



Exclusive Representative

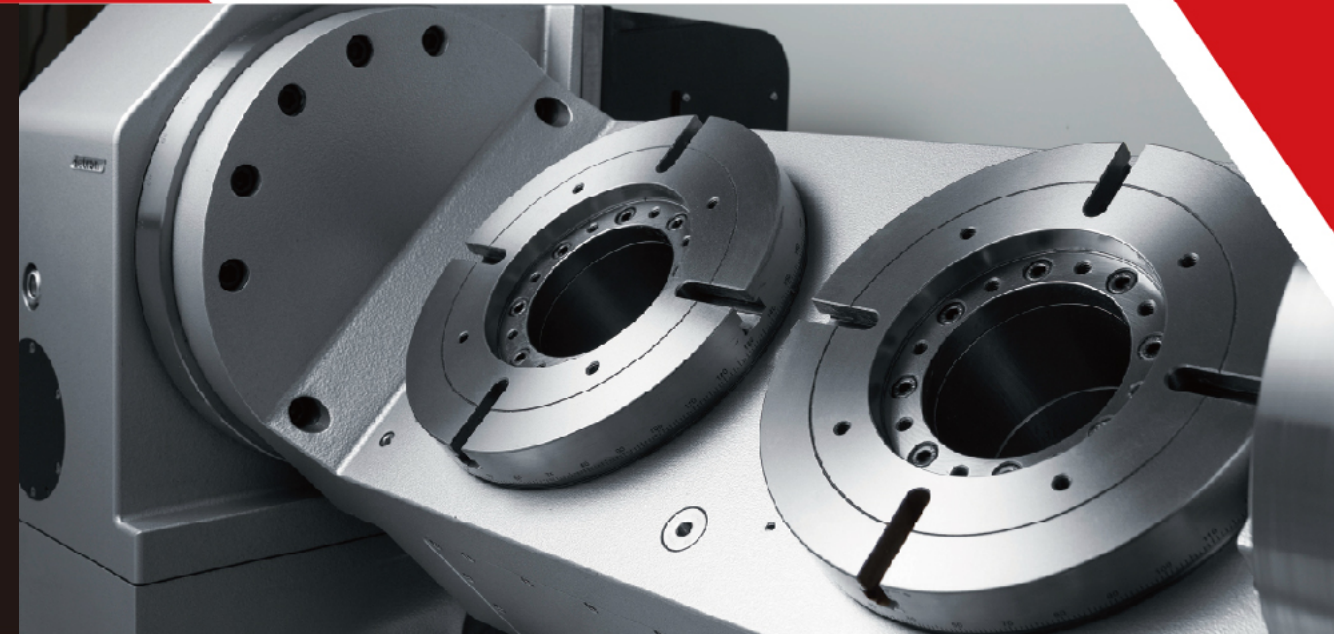
Syntax S.r.l.

[www.syntaxline.com](http://www.syntaxline.com)

+39 0123 233020

## PRODUCT LINE UP

Quality and Cost Effect



### **detron** Machine Co., Ltd.

No. 47-5, Zuncian Road., Shengang District 42952,

Taichung City, Taiwan

Tel: +886-4-2561-6000 Fax: +886-4-2562-7872

<http://www.detrone-rotary.com>

e-mail: [export.sales@detrone.com.tw](mailto:export.sales@detrone.com.tw)



**detron** policy prohibits quoted products from being delivered to violate "The Wassenaar Arrangement" regulation.

We reserve the right to modify and withdraw any part of the content specified herein.

MAGNIFY THE VALUE OF MACHINERY

[www.detrone-rotary.com](http://www.detrone-rotary.com)



GN\_FEB\_2024\_EN



## The Largest Professional Rotary Table Manufacturer

**detron** is committed to designing and engineering the highest quality NC rotary table products, through the experience, dedication and innovation of our International R & D team. Our mission is to understand and support our customer's needs with advanced application technology, with a wide range of products, providing optimum performance. Through intelligent design, easy integration to all machine tools is assured.

**detron** employs strict quality control at all stages of manufacture. Manufacturing all elements in house is the only way we can be sure of the quality of our product. With a huge efficient production facility, detron has become the largest NC rotary table manufacturer by volume in the World. This has ensured that detron are the selected partner of a wide variety of machine tool builders, both at home and internationally.

**detron** 2nd Factory



- Production Line of 5th axis
- production line for customization

Authorized Agent in Taiwan



- After-sales service and parts inventory
- distributor training center

## detron Global Factory Outlet

Factory Outlet in Shanghai



- After-sales service and parts inventory
- distributor training center

Factory Outlet in Turkey



- After-sales service and parts inventory
- distributor training center

Factory Outlet in India



- After-sales service and parts inventory
- distributor training center

Factory Outlet in USA



- After-sales service and parts inventory
- distributor training center

Factory Outlet in Brazil



- After-sales service and parts inventory
- distributor training center

Factory Outlet in Korea



- After-sales service and parts inventory
- distributor training center

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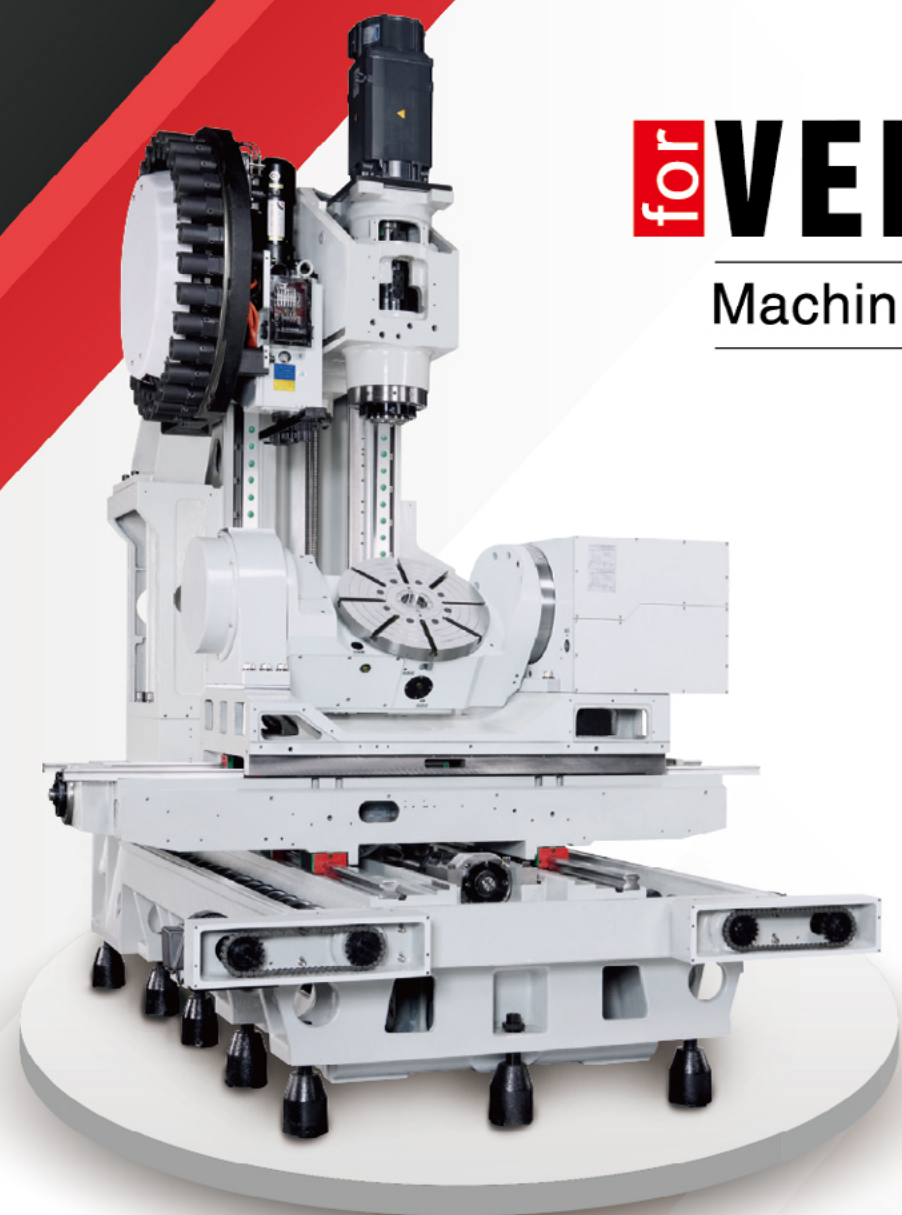
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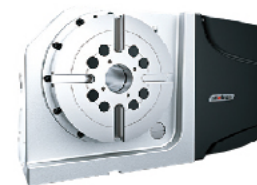
# for VERTICAL

## Machining Center Series

### 4th axis

#### GXA-S series

multiple pneumatic power clamp



- GXA-125S
- GXA-170S/H
- GXA-210S/H
- GXA-250S/H
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#### GXA-2W series

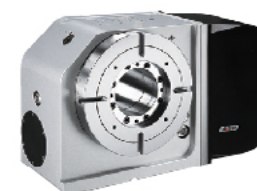
multi spindle, pneumatic power clamp



- GXA-170S-2W-250
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#### GXA-H/GX-H series

hydraulic clamp, ultra large bore through



- GXA-255H
- GXA-320H
- GXA-400H
- GXA-500H
- GX-630H
- GX-800H
- Page 25-28

#### GXA-L series

motor at left



- GXA-170SL
- GXA-210SL
- GXA-255HL
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### 5th axis

#### GFA-S/H/HB series

compact 5th axis



- GFA-101S
- GFA-125S
- GFA-170SII/HII
- GFA-210S/H
- GFA-255H/HB
- GFA-320H
- Page 37-40

#### GFA-2W series

5th axis in multi spindle



- GFA-125S-2W-240
- GFA-170S-2W-300
- Page 45

#### GTFAE-2W/3W series

trunnion 5th axis in multi spindle



- GTFAE-210S-2W-320
- GTFAE-255H-2W(S)-400
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#### GTFAE series

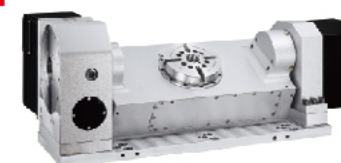
trunnion 5th axis



- GTFAS-125S
- GTFAE-210S
- GTFAE-320XB
- GTFAE-320H
- GTFAE-410XB
- GTFAE-500XB
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#### GTFAE-L(S) series

trunnion 5th axis, ultra large swing



- GTFAE-170SL
- GTFAE-255SBL(S)
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#### GTFAE-L(S) series

trunnions 5th axis, ultra large swing



- GTFAE-320XBL(S)
- GTFAE-410XBL(S)
- GTFAE-410HL(S)
- GTFAE-500XBL
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**RCX / RCF**

**RCX-S/H series**

Roller Gear Cam Drive Rotary Table



- RCX-170RS/H
  - RCX-210S/H
  - RCX-250ES/H
  - RCX-255H
  - RCX-320EH
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**RCF-S/H series**

Roller Gear Cam Drive Rotary Table



- RCF-170S/H
  - RCF-210S/H
  - RCF-255H
  - RCF-320EH
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**DDM**

**DV series**

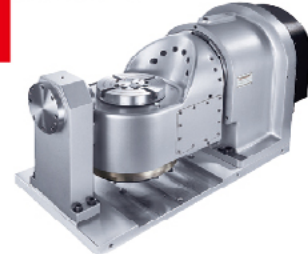
high speed 4th axis by DDM built-in



- DV-170P
  - DV-255PII
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**DTF series**

high speed 5th axis by DDM built-in



- DTFS-125P
  - DTFE-125P
  - DTFS-170P
  - DTFE-170P
  - DTFE-171P
  - DTF-280P
  - DTFAI-650H
  - DTFAI-720EH
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**Others**

**GVA-B series**

4th axis with motor at back



- GV-170SB
  - GVA-210SB
  - GVA-255HBI
- Page 31

**CXries**

hydraulic indexing table by hirth coupling



- CX-255H
  - CX-320H
  - CX-400H
  - CX-500H
- Page 33

**Tailstock**

**ST-T/TP/TH series**

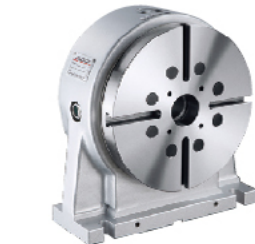
quill type tailstock



- ST-125T/TP
  - ST-170T/TP
  - ST-210T/TP
  - ST-255T/TH
  - ST-320T/TH
  - ST-400T/TH
- Page 35

**SR-P/H series**

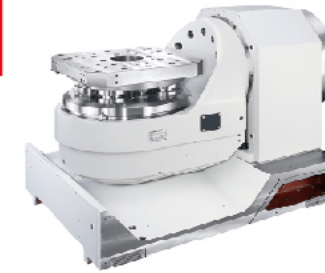
rotary type tailstock



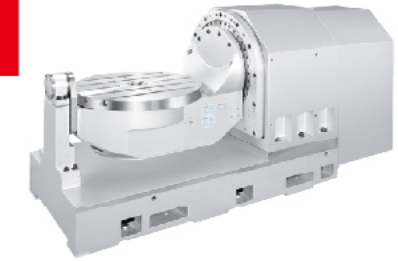
- SR-125P
  - SR-170P
  - SR-210P
  - SR-255H
  - SR-320H
  - SR-400H
  - SR-500H
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**Customized Product with DDM**

