EXAMPLES

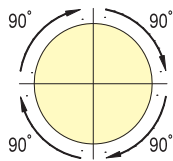
ANGLE INDEX



```
N0000 A 45.000 F0
      Index angle Rapid traverse
N0001 A90.000 M30
      Jump destination
```

Rotates 45° at rapid traverse and returns to N0000 after rotating 90°

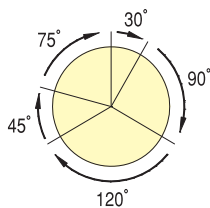
EQUIPARTITION



```
N0000 A360.000 F0 D4 M30
      Partition angle Divided partition
```

Rotates with circle of 360° divided into 4-partition (every 90) at rapid traverse and returns to N000 after operating 4 times.

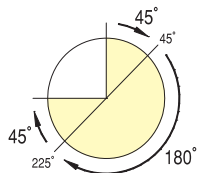
UNEQUAL PARTITION



```
N0000 A 30.000 F0
N0001 A 90.000
N0002 A120.000
N0003 A 45.000
N0004 A 75.000 F5.000 M30
      Feed rate
```

Rotates 45° at rapid traverse, 90°, 120°, 45° and 75° at federate 5.000 min⁻¹ before returning to N000.

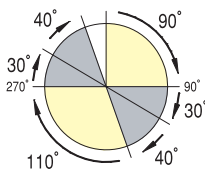
ABSOLUTE / INCREMENTAL



```
N0000 G90 A45.000 F0
      ABS Index position
N0001 A225.000
      Index position
N0002 G91 A45.000
      INC Partition angle
      command
```

Rotates 45° at rapid traverse under absolute mode, Rotates 225°. Rotates 45° under incremental mode.

SUBPROGRAM



```
PRG001
N0000 A90.000 F0 M98 P002 L1
      Subprogram Subprogram
      repeating times command jump destination
N0001 G90 A270.000 M98 P003 L1

PRG002
N0000 G91 A30.000
N0001 A40.000 M99
      Subprogram end

PRG003
N0000 G91 A30.000
N0001 A40.000 M99
```

Program No.1
Rotates 90° at rapid traverse and jumps to PRG002
Rotates 270° at rapid traverse under absolute mode and jumps to PRG003

Program No.2
Rotates 30° under incremental mode
Rotates 40° and returns to original subprogram command point

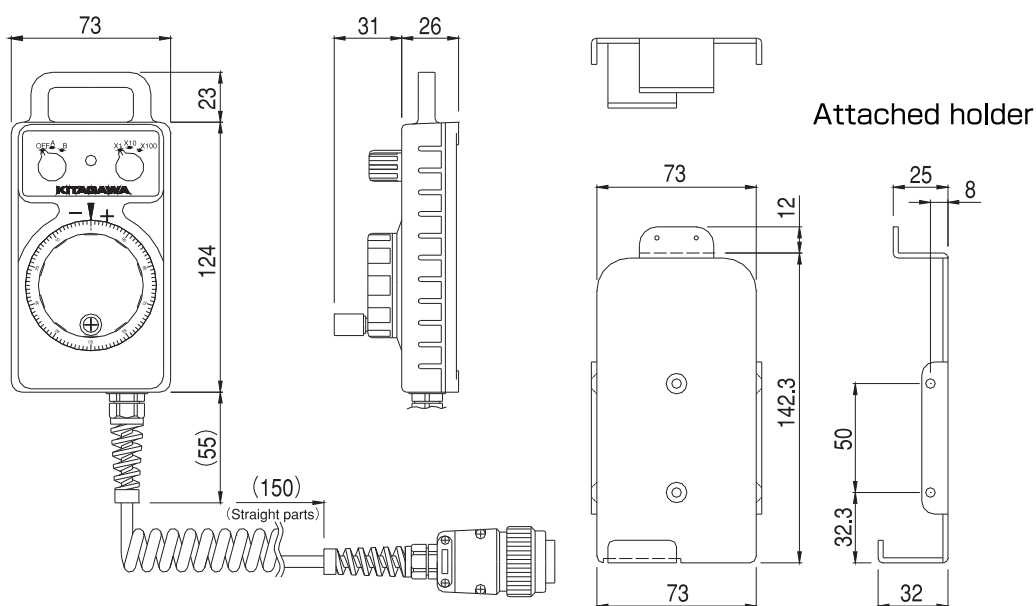
Program No.3
Rotates 20° under incremental mode
Rotates 50° and returns to original subprogram command point

Quinte Series OPTION

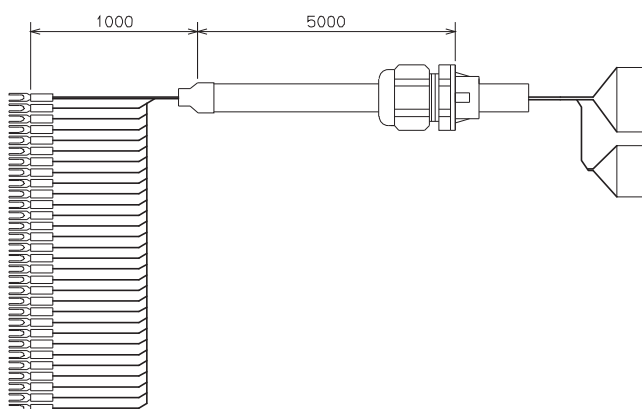
Manual Pulse Generator

This pulse generator can operate the table at 0.1° , 0.01° and 0.001° , and it adjusts jigs easily.

One pulse generator can operate QTC200(2 axes) by changing the shaft.



Extended I/O cable



With the Expansion I/O cable, extended functions like External program selection, M signal output and more are enabled.

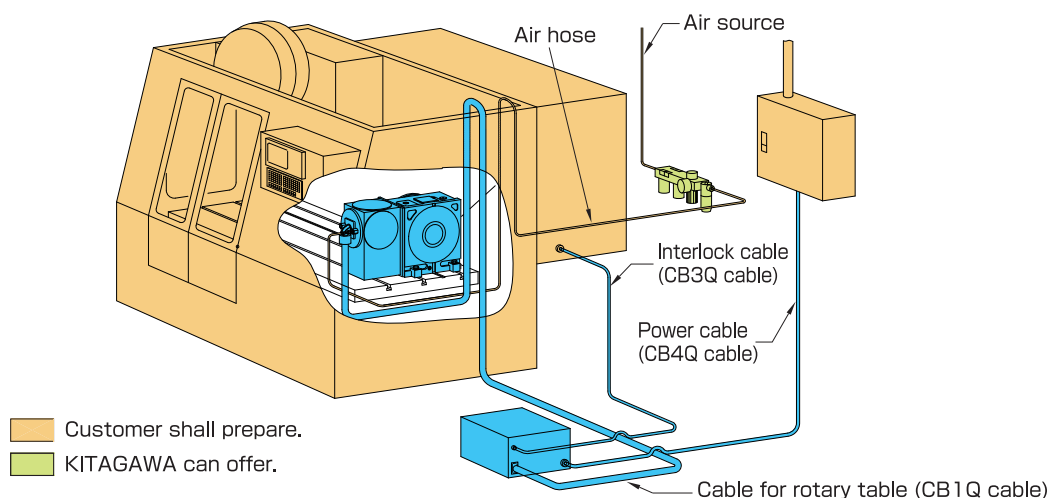
※For the enabled signals, refer to Option I/O signal on the Quinte Specification page.

※Cable length can be changed.

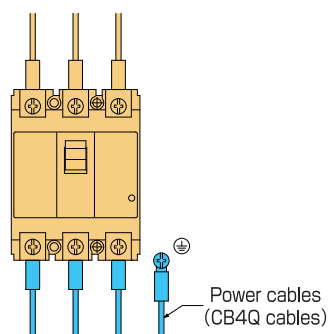
Quinte Specification

Quinte		Single Axis	Double Axis	Powered
Item		QTC100	QTC200	QTC300
Controlled axes		1 axis	2 axes	1 axis
Servo Motor		AC servo motor with absolute encoder		
Setting Unit		0.001°		
Controlled unit		0.0001°		
Max. setting angle		9999 rotation +360° ±999.999° New!!		
Equal partition		0~9999 partition (divisible to sector) New!!		
Program capacity		Max.program No. 999, 9999 blocks/CH New!!		
Command method		Absolute / incremental methods(selectable G90/G91)		
Zero position return		MZRn and WZRn(commandable by external input)		
Manual feed		Rapid traverse, slow speed feed, step feed		
EM Stop		Emergency stop button or forced servo stop by the external interlock input+master stop Two pairs of EM stop wires output signal available New!!		
Halt		Halt of rotary table by key input or external SP input		
Feedrate override		Settable to 1-200% (Can be notched to 1-100%)		
Preparatory function		Dwell, Lead Cutting, Buffer function, Clamp presence, Deviation check function, Interlock start, continuous start, MZRn, WZRn, Repeating function, Loop jump function, Absolute/Incremental, Fin signal control command		
Sub-program function		Enable at M98 command		
Uni-directional approach		Even if rotary direction is changed, positioning from uni-direction is available		
Software limit function		Software limit can be set from machine zero position to prevent interference with the machine by mounting jigs or workpiece.		
Over travel stop function		The hard limit mode can control the rotary range of rotary table		
Pitch error compensation		Max. 360 positions		
Backlash compensation		The backlash compensation of rotary table can be set.		
Alarm function		In case of Error detected, alarm No. and alarm message are automatically displayed. 100 Alarms history log are displayed New!!		
Angle display		Machine coordinate, Work coordinate, Relative coordinate Remained shift, Overall coordinate New!!		
Input power		Single / 3 phases AC200-230V±10% 50/60Hz (Std. 3 phases)		
Power requirement(A)		10	15	20
Dimensions(mm)		320(W)×190(H)×250(D)	320(W)×190(H)×400(D)	400(W)×270(H)×400(D)
Weight(kg)		10.0	13.0	19.0
Environment		Use temperature : 0 ~ 45°C Store temperature : -10°C ~ 60°C Use humidity : 20~80% Rh or less (dew condensation, freezing not to be found) Vibration proof : 0.5G or less Shock resistant : 1G or less Ambient atmosphere : to pollution level 3		
Display		TFT color liquid crystal 480x272 dot		
External I/O signal		(Input) Start, Stop, External EMG Stop1, External EMG Stop2 (Output) Block completed, EMG Stop output signal1, EMG Stop output signal2, alarm output signal(B-contact)		
Option I/O signal		(Input : 6) Ext WZRn request 1/2, Ext MZRn request 1/2, Ext Program select 1-5, Ext Program set, Ext Auto operation function, Ext reset, M Fin signal 1-6 (Output : 6) WZRn completed A/B, MZRn completed A/B, Machine completed output, alarm signal output(A-contact), AUTO mode selected, During servo on, During servo off, External program select completed External program No. output 1-6, M signal output1-6		
RS422C I/F Option		Remote control function only		
MMC Slot		Programs and parameters can be uploaded or downloaded by memory card		
Suitable Motor	200W	10	15	20
	400W	○	○	—
	550W	○	○	—
	750W	○	○	—
	1000W	○	○	—
	1200W	○	○	—
	1800W	—	—	○
	2000W	—	—	○
	3500W	—	—	○

Connection



Power Supply



Supply power to controller.
Customer shall prepare exclusive circuit breaker.
Specifications of circuit breaker are as follows:

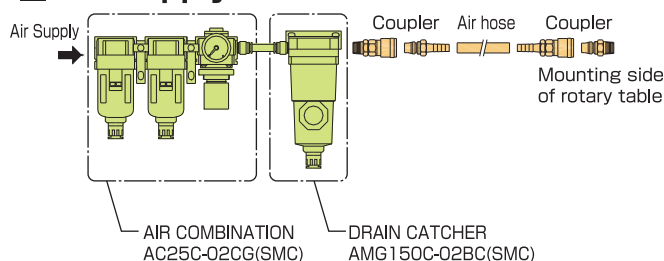
Type	Capacity
QTC100	10A
QTC200	15A
QTC300	20A

Connect an earth wire of Class D (Class No. 3).
Moreover, when the earth leakage breaker is used, it is recommended to use the breaker for which sensitivity current is 100mA or more, an operation time is 0.1 second or more, or a high frequency measure is taken in order to prevent the motor from the malfunction caused by a motor's high frequency.

Connection for external interlock

When the rotary table is interlocked with the external equipment, it is need to be controlled with M signals from the external equipment.
The external equipment must be equipped with the connection (terminal board) for M signal OUTPUT, M signal completed INPUT etc., by machine maker.

Air Supply

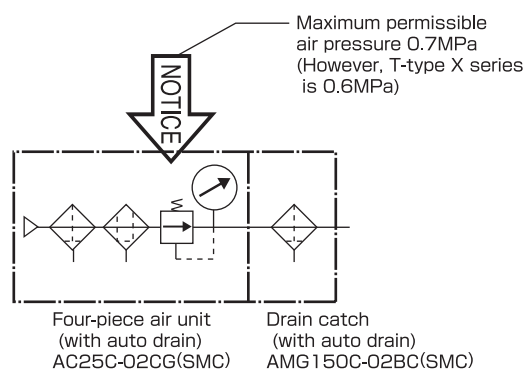


The rotary table is clamped by air.
Therefore, please prepare the following components.

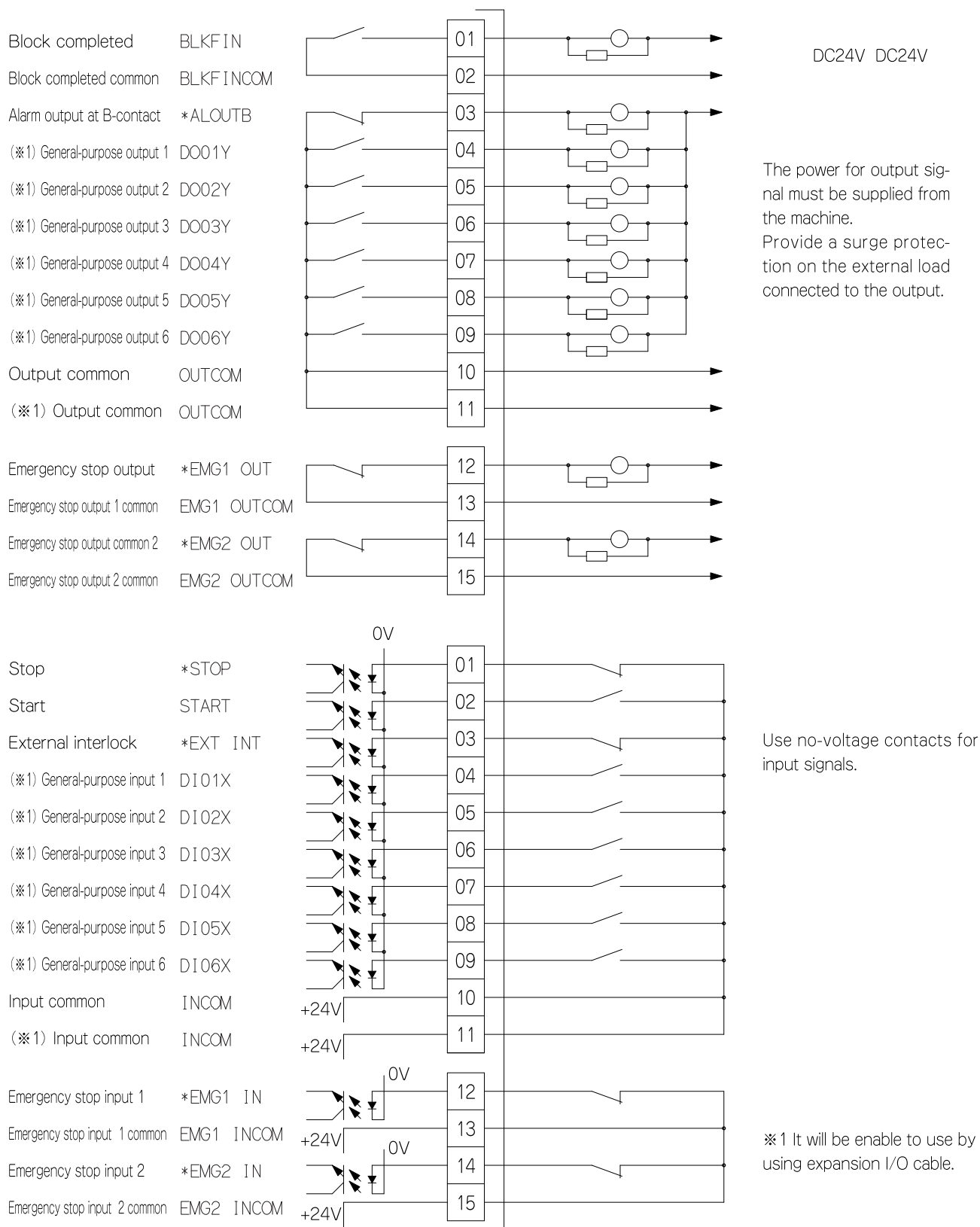
- Air combination
- Drain unit
- Air hoses or air tubes (incombustibility)
- Couplers for connection

※Air-Unit should have the specification with Auto drain port

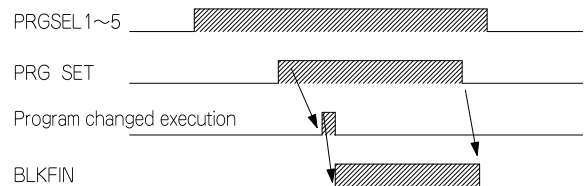
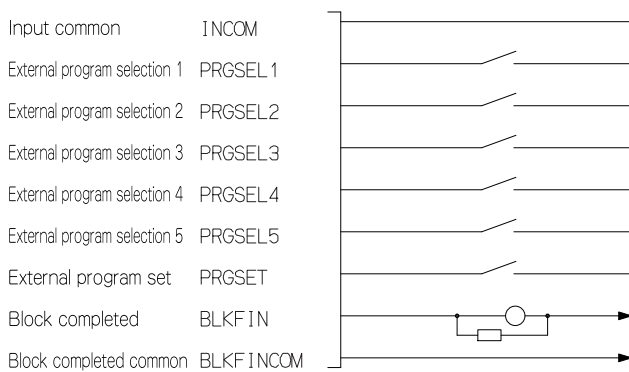
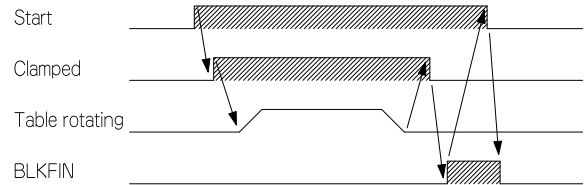
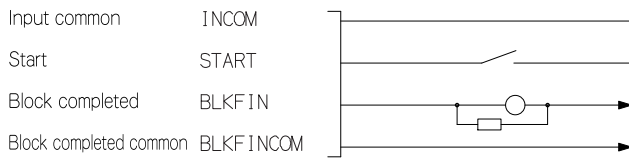
Air Diagram