**Pallet changeable**

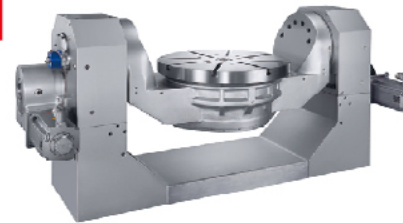


**With sub support**



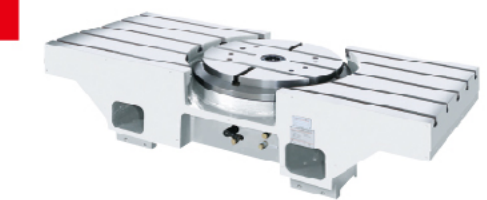
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**Low gravity and dual drive at tilting axis**



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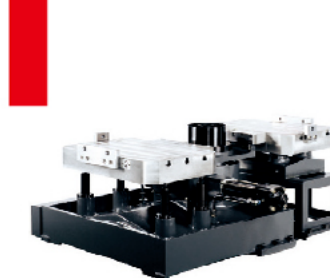
**Built in machine table**



**for VERTICAL**  
Machining Center Series

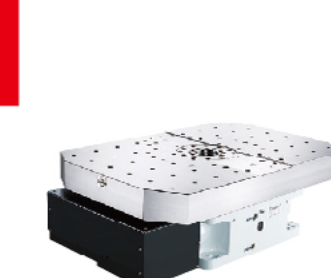
**Auto Pallet Change**

**For VMC with fixed column**



- CVR-660
  - CVR-850
  - CVR-10D
- Page 49

**For VMC with movable column**



- SVC-7050II
  - SVC-10065II
- Page 50

# Quality Policy



## Product Assembly

Standardization in each operation process, with high volume production management, stable quality is guaranteed.

## Calibration & Inspection

Apply German Zeiss CMM for full geometric precision inspection and high resolution Renishaw laser calibration to identify positioning accuracy.



## Professional Training

R&D division stands by customers with innovation to upgrade application. On-site technician trainings are regularly taken to intensify engineering skills.

## Technical Center and Laboratory

detron laboratory continues various experiments to approve product features. Scientific data applied for optimization for all detron new products and new material.



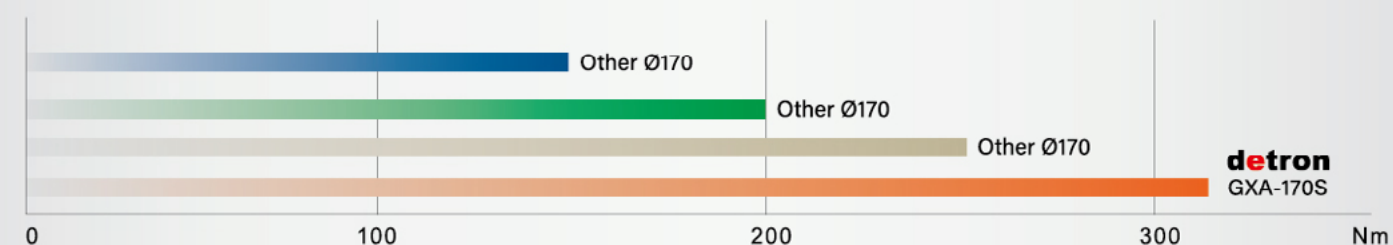
## Dynamic 5 axis Location Alignment

detron own measurement facility with European IBS rotary inspector and software. To provide sufficient efficiency of 5 axis machine manufacturing and processing.

## CNC Dynamic 5 axis Machining Application Center

detron own measurement facility with European IBS rotary inspector and software. To provide sufficient efficiency of 5 axis machine manufacturing and processing.

## Practical Clamping Force Approved



GXA-170S remains stable & high accuracy performance with repeated clamping test. This clamp test is part of the standard testing procedure of every detron product.

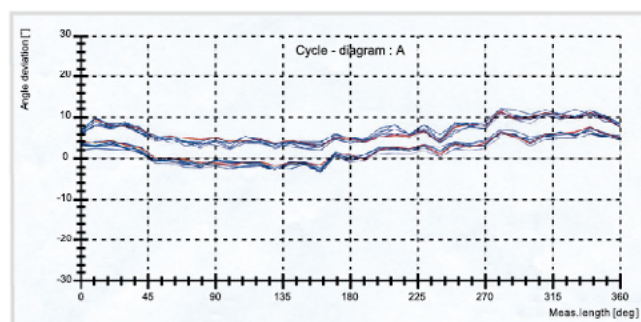
Scan these QR codes to see video:



# Accuracy Inspection Norm

detron

ISO 230-2 Norm (equal to JIS B 6192)



Accuracy Inspection upon ISO 230-2 international norm is operated with **5 continuous cycles** in clockwise and counterclockwise test.

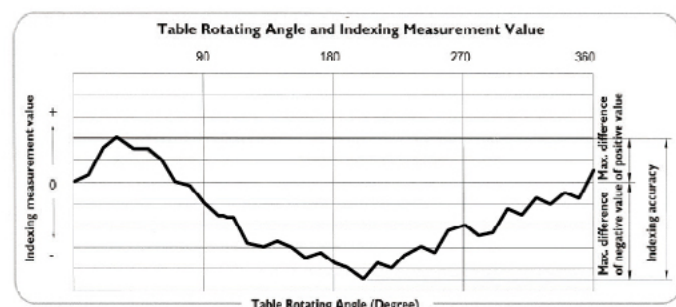
## Facility of Inspection

detron applies Heidenhain optical encoder and Renishaw ballbar system to approve positioning and repeatability accuracy.

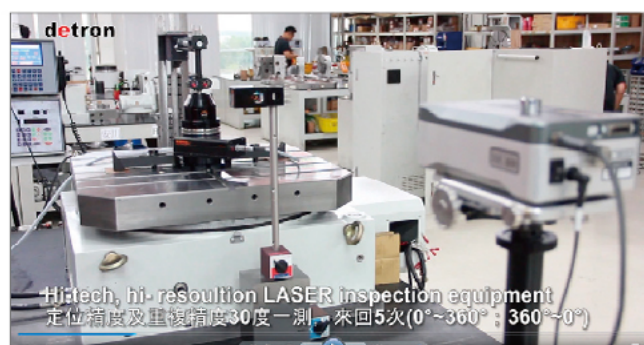


others

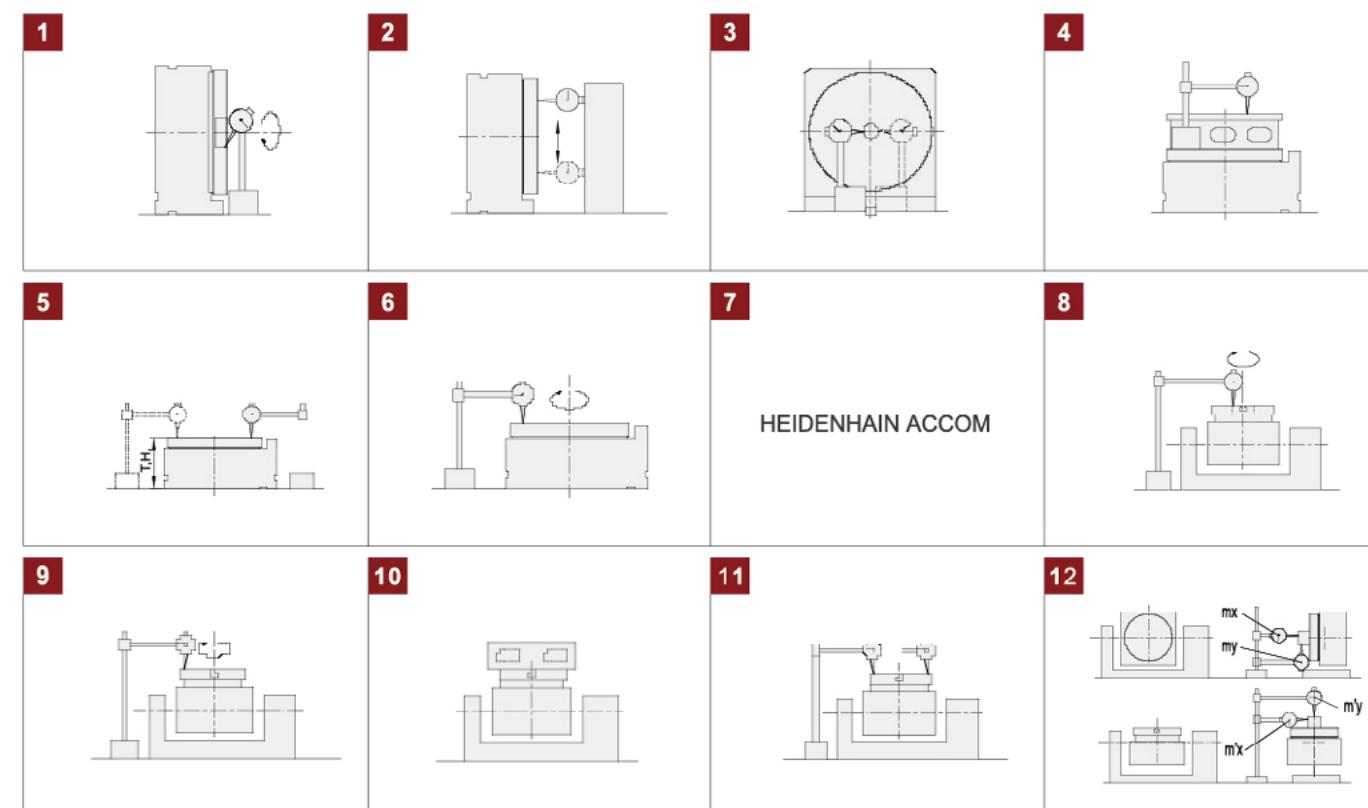
JIS B 6330 Norm in Single cycle



Simplified inspection norm without number of laps indicated.



# Accuracy Tolerance Chart



## Description of Inspection

NO.		GXA-125S~GXA-210S	GXA-255H~GXA-500H	GX-630H~GX-800H
1.	Run-out of center hole	0.01	0.01	0.01
2.	Perpendicularity between table surface and base bottom	0.02	0.02	0.02
3.	Parallelism between center hole and center of guide block	0.02	0.02	0.02
	Deviation between center hole and center of guide block	0.02	0.02	0.02
4.	Flatness of table surface	0.01	0.015	0.02 / 0.025
5.	Parallelism between table surface and table base	0.01	0.015	0.02 / 0.025
6.	Run-out of table surface Indexing accuracy	0.01	0.015	0.02
7.	Repeatability accuracy	40 sec - GXA125 20 sec - GXA170-210	15 sec	15 sec
<b>GFA Series (for all 5 axis)</b>				
8.	Run-out of table surface		0.01	
9.	Flatness of table surface		0.015	
10.	Parallelism between table surface and base		0.01	(Ø400-500: 0.015)
	Surface and base		0.02	
11.	Indexing	Rotary	Refer to specification chart of each model	
		Tilt	Refer to specification chart of each model	
	Repeatability	Rotary	6 sec.	
		Tilt	8 sec.	
12.	Parallelism between center line of tilt axis and base plate		0.02/Dia	

## Update Accuracy Identification

### Accuracy of Positioning by ISO 230-2 Standard (Unidirectional systematic positioning deviation of an axis)

The inspection presentation of ISO 230-2 is based on **continuously 5 revolutions** of repeatedly clockwise and counter-clockwise test, to diagnose unidirectional systematic positioning deviation.

**Remark:** Due to environmental influences during the measurement, the recorded measuring error may exceed the catalog limit value by up to 10%.

### Accuracy of Repeatability by ISO 230-2 Standard (Unidirectional repeatability of positioning)

The inspection presentation of ISO 230-2 based on **continuously 5 revolutions** of repeatedly clockwise and counter-clockwise test, to diagnose unidirectional systematic repeatability of positioning deviation.

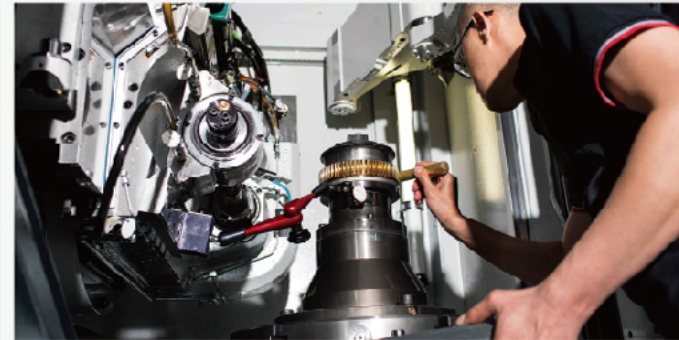
**Please note:** Due to environmental influences during the measurement, the recorded measuring error may exceed the catalog limit value by up to 10%.

## German Lieberr Hobbing Machines



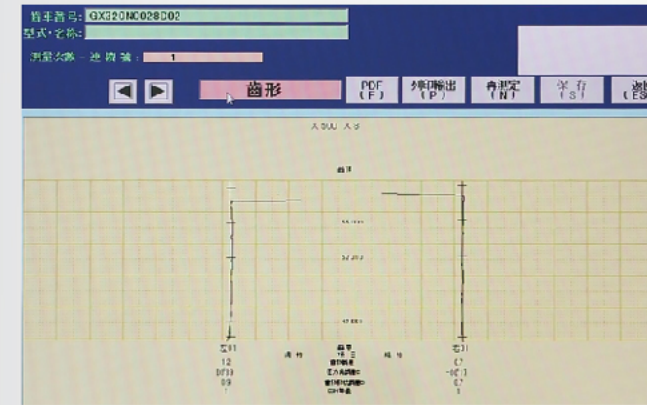
## Vertical Hobbing Machine

detron applies German Gleason Vertical Hobbing Machine, to achieve the accuracy of worm wheel to DIN1 level.



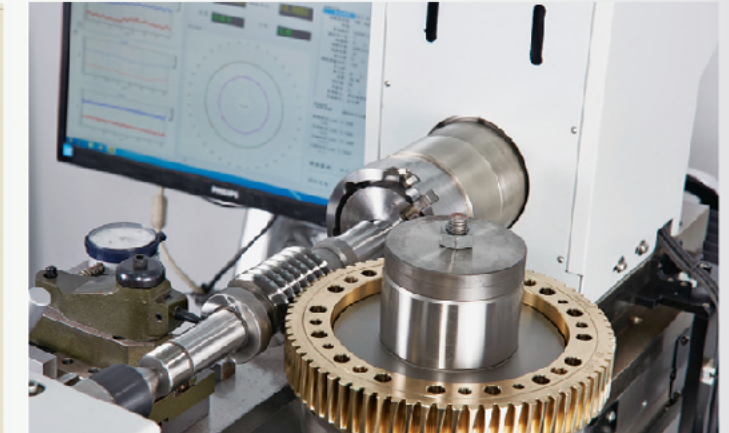
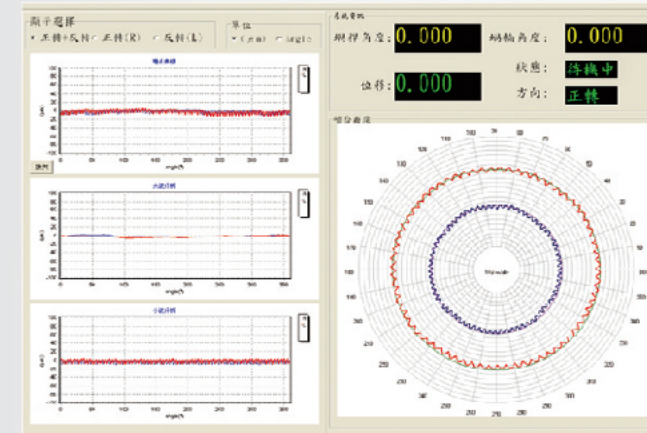
## Gear Measuring Machine

detron applies NC control high precision gear measuring system, to ensure the optimum occlusion of worm shaft and wheel during dynamic operation.



## Gear Teeth Occlusion Inspection

detron applies European specified gear occlusion tester to calibrate tooth-flank accuracy. Dual encoder mounted at both terminals for worm shaft and wheel. The comparison of transmissions by theoretical and practical measurement approves the coefficient of performance analysis and gear positioning accuracy.



## Vertical grinding machine with hydrostatic bearing technology



Finishing grinding for casting ID



Finishing grinding for gear face



Finishing grinding for brake drum face+ID+OD

## Automation for Burr Removing



## Main Spindle Preload

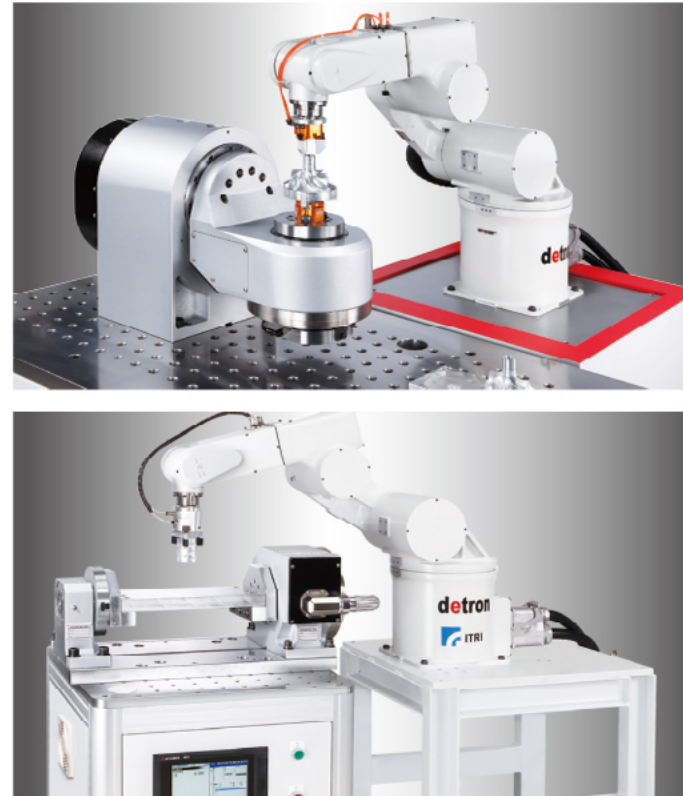




## Integration for Automation



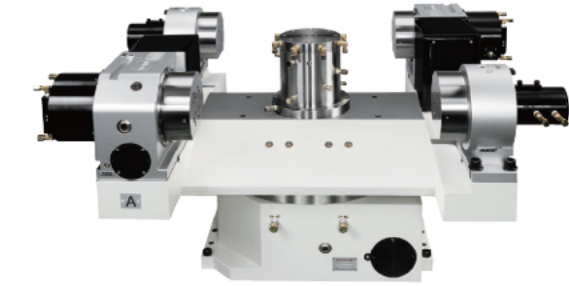
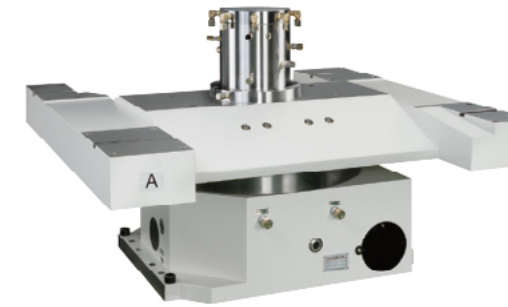
## Prepare for Industry 4.0



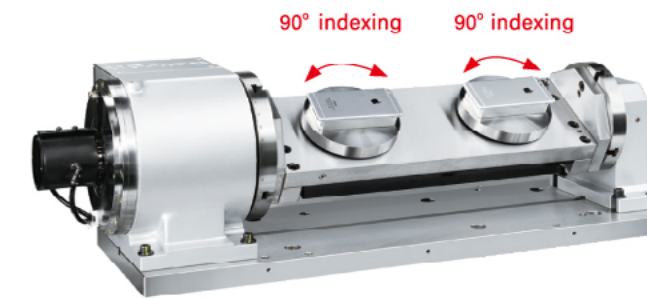
Recommended hardware corroboration in Industrial 4.0 chain.

## Magnifying the Machining Value

### Solutions by Smart Attachments



▲ Standard **detron** models can be modified to provide additional solutions, such as the standard CX-500 model for example, which could be used as an auto pallet system, which is illustrated above and is renamed the SVW-500.

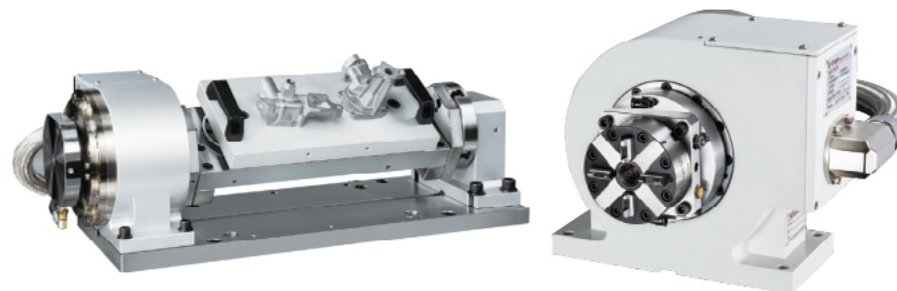


▲ A 90 degree indexer can be modified into a 5 face machining system, options include selected number of multiple spindles and various centre distances according to the application.

## Integration with High Efficient Mold Change



▲ Application of BT40/50 arbors as parts fixture jig can be integrated into **Auto Parts-holding** Change system.

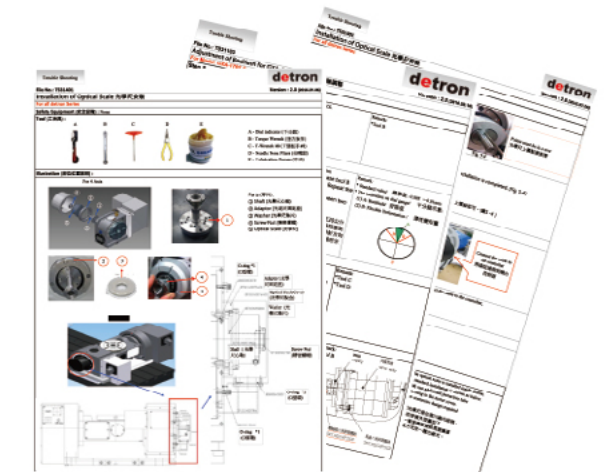


▲ To ease the modulation of parts- holding system in mass production and high end automation, **detron** develops sufficient interface to adapt various **quick mold changing** device, such as EROWA and SCHUNK.

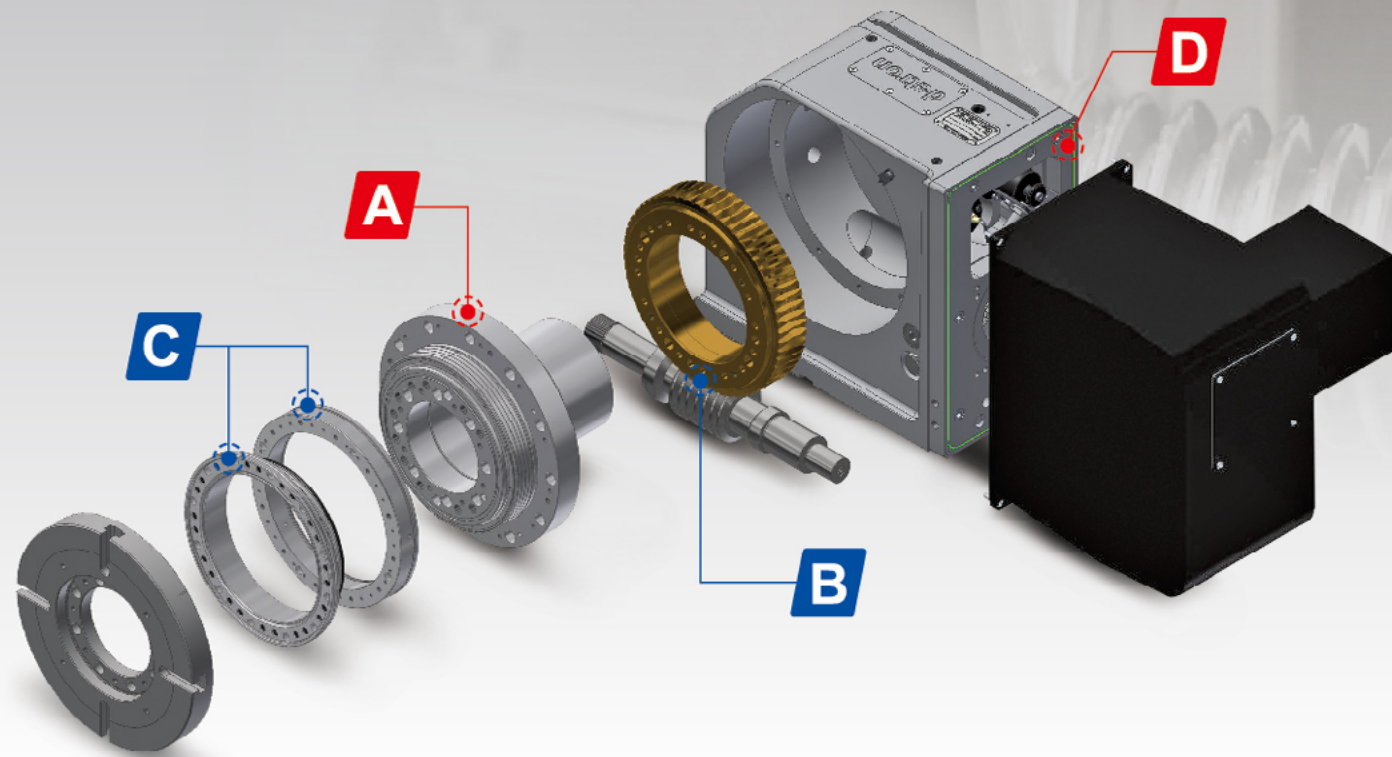
## Detron On-Line Service



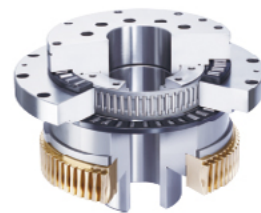
When owning a **detron** table, you become part of the **detron** family. Support is provided during the selection process, installation and aftersales and help is never far away. With instant access to on line support, or you can talk to your local detron factory outlet. Join the detron family.