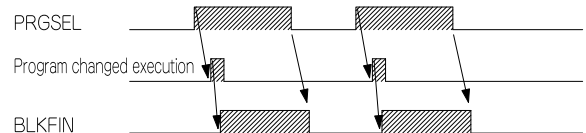
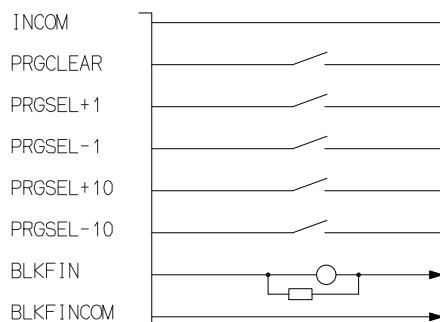
Mutual Connection diagram



Machine Connection Diagram (Example)



※The program available on binary mode are PRG001 through PRG31.
PRGSEL PRGSEL



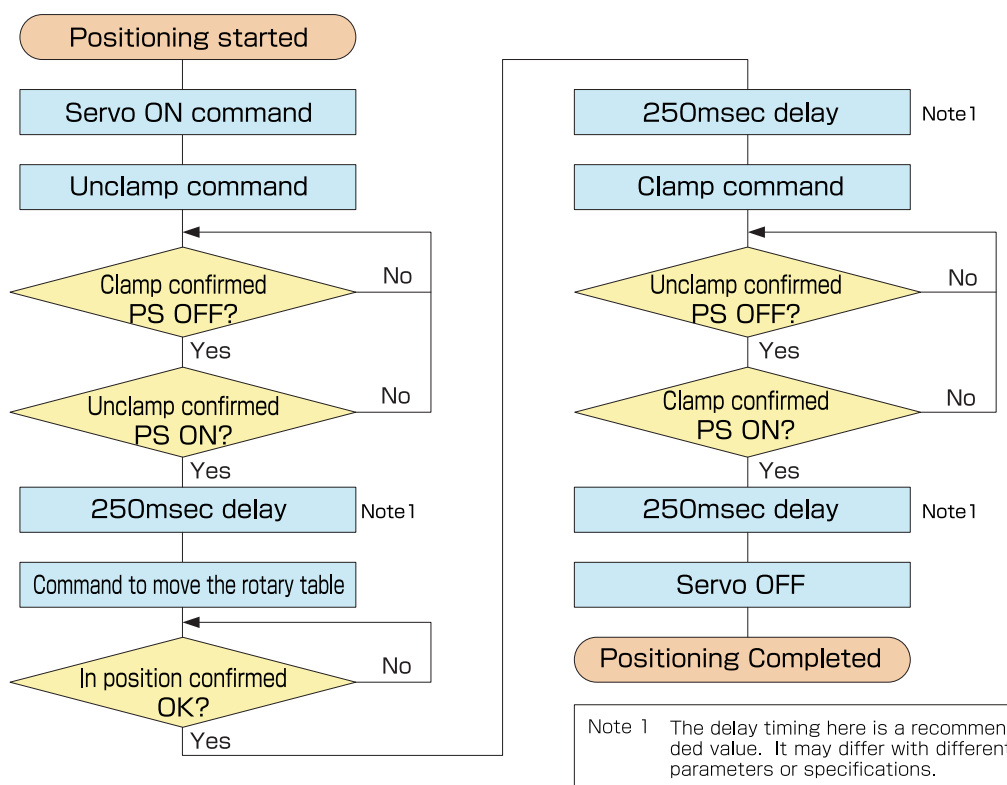
The channels available on M-signal mode are PRG001 through PRG999.

※For external program selection, extension I/O option is required.

Control Flow-Chart

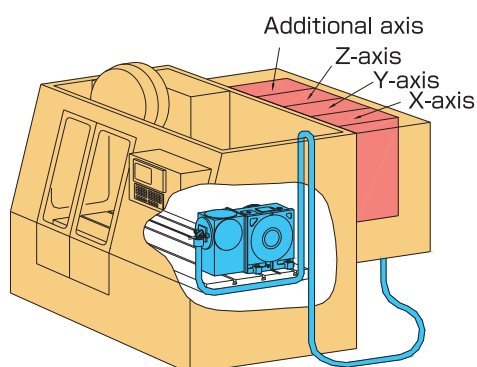
It is in principle recommended for Kitagawa's NC rotary table control to turn the servo OFF while clamping.

Semi-/Full-Closed Loop



Methods for Controlling NC Rotary Table

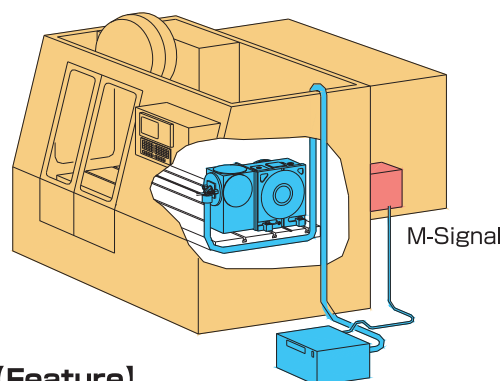
Additional-Axis Method



[Feature]

- ◆ NC Rotary Table is controlled as the NC Axis of the machine.
- ◆ Interpolation machining is possible with X-, Y- and Z-axis of the machine.
- ◆ Program can be controlled on the machine.

M-Signal Method



[Feature]

- ◆ NC Rotary Table is controlled by a separate controller, and not as the NC Axis of the machine.
- ◆ NC Rotary Table can be fitted with machine with no compatibility for an additional axis, as long as M-signal is available.
- ◆ NC Rotary Table can easily be transferred to another machine.



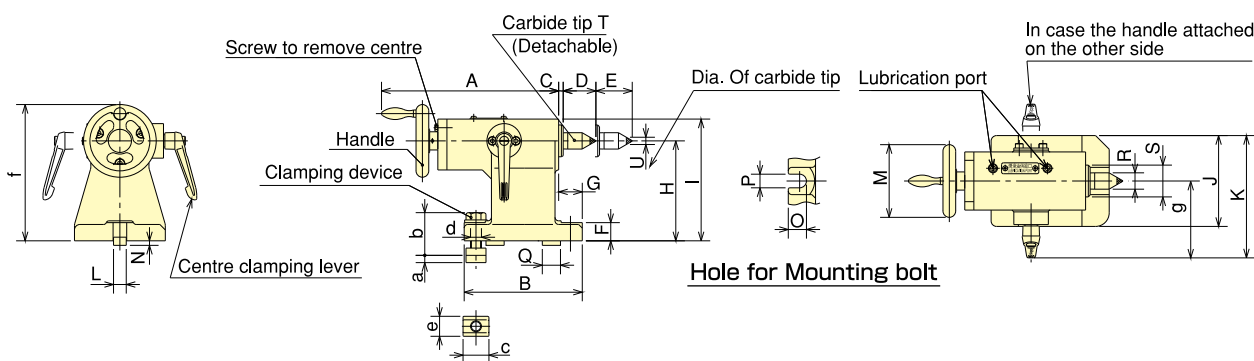
Supports long work pieces securely

- Clamp handle can be installed on left or right side
- Notch type hard wheel

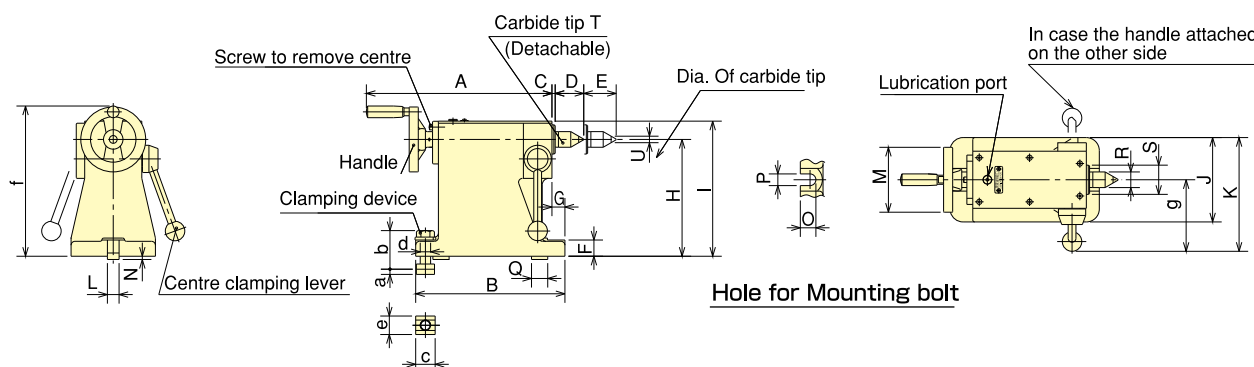


Dimensions

RS100/MR120/MR160 Dimensions



MR/TS Dimensions



Dimensions

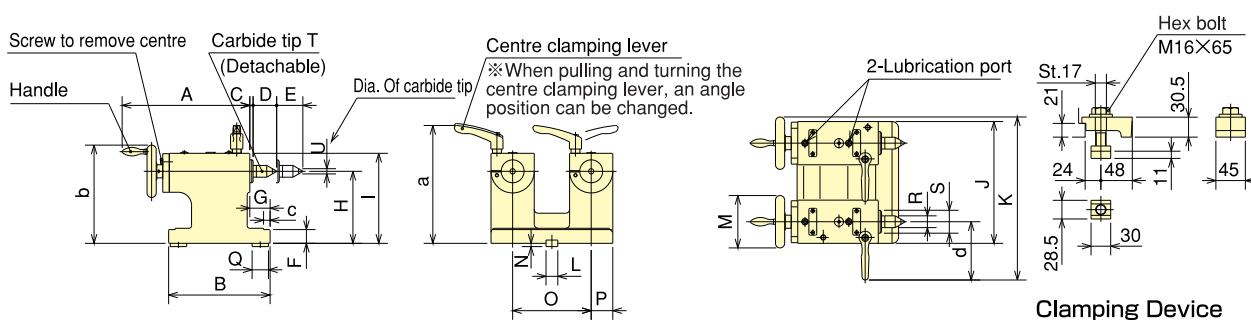
Model	Dimensions	A	B	C	D	E Max.	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	a	b	c	d	e	f	g	Mass of product
RS100RN		195	130	5	36.0	40	20	26	110	134.0	100	135.0	14h7	φ80	5	20.0	15	20	φ18.0	φ35	MT-2	φ8	8.6	47.0	28.5	M12	22.0	150	85.0	8
MR120RN		185	130	5	36.0	30	20	26	120	144.0	100	135.5	14h7	φ80	5	20.0	15	20	φ18.0	φ35	MT-2	φ8	8.6	47.0	28.5	M12	22.0	160	85.5	9
MR160RN		185	140	5	36.0	30	25	31	140	164.0	120	145.5	18h7	φ80	5	24.5	19	25	φ18.0	φ35	MT-2	φ8	11.0	58.0	30.0	M16	28.5	180	85.5	10
TS160RN		286	220	5	44.0	50	20	15	120	149.5	110	160.0	18h7	φ100	5	22.0	19	25	φ24.1	φ45	MT-3	φ10	11.0	54.5	30.0	M16	28.5	170	103.0	12
MR200RN TS200RN		286	230	5	44.0	50	25	20	140	169.5	120	163.0	18h7	φ100	5	24.5	19	25	φ24.1	φ45	MT-3	φ10	11.0	59.5	30.0	M16	28.5	190	103.0	16
MR250RN TS250RN		286	230	5	44.0	50	25	20	180	209.5	130	176.0	18h7	φ100	5	24.5	19	25	φ24.1	φ45	MT-3	φ10	11.0	59.5	30.0	M16	28.5	230	111.0	20
MR320RN TS320RN		286	230	5	44.0	50	25	20	225	254.5	150	186.0	18h7	φ100	5	24.5	19	25	φ24.1	φ45	MT-3	φ10	11.0	59.5	30.0	M16	28.5	275	111.0	24
TS400RN		414	320	3	52.4	70	35	17	255	305.0	210	261.0	18h7	φ140	5	28.5	19	25	φ31.6	φ65	MT-4	φ14	11.0	69.5	30.0	M16	28.5	325	156.0	67
TS500RN		414	320	3	52.4	70	35	17	310	360.0	210	261.0	18h7	φ140	5	28.5	19	25	φ31.6	φ65	MT-4	φ14	11.0	69.5	30.0	M16	28.5	380	156.0	80
TS630RN		461	330	5	70.0	80	40	15	400	450.0	260	317.0	18h7	φ160	5	32.5	19	25	φ44.7	φ80	MT-5	φ18	11.0	77.5	30.0	M16	28.5	480	187.0	100

Supports long work pieces securely

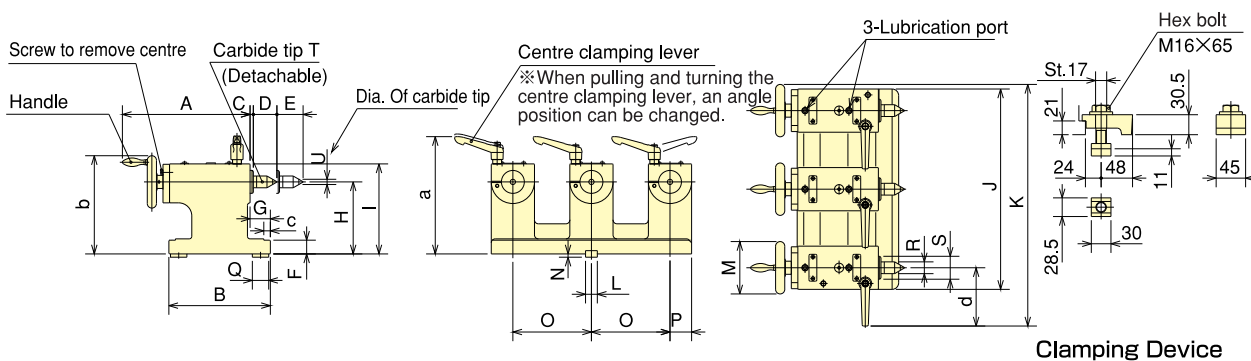
- Clamp handle can be installed on left or right side
- Notch type hard wheel

Dimensions

TS2100/TS2160 Dimensions

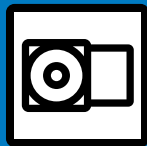


TS3100/TS3160 Dimensions



Multi Spindles Dimensions

Model	Dimensions	A	B	C	D	E Max.	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	a	b	c	d	Mass of product(kg)
TS2100RN		195	155	5	36	40	21	31	110	138	186	249	18h7	φ80	5	120	33	25	φ18	φ35	MT-2	φ8	180	150	10	89	17
TS2160RN		195	155	5	36	40	21	31	140	168	266	329	18h7	φ80	5	200	33	25	φ18	φ35	MT-2	φ8	210	180	10	89	20
TS3100RN		195	155	5	36	40	21	31	110	138	306	369	18h7	φ80	5	120	33	25	φ18	φ35	MT-2	φ8	180	150	10	89	32
TS3160RN		195	155	5	36	40	21	31	140	168	466	529	18h7	φ80	5	200	33	25	φ18	φ35	MT-2	φ8	210	180	10	89	39



**NC ROTARY
TABLE**

Tailstock

Pneumatic/Hydraulic
Parts corresponding to order received

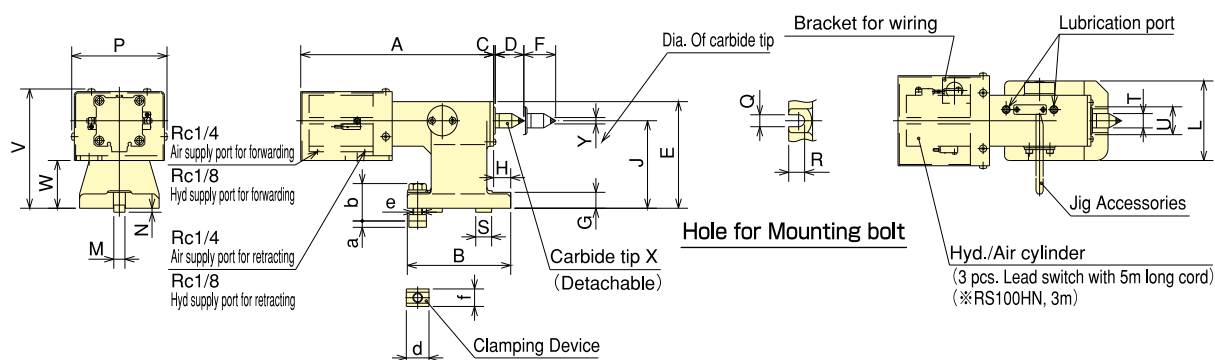
Supporting a Long Work Securely

- Stroke confirmation on cylinder
- Removable carbide centre
- Easily exchangeable quill-type centre
- Equipped with a proximity switch for position confirmation

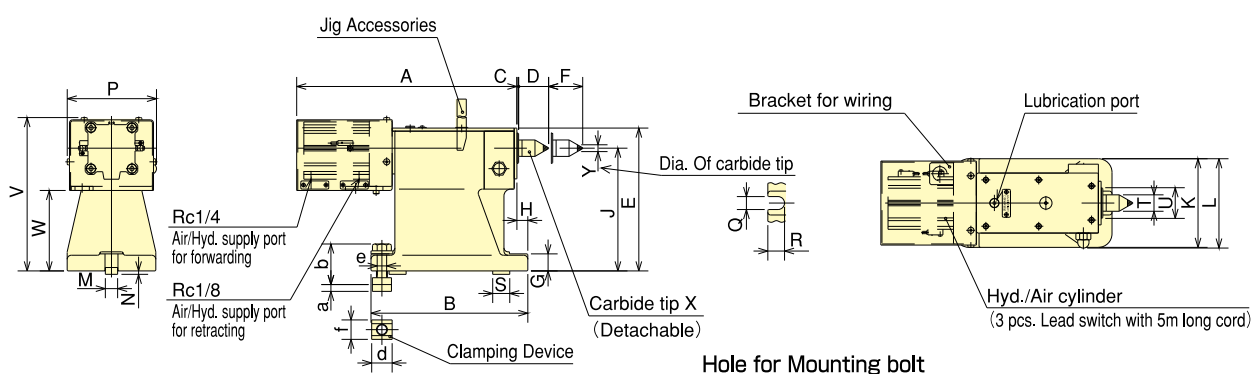


Dimensions

RS100/MR120/MR160 Dimensions



MR/TS Dimensions



Dimensions

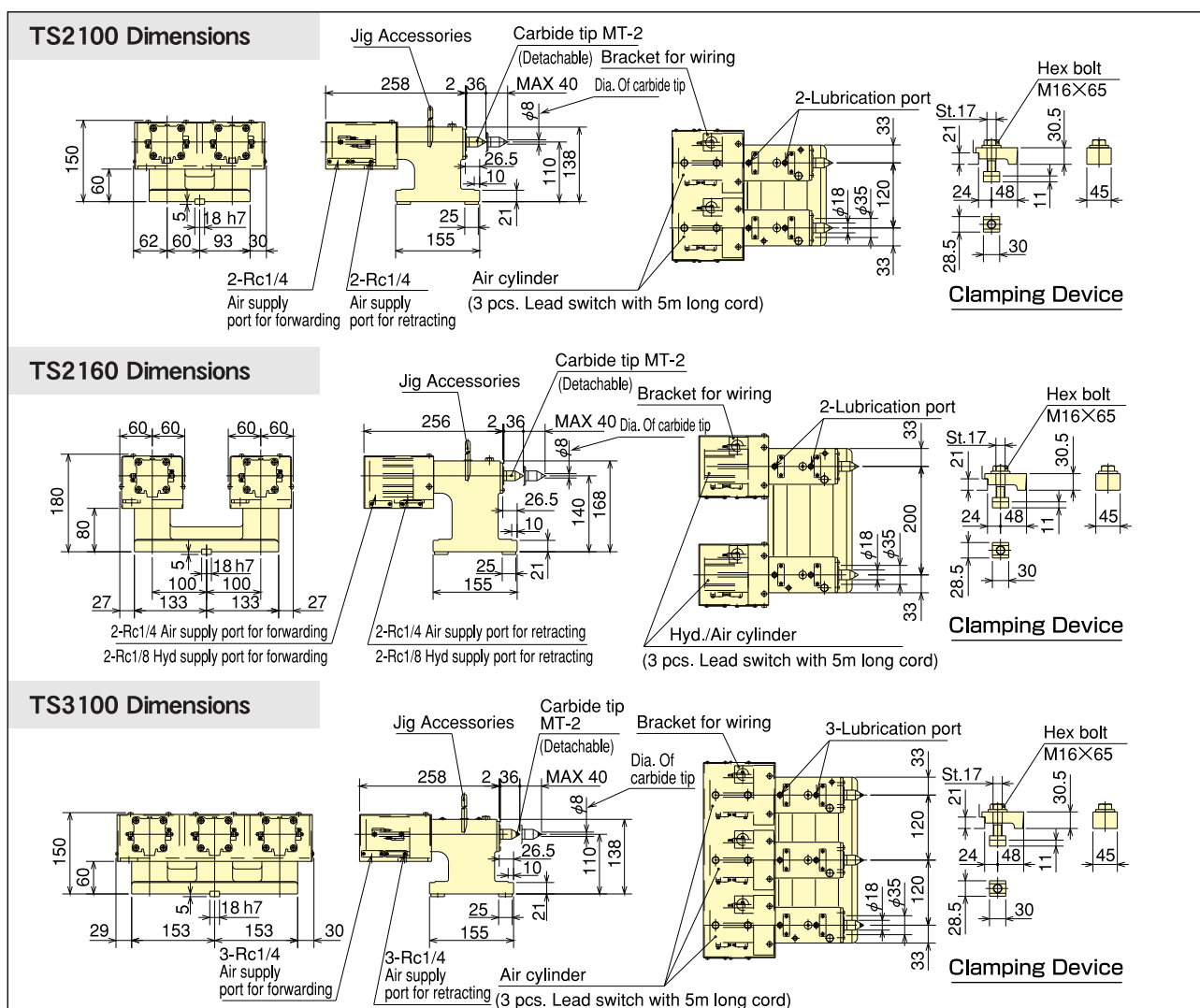
Model	Dimensions	A	B	C	D	E	F Max.	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	a	b	d	e	f	Center thrust (Pneu.) (kN)	Center thrust (Hyd.) (kN)	Mass of product (kg)
RS100AN		256	130	2.0	36.0	134.0	40	20	21.5	110	—	100	14h7	5	120	15	20.0	20	φ18.0	φ35	150	60.0	MT-2	φ8	8.6	47.0	28.5	M12	22.0	0.98	—	10
MR120A(H)/N		236	130	2.0	36.0	144.0	30	20	21.5	120	—	100	14h7	5	120	15	20.0	20	φ18.0	φ35	160	77.0	MT-2	φ8	8.6	47.0	28.5	M12	22.0	0.98	1.71	11
MR160A(H)/N		236	140	2.0	36.0	164.0	30	25	26.5	140	—	120	18h7	5	120	19	24.5	25	φ18.0	φ35	180	57.0	MT-2	φ8	11.0	58.0	30.0	M16	28.5	0.98	1.71	12
TS160A(H)/N		323	220	2.5	44.0	149.5	50	20	11.0	120	110	123	18h7	5	130	19	22.5	25	φ24.1	φ45	165	58.0	MT-3	φ10	11.0	54.5	30.0	M16	28.5	1.55	2.80	16
MR200A(H)/N TS200A(H)/N		323	230	2.5	44.0	169.5	50	25	16.0	140	120	126	18h7	5	130	19	24.5	25	φ24.1	φ45	185	78.0	MT-3	φ10	11.0	59.5	30.0	M16	28.5	1.55	2.80	20
MR250A(H)/N TS250A(H)/N		323	230	2.5	44.0	209.5	50	25	16.0	180	130	131	18h7	5	130	19	24.5	25	φ24.1	φ45	225	118.0	MT-3	φ10	11.0	59.5	30.0	M16	28.5	1.55	2.80	24
MR320A(H)/N TS320A(H)/N		323	230	2.5	44.0	254.5	50	25	16.0	225	150	—	18h7	5	130	19	24.5	25	φ24.1	φ45	270	160.0	MT-3	φ10	11.0	59.5	30.0	M16	28.5	1.55	2.80	28
TS400HN		458	320	3.0	52.4	305.0	70	35	17.0	255	210	—	18h7	5	165	19	28.5	25	φ31.6	φ65	323	186.0	MT-4	φ14	11.0	69.5	30.0	M16	28.5	—	5.50	71
TS500HN		458	320	3.0	52.4	360.0	70	35	17.0	310	210	—	18h7	5	165	19	28.5	25	φ31.6	φ65	378	241.0	MT-4	φ14	11.0	69.5	30.0	M16	28.5	—	5.50	84

※The centre thrust force values shown are at 0.5 MPa for pneumatic force, or 3.5 MPa for hydraulic force.

Supporting a Long Work Securely

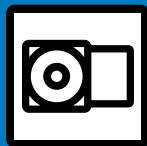
- Stroke confirmation on cylinder
- Removable carbide centre
- Easily exchangeable quill-type centre
- Equipped with a proximity switch for position confirmation

Dimensions



Multi Spindles Dimensions

Model	Dimensions	Centre trust [Pneu] (kN)	Centre trust [Hyd.] (kN)	Mass product (kg)
TS2100AN		0.98	-	22
TS2160A(H)N		0.98	1.71	25
TS3100A		0.98	-	32



**NC ROTARY
TABLE**

Tail Spindle TSR(C)·MSR(C) SERIES

Support for index machining of large work and trunnion assemblies

- Clamping mechanism spec
(Heavy duty tailstock with Disk clamping)
- Non clamping mechanism spec
- Suitable for supporting many types of jig



TSR142A

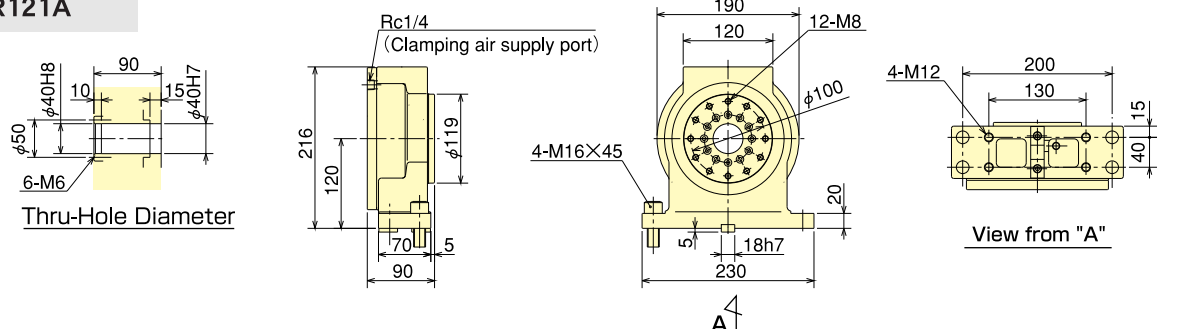
Specifications [clamping mechanism specification]

Model	Centre height (mm)	Spindle hole (mm)	Clamping torque (N·m)		Mass of product (Kg)
			Air pressure 0.5MPa	Hyd. pressure 3.5MPa	
TSR121A	120	φ40	310	—	18
TSRC140/MSRC140	140	φ40	400	—	19.5
TSR142A (H) / MSR142A	140	φ40	450	600	21
TSRC150/MSRC150	150	φ40	400	—	20.5
TSR181A (H) / MSR181A	180	φ70	600	1000	47

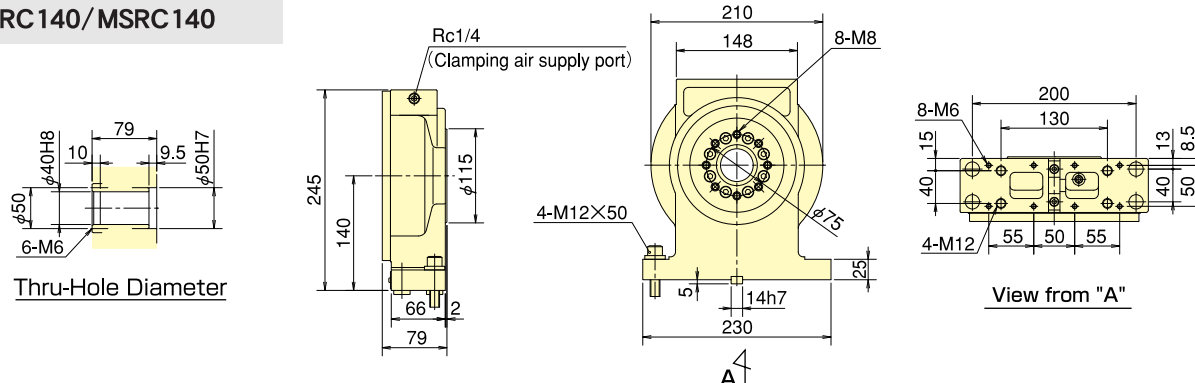
Note) Neither Pressure Switch, clamp and unclamp, not Solenoid Valve are attached.

Dimensions [clamping mechanism specification]

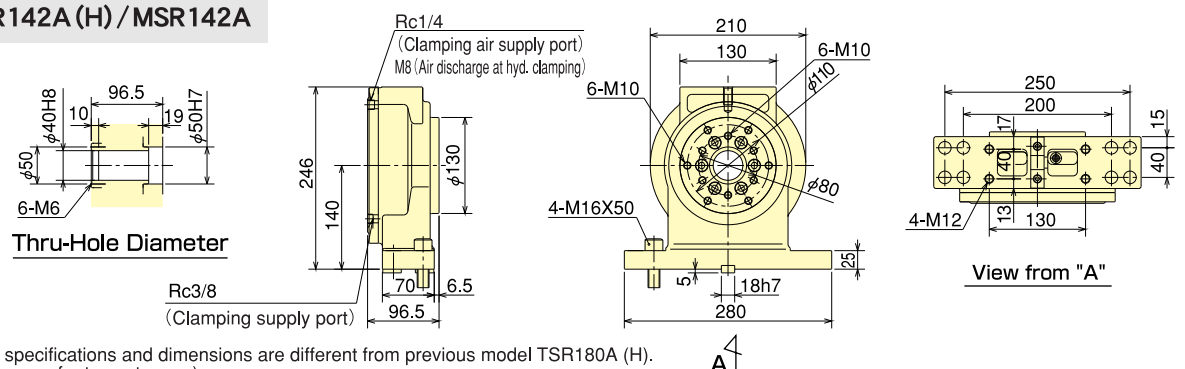
TSR121A



TSRC140/MSRC140

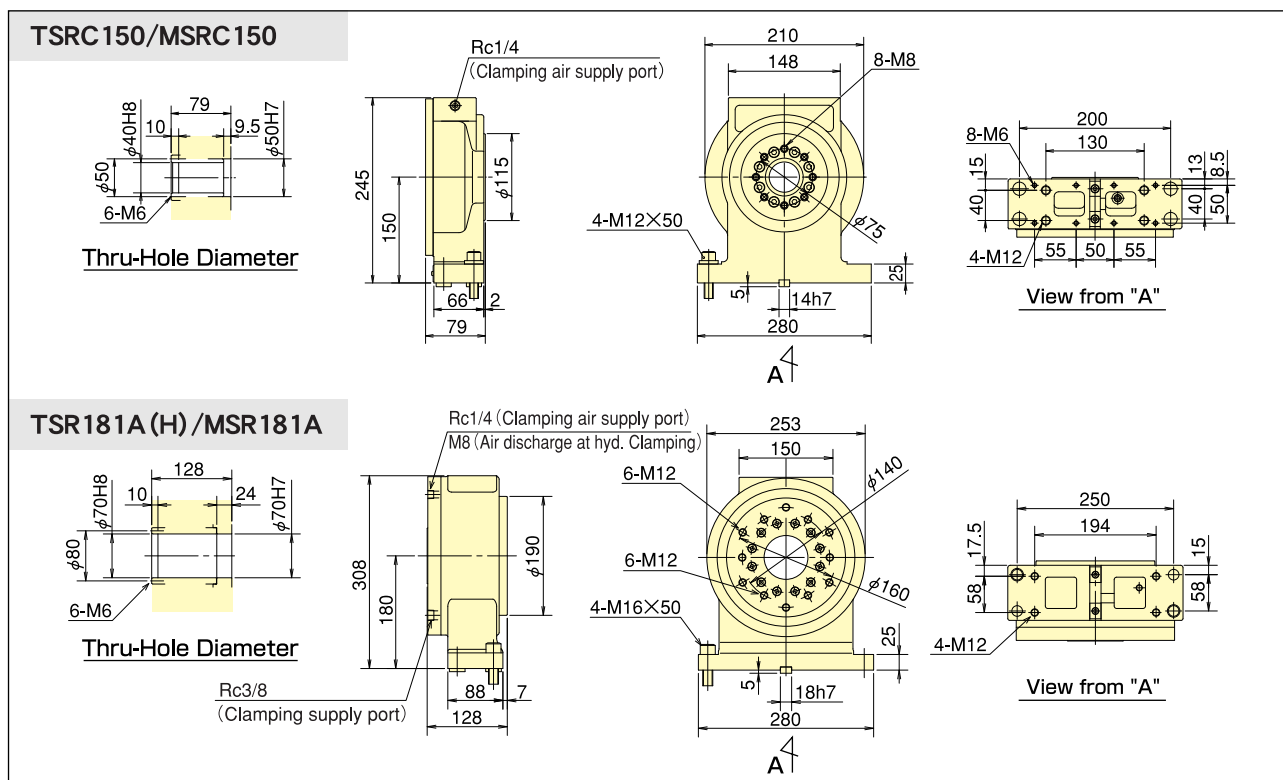


TSR142A (H) / MSR142A



※ The specifications and dimensions are different from previous model TSR180A (H).
(Please refer to next page)

■Dimensions [clamping mechanism specification]



Regarding compatibility with previous model TSR180A(H)

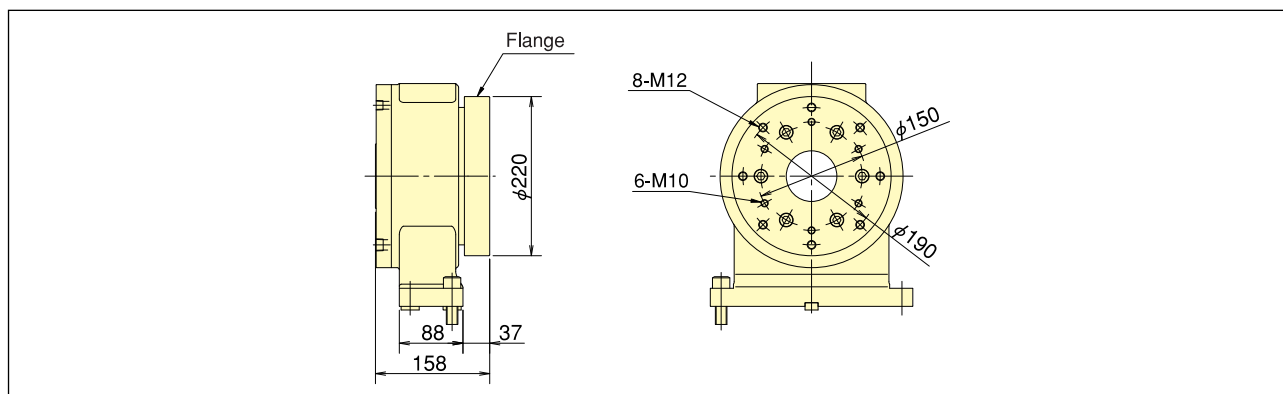


Fig. 1

Compatibility of the Face plate for TSR181A (H) and previous model TSR180A(H) is available by mounting optional flange parts (※Fig. 1)
Please note that the mounting dimensions for TSR181A (H) and previous model TSR180A (H) are different. (※Fig. 2)
For more information please ask sales parson in your area.