# Core Technology – Key Parts & Advantages Description



## A High Rigidity Consolidated Spindle



YRT bearing integrated in consolidated spindle with least separate elements & premium rigidity.

-refer to P18 for more details-

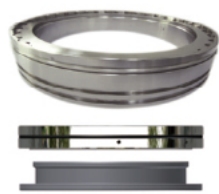
## B High Endurable Worm Gear Set



Exclusive application of patented high-endurable copper alloy for detron appointed models.

-refer to P20 for more details-

## C Reliable Clamping Force



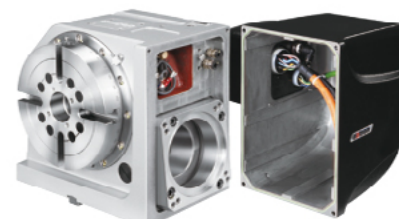
**Hydraulic Model:** Special design of drum brake system.



**Pneumatic Model:** exclusive patented dual pistons design.

-refer to P19 for more details-

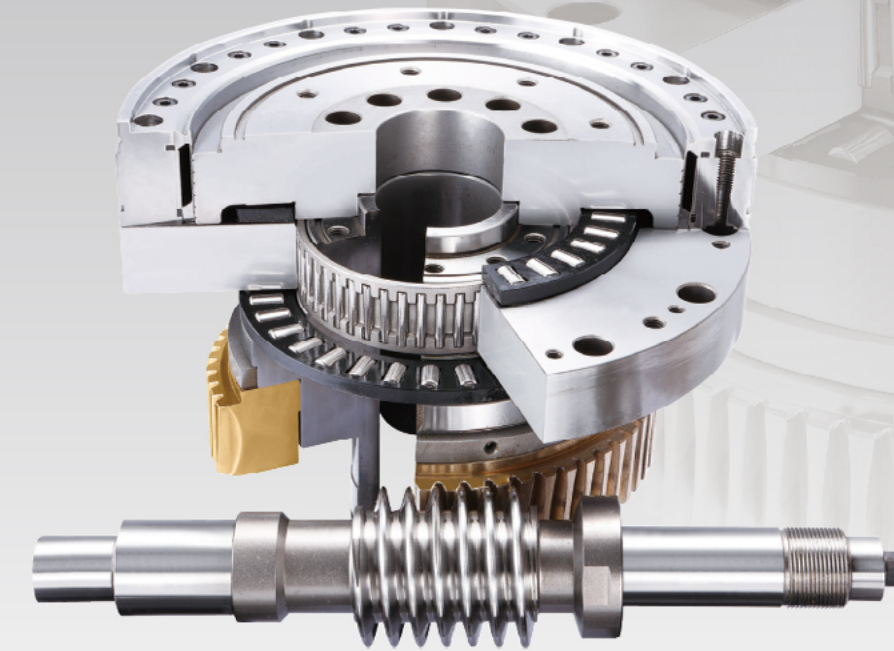
## D High Level Waterproof Design



All covers interface with machined groove and Trelleborg seals applied. Waterproof grade IP65.

-refer to P21 for more details-

# Core Technology – High Rigidity Consolidated Spindle



for VMC\_Worm Wheel Transmission

## Comparison of Spindle and Bearing

detron	others	others
<b>Exclusively Patent</b> Rigidity >	Rigidity >	
YRT bearing integrated in consolidated spindle.	3 pieces YRT bearing	Economic taper roller bearing
Solid spindle structure	weaker spindle thickness	
↑ least separate elements, premium rigidity.	↓ more separate parts, more accumulated error, lower rigidity	↓ not recommended for medium - big table (Ø210mm)

- The roller parts and steady supportive guide ways distinctly share 20-30% and 70-80% from the whole spindle rigidity.
- H1 & h1, as the supportive roller guide ways, are thicker on detron spindle and act high rigidity.
- Less separate parts, less accumulated error concern.

# Core Technology – Reliable Clamping Force

## Safe and Double Insured Hydraulic Brake

**detron**

Special design of drum brake system

Consisting 5MPa hydraulic pressure.

**Others**

Normal drum brake system by 35kg force or less due to leakage concern

Extremity pressure at 3.5MPa.

Fully enclosed drum ring resulting in thorough sealing to ensure high stability at higher pressures. Optimized alignment to table body resulting in a more uniform brake contact.

Poor oil sealing, no centricity alignment, no brake gap adjustment, unstable clamping force.

## Patented Dual Pneumatic Piston, Braking Force Promoted

**detron**

unclamped

clamped

Blue zone is the pneumatic inflation room.

**others**

unclamped

clamped

Blue zone is the pneumatic inflation room.

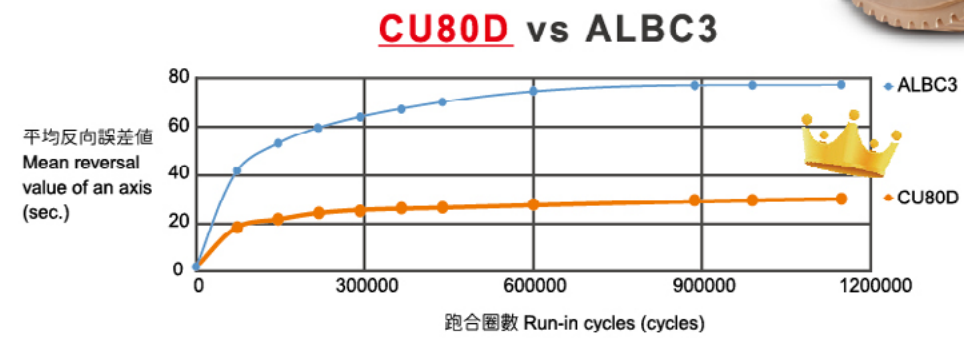
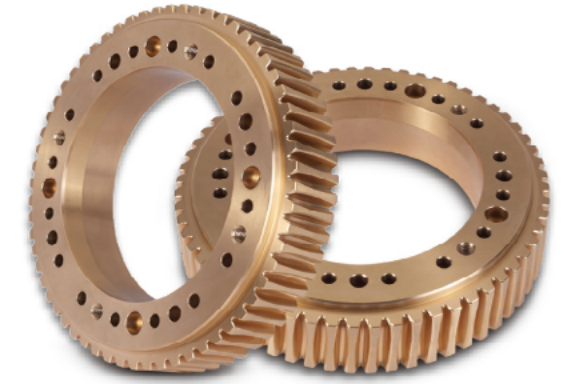
**detron** applies exclusive patented dual pistons to multiply the pneumatic pressure zone and promote the clamping power.

Limited effects by less pneumatic inflation zone of conventional single piston. Lower clamping force.

# Core Technology – High Endurable Worm Gear Set

## Exclusive Worm Wheel Material -CU80D

Exclusive application of patented high-endurable copper alloy for detron appointed models.  
**260%** resistance for abrasion compared to conventional worm wheel materials by other brands.



↑ 260%  
resistance increased

## Precise Dual Lead Worm Shaft and Gear

toward thicker teeth ← → toward thinner teeth

- Offset in axial direction retains **eternal radial geometry accuracy** of worm shaft and wheel.
- Stable gear occlusion accuracy.

## Teeth Module Promoted

**detron**

9mm  
M3 teeth

**others**

6~7mm  
M3 teeth

- 30% higher contact surface of gear teeth engagement than conventional worm gear.
- Comparing equal table spec, higher teeth depth provides optimum rigidity for heavy cut.

## Lubrication and Thermal Control

**detron**

Worm shaft seated in bottom horizontally. Fully lubrication and safe thermal control.

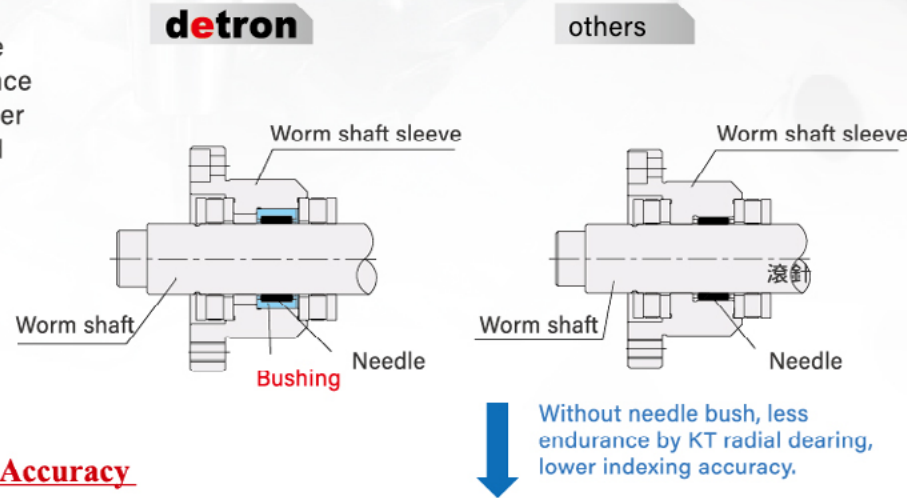
**others**

Only half section of worm shaft lubricated, thermal deformation is concerned.

# Core Technology – Endurance and Protection

## Reliable Worm Shaft Rotation

Applying a bushing between sleeve and needle to increase the endurance of the sleeve bore, resulting in higher concentricity of the worm shaft and higher indexing accuracy.



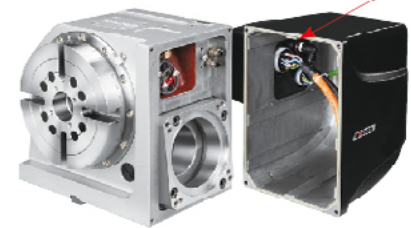
**High Concentricity, Consistent Accuracy**

## Waterproof Design

- The electronic parts guard is completely sealed by O-ring to prevent cutting fluid entering and motor burnout.
- Barotropic built-in for dew-proof.
- **Waterproof grade IP65.**

**detron**

Motor cover interface with machined groove and **Trelleborg seals applied.**



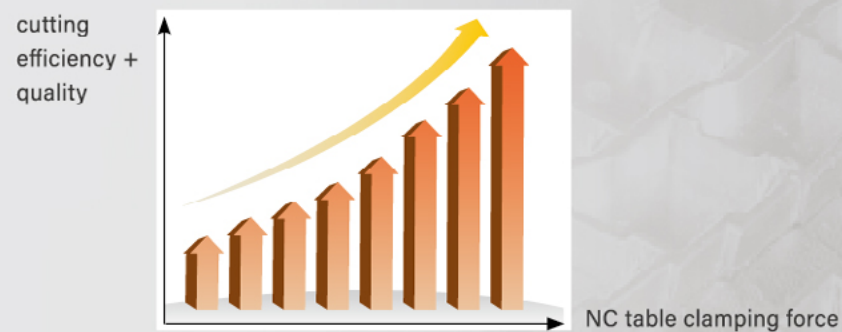
**others**



**Circumference is fully sealed by O-ring to prevent fluid from entering**

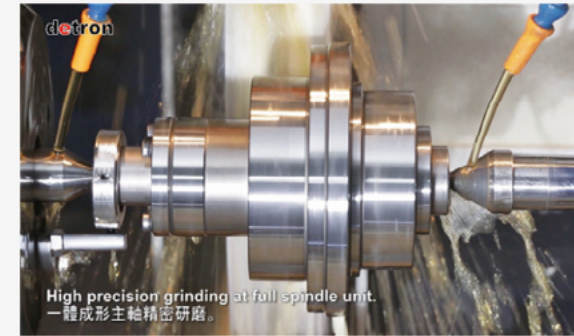
## Clamping Force Supports Advanced Application Engineering

High clamping forces are an important factor when high cutting efficiency is required. It is recommended that **200%** brake force to cutting forces is applied for optimum performance.