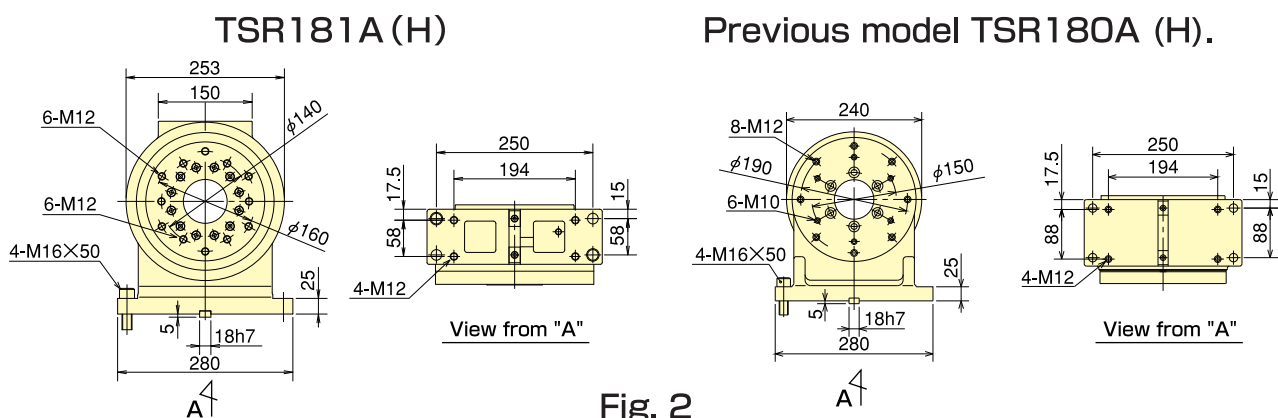


Fig. 2



Trunnion assembly

TJ series

TJ16M38E·TJ16M38C

Quick delivery; NC Rotary Table, Tail Spindle and Trunnion Assembly

- Allows greater flexibility to meet specific customer requirements
Simultaneous machining of multiple work pieces
- Multifaceted machining possible: Excellent rigidity

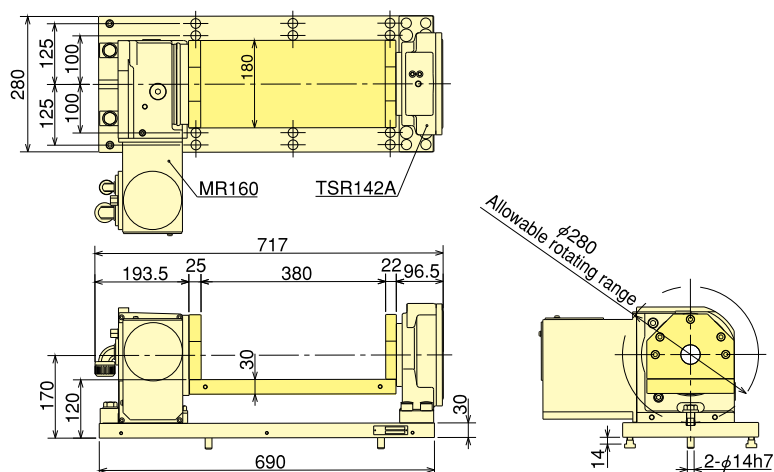


Specifications

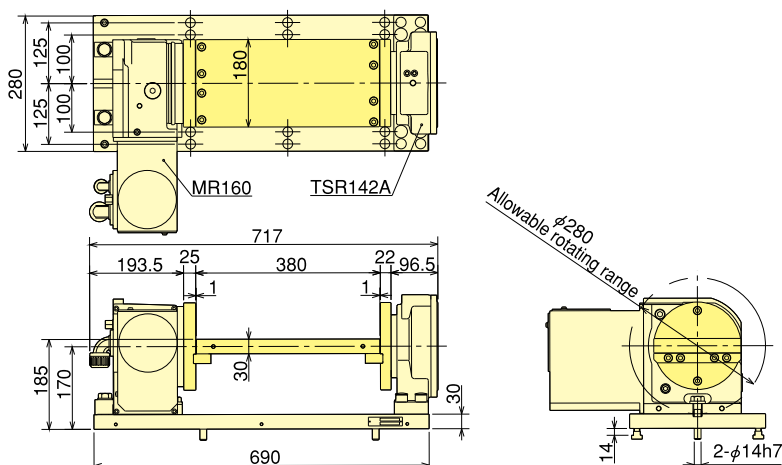
	Item	Model	TJ16M38E	TJ16M38C
1	Plate length	(mm)	380	380
2	Plate width	(mm)	180	180
3	Plate height above the datum plane	(mm)	120	185
4	Allowable rotating radius	(mm)	φ280	φ280
5	Allowable load	(kg)	80	40 on one side (80 in total)
6	Mass of product	(kg)	133	135

Dimensions

TJ16M38E / Offset Type

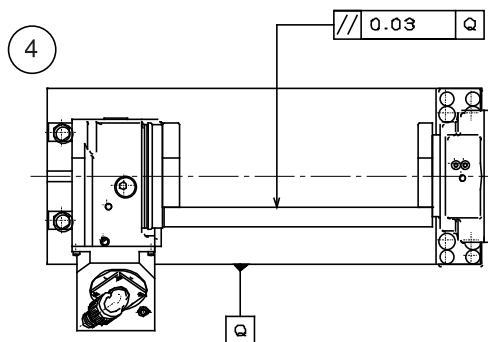
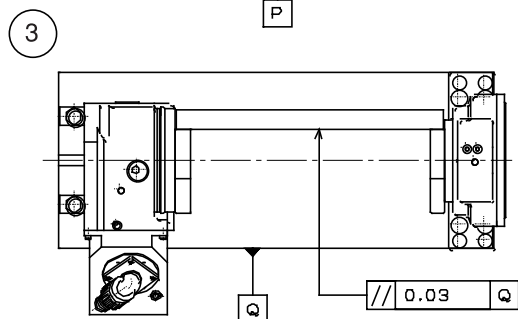
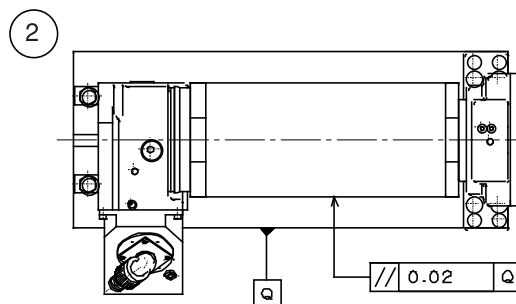
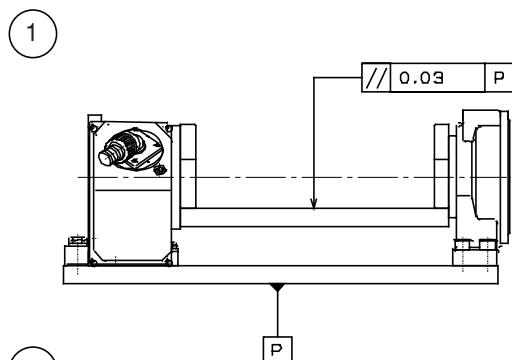


TJ16M38C / Centre Type

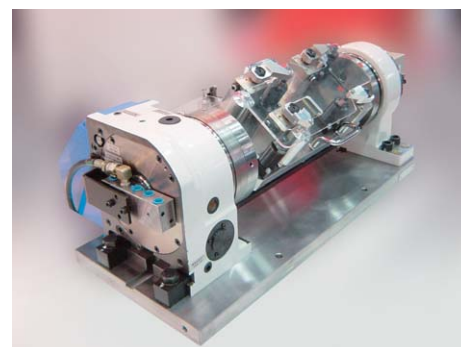


■ DATA accuracy specification

	Inspection Item	Allowance
1	Plate upper face parallelism to the mounting datum plane P	0.03 mm
2	Plate upper face parallelism to the mounting datum plane Q	0.02 mm
3	Plate upper face parallelism to the plate datum plane Q (at 90° rotation)	0.03 mm
4	Plate upper face parallelism to the plate datum plane Q (at 270° rotation)	0.03 mm



Sample Application

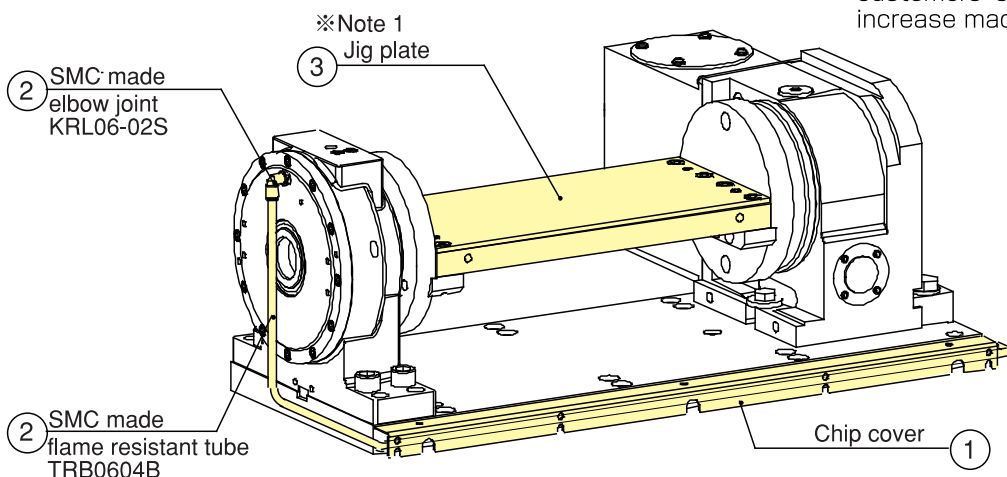


▲Trunnion Assembly can be made to customers specific requirements to increase machining flexibility.

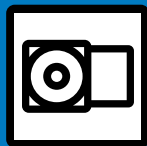
■ TJ Options

Following optional parts are available.

- ① Chip cover
- ② Flame resistant tube (with elbow joint)
- ③ Jig plate



Note) 1.Accuracy adjustment must be done by the user after fitting any additional jig plate.
2.Consult for any special parts or additional processing beside options.



**NC ROTARY
TABLE**

Rotary Joint RJ

- Built in rotary joint reduces supply block projection
- External rotary joint allows many ports
- Provides air or hydraulic pressure from the rear of the table to a fixture



■ Applicable machine type and the specifications

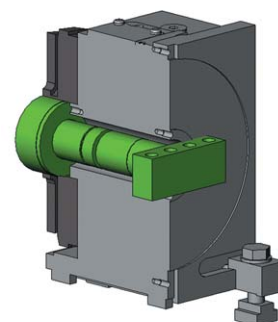
Model	Size	Maximum number of ports		Rated input pressure (MPa)		
		Built-in type	External type	Hydraulic		Air-Hydraulic
				Built-in type	External type	
MR	120	3	4	3	7	0.7
	160	4 (+1)	6	7		
	200	4 (+1)	6			
	250	6	8			
	320	6	8			
MRT	200	4 (+1)	6			
GT	200	4 (+1)	6			
	250	6	8			
	320	6	8			
TMX	160	4 (+1)	6			
	200	4 (+1)	6			
	250	6	8			
TUX	200	4 (+1)	6			
	250	6	8			
	320	6	8			
TRX	320	6	10			
TT/TW	101	3	—			
	120	3	—			
	140	4	—			
	150	4 (+1)	—			
	182	4 (+1)	—			
	200	4 (+1)	—			
	251	6	—			
	320	6	—			
RK	200	8	—	7		
RKT	180	5 (+1)	—			

(+1) port is exclusive for pneumatic pressure.

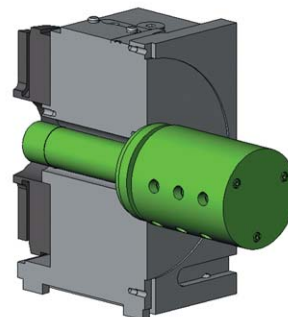
Note) Not fitted for RSM100, TC, DM, or TBX160.

For tables of TBX 200 size or more and 400 size or more, confer with Kitagawa separately.

Rotary joint is specifically for pneumatic/hydraulic drives, therefore it cannot be used with coolant, etc.



Built-in rotary joint



External rotary joint

■ Hydraulic pump unit

(specifications)

- Service pressure: 3.4MPa (35kgf/cm²)
- Adjustable pressure range: 1.5~6.9MPa (15~70kgf/cm²)
- Power source: AC3φ 200/220V 50/60Hz

■ Pull-stud type

Pull studs can be used to position and fix jigs or work pieces easily.

For more information, contact Kitagawa.

HUP 073-D **

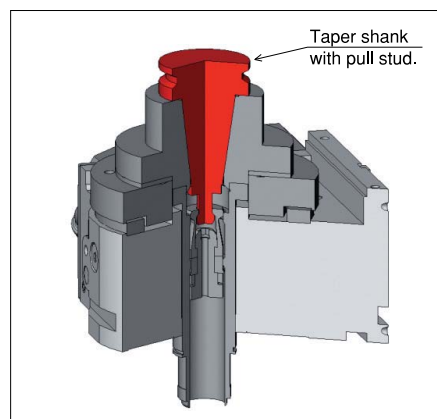
Type

Number of blocks

Tank capacity
07: 7 ℓ
10: 10 ℓ

Serial number

Solenoid voltage
D: DC
A: AC



Taper shank
with pull stud.

- External mounted Air-Hydraulic Booster
- A unit changing air pressure to hydraulic pressure
- High clamping force is produced using a standard air supply

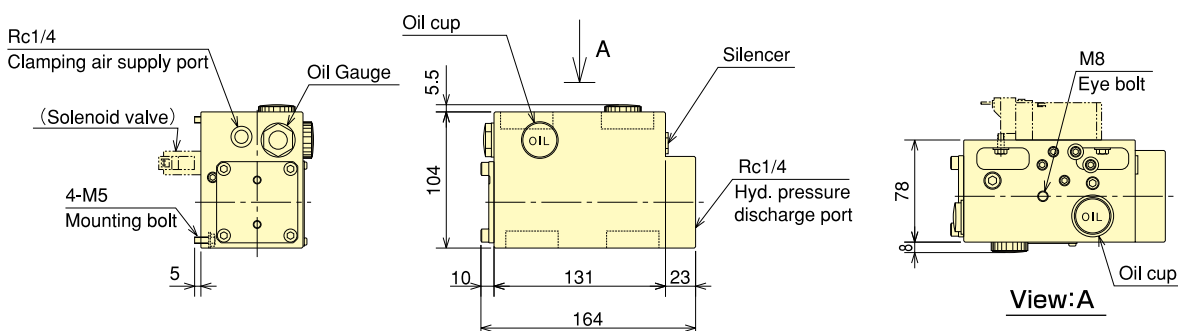


Specifications

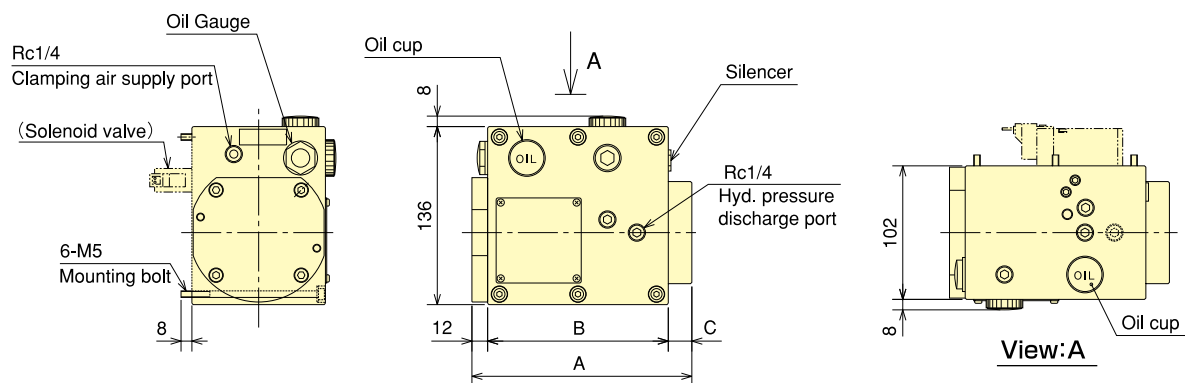
specifications Model	Air pressure MPa	Multiplication ratio	Hydraulic pressure (theoretically boosted) MPa	Recommended oil	Mass of product	Applicable unit	
AB10T	0.4~0.5	1:7.5	3~3.75	Turbin oil #32	Approx. 3 kg	—	
AB25T	0.4~0.45	1:8	3.2~3.6		Approx. 5 kg	TT	251、321
AB50T					Approx. 6 kg	TR/TU	400、500、630

Dimensions Note) Oil cap and oil gauge can be changed by mounting status of NC rotary table.

AB10T



AB25T/50T



※Solenoid is not included. Consult to arranged solenoid appropriate to each specification.

Dimensions

Model	A	B	C
AB25T	168	138	18
AB50T	251	169	70



CHUCK

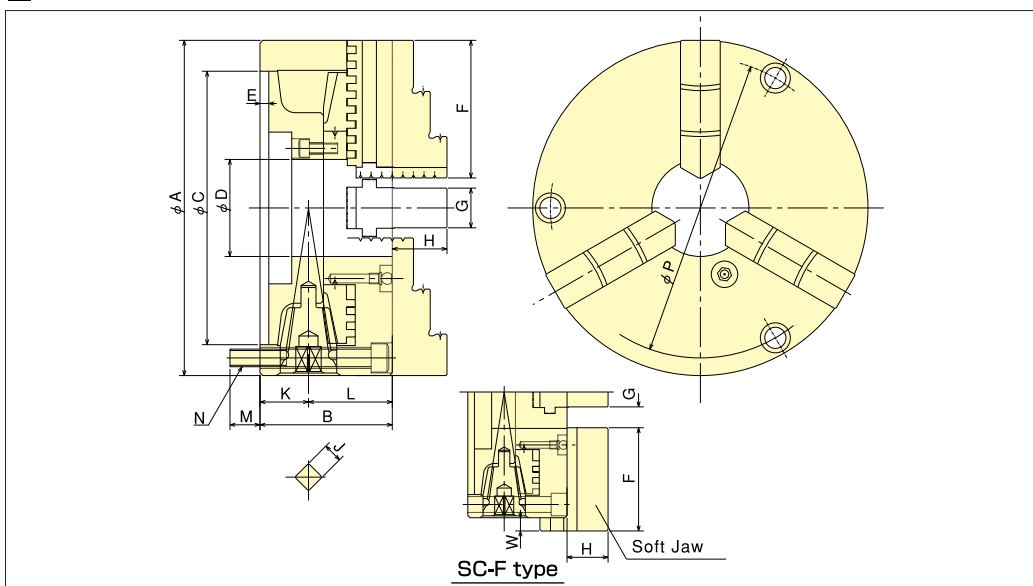
Scroll Chuck SC·JN series

Only Kitagawa can offer a complete NC Rotary Table and workholding solution

※SC-N, JN-N : CE correspondence.



■Dimensions



■Dimensions

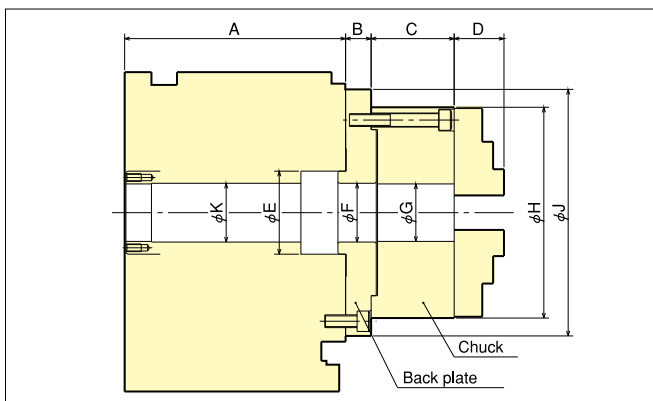
①	②	③	A	B	C (H6)	D	E	F	G	H			J	K	L	M	N	P	W (MAX)	W (MIN)
										①	②	③								
SC-3-106	-	-	85	45	60	16	3.5	35	11	15	-	-	7	17	28	12	3-M6	71	1.5	-7
SC-4-105	SC-4F-112	SC-4N	110	58	80	24	4.5	42	14	18	18	18	8	24.5	33.5	11	3-M8	93	2.5	-12
SC-5-107	SC-5F-113	-	130	60	100	32	4.5	50	16	20	20	-	8	22.5	37.5	13.6	3-M8	113	3.5	-14.5
JN06-101	JN06T102	JN06TN	165	65	130	45	5	66	20.5	27	39	39	10	24	41	17	3-M10	145	-	-
JN07-101	JN07T102	JN07TN	190	75	155	55	5	78	22.5	31	42	42	11	27.5	47.5	17	3-M10	170	-	-
JN09-101	JN09T102	JN09TN	232	84	190	70	6	88	26.5	33	50	50	12	29.5	54.5	19	3-M12	208	-	-
JN10-101	JN10T102	JN10TN	273	86	230	85	6	98	26.5	37	54	54	12	31.5	54.5	18.5	3-M12	248	-	-
JN12-101	JN12T102	JN12TN	310	96	260	96	7	113	30.5	44	56	56	14	31.5	64.5	18.5	3-M12	282	-	-
SC-14-103	-	-	355	110	300	100	7	132	35	52	-	-	15	38	72	27	6-M14	328	-	-
SC-16-113	-	-	405	120	345	110	8	146	40	58	-	-	15	43.5	76.5	27	6-M14	375	-	-

■Specifications

①	②	③	Max.Gripping Force (kN)	Net Weight with Soft top jaw (kg)	Moment of inertia (kg·m ²)	Gripping range		Handle torque (N·m)
						Outer dia.φ (mm)	Inner dia.φ (mm)	
SC-3-106	-	-	9	1.5	0.001	2~70	24~64	29.4
SC-4-105	SC-4F-112	SC-4N	12	3.1	0.004	3~95	29~84	44.1
SC-5-107	SC-5F-113	-	15	4.4	0.009	3~110	33~100	63.7
JN06-101	JN06T102	JN06TN	31	8.4	0.030	3~160	48~150	88.3
JN07-101	JN07T102	JN07TN	31	12.2	0.060	4~180	56~170	107.9
JN09-101	JN09T102	JN09TN	37	21.2	0.160	5~220	62~210	147.0
JN10-101	JN10T102	JN10TN	46	28	0.253	5~260	70~250	176.5
JN12-101	JN12T102	JN12TN	55	41	0.588	10~300	86~290	206.0
SC-14-103	-	-	40.5	54	0.950	25~315	107~290	225.6
SC-16-113	-	-	45	74	1.725	25~360	113~340	245.0

- Note) 1. ①SC type and JN type, each one set of mono internal jaws and mono external jaws are attached as standard with. Soft jaws cannot be used.
2. ②SC-F type, each one set of internal jaws, external jaws and soft jaws are attached as standard.
3. When the soft jaws are used for SC-F type, use the chuck of lower specification.
4. JN-T(N) type, each one set of two piece hard jaws and two piece soft jaws are attached as standard.
5. ②SC-N type and JN-N type are chucks applying to CE certificate.

■Scroll chuck fitting dimensional drawing



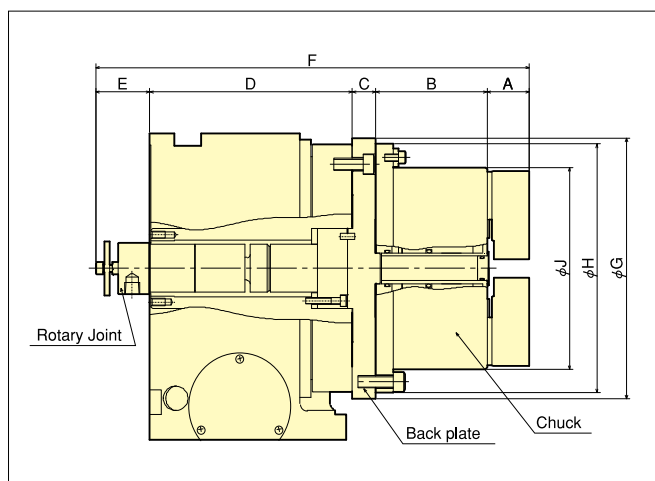
■Scroll chuck fitting dimensions

Rotary Table Model		①	②	③	A	B	C	D			φE	φF	φG	φH	φJ	φK
								①	②	③						
RS	100	SC-3-106	-	-	140	15	45	15	-	-	50	30	16	85	105	32
		SC-4-105	SC-4F-112	SC-4N		-	58	18	18	18		25	24	110	-	
MR	120	SC-4-105	SC-4F-112	SC-4N	136	17	58	18	18	18	50	26	24	110	135	32.5
		SC-5F-107	SC-5F-113	-		-	60	20	20	-		34	32	130	-	
		JN06-101	JN06T102	JN06TN		14	65	39	27	27		34	45	165	165	
	160	SC-5F-107	SC-5F-113	-	145	19	60	20	20	-	50	40	32	130	165	40.5
		JN06-101	JN06T102	JN06TN		-	65	39	27	27		40	45	165	-	
		JN07-101	JN07T102	JN07TN		20	75	42	31	31		41	55	190	190	
	200	JN06-101	JN06T102	JN06TN	173	20	65	39	27	27	65	46	45	165	193	46
		JN07-101	JN07T102	JN07TN		-	75	42	31	31		56	55	190	-	
		JN06-101	JN06T102	JN06TN		21	65	39	27	27	100	46	45	165	235	71
	250	JN07-101	JN07T102	JN07TN	180	21	75	42	31	31		56	55	190	236	
		JN09-101	JN09T102	JN09TN		-	84	50	33	33		71	70	232	-	
		JN10-101	JN10T102	JN10TN		20	86	54	37	37		85	85	273	273	
		JN12-101	JN12T102	JN12TN		21	96	56	44	44		90	96	310	310	
	320	JN09-101	JN09T102	JN09TN	210	25	84	50	33	33	130	120	70	232	320	106
		JN10-101	JN10T102	JN10TN		25	86	54	37	37		85	85	273	320	
		JN12-101	JN12T102	JN12TN		-	96	56	44	44		98	96	310	-	
GT	200	JN06-101	JN06T102	JN06TN	178	20	65	39	27	27	65	46	45	165	193	46
		JN07-101	JN07T102	JN07TN		-	75	42	31	31		56	55	190	-	
	250	JN06-101	JN06T102	JN06TN	185	21	65	39	27	27	100	46	45	165	235	71
		JN07-101	JN07T102	JN07TN		21	75	42	31	31		56	55	190	236	
		JN09-101	JN09T102	JN09TN		-	84	50	33	33		71	70	232	-	
		JN10-101	JN10T102	JN10TN		20	86	54	37	37		85	85	273	273	
		JN12-101	JN12T102	JN12TN		21	96	56	44	44		90	96	310	310	
	320	JN09-101	JN09T102	JN09TN	210	25	84	50	33	33	130	120	70	232	320	106
		JN10-101	JN10T102	JN10TN		25	86	54	37	37		85	85	273	320	
		JN12-101	JN12T102	JN12TN		-	96	56	44	44		98	96	310	-	
T*X	160	JN06-101	JN06T102	JN06TN	145	-	65	39	27	27	50	40	45	165	-	40
		JN07-101	JN07T102	JN07TN		20	75	42	31	31		41	55	190	190	
	200	JN06-101	JN06T102	JN06TN	176	20	65	39	27	27	75	52	45	165	193	52
		JN07-101	JN07T102	JN07TN		-	75	42	31	31		66	55	190	-	
		JN09-101	JN09T102	JN09TN		15	84	50	33	33		65	70	232	230	
	250	JN06-101	JN06T102	JN06TN	210	21	65	39	27	27	105	56	45	165	236	78
		JN07-101	JN07T102	JN07TN		21	75	42	31	31		56	55	190	236	
		JN09-101	JN09T102	JN09TN		-	84	50	33	33		71	70	232	-	
		JN10-101	JN10T102	JN10TN		20	86	54	37	37		95	85	273	273	
		JN09-101	JN09T102	JN09TN		-	84	50	33	33	135	110	70	232	-	110.5
	320	JN10-101	JN10T102	JN10TN	225	-	86	54	37	37		98	85	273	-	
		JN12-101	JN12T102	JN12TN		-	96	56	44	44		98	96	310	320	
		SC-14-103	-	-		25	110	52	52	-		100	100	355	355	
	400	JN10-101	JN10T102	JN10TN	250	23	86	54	37	37	180	86	85	273	314	150
		JN12-101	JN12T102	JN12TN		-	96	56	44	44		98	96	310	-	
		SC-14-103	-	-		-	110	52	52	-		100	100	355	-	
	500	JN12-101	JN12T102	JN12TN		20	96	56	44	44	200	96	96	310	352	170.5
		SC-14-103	-	-		-	110	52	52	-		150	100	355	-	
T*	630	JN12-101	JN12T102	JN12TN	330	27	96	56	44	44	280	100	96	310	416	250
		SC-16-113	-	-		36	120	58	58	-		260	110	405	422	

Note) Consult our company about an order except the above combination.



Work gripper fitting dimensions drawing



Work gripper fitting dimensions

Rotary Table Model	Chuck Model	A	B	C	D	E	F	φG	φH	φJ
MR	120	AS04	27	90	20	136	46	319	148	110
		AS06	36	95	20			333	203	165
	160	AS04	27	90	20	145	47	329	165	110
		AS06	36	95	20			343	203	165
	200	AS06	36	95	20	173	46	370	203	165
	250	AS06	36	95	25	180	78.5	414.5	230	165
		AS08	42	106	25			431.5	250	210
GT	320	AS10	46	110	25	210	69	460	320	254
	200	AS06	36	95	20	178	40	369	203	165
		AS06	36	95	25			407.5	230	165
	250	AS08	42	106	25	185	66.5	424.5	250	210
T*X	160	AS04	27	90	20	145	48	330	148	110
		AS06	36	95	20			344	203	165
	200	AS06	36	95	20	176	47	374	203	165
	250	AS06	36	95	25	210	69	435	250	165
		AS08	42	106	25			452	250	210
	320	AS10	46	110	25	220	45.5	446.5	300	254

Note) Consult our company about an order except the above combination.

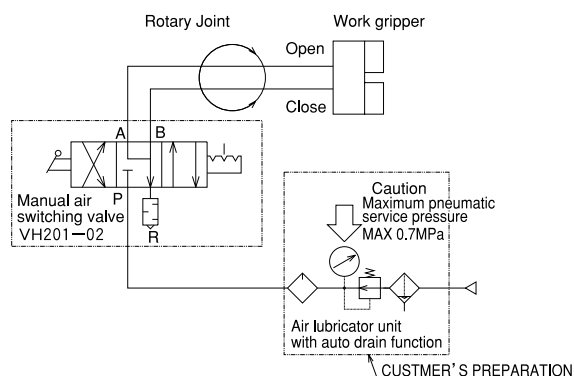
Option

Manual air switching valve (made to order)

VH201-02



Maximum allowable pressure	1MPa
Operating degree	90°
Connecting bore size	Rc $\frac{1}{4}$





CHUCK

Open Centre Power Chuck B-200 series

Only Kitagawa can offer a complete
NC Rotary Table and workholding solution

Size Table

* CE correspondence

Size	A	B	C (H6)	D	E	F	G max.	G min.	H	J	K	L max.
Model												
B-204	110	59	85	70.6	3-M10	26	3.5	- 6.5	17.5	12	38	M32×1.5
B-205	135	60	110	82.6	3-M10	33	1	- 9	20	12	45	M40×1.5
B-206	169	81	140	104.8	6-M10	45	11	- 1	19	20	60	M55×2.0
B-208	210	91	170	133.4	6-M12	52	14.5	- 1.5	20.5	30	66	M60×2.0
B-210	254	100	220	171.4	6-M16	75	8.5	-10.5	25	45	94	M85×2.0

Size	M	N	P	Q max.	Q min.	R max.	R min.	S	T	U	V	W	X (3-)	Y
Model														
B-204	24	49.5	14	11.25	6.75	23	20.3	23	2	10	15.5	4	-	-
B-205	26	54	14	19.75	7.75	26.5	23.8	23	2	10	15	4	-	-
B-206	29	66	20	22.75	9.25	32	29.25	26	2	12	16	5	M6×10	116
B-208	39	95	25	29.75	14.75	38.7	35	35	2	14	20	5	M6×12	150
B-210	43	110	30	33.75	14.25	51	46.6	40	2	16	22	5	M8×15	190

※Fitting of B-204 or 205 requires 120° pitch-3

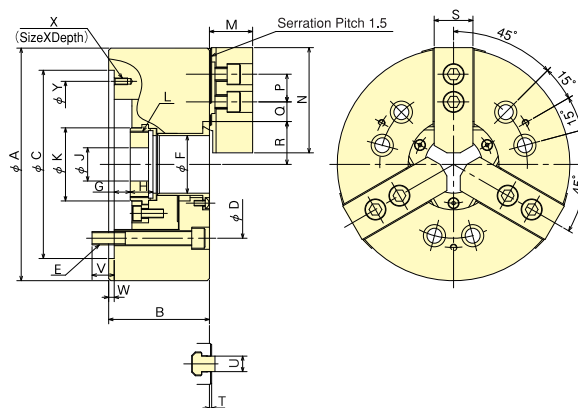
Specifications

Specifications	Thru-Hole (mm)	Gripping Dia (mm)	Jaw stroke (mm)	Plunger stroke (mm)	Max Draw Bar Pull Force (kN)	Max Gripping Force (kN)
Model		Max. Min.	Max. Min.			
B-204	26	110 7	5.4	10	14	28.5
B-205	33	135 12	5.4	10	17.5	36
B-206	45	169 16	5.5	12	22	57
B-208	52	210 13	7.4	16	34.8	86
B-210	75	254 31	8.8	19	43	111

Specifications	Net Weight with Soft top jaw (kg)	Moment of inertia (kg·m²)	Matching Hard top jaw	Matching Soft top jaw
Model				
B-204	4	0.007	HB04N1	SB04N1
B-205	6.7	0.018	HB04N1	SB05N1
B-206	11.9	0.058	HB06B1	SB06L1A
B-208	22.3	0.170	HB08A1	SB08B1
B-210	34.5	0.315	HB10A1	SB10B1



Dimensions



**ROTARY
CYLINDER**

Compact Closed Centre hydraulic rotary cylinder M series

* CE correspondence

Size Table

Size	A	B	C (H7)	D	E	F	G (H8)	H	J	K
Model										
M1120HC21N	110	20	145	128	42	30	22	M20×2.5	30	15
M1221HC21N	120	21	168	145	44	32	22	M20×2.5	30	15
M1330HC21N	130	30	168	150	51	36	26	M24×3.0	35	15

Size	L	M	N	P max.	P min.	Q max.	Q min.	R	S	T	U
Model											
M1120HC21N	135	125	14	60	40	72	52	26	159.2	M 8×1.25	14
M1221HC21N	138	128	14	60	39	75	54	27	182.2	M10×1.5	17
M1330HC21N	144	134	18	60	30	79	49	37	182.2	M10×1.5	17

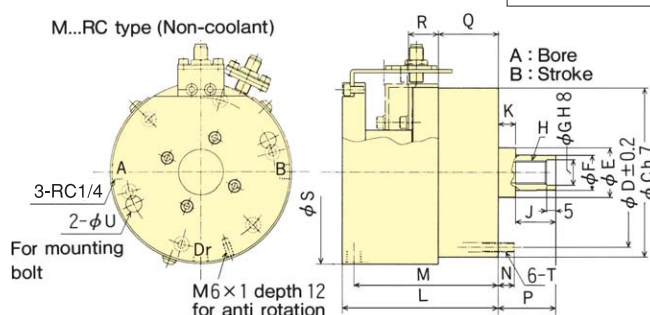
Specifications

Specifications	Piston thrust force	Total leakage	Mass	Moment of inertia
Model	Pushing (in kN) Pulling (in kN)	(l / min)	(kg)	(kg·m²)
M1120HC21N	28	27	1.2	8.2
M1221HC21N	39	38	1.2	10.2
M1330HC21N	47	45	1.2	10.3

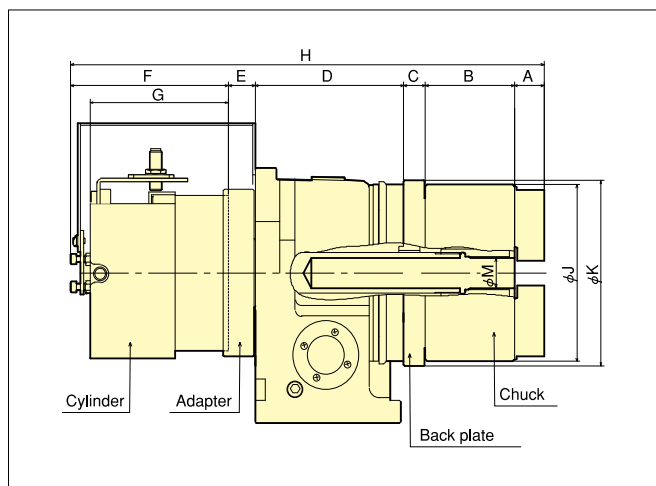
- Note) 1. Piston thrust force : maximum hydraulic service pressure of 3.5MPa on M1120HC, 4.0MPa on M1221HC, and 4.0MPa on M1330HC.
2. Total leakage values shown are at hydraulic pressure of 3.0MPa and fluid temperature of 50°C.
3. Proximity switch : Model BES516-325-E3R (B & Plus KK) DC12/24V 200mA PNP
4. Route the pipe so that the back pressure into the drain hose will be 10 kPa or less.
When the non-drain type of cylinder is required contact with KITAGAWA.
5. When using on devices other than a NC table, be sure of the specifications described on Kitagawa's catalogues for chucks and cylinders.