# Core Technology

## Grinding of consolidated spindle unit



## Grinding of worm shaft teeth



## Processing Of Spindle Bore

Advantages of center positioning hole with grinding

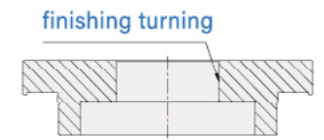
- Superior roundness and surface roughness.
- High accuracy when adjusting jig on center bore.
- **Large spindle hole diameter allows multi-port oil distributor mounted.**

**Quicker Precise Mold Change. Higher Indexing Accuracy and Concentricity.**

**detron**



**others**



Poor roundness and surface for fixture adjustment.

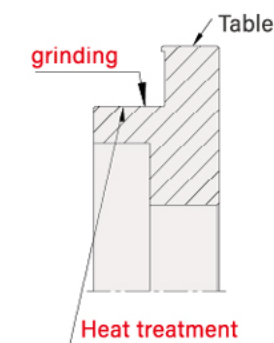
## Fine Finishing Machining Of Brake Shaft

Advantages of surface with hardening and grinding

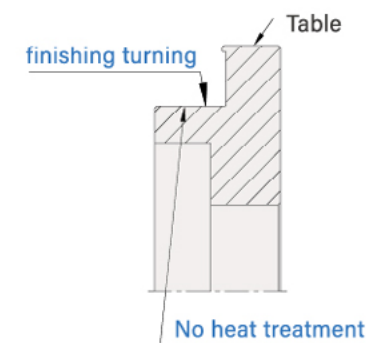
- Least scratch and wearing concerns, high resistance for large clamping force.
- Precision grinding at the brake features better roundness and cylindricity. As a result, no rotating center offset, minimizing positioning error and increased clamping life are ensured.

**Increased Clamping Life. No Offset During Braking.**

**detron**



**others**



Brake surface only with final turning but no heat treatment

## CNC Rotary Table

High - Power Pneumatic Clamp



### GXA - 170 S

new optimization model

table size

superior pneumatic clamp

Vertical & horizontal application




worm gear transmission

- Worktable diameter Ø125, Ø170, Ø210, Ø255
- Exclusive patented dual pneumatic piston braking system.(P.19)
- Higher rotation speed.
- Equipped with high precision cross roller.
- Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash.(P.20)



Equipped with upgraded high precision cross roller bearing

### SPECIFICATIONS

MODEL	Unit	GXA-125S	GXA-170S/H	GXA-210S/H GXA-250S/H	GXA-170S-2W-250	
Worktable diameter	mm / inch	Ø125 / Ø 4.92	Ø170 / Ø 6.69	Ø210 / Ø 8.27 Ø255 / Ø 10.04	Ø170 / Ø 6.69	
Center bore diameter	mm / inch	Ø30H7 / Ø 1.18H7	Ø40H7 / Ø 1.57H7	Ø65H7 / Ø 2.56H7	Ø40H7 / Ø 1.57H7	
Through-bore diameter	mm / inch	Ø25 / Ø 0.98	Ø40 / Ø 1.57H7	Ø65 / Ø 2.56H7	Ø40 / Ø 1.57H7	
Pitch of rotary axis	mm / inch	N/A	N/A	N/A	250 / 9.84	
Height of table (horizontal)	mm / inch	155 / 6.10	175 / 6.89	175 / 6.89 190 / 7.48	175 / 6.89	
Height of table (vertical)	mm / inch	110 / 4.33	135 / 5.31	160 / 6.3	135 / 5.31	
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	MPa / psi	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	
Clamping torque	N.m / ft. lbs.	140 / 103.8	300 / 221 450 / 332	400 / 295 600 / 443	300 / 221.1	
Servo motor spec		refer to page 71				
Transmission ratio		1 / 40	1 / 60	1 / 72	1/90	
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	66.6 / 2664	53.3 / 3200	53.3 / 3840	22.2 / 2000	
Standard loading inertia* $(\frac{W \cdot D^2}{8})$	kg.m <sup>2</sup>	0.2	0.72	1.38	0.54	
Maximum loading inertia* $(\frac{W \cdot D^2}{8})$	kg.m <sup>2</sup>	1	3	5	2.5	
Resolution	deg.	0.001	0.001	0.001	0.001	
Indexing accuracy	sec.	40	20	20	20	
Repeatability	sec.	6	6	6	6	
Net weight (servo motor excluded)	kg / lb	32 / 70.40	51.5 / 113.3	60 / 132 66.3 / 145.86	115 / 253.5	
Allowable loading capacity	Vertical	kg / lb	50 / 110	100 / 220	125 / 275	75 / 165
	Horizontal	kg / lb	100 / 220	200 / 440	250 / 550	150 / 330
	Rotary Tailstock applied	kg / lb	100 / 220	200 / 440	250 / 550	150 / 330
FxL When table clamped		N / lbs	9700 / 2176.68	14000 / 3141.6	17000 / 3814.8	14000 / 3141.6
		N.m / ft. lbs.	410 / 302.17	1020 / 751.74	1265 / 932	1020 / 751.74
		N.m / ft. lbs.	140 / 103.8	300 / 221 450 / 332	400 / 295 600 / 443	300 / 221.1
Allowable cutting torque	N.m / ft. lbs.	85 / 62.65	200 / 147.41	260 / 191.62	200 / 147.41	
Allowable Max. rotary joint quantity		-	4	4	4	

Note: 1. Allowable cutting torque at table speed of 1 min<sup>-1</sup>.

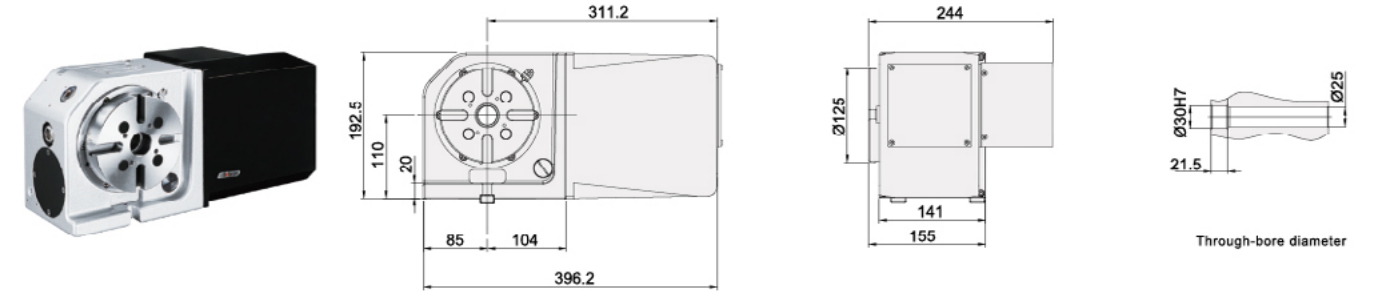
2. Standard loading inertia \* is allowed in max table speed. Contact detron for the necessary adjustment of speed and others when maximum loading inertia \* is required.

3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

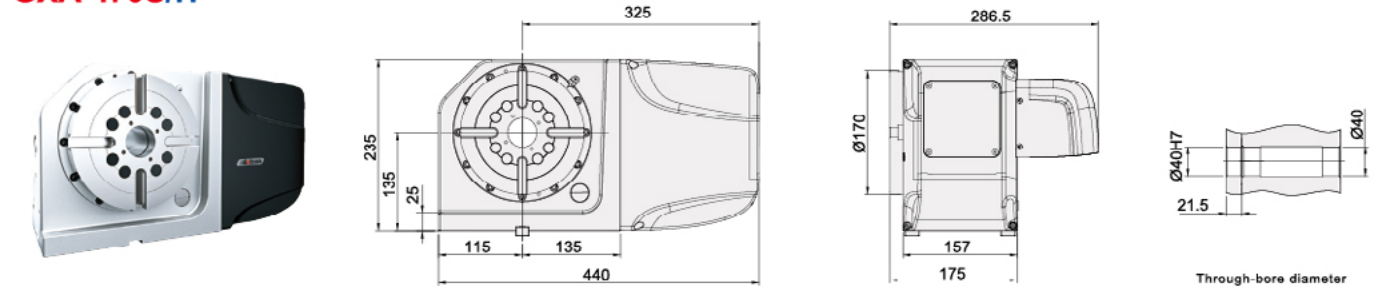
## DIMENSIONAL DRAWINGS

Unit : mm

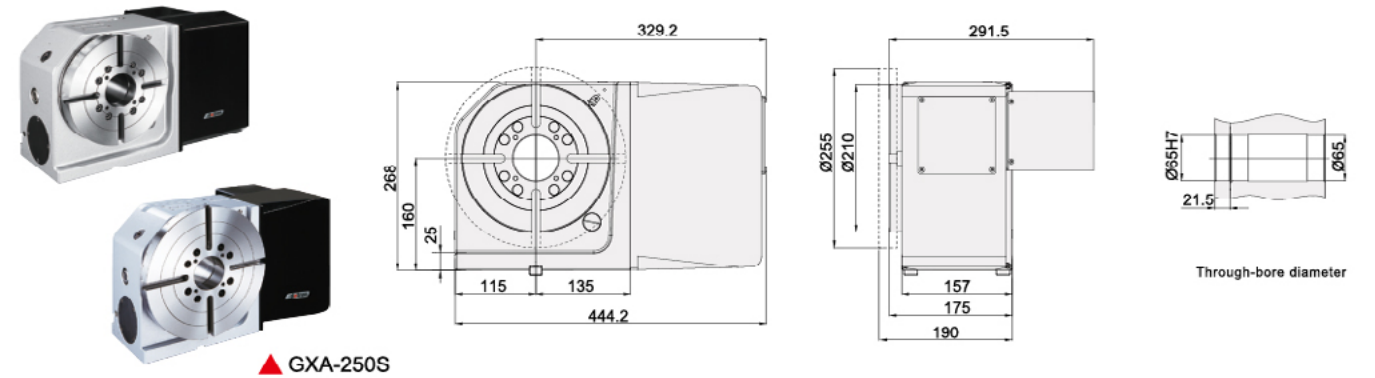
### GXA-125S



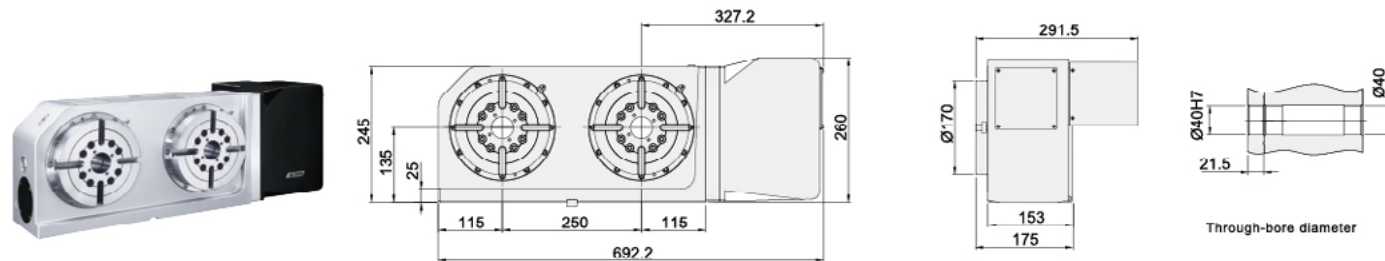
### GXA-170S/H



### GXA-210S/H / GXA-250S/H



### GXA-170S-2W-250



Note: The length of servo guard may vary with servo motor type.  
(the metal sheet dimensions shown above are based on Fanuc motor)

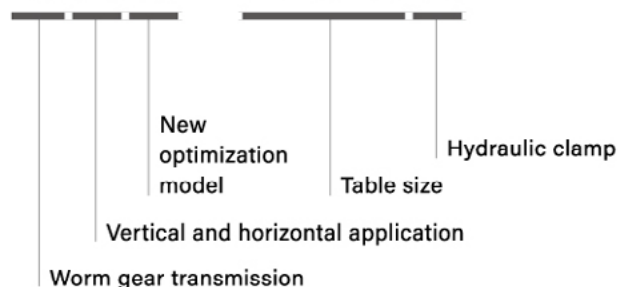
# GXA-H series

## CNC Rotary Table

Ultra Big Spindle Bore, Hydraulic Clamp



### G X A - 2 5 5 H



- Worktable diameter Ø255, Ø320, Ø400.
- Big spindle bore** allow the more complex parts clamping and fixture.
- Ultra high clamping force by **drum brake system.(P.19)**
- Consolidated spindle with radial-Axial bearing built-in. (P.18)**
- Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash.(P.20)



Consolidated spindle with radial-Axial bearing built-in.

### SPECIFICATIONS

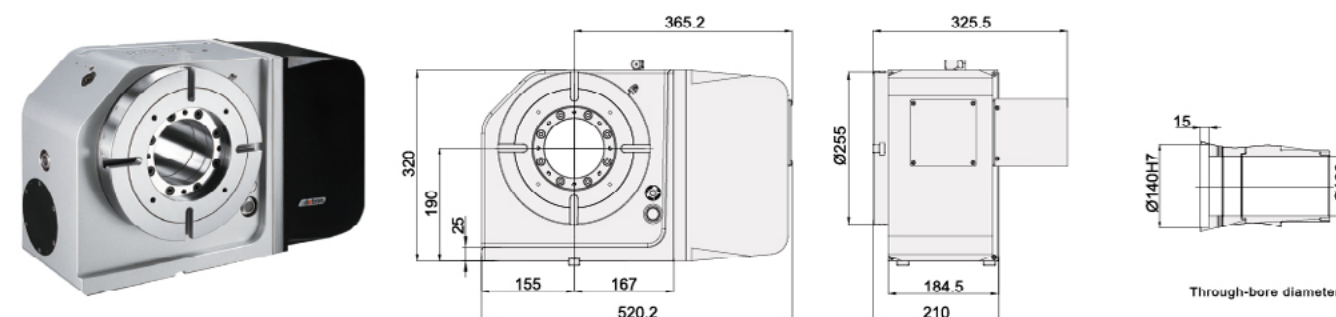
MODEL	Unit	GXA-255H	GXA-320H	GXA-400H	
Worktable diameter	mm / inch	Ø255 / Ø 10.04	Ø320 / Ø 12.6	Ø400 / Ø 15.75	
Center bore diameter	mm / inch	Ø140H7 / Ø 5.51H7	Ø180H7 / Ø 7.08H7	Ø220H7 / Ø 8.66H7	
Through-bore diameter	mm / inch	Ø100 / Ø 3.94	Ø140 / Ø 5.51	Ø180 / Ø 7.09	
Height of table (horizontal)	mm / inch	210 / 8.27	235 / 9.25	255 / 10.04	
Height of center (vertical)	mm / inch	190 / 7.48	210 / 8.27	255 / 10.04	
Width of T-slot	mm / inch	12H7 / 0.47H7	14H7 / 0.55H7	14H7 / 0.55H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	MPa / psi	Hydraulic 5 / 725	Hydraulic 5 / 725	Hydraulic 5 / 725	
Clamping torque	N.m / ft. lbs.	900 / 663.3	1600 / 1179.2	3000 / 2211	
Servo motor spec		refer to page 71			
Transmission ratio		1 / 120	1 / 120	1 / 144	
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	22.2 / 2664	22.2 / 2664	11.1 / 1600	
Standard loading inertia * $(\frac{W \cdot D^2}{8})$	kg.m <sup>2</sup>	2.43	5.12	10.2	
Maximum loading inertia * $(\frac{W \cdot D^2}{8})$	kg.m <sup>2</sup>	12	20	40	
Resolution	deg.	0.001	0.001	0.001	
Indexing accuracy	sec.	15	15	15	
Repeatability	sec.	6	6	6	
Net weight (servo motor excluded)	kg / lb	114 / 251	147 / 323.4	253 / 556.6	
Allowable loading capacity	Vertical	kg / lb	150 / 330	200 / 440	250 / 550
	Horizontal	kg / lb	300 / 660	400 / 880	500 / 1100
	Rotary Tailstock applied	kg / lb	300 / 660	400 / 880	500 / 1100
FxL When table clamped	F	N / lbs	20000 / 4488	28000 / 6283.2	38000 / 8527.20
	FXL	N.m / ft. lbs.	1700 / 1252.9	3000 / 2211	5400 / 3979.8
	FXL	N.m / ft. lbs.	900 / 663.3	1600 / 1179.2	3000 / 2211
Allowable cutting torque	N.m / ft. lbs.	550 / 405.35	780 / 574.86	1700 / 1252.9	
Allowable Max. rotary joint quantity		6	6	6	

- Note: 1. Allowable cutting torque at table speed of 1 min<sup>-1</sup>.  
 2. Standard loading inertia \* is allowed in max table speed. Contact detron for the necessary adjustment of speed and others when maximum loading inertia \* is required.  
 3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

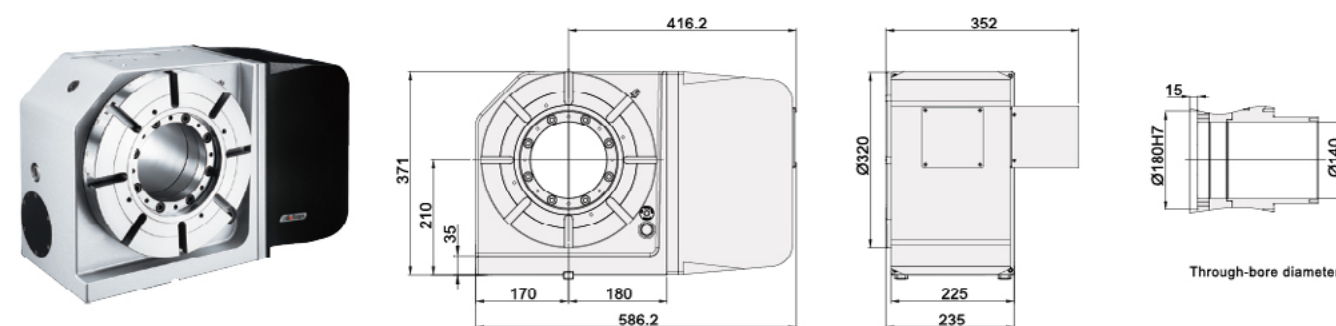
## DIMENSIONAL DRAWINGS

Unit : mm

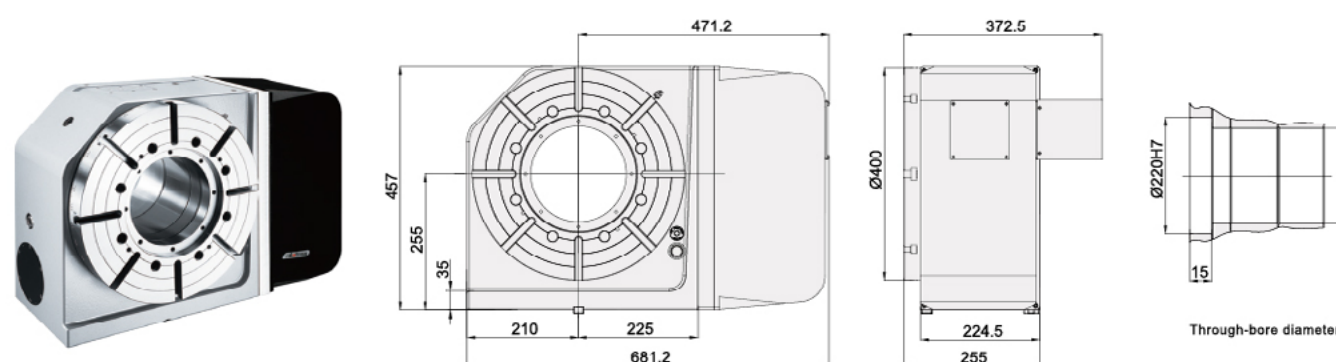
### GXA-255H



### GXA-320H



### GXA-400H



Note: The length of servo guard may vary with servo motor type.  
 (metal sheet dimensions shown above are based on Fanuc motor)

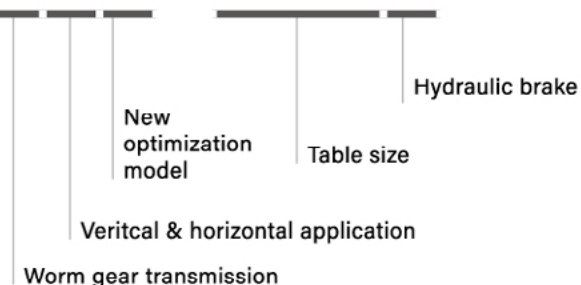
# GXA-H series

## CNC Rotary Table

Ultra Big Spindle Bore, Hydraulic Clamp



### G X A - 5 0 0 H



- Worktable diameter Ø500, Ø630, Ø800.
- Equipped with extra large bearings, preloaded in radial and axial directions.(P.18)
- Motor is mounted at right side(vertical and horizontal application).
- Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash.(P.20)



Consolidated spindle with radial-axial bearing built-in.

### SPECIFICATIONS

MODEL	Unit	GXA-500H GXA-630EH	GX-630H	GX-800H	
Worktable diameter	mm / inch	Ø500 / Ø19.69 Ø630 / Ø24.80	Ø630 / Ø24.80	Ø800 / Ø31.50	
Center bore diameter	mm / inch	Ø305H7 / Ø12H7	Ø270H7 / Ø10.63H7	Ø285H7 / Ø11.22H7	
Through-bore diameter	mm / inch	Ø265 / Ø10.43	Ø220 / Ø8.66	Ø240 / Ø9.45	
Height of table (horizontal)	mm / inch	280 / 11.02	325 / 12.80	365 / 14.37	
Height of center (vertical)	mm / inch	350 / 13.78	400 / 15.75	480 / 18.90	
Width of T-slot	mm / inch	18H7 / 0.71H7	18H7 / 0.71H7	22H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	MPa / psi	Hydraulic 5 / 725	Hydraulic 5 / 725	Hydraulic 3.5 / 507.5	
Clamping torque	N.m / ft. lbs.	5700 / 4204.11 4500 / 3319	4500 / 3319.03	5200 / 3835.32	
Servo motor spec		refer to page 71			
Transmission ratio		1 / 180	1 / 180	1 / 180	
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	11.1 / 2000	11.1 / 2000	11.1 / 2000	
Allowable loading inertia ( $\frac{W.D^2}{8}$ )	kg.m <sup>2</sup>	25	40.5	122.4	
Resolution	deg.	0.001	0.001	0.001	
Indexing accuracy	sec.	15	15	15	
Repeatability	sec.	6	6	6	
Net weight (servo motor excluded)	kg / lb	396 / 871.2 455 / 1001	720 / 1584.0	1236 / 2719.2	
Allowable loading capacity	Vertical	kg / lb	450 / 990	800 / 1760	
	Horizontal	kg / lb	800 / 1760	1500 / 3300	
	Rotary Tailstock applied	kg / lb	800 / 1760	1500 / 3300	
FxL When table clamped		N / lbs	45000 / 10098	49000 / 10780	50000 / 11000
		N.m / ft. lbs.	8300 / 6121.7	8500 / 6264.50	10000 / 7370.0
		N.m / ft. lbs.	5700 / 4204.11 4500 / 3319	4500 / 3316.5	5200 / 3832.4
Allowable cutting torque		N.m / ft. lbs.	2500 / 1842.5	4300 / 3169.1	6860 / 5059.6

Note: 1. Allowable cutting torque at table speed of 1 min<sup>-1</sup>.  
2. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

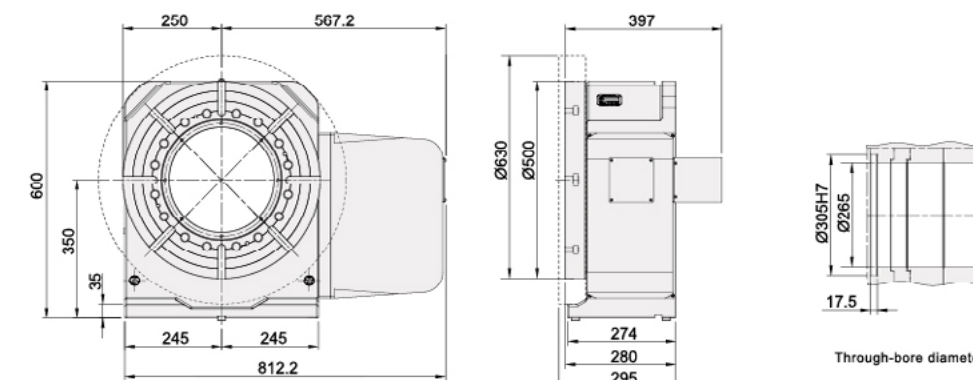
## DIMENSIONAL DRAWINGS

Unit : mm

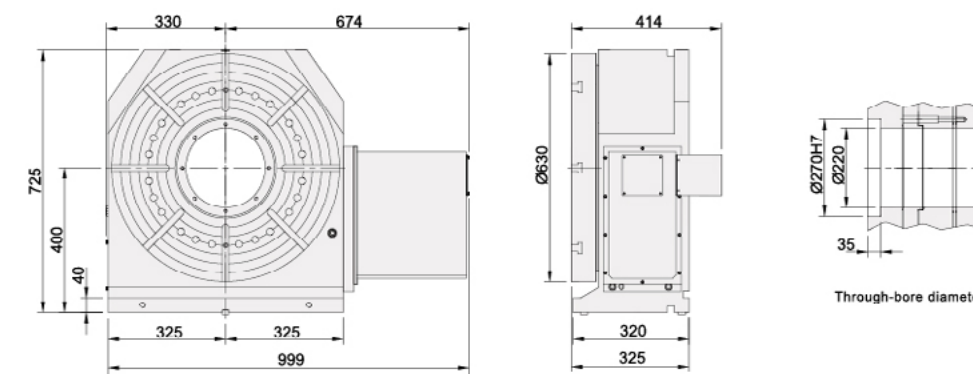
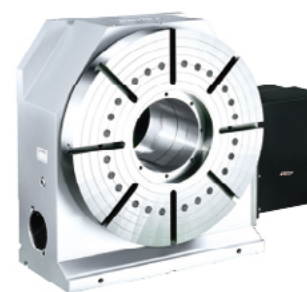
### GXA-500H