Dimensions



■Fitting dimension drawing for power chuck B-200 series, cylinder M series



■Fitting dimensions for power chuck B-200 series, cylinder M series

Rotary Table Model	Chuck Model	Cylinder Model	A	B	C	D	E	F	G	H	φJ	φK	φM	Pressure(MPa)
MR	160	B-205	26	62	21	145	27	154	135	433	135	165	33	2.27
		B-206	39	81	21								45	2.85
	200	B-206	39	81	21	173	27	154	135	495	169	190	45	2.85
	250	B-206	39	81	19	180	17	154	135	490	169	230	45	2.85
GT	320	B-210	43	100	19	210	20	155	144	547	254	304	75	3.82
	200	B-206	39	81	21	178	27	154	135	500	169	190	45	2.85
		B-206	39	81	19	185	17	154	135	495	169	230	45	2.85
T*X	160	B-210	43	100	19	210	20	155	144	547	254	304	75	3.82
		B-205	26	60	22	145	27	154	135	434	135	140	33	2.27
		B-206	39	81	16					462	140	169	45	2.85
	200	B-206	39	81	22	176	26	159	135	503	169	169	45	2.85
		B-208	39	91	17									
	250	B-206	39	81	22	210	17	159	135	528	169	183	45	2.85
		B-208	39	91	22									
		B-210	43	100	22									
	320	B-210	43	100	19	225	20	151	144	504	254	308	75	3.82

Note) Consult our company about an order except the above combination.



CHUCK

Closed Centre Power Chuck N series

Only Kitagawa can offer a complete NC Rotary Table and workholding solution

*CE correspondence

Size Table

Size	A	B	C (H6)	F	H	J	K	L	M	N max.	N min.	O max.
N-05	135	55	80	7	100	—	3-M8	14	19	30.4	27.2	11.25
N-06	165	74	140	5	104.8	21	6-M10	14	20	37.8	33.55	13.75
N-08	210	85	170	5	133.4	25	6-M12	20	25	46.3	41.9	22.25
N-10	254	89	220	5	171.4	34	6-M16	18	30	51.1	46.7	30.75
N-12	304	106	220	6	171.4	34	6-M16	18	30	61	55.75	48.75

Size	Q min.	P max.	P min.	Q	R	S	T	U	V	W	X	Y	Z
N-05	6.75	9	—6	23	10	35	M12×1.75	3	28	29	62	—	—
N-06	7.75	101.5	81.5	31	12	36	M16×2.0	4	34	35	72	M6×10	116
N-08	11.75	127	106	35	14	36	M20×2.5	5	38	42	95	M6×12	150
N-10	11.25	158	133	40	16	36	M20×2.5	5	45	46	110	M8×15	190
N-12	12.75	163	133	50	18	36	M20×2.5	5	50	54	129	M8×15	190

*Fitting of N-05 at 120°pitch-3

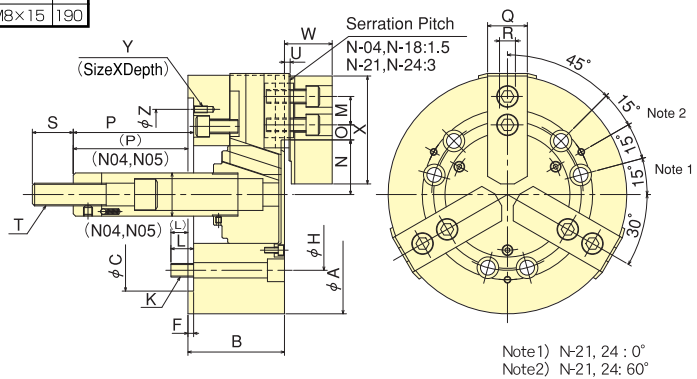
Specifications

Specifications	Jaw stroke (mm)	Plunger Stroke (mm)	Gripping Dia. mm	Max Draw Bar Pull Force (kN)	Max Gripping Force (kN)
N-05	6.4	15	135	16	8.2
N-06	8.5	20	165	19	52.5
N-08	8.8	21	210	23	75
N-10	8.8	25	254	24	108
N-12	10.5	30	304	26	156

Specifications	Net Weight with Soft top jaw (kg)	Moment of inertia (kg·m²)	Matching Hard top jaw	Matching Soft top jaw
N-05	6.2	0.015	HB05C1	SB05B1
N-06	13	0.045	HB06B1	SB06B1
N-08	25	0.138	HB08A1	SB08B1
N-10	37	0.300	HB10A1	SB10B1
N-12	57.3	0.725	HB12B1	SB12A1



Dimensions



*With standard blank soft top jaw.



ROTARY CYLINDER

Compact Closed Centre hydraulic rotary cylinder M series

*CE correspondence

Size Table

Size	A	B	C (H7)	D	E	F	G (H6)	H	J	K
M1120HC21N	110	20	145	128	42	30	22	M20×2.5	30	15
M1221HC21N	120	21	168	145	44	32	22	M20×2.5	30	15
M1330HC21N	130	30	168	150	51	36	26	M24×3.0	35	15

Size	L	M	N	P max.	P min.	Q max.	Q min.	R	S	T	U
M1120HC21N	135	125	14	60	40	72	52	26	159.2	M 8×1.25	14
M1221HC21N	138	128	14	60	39	75	54	27	182.2	M10×1.5	17
M1330HC21N	144	134	18	60	30	79	49	37	182.2	M10×1.5	17

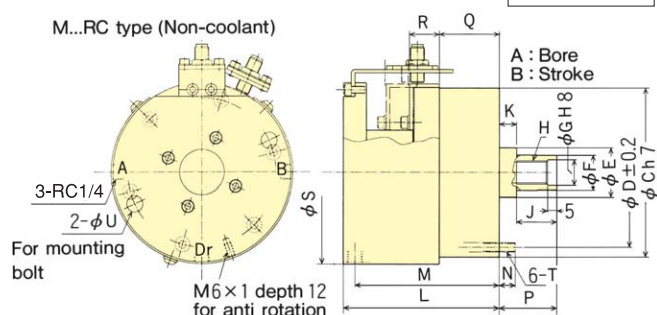
Specifications

Specifications	Piston thrust force		Total leakage	Mass	Moment of inertia
Model	Pushing (in kN)	Pulling (in kN)	(l /min)	(kg)	(kg·m²)
M1120HC21N	28	27	1.2	8.2	0.016
M1221HC21N	39	38	1.2	10.2	0.028
M1330HC21N	47	45	1.2	10.3	0.029

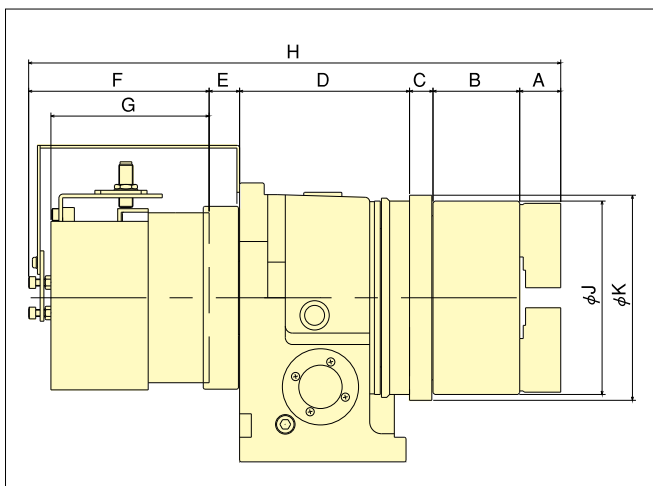
- Note) 1. Piston thrust force : maximum hydraulic service pressure of 3.5MPa on M1120HC, 4.0MPa on M1221HC, and 4.0MPa on M1330HC.
2. Total leakage values shown are at hydraulic pressure of 3.0MPa and fluid temperature of 50°C.
3. Proximity switch : Model BES516-325-E3R (B & Plus KK) DC12/24V 200mA PNP
4. Route the pipe so that the back pressure into the drain hose will be 10 kPa or less.
When the non-drain type of cylinder is required contact with KITAGAWA.
5. When using on devices other than a NC table, be sure of the specifications described on Kitagawa's catalogues for chucks and cylinders.



Dimensions



■ N series power chuck, M series cylinder mounting dimensional drawing



■ N series power chuck, M series cylinder mounting dimensional list

Rotary Table Model		Chuck Model	Cylinder Model	A	B	C	D	E	F	G	H	φJ	φK	Pressure(MPa)
MR	160	N-05	M1120HC21N	29	55	21	145	27	154	135	431	135	165	1.05
		N-06		35	74	21					456	165	165	2.33
	200	N-06	M1120HC21N	35	74	21	173	27	154	135	484	165	193	2.33
	250	N-06	M1120HC21N	35	74	19	180	17	154	135	479	165	230	2.33
	320	N-10	M1330HC21N	46	89	19	210	20	155	144	539	254	304	2.58
GT	200	N-06	M1120HC21N	35	74	21	178	27	154	135	489	165	193	2.33
	250	N-06	M1120HC21N	35	74	19	185	17	154	135	484	165	230	2.33
	320	N-10	M1330HC21N	46	89	19	210	20	155	144	539	254	304	2.58
T*X	160	N-05	M1120HC21N	29	55	21	145	27	154	135	431	135	140	1.05
		N-06		35	74	16					451	140	165	2.33
	200	N-06	M1120HC21N	35	74	22	176	26	159	135	492	165	165	2.33
		N-08	M1221HC21N	42	85	17		26	157	138	503	170	210	2.63
	250	N-06	M1120HC21N	35	74	22	210	17	159	135	517	165	183	2.33
		N-08	M1221HC21N	42	85	22		17	157	138	533	210	210	2.63
		N-10	M1330HC21N	46	89	22		21	151	144	539	254	254	2.58
	320	N-10	M1330HC21N	46	89	19	225	20	151	144	550	254	308	2.58
		N-12		54	106	25		34	151	144	581	304	304	3.64

Note) Consult our company about an order except the above combination.



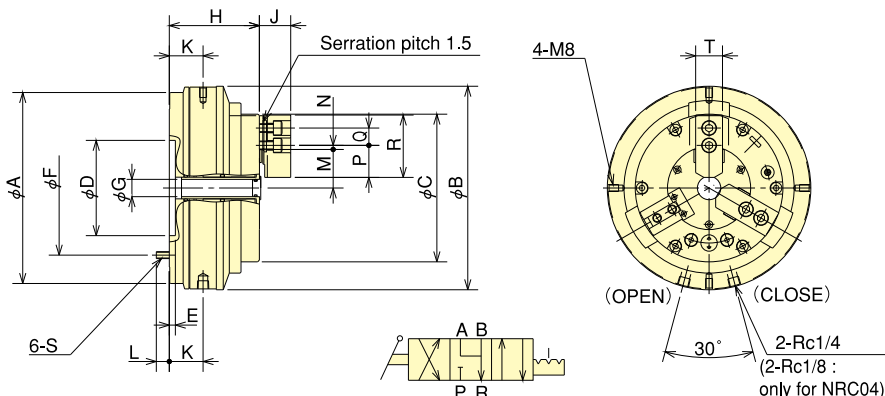
CHUCK

Rotary Chuck NRC series

Only Kitagawa can offer a complete NC Rotary Table and workholding solution

- Exclusive air-operated chuck
 - Integrated pneumatic cylinder
- Can easily be fitted to TBX range of tables

■ Dimensions



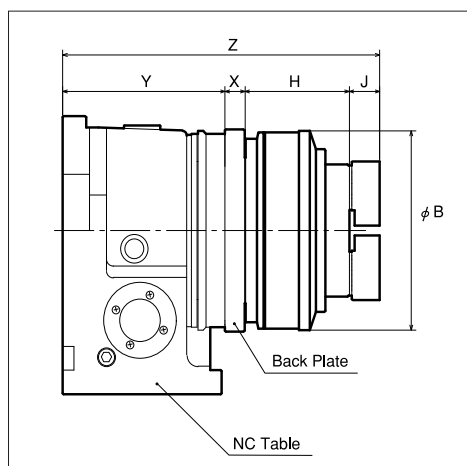
■ Dimensions

Dimensions Model	A	B	C	D(H7)	E	F	G	H	J	K	L	M max.	M min.	N max.	N min.	P	Q	R	S	T
NRC04	157	170	113	80	6	100	—	93	27	33	14	25.5	22.9	9.75	6.75	28	14	55	M6	23
NRC06	220.5	235	170.5	110	7	155	20	104	36	39	15	44.5	41.9	9.25	4.75	37	20	72	M8	31
NRC08	266	280	216	110	8	200	30	117	42	41.5	17	53	49.85	14.75	8.75	46	25	95	M8	35
NRC10	303	305	253	140	8	235	43	120	46	41.5	21	66	62.85	19	8.5	50	30	110	M10	40

■ Specifications

Specifications Model	Plunger Stroke (mm)	Jaw stroke (in Dia.) (mm)	Gripping force per Jaw kN Air pressure at 0.6MPa	Max. air pressure (MPa)	Matching soft top jaw	Gripping Dia. (mm)		Max. rotation (min ⁻¹)	Rotary torque (N·m)	Mass of Product (kg) (With Standard Soft Jaw)
						Max.	Min.			
NRC04	15	5.2	2.5	0.7	SB04B1	110	10	100	9.8	10
NRC06	15	5.2	7	0.7	SB06B1	165	23	72	9.8	22
NRC08	15	6.3	10.8	0.7	SB08B1	210	30	60	9.8	27.7
NRC10	15	6.3	16	0.7	SB10A1	254	50	53	9.8	42.5

■ Rotary Chuck Fitting Dimensions



Rotary Table Model		Chuck model	B	H	J	X	Y	Z
RS	100	NRC04	170	93	27	15	140	275
MR	120	NRC04	170	93	27	18	136	274
	160	NRC04	170	93	27	18	145	283
		NRC06	235	104	36	20		305 (Note1)
	200	NRC04	170	93	27	18	173	311
		NRC06	235	104	36	20		333 (Note1)
	250	NRC06	235	104	36	20	180	340
		NRC08	280	117	42	21		360 (Note1)
	320	NRC10	315	120	46	22	210	398
GT	200	NRC04	170	93	27	18	178	283
		NRC06	235	104	36	20		305
	250	NRC06	235	104	36	20	185	486
		NRC08	280	117	42	21		336
	320	NRC10	315	120	46	22	210	370
	T*X	160	NRC04	170	93	27	18	145
NRC06			235	104	36	20	413	
200		NRC04	170	93	27	20	176	
		NRC06	235	104	36	20		
250		NRC06	235	104	36	20	210	
		NRC08	280	117	42	21		
320		NRC10	305	120	46	22	225	

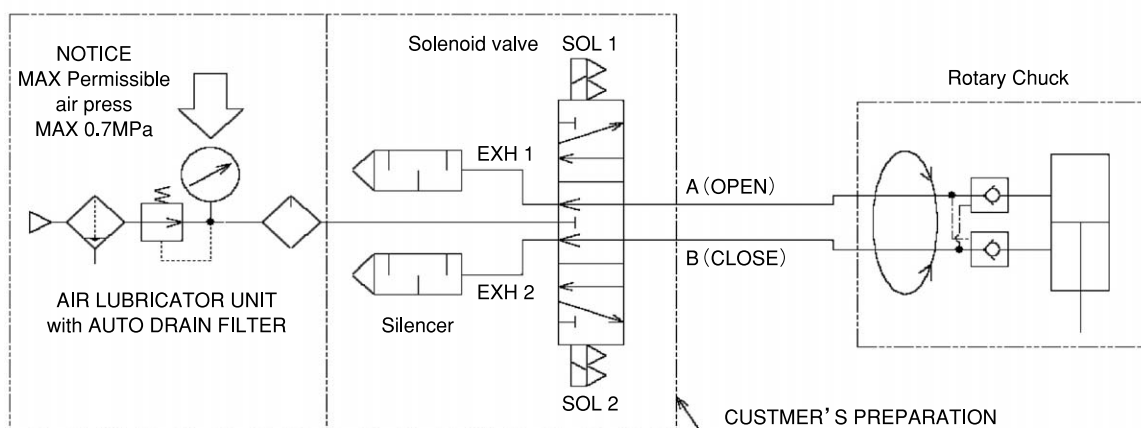
Note : Consult our company in following cases. 1. Anti-rotation bracket mounting position required. 2. NRC chuck interferes with Clamping Device. 3. When the chuck is mounted on horizontal position, Chuck face is upward, please consult with Kitagawa. 4. Another combination.