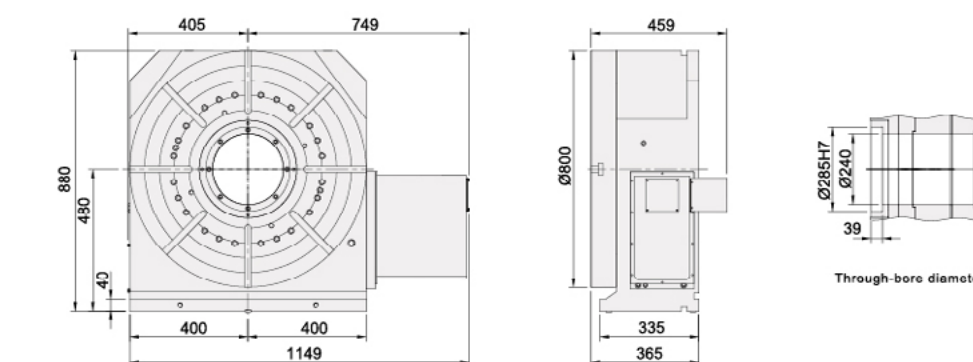
▲ GXA-630EH



### GX-630H



### GX-800H

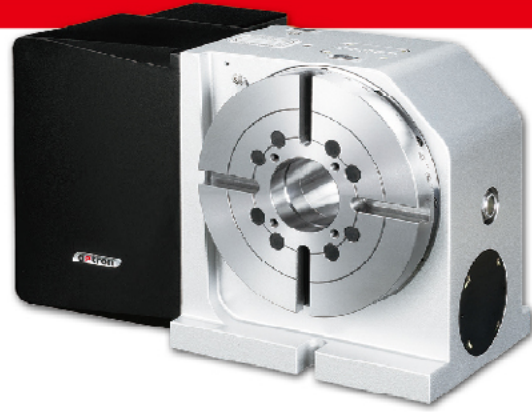


Note: The length of servo guard may vary with servo motor type.  
(metal sheet dimensions shown above are based on Fanuc motor)

# GXA-L series

## CNC Rotary Table

High - Power Clamp, Motor at Left



### G X A - 1 7 0 S L

- Vertical & horizontal application
- Vertical application
- worm gear transmission
- new optimization mode I
- Table size
- Super multiple pneumatic
- Hydraulic
- Motor mounted at left side of table

- Worktable diameter Ø170, Ø210, Ø255.
- Motor mounted at left side of table
- Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash. (P.20)

### SPECIFICATIONS

MODEL	Unit	GXA-170SL	GVA-210SL	GXA-255HL
Worktable diameter	mm / inch	Ø170 / Ø 6.69	Ø210 / Ø 8.27	Ø255 / Ø10.04
Center bore diameter	mm / inch	Ø40H7 / Ø 1.57H7	Ø65H7 / Ø 2.56H7	Ø140H7 / Ø 5.51H7
Through-bor diameter	mm / inch	Ø40 / Ø 1.57H7	Ø65 / Ø 2.56H7	Ø100 / Ø 3.94
Height of table (horizontal)	mm / inch	175 / 6.89	-	210 / 8.27
Height of table (vertical)	mm / inch	135 / 5.31	160 / 6.3	190 / 7.48
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71
Clamping method / pressure	Mpa / psi	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	Hydraulic 5 / 725
Clamping torque	N.m / ft. lbs.	300 / 221.1	400 / 294.8	900 / 663.3
Servo motor spec		refer to page 71		
Transmission ratio		1 / 60	1 / 72	1 / 120
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	53.3 / 3200	53.3 / 3840	22.2 / 2000
Allowable loading inertia ( $\frac{W \cdot D^2}{8}$ )	kg.m <sup>2</sup>	0.72	1.38	2.43
Resolution	deg.	0.001	0.001	0.001
Indexing accuracy	sec.	20	20	15
Repeatability	sec.	6	6	6
Net weight (servo motor excluded)	kg / lb	51.5 / 113.3	60 / 132	114 / 251
Allowable loading capacity	Vertical	kg / lb	100 / 220	125 / 275
	Horizontal	kg / lb	200 / 440	-
	Rotary Tailstock applied	kg / lb	200 / 440	250 / 550
FXL When table clamped	F	N / lbs	14000 / 3141.6	17000 / 3814.8
	FXL	N.m / ft. lbs.	1020 / 751.74	1265 / 932
	FXL	N.m / ft. lbs.	300 / 221.1	400 / 294.8
Allowable cutting torque	N.m / ft. lbs.	200 / 147.41	260 / 191.62	550 / 405.35
Allowable Max. rotary joint quantity		4	4	6

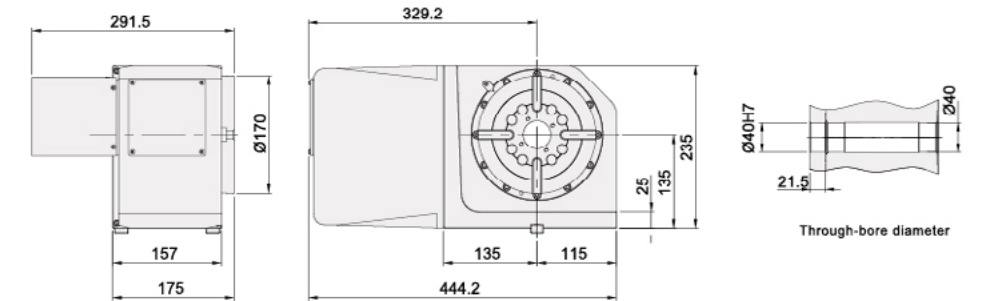
Note: 1. Allowable cutting torque at table speed of 1 min<sup>-1</sup>.

2. FXL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

## DIMENSIONAL DRAWINGS

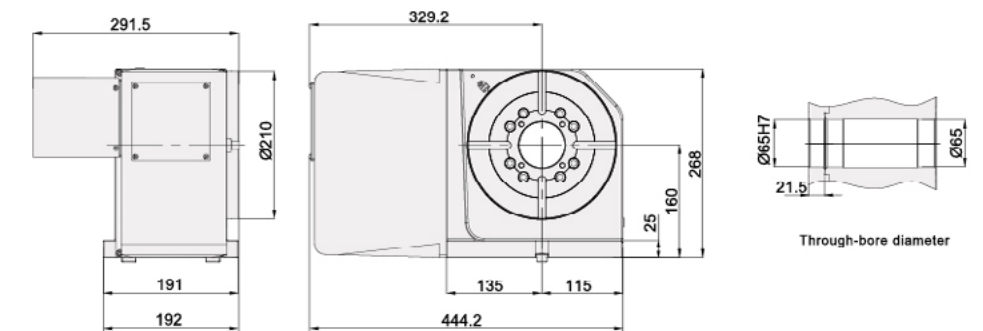
Unit : mm

### GXA-170SL



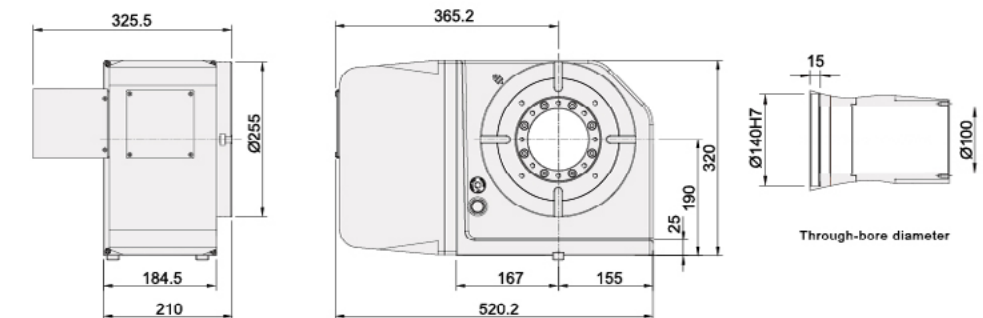
Equipped with upgraded high precision cross roller bearing.

### GVA-210SL



Equipped with upgraded high precision cross roller bearing.

### GXA-255HL



Consolidated spindle with YRT bearing built-in.

Note: The length of servo guard may vary with servo motor type.  
(metal sheet dimensions shown above are based on Fanuc motor)



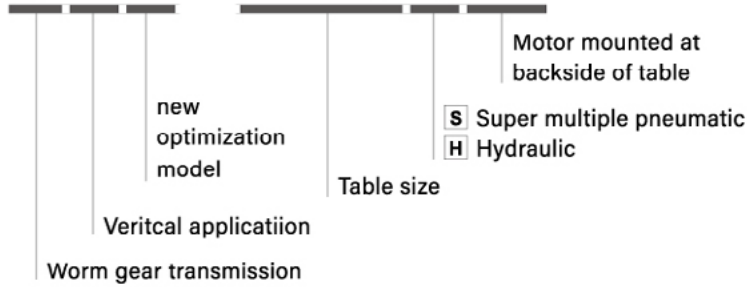
# GVA-B series

## CNC Rotary Table

High - Power Clamp, Motor at Back



### GVA - 210SB

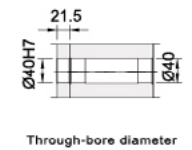
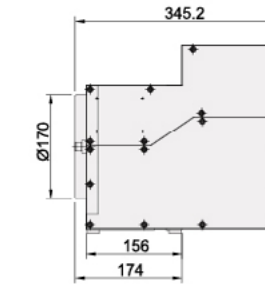
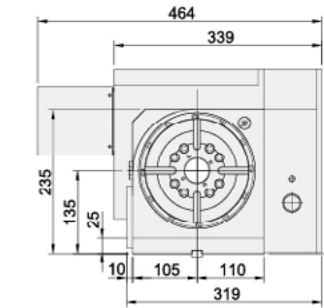


Worktable diameter  $\varnothing 170, \varnothing 210, \varnothing 255$ .  
 GVA-SB series is new "super multiple brake" mechanism for pneumatic clamp.(P.19)  
 Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash.(P.20)

## DIMENSIONAL DRAWINGS

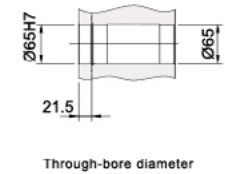
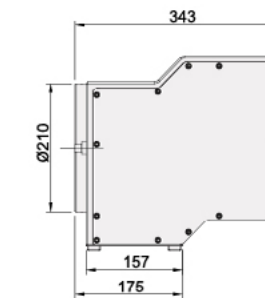
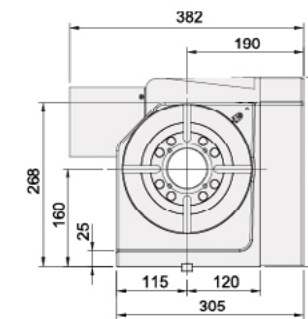
Unit : mm

### GV-170SB



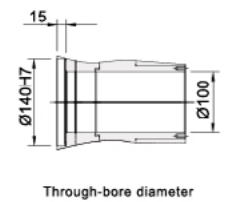
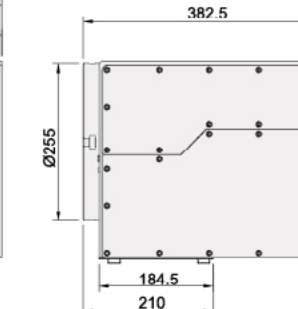
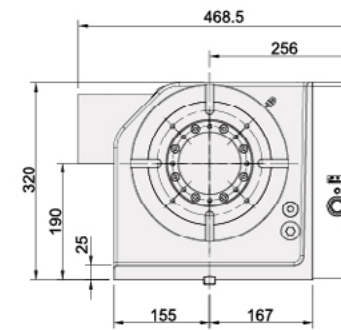
Equipped with upgraded high precision cross roller bearing.

### GVA-210SB



Equipped with upgraded high precision cross roller bearing.

### GVA-255HBII



Consolidated spindle with YRT bearing built-in.