Piping and operation details for NRC chuck

The specified solenoid must have 4 positions and 3 directions with a centre exhaust. After the solenoid valve has been switched and the chuck jaws opened or closed the solenoid valve must return to the centre, neutral position. Jaw movement occurs immediately after the solenoid is switched however, it will take a short amount of time before full gripping force is achieved. The amount of time required can be checked by fitting a pressure gauge to the chuck surface. For normal operation the pressure gauge can be removed and the required amount of time set as a dwell in the machine program. The solenoid valve must always be returned to the neutral position when the part has been gripped or removed. The NC Rotary Table should only be indexed when the solenoid valve is in the neutral position.

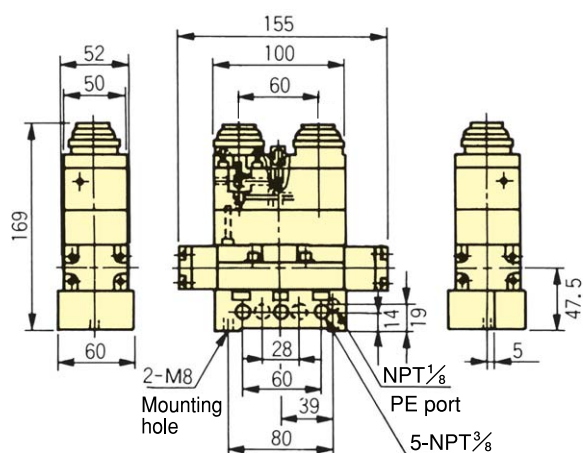


(NRC08 is installed on TMX250)

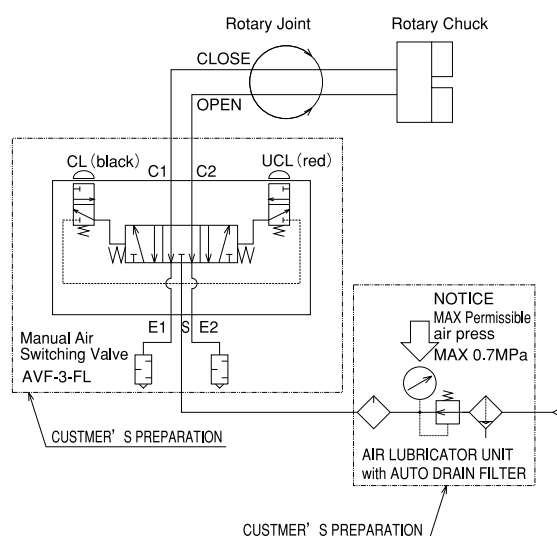


AIR DIAGRAM

Manual air switching valve AVF-3-FL (made-to-order)



Light weight compact push button valve designed exclusively to simplify pipe layout for NRC chuck operation.



AIR DIAGRAM

Service pressure	0~1MPa
Withstanding pressure	1.5MPa
Push button controlling force	4kg
Connecting bore size	NPT $\frac{3}{8}$

Note) An adaptor plug is required to have Rc connecting bore.



CHUCK

Chuck Combinations



TT101 fitted with SC-4-105

Recommended Combinations

Model	Chuck type	Scroll chuck	Power chuck	Work gripper	Rotary chuck
RSM100		SC-4-105 SC-4F-112 SC-4N		AS04	NRC04
TM2100 TM3100		SC-4-105 SC-4F-112 SC-4N			
MR120		SC-5-107 SC-5F-113		AS04	NRC04
CK160		JN06-101 JN06T102 JN06TN			NRC06
CKR160				AS06	
MR160 MX160 TMX160 TM2160 TM3160		JN06-101 JN06T102 JN06TN	N-06 B-206	AS06	NRC06
RK200		JN07-101 JN07T102 JN07TN		AS06	NRC06
CK200		JN07-101 JN07T102 JN07TN			NRC06
CKR200				AS06	
MR200 GT200 TMX200 TUX200		JN07-101 JN07T102 JN07TN	N-06 B-206	AS06	NRC06
MR250 GT250 TMX250 TUX250		JN09-101 JN09T102 JN09TN	N-10 B-210	AS08	NRC06 NRC08
MR320 GT320 TRX320 TUX320		JN12-101 JN12T102 JN12TN	N-12	AS10	NRC10
TR400 TU400		SC-14-103	N-15		
TR500 TU500		SC-14-103	N-15		
TR630		SC-16-113	N-18		
TBX160		JN06-101 JN06T102 JN06TN			NRC06
TBX200		JN07-101 JN07T102 JN07TN			NRC06
TBX250		JN09-101 JN09T102 JN09TN			NRC06 NRC08
TBX320		JN12-101 JN12T102			NRC10
TT101 TW120 TT140 TT150 RKT180		SC-4-105 SC-4F-112 SC-4N		AS04	NRC04
TT182 TW182 TT200		JN06-101 JN06T102 JN06TN		AS04	NRC06
TT251 TW251		JN09-101 JN09T102 JN09TN		AS08	NRC06
TT321 TW321		JN12-101 JN12T102 JN12TN		AS10	NRC10

Note 1) Please refer to P.103~P.112. Please ask about other combinations

Note 2) Position the rotary table upright when mounting a power chuck

Motor maker Model		FANUC AC	Mitsubishi AC	Yaskawa AC	Okuma AC	Sanyo AC	SIEMENS AC
MR120		α iF 2/5000	HF75S HA33NT	SGMAH-08A4A6S SGMAS-08A2A6S	BL-ME24J	R2AA08075FXPHV	1FK7040-2AK71
MR160		α iF 2/5000	HF75T HA33NT	SGMAH-08A4A6S SGMAS-08A2A6S	BL-ME24J	R2AA08075FXPHV	1FK7040-2AK71
CK160 CK200		α iF 2/5000	HF75S	SGMAH-08A4A6S SGMAS-08A2A6S	BL-ME24J	R2AA08075FXPHV	—
MX160		—	—	SGMAH-08A4A6S SGMAS-08A2A6S	—	R2AA08075FXPHV	—
RK200		Note5) α iS 8/4000	HC153T HF154	SGMSV-30A3A2S SGMSV-09A3A2S SGMSV-13A3A2S	BL-ME80J	R2AA13120BXP4PM	—
MR200 MRT200 GT200		α iF 4/5000	HF104T HC103T	SGMAH-08A4A6S SGMAH-05A2A3S SGMAH-08A2A6S	Note2) BL-MC25J Note2) BL-ME40J	R2AA08075FXPHV R2AA08100HXPGPM	1FK7042-2AF71
MR250 GT250		α iF 4/5000	HF104T HC103T	SGMPH-15A4A6S SGMGH-09A2A3S	Note2) BL-MC25J Note2) BL-ME40J	R2AAB8100HXPGPM	1FK7042-2AF71
MR320 GT320		α iF 8/3000	HF104T HC103T	SGMPH-15A4A6S SGMGH-09A2A3S	Note2) BL-MC50J Note2) BL-ME80J	—	1FK7063-2AF71
TMX160 TBX160		α iF 2/5000	HF75T HA33NT	SGMAH-08A4A6S SGMAS-08A2A6S	BL-ME24J	R2AA08075FXPHV	—
TMX200 TBX200 TUX200		α iF 4/5000	HF104T HC103T	SGMAH-08A4A6S SGMGH-05A2A3S SGMAS-08A2A6S	BL-MC25J BL-ME40J	R2AA08075FXPHV	1FK7060-2AF71
TMX250 TBX250 TUX250		α iF 4/5000	HF104T HC103T	SGMPH-15A4A6S SGMGH-09A2A3S	BL-MC50J BL-ME80J	—	1FK7060-2AF71
TRX320 TBX320 TUX320		α iF 8/3000	HF104T HC103T	SGMPH-15A4A6S SGMGH-09A2A3S	BL-MC50J BL-ME80J	—	1FK7063-2AF71
TM2100 TM3100 TM2160 TM3160		α iF 4/5000	HF104T HC103T	SGMAH-08A4A6S SGMGH-05A2A3S SGMAS-08A2A6S	BL-MC25J	R2AAB8100HXPGPM	—
TT101	Rotary Axis	α iF 1/5000	HA33NT	SGMAS-04A2A6S SGMPH-04A4A6S	BL-ME24J	R2AA08075FXPHV	1FK7032-2AK71
	Tilt Axis	α iF 2/5000	HA33NT	SGMAS-08A2A6S SGMAH-08A4A6S	BL-ME24J	R2AA08075FXPHV	1FK7034-2AK71
TW120 TT140 TT150		α iF 2/5000	HA33NT	SGMAH-08A4A6S SGMAS-08A2A6S	BL-ME24J	R2AA08075FXPHV	—
TT182 TW182 TT200 RKT180		α iF 2/5000	HF75T HA33NT	SGMAH-08A4A6S SGMAS-08A2A6S	BL-ME24J	R2AA08075FXPHV	1FK7040-2AK71
TW251		α iF 4/5000	HF104T HC103T	SGMPH-15A4A6S SGMGH-09A2A3S	BL-MC50J BL-ME40J	—	1FK7060-2AF71
TW321		α iF 8/3000	HF104T HC103T	SGMPH-15A4A6S SGMGH-09A2A3S	BL-MC50J BL-ME80J	—	—
TW2180		α iF 2/5000 α iS 4/5000	HF75T HA33NT	SGMAS-08A2A6S SGMAH-08A4A6S	BL-ME24J	R2AA08075FXPHV	—
LR320		α iF 12/4000	HF204S HC202S	SGMGH-20A2A2S	BL-MC150J	—	—
TR400 TR500 TP530		α iF 12/4000	HF204S HC202S	SGMGH-20A2A2S	BL-MC100J	—	1FK7083-2AF71
LR400 LR500 TR630		α iF 22/3000	HF354S HC352S	SGMGH-30A2A2S	BL-MC200J	—	—
DM100		β iS 0.5/6000	HC-KFS23K-S9	SGMAS-02A2A6S	—	—	—
DME100		β iS 0.5/6000	HF-KP43JW04-S6	—	—	—	—
TC100		α iF 1/5000	HA33NT	SGMPH-04A4A6S SGMAS-04A2A6S	BL-ME24J	R2AA08040FXPGPM	1FK7032-2AK71 1FK7034-2AK71 1FK7040-2AK71

Note 1) Some motor types have difference in specifications such as the maximum rotation and the outline dimensions.

Note 2) Okuma motor's mounted on MR series is a BL-MC type. GT series is a BL-ME type.

Note 3) for the NC rotary tables listed on blue-shaded columns, standard fitting is with a servo motor with a straight shaft (without a keyway).

Note 4) In case of the motor is not indicated in the above combination table, contact with KITAGAWA.

Note 5) When installing RK200 on Fanuc Robodrill, motor is α iF8/3000 and specifications are different.



High-Precision Table with Scale

High indexing accuracy by mounting rotary scale at additional axis spec.

Full closed loop control becomes possible by mounting a commercial rotary scale to the NC rotary table. Highly precise indexing becomes possible by detecting the rotary angle of the table directly.

■ Fitted (○)/Not Fitted (×)

NC table model		Rotary encoder (Heidenhain)	MP scale (MHI)
MR120、160、200、250、320 CK160 CK200 RK200		×	×
GT200、250、320		○	○
TMX160、200、250		○	○
THX160、200		○	○
TBX160、200、250、320		×	×
TUX200、250、320 TU400、500		○	○
TLX250、320		○	○
TRX320		○	○
TR400、500、630 TP530		○	○
TT101	Rotary shaft	×	×
	Tilting shaft	※	※
TT150	Rotary shaft	※	×
	Tilting shaft	○	○
TT140、182、200、251、321	Rotary shaft	○	※
	Tilting shaft	○	○
TW120	Rotary shaft	○	×
	Tilting shaft	×	×
TW182	Rotary shaft	○	○
	Tilting shaft	×	×
TW251、321	Rotary shaft	○	○
	Tilting shaft	×	×
TW2180、RKT180	Rotary shaft	×	×
	Tilting shaft	×	×

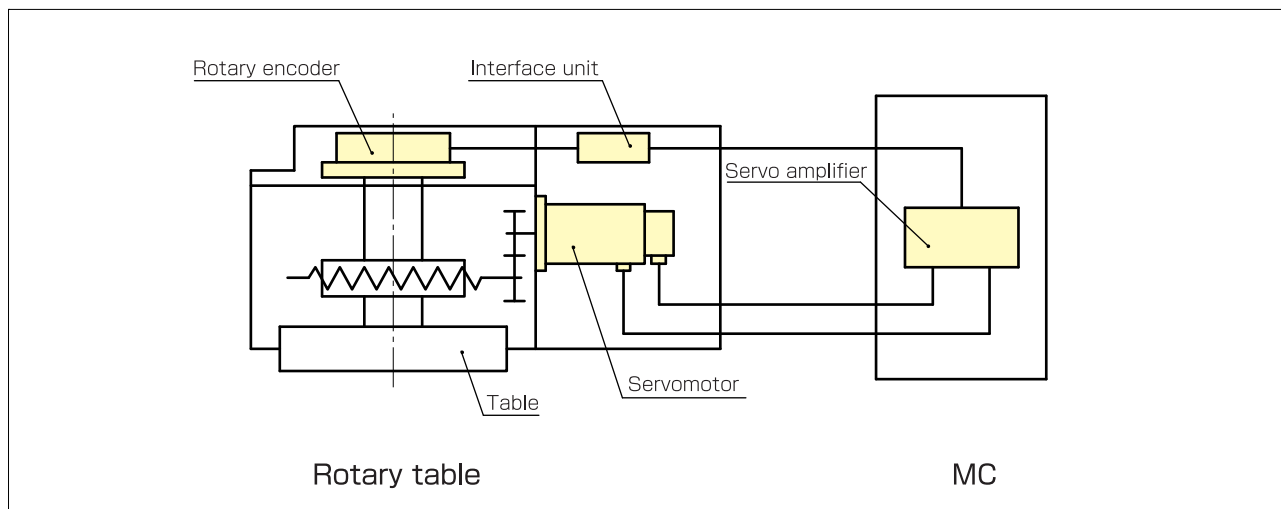
Note) 1. Inquire for accuracy details.

2. Consult our company about the mounting of ※column.

3. Fitting a rotary scale may affect dimensions and specifications. Please consult for the details.

4. Not fitted for ones with Kitagawa controller MAC mini i series.

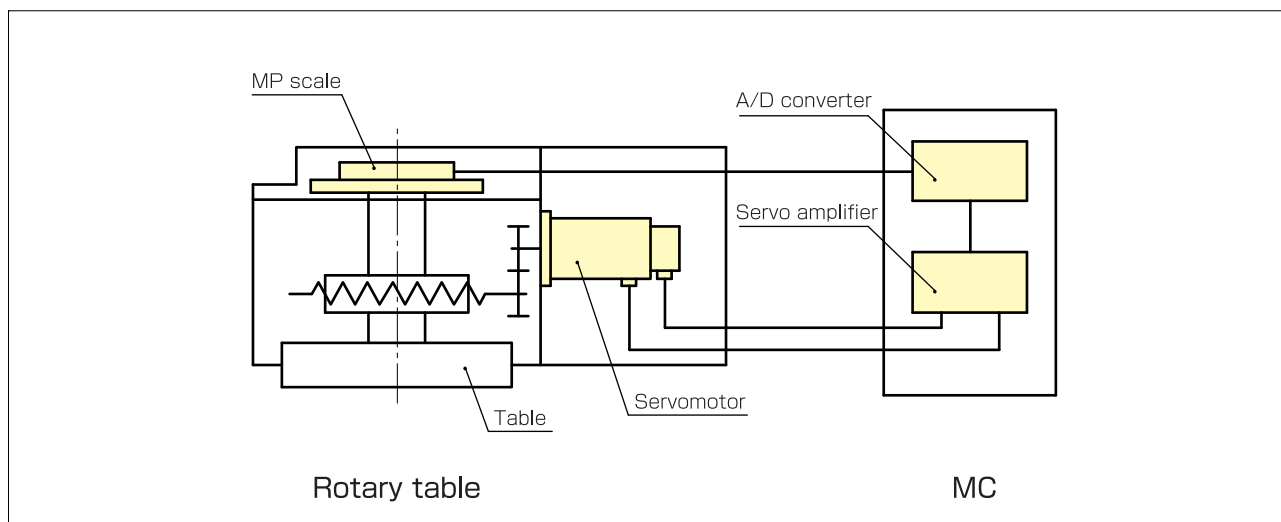
■Table configuration with Heidenhain rotary encoder



Rotary encoder	RON785	RON886	RCN727F	RCN827F
Interface unit	IBV102	IBV102	—	—
Recommended measuring pitch	0.0001°	0.00005°	0.0001°	0.0001°
Position value	—	—	27bit ABS	27bit ABS

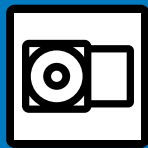
Note) 1. RCN727F and RCN827F are compatible to FANUC serial interface. Consult for compatibilities with other NC devices.
2. The above recommended measuring pitches are of Heidenhain catalogue values.
3. Consult for fitting other than the above mentioned Rotary encoder.

■Table configuration with MHI MP scale



MP scale	MPI 736B	MPI 1272B
Recommended resolution	0.0001°	0.00005°
A/D converter	ADB-20J10	

Note) 1. Using the A/D converter ADB-20J60 allows accommodation for serial interface.
2. The above recommended resolutions are of MHI catalogue values.
3. A pre-amplifier is required for MPR series.
4. Consult when using non-standard preamplifier for MPR series.
5. Consult for fitting other than the above mentioned MP scales.



**NC ROTARY
TABLE**

Accuracy specification

■ MR • MX • GT series (Unit : mm)

No.	Inspection Item	Allowance	
1	Flatness of Table Face	0.020 at Dia	1
2	Parallelism between Table Face and Base	0.020 at 150	2
3	Squareness between Table Face and Base when installed vertically	0.020 at Dia	3
4	Run-out of Table Face in Rotation	0.020	4
5	Concentricity of Center Hole	0.010	5
6	Parallelism between Center of Table rotation and Center of Guide Block	0.020 at 150	6 • 7
7	Deviation between Center of Table rotation and Center of Guide Block	0.030	

■ CK series (Unit : mm)

No.	Inspection Item	Allowance	
1	Parallelism between Table Face and Base	0.020 at 150	1
2	Squareness between Table Face and Base when installed vertically	0.020 at 150	2
3	Run-out of Table Face in Rotation	0.020	3
4	Concentricity of Center Hole	0.010	4
5	Parallelism between Center of Table rotation and Center of Guide Block	0.020 at 150	5 • 6
6	Deviation between Center of Table rotation and Center of Guide Block	0.030	

■ RK series (Unit : mm)

No.	Inspection Item	Allowance	
1	Concentricity of Center Hole	0.010	1
2	Run-out of Table Face in Rotation	0.020	2
3	Parallelism between Table Face and Base	0.020	3
4	Squareness between Table Face and Base when installed vertically	0.020 at 200	4
5	Parallelism between Center of Table rotation and Center of Guide Block	0.020 at 200	5 • 6
6	Deviation between Center of Table rotation and Center of Guide Block	0.030	

■ TMX series (Unit : mm)

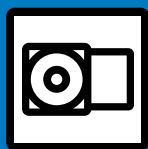
No.	Inspection Item	Allowance	
1	Flatness of Table Face	0.010 at 300	1
2	Parallelism between Table Face and Base	0.020 at 300	2
3	Squareness between Table Face and Base when installed vertically	0.020 at 300	3
4	Run-out of Table Face in Rotation	0.010	4
5	Concentricity of Center Hole	0.010	5
6	Parallelism between Center of Table rotation and Center of Guide Block	0.020 at 300	6・7
7	Deviation between Center of Table rotation and Center of Guide Block	0.020	

■ LR series (Unit : mm)

No.	Inspection Item	Allowance	
1	Concentricity of Center Hole	0.010	1
2	Run-out of Table Face in Rotation	0.010	2
3	Flatness of Table Face	0.010 at 300	3
4	Parallelism between Table Face and Base	0.020 at 300	4

■ TT・RKT series (Unit : mm)

No.	Inspection Item	Allowance	
1	Flatness of Table Face	0.010 at Dia	1
2	Parallelism between Table Face and Base(Tilting Axis Direction)	0.020 at Dia	2
3	Run-out of Table Face in Rotation	0.015	3
4	Concentricity of Center Hole	0.010	4
5	Parallelism between Center of Tilting Axis and Base(Tilted at 90° and 0°)	0.020 at Dia	5
6	Perpendicularity between Table Face and Center of Guide Blocks	0.020 at Dia	6

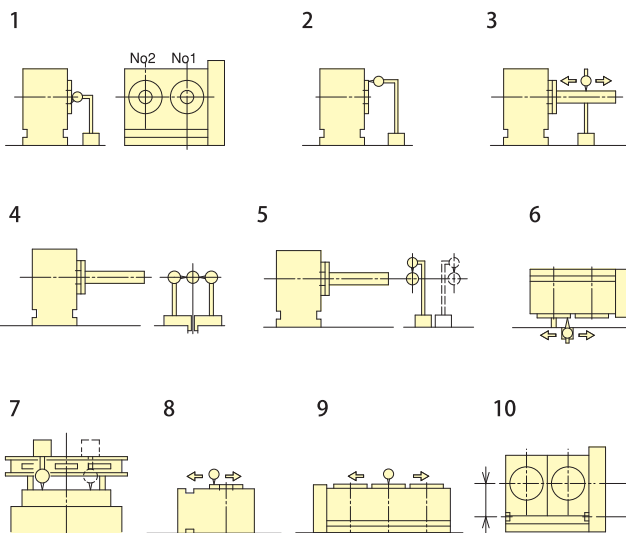


**NC ROTARY
TABLE**

Accuracy specification

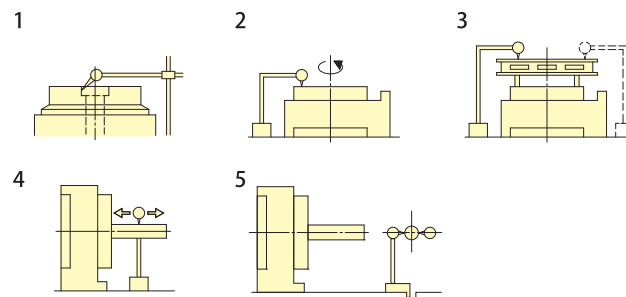
■ Multiple spindle TM series (Unit : mm)

No.	Inspection Item	Allowance	
1	Concentricity of Center Hole	0.010	
2	Run-out of Table Face	0.010	
3	Parallelism between Center of Table rotation and Base when installed vertically	0.020	
4	Parallelism between Center of Table rotation and Center of Guide Block	0.020 at 150	
5	Difference of Center Height	0.020	
6	Difference between Guide Blocks and each Table Surface	0.030	
7	Flatness of Table Face	0.010	
8	Parallelism between Table Face and Base	0.010	
9	Difference of height between each Table Face and Base when installed horizontally	0.020	
10	Difference between each Spindle Center and Guide Blocks when installed horizontally	0.020	



■ RSM100 (Unit : mm)

No.	Inspection Item	Allowance	
1	Concentricity of Center Hole	0.010	
2	Run-out of Table Face	0.020	
3	Parallelism between Table Face and Base	0.020 at 150	
4	Parallelism between Center of Table rotation and Base when installed vertically	0.020 at 150	
5	Parallelism between Center of Table rotation and Center of Guide Block	0.020 at 150	



Explanation of terms used to describe Kitagawa products.

Vertical • horizontal

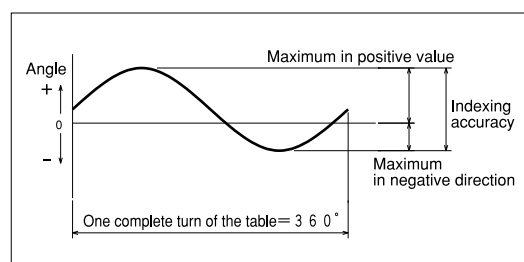
A vertical NC table is installed with the table surface perpendicular to the table surface of the machine tool, where as a horizontal one is installed flat with the NC table surface parallel to the machine tool table.

Right handed • Left handed

Facing to the table surface of the NC table installed upright, if the motor case is seen on the right hand side, it is "right-handed;" and if on the left hand side, it is "left-handed."

Indexing accuracy

The angle of difference between the 0 position after one complete 360° turn of the table. Indexing accuracy is a sum of the max and min values.



Repeatability

The maximum difference between several measurements after indexing in clockwise direction from the datum point 0°.

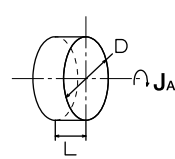
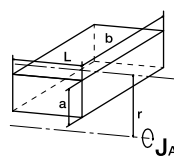
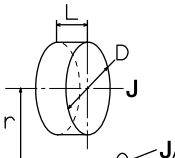
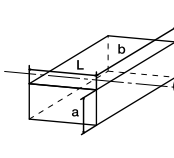
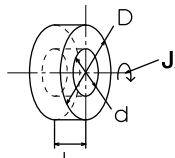
Clamp torque

Breaking force of clamping mechanism when rotational torque is applied externally to the table. As the condition, the catalog value is used for the supply pressure and does not include self-locking by the worm gear.

Allowable load

It is the maximum mass allowed on the table surface where the work is assumed to be a cylindrical castiron body of a diameter equal to the table surface.

Formulas to determine moment of inertia

	D: Major diameter of the roundbar [m] L: Length of the roundbar [m] ρ: Density [kg/m³] M: Mass of the roundbar [kg] J_A: Moment of inertia [kgm²]	$M = \frac{\pi D^2}{4} \times L \rho$ $J_A = \frac{MD^2}{8}$		a: Side length [m] b: Side length [m] L: Side length [m] ρ: Density [kg/m³] r: Turning radius [m] J_A: Moment of inertia [kgm²]	$M = abL \rho$ $J_A = \frac{1}{12} M(a^2 + b^2 + 12r^2)$										
	D: Major diameter of the roundbar [m] L: Length of the roundbar [m] r: Turning radius [m] ρ: Density [kg/m³] M: Mass of the roundbar [kg] J_A: Moment of inertia of the roundbar at the centre A [kgm²] J: Moment of inertia [kgm²]	$M = \frac{\pi D^2}{4} \times L \rho$ $J = \frac{MD^2}{8}$ $J_A = J + M \cdot r^2$		a: Side length [m] b: Side length [m] L: Side length [m] ρ: Density [kg/m³] J_A: Moment of inertia [kgm²]	$M = abL \rho$ $J_A = \frac{1}{12} M(a^2 + b^2)$										
	D: Outer diameter of the cylinder [m] d: Bore diameter of the cylinder [m] L: Length of the roundbar [m] ρ: Density [kg/m³] M: Mass of the cylinder [kg] J_A: Moment of inertia [kgm²]	$M = \left(\frac{\pi D^2}{4} \times L \rho \right) - \left(\frac{\pi d^2}{4} \times L \rho \right)$ $J_A = \frac{1}{8} M(D^2 + d^2)$	Densities of various materials Dynamic velocity (ρ) <table><tr><td>Iron</td><td>7.85 × 10³kg/m³</td></tr><tr><td>Cast iron</td><td>7.35 × 10³kg/m³</td></tr><tr><td>Aluminum</td><td>2.7 × 10³kg/m³</td></tr><tr><td>Copper</td><td>8.94 × 10³kg/m³</td></tr><tr><td>Brass</td><td>8.5 × 10³kg/m³</td></tr></table>			Iron	7.85 × 10 ³ kg/m ³	Cast iron	7.35 × 10 ³ kg/m ³	Aluminum	2.7 × 10 ³ kg/m ³	Copper	8.94 × 10 ³ kg/m ³	Brass	8.5 × 10 ³ kg/m ³
Iron	7.85 × 10 ³ kg/m ³														
Cast iron	7.35 × 10 ³ kg/m ³														
Aluminum	2.7 × 10 ³ kg/m ³														
Copper	8.94 × 10 ³ kg/m ³														
Brass	8.5 × 10 ³ kg/m ³														

Allowable load (axial load, circumferential load, moment load)

Load allowable onto the table surface; categorized by the following:

(Axial load): load exerted perpendicularly onto the table surface.

(Circumferential load): load exerted onto the outer edge of the table surface in the parallel direction; agrees with the clamping torque.

(Moment load): Load exerted onto the table surface in parallel direction.

Allowable cutting torque

Load allowed during lead cutting with the NC table turning; it is the load-resistant torque of the worm wheel when the table is rotating at a speed of 1 min⁻¹.

Work inertia

Load exerted in the circumferential direction; degrees with the clamping torque.

Allowable work inertia

The maximum work inertia allowed on the NC table.

Triple disk brake system

Pneumatic mechanism used to generate high clamping torque equivalent to that of hydraulic clamping. Three disk plates cause frictions on four surfaces.

Air hydro booster

Amplifies pneumatic pressure to produce equivalent hydraulic pressure when built in a NC table it generates a clamping torque equivalent to that by direct hydraulic clamping.

Air purge

Air injected into the motor case to prevent condensation, and thus to protect electric devices.

Relief valve

Discharges pressure build up inside the rotary table body as a result of deteriorated seals, thus avoiding damage to the brake and motor.

Trunnion jig plate (cradle)

Plate assembly to connect NC table and tail spindle thus allowing greater variety of work pieces to be machined.

Warranty and indemnity

Products are warranted for one year after delivery. Use only genuine Kitagawa parts, including consumables. Kitagawa Iron Works assumes no responsibilities for any defects or accidents caused by non genuine parts or operation of products outside the recommended operating conditions. The warranties become invalid when any part other than Kitagawa's genuine part was used.

When planning to export or to take the product out of Japan

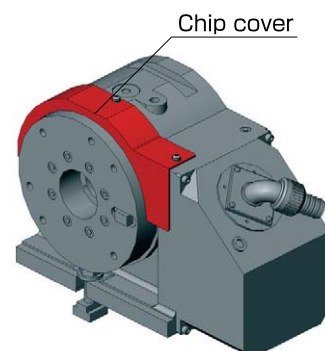
The products listed on this catalogue are subject to controls under "Export Trade Control Ordinance" and "Foreign Exchange Ordinance" by "Foreign Exchange and Foreign Trade Law." Consult in advance for any requirement of an approval by the Minister of Economy, Trade and Industry for export.

Using with grinding machine

Use with grinding machine can damage the face plate seals and is not warranted.

Chip cover optional

Chip covers are available to protect face plate seals in situations where chips directly hit the seal, or are easily trapped in a jig.



Air supply

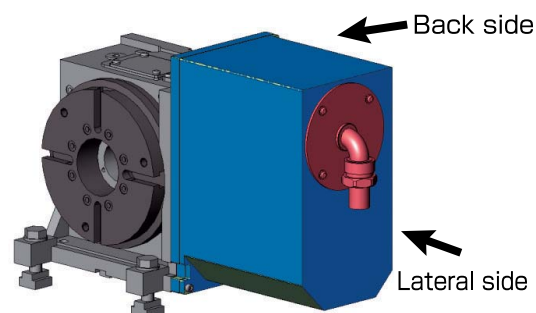
In some environments, condensation may occur inside the motor case. Our rotary tables are equipped with air purge to prevent electrical defects and corrosion caused by such condensation. The air supplied to the rotary table for air purge must be clean air of P87 or of the specification on the air circuit diagram. Where moisture may be contained in the supplied air, provide a dryer to remove the moisture. Any defect or accident caused by using air not complying with specifications will not be warranted.

NC control while using a table clamp

Refer to the control flow chart on page 90.

Direction of cable outlet

Standard cable outlet is provided on the back or the lateral side of the motor case. Consult for having cable outlet on any other position.





America Contact

- | | |
|---|---|
| <p> ☐ KITAGAWA - NORTHTECH INC.
 Tel. +1 847-310-8787 Fax. +1 847-310-9484
 ☐ TECNARA TOOLING SYSTEMS, INC.
 Tel. +1 562-941-2000 Fax. +1 562-946-0506 </p> | <p> 301 E. Commerce Dr, Schaumburg, IL. 60173 USA
 http://www.kitagawa.com
 12535 McCann Dr, Santa Fe Springs, California 90670 USA
 http://www.tecnaratools.com </p> |
|---|---|

Europe Contact

- | | |
|---|---|
| <p> KITAGAWA EUROPE LTD.
 Tel. +44 1725-514000 Fax. +44 1725-514001
 ☐ KITAGAWA EUROPE GmbH
 Tel. +49 2102-123-78-00 Fax. +49 2102-123-78-69
 KITAGAWA EUROPE GmbH Poland Office
 Tel. +48 607-39-8855 Fax. +48 32-749-5918
 KITAGAWA EUROPE GmbH Czech Office
 Tel. +420 549-273-246 Fax. +420 549-273-246
 KITAGAWA EUROPE GmbH Romania Office
 Tel. +40 727-770-329
 KITAGAWA EUROPE GmbH Hungary Office
 Tel. +36 30-510-3550 </p> | <p> Unit 1 The Headlands, Downton, Salisbury, Wiltshire SP5 3JJ, United Kingdom
 http://www.kitagawa.global/en
 Borsigstrasse 3, 40880, Ratingen Germany
 http://www.kitagawa.global/de
 44-240 Zory, ul. Niepodleglosci 3 Poland
 http://www.kitagawa.global/pl
 Purkynova 125 621 00 Brno, Czech Republic
 http://www.kitagawa.global/cz
 Strada Heliului 15, Bucharest 1, 013991, Romania
 http://www.kitagawa.global/ro
 Dery T.u.5, H-9024 Győr, Hungary
 http://www.kitagawa.global/hu </p> |
|---|---|

Asia Contact

- | | |
|--|---|
| <p> KITAGAWA INDIA PVT LTD.
 Tel. +91 80-2976-5200 Fax. +91 80-2976-5205
 ☐ KITAGAWA (THAILAND) CO.,LTD. Bangkok Branch
 Tel. +66 2-712-7479 Fax. +66 2-712-7481
 ☐ KITAGAWA IRON WORKS (SHANGHAI) CO.,LTD.
 Tel. +86 21-6295-5772 Fax. +86 21-6295-5792
 ☐ KITAGAWA IRON WORKS (SHANGHAI) CO., LTD. Guangzhou Office
 Tel. +86 20-2885-5276
 ☐ DEAMARK LIMITED
 Tel. +886 2-2393-1221 Fax. +886 2-2395-1231
 ☐ KITAGAWA KOREA AGENT CO.,LTD.
 Tel. +82 2-2026-2222 Fax. +82 2-2026-2113 </p> | <p> Plot No.215, 4th Phase, Bommasandra Industrial Area, Bommasandra Jigani Link Road, Bangalore 560 099, Karnataka, India
 http://www.kitagawa.global/in
 9th FL, Home Place Office Building, 283/43 Sukhumvit 55Rd. (Thonglor 13),Klongton-Nua, Wattana, Bangkok 10110, Thailand
 Room308 3F Building B. Far East International Plaza,No.317 Xian Xia Road,Chang Ning, Shanghai,200051, China
 B07,25/F,West Tower,Yangcheng International Trading Centre,No.122,East Tiyu Road,Tianhe District,Guangzhou, China
 No. 6, Lane 5, Lin Sen North Road, Taipei, Taiwan
 http://www.deamark.com.tw
 803 Ho, B-Dong, Woolim Lion's Valley, 371-28 Gasan-Dong,Gumcheon-Gu, Seoul, Korea
 http://www.kitagawa.co.kr </p> |
|--|---|

Oceania Contact

- | | | |
|---|--|--|
| <p> DIMAC TOOLING PTY.LTD.
 Tel. +61 3-9561-6155 Fax. +61 3-9561-6705 </p> | <p> 69-71 Williams Rd, Dandenong South, Victoria, 3175 Australia
 http://www.dimac.com.au </p> | <p> ☐ Japanese speaker available </p> |
|---|--|--|


<http://www.kiw.co.jp>

KITAGAWA IRON WORKS CO., LTD.

77-1 Motomachi, Fuchu-shi, Hiroshima-pref. 726-8610, Japan Tel. +81 847-40-0526 Fax. +81 847-45-8911

- Specifications and outside appearance are subject to change without notice due to ongoing research and development.
- The color of the actual product may be different from the catalogue's due to printing matters.
- Catalogue contents as of 2017.8
- The products herein are controlled under Japanese Foreign Exchange and Foreign Trade Control Act.
- In the event of importing and/or exporting the products,
you are obliged to consult KITAGAWA as well as your government for the related regulation prior to any transaction.