## SPECIFICATIONS

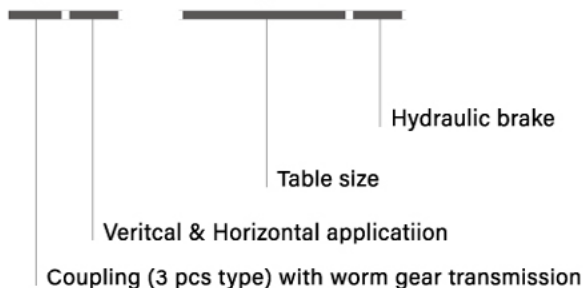
MODEL	Unit	GV-170SB	GVA-210SB	GVA-255HBII	
Worktable diameter	mm / inch	$\varnothing 170 / \varnothing 6.69$	$\varnothing 210 / \varnothing 8.27$	$\varnothing 255 / \varnothing 10.04$	
Center bore diameter	mm / inch	$\varnothing 40H7 / \varnothing 1.57H7$	$\varnothing 65H7 / \varnothing 2.6H7$	$\varnothing 140H7 / \varnothing 5.51H7$	
Height of center (vertical)	mm / inch	135 / 5.31	160 / 6.30	190 / 7.48	
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	Mpa / psi	Super Multi- Pneumatic 0.55 ~ 0.7 / 79.8 ~ 101.5	Super Multi- Pneumatic 0.55 ~ 0.7 / 79.8 ~ 101.5	Hydraulic 5 / 725	
Clamping torque	N.m / ft. lbs.	250 / 184.25	400 / 294.8	900 / 663.3	
Servo motor spec		refer to page 71			
Transmission ratio		1 / 90	1 / 90	1 / 120	
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	44.4 / 4000	44.4 / 4000	22.2 / 2664	
Allowable loading inertia $(\frac{W.D^2}{8})$	kg.m <sup>2</sup>	0.28	0.68	1.21	
Resolution	deg.	0.001	0.001	0.001	
Indexing accuracy	sec.	20	20	15	
Repeatability	sec.	6	6	6	
Net weight (servo motor excluded)	kg / lb	90 / 198	84 / 184.8	149 / 328	
Allowable loading capacity	Vertical	kg / lb	75 / 165	125 / 275	150 / 330.0
	Rotary Tailstock applied	kg / lb	150 / 330	250 / 550	300 / 660
FxL When table clamped	N / lbs		14000 / 3141.60	17000 / 3814.8	20000 / 4488
	N.m / ft. lbs.		1020 / 751.74	1265 / 932.3	1700 / 1253.0
	N.m / ft. lbs.		250 / 184.25	400 / 294.80	900 / 663.3
Allowable cutting torque	N.m / ft. lbs.		170 / 125.29	260 / 191.62	550 / 405.35

Note: 1. Allowable cutting torque at table speed of 1 min<sup>-1</sup>.  
 2. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

Note: The length of servo guard may vary with servo motor type.  
 (metal sheet dimensions shown above are based on Fanuc motor)

## CNC Index Table

### CX - 255H



- Worktable diameter Ø255, Ø320, Ø400, Ø500.
- Motor is mounted at right side (vertical and horizontal applications).
- Equipped with three pieces type coupling with worm gear to achieve positioning. It is suitable for heavy cutting.
- The minimum degree is 1°.



### SPECIFICATIONS

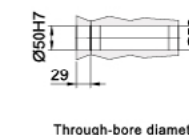
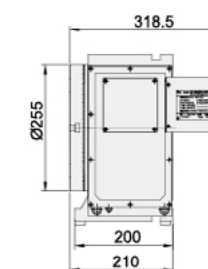
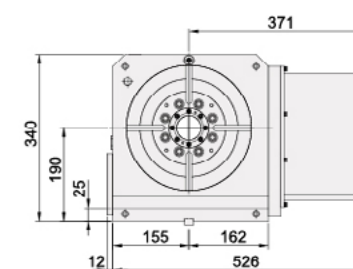
MODEL	Unit	CX-255H	CX-320H	CX-400H	CX-500H	
Worktable diameter	mm / inch	Ø255 / Ø10.04	Ø320 / Ø12.60	Ø400 / Ø15.75	Ø500 / Ø19.69	
Center bore diameter	mm / inch	Ø50H7 / Ø1.97H7	Ø70H7 / Ø2.76H7	Ø110H7 / Ø4.33H7	Ø130H7 / Ø5.12H7	
Through-bore diameter	mm / inch	Ø50 / Ø1.97	Ø70 / Ø2.76	Ø110 / Ø4.33	Ø130 / Ø5.12	
Height of table (horizontal)	mm / inch	210 / 8.27	235 / 9.25	255 / 10.04	281 / 11.06	
Height of center (vertical)	mm / inch	190 / 7.48	210 / 8.27	255 / 10.04	310 / 12.20	
Width of T-slot	mm / inch	12H7 / 0.47H7	14H7 / 0.55H7	14H7 / 0.55H7	18H7 / 0.71H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	MPa / psi	Hydraulic 3.5 / 508	Hydraulic 3.5 / 508	Hydraulic 3.5 / 508	Hydraulic 3.5 / 508	
Clamping torque	N.m / ft. lbs.	3000 / 2211	4000 / 2948	5000 / 3685	10000 / 7370	
Servo motor spec		refer to page 71				
Transmission ratio		1 / 120	1 / 120	1 / 144	1 / 180	
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	22.2 / 2664	22.2 / 2664	11.1 / 1600	11.1 / 2000	
Allowable loading inertia ( $\frac{W.D^2}{8}$ )	kg.m <sup>2</sup>	2.48	4.57	10.2	19.1	
Resolution	deg.	1°	1°	1°	1°	
Indexing accuracy	sec.	8	8	8	8	
Repeatability	sec.	2	2	2	2	
Net weight (servo motor excluded)	kg / lb	134 / 295	186 / 410	350 / 771	450 / 992	
Allowable loading capacity	Vertical	kg / lb	125 / 275	175 / 385	200 / 440	400 / 880
	Horizontal	kg / lb	300 / 660	350 / 770	500 / 1100	600 / 1320
	Rotary Tailstock applied	kg / lb	300 / 660	400 / 880	500 / 1100	600 / 1320
FxL When table clamped	F	N / lbs	16000 / 3590.4	20000 / 4488.0	30000 / 6732.0	40000 / 8976.0
	FxL	N.m / ft. lbs.	1750 / 1289.75	2500 / 1842.5	3000 / 2211.0	6000 / 4422.0
	FxL	N.m / ft. lbs.	3000 / 2211.0	4000 / 2948.0	5000 / 3685.0	10000 / 7370.0
Drive torque	N.m / ft. lbs.	240 / 176.9 (motor α iF4) 480 / 353.8 (motor α iF8)	720 / 530.2	864 / 618.5	1080 / 795.3	

Note: 1. Drive torque is the torque output by the motor at the maximum speed of the worktable.  
2. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

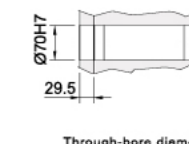
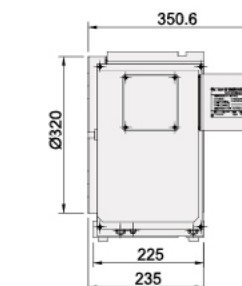
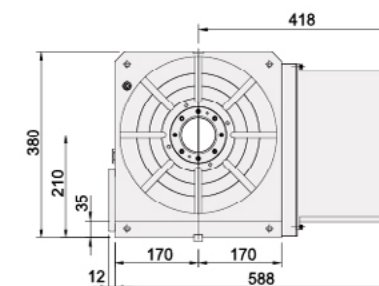
## DIMENSIONAL DRAWINGS

Unit : mm

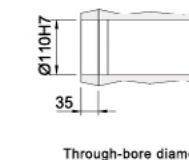
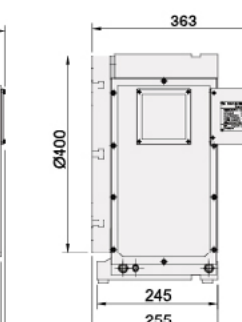
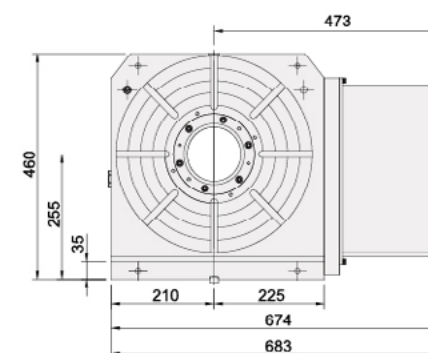
### CX-255H



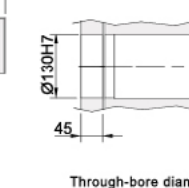
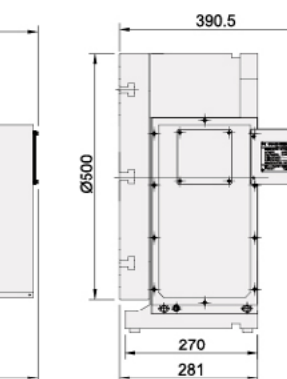
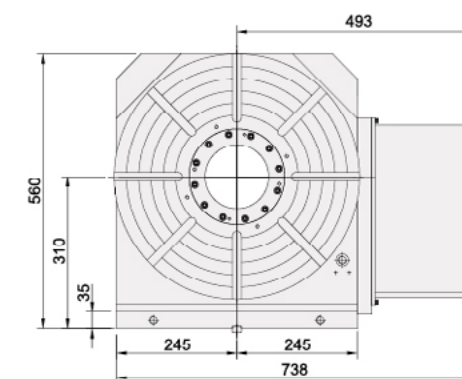
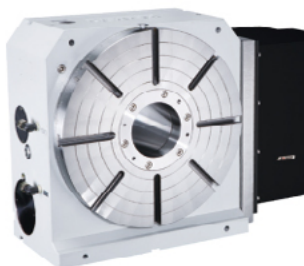
### CX-320H



### CX-400H



### CX-500H



Note: The length of servo guard may vary with servo motor type.  
(metal sheet dimensions shown above are based on Fanuc motor)



## CNC Tilting Rotary Table



### GFA-125S

new optimization model  
Five axes  
Worm gear transmission  
Table size  
Super pneumatic for multiple clamp force

- Worktable diameter Ø100, Ø125, Ø170, Ø210.
- Exclusive patented dual pneumatic piston braking system.(P.19)
- Enlarged the high precision cross roller bearing.
- Transmitted by dual lead worm with high efficiency and full depth gear teeth.(P.20)



Equipped with upgraded high precision cross roller bearing.

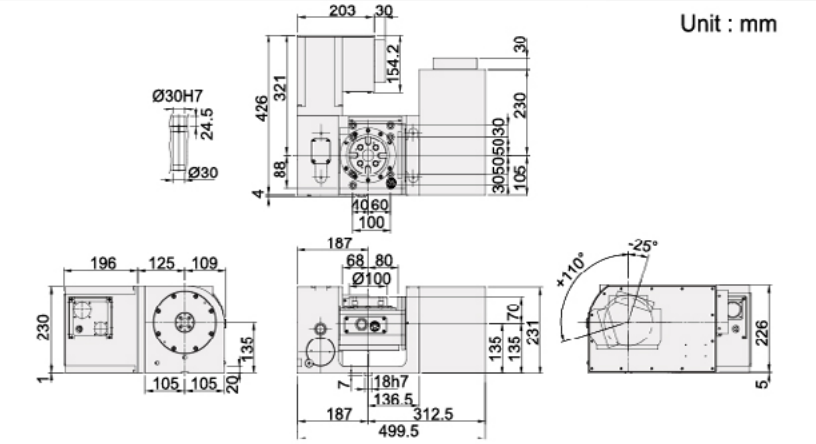
### SPECIFICATIONS

MODEL	Unit	GFA-101S	GFA-125S	GFA-170SII/HII	GFA-210S/H				
Worktable diameter	mm / inch	Ø100 / Ø3.94	Ø125 / Ø4.92	Ø170 / Ø6.69	Ø210 / Ø8.27				
Center bore diameter	mm / inch	Ø30H7 / Ø1.18H7	Ø30H7 / Ø1.18H7	Ø40H7 / Ø1.57H7	Ø65H7 / Ø2.56H7				
Height of table (horizontal)	mm / inch	205 / 8.07	224.5 / 8.84	260 / 10.24	280 / 11.02				
Height of center (vertical)	mm / inch	135 / 5.31	160 / 6.30	190 / 7.48	210 / 8.27				
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7				
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71				
Clamping method /pressure	MPa / psi	P:0.55~0.7/79.8~101.5	P:0.55~0.7/79.8~101.5	P:0.55~0.7/79.8~101.5 H:2.5/363	P:0.55~0.7/79.8~101.5 H:2.5/363				
Servo motor spec		refer to page 71							
Transmission ratio		R	T	R	T	R	T	R	T
		1:75	1:120	1:90	1:90	1:90	1:90	1:90	1:90
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	33.3 / 2500	16.6 / 2000	44.4 / 4000	44.4 / 4000	33.3 / 3000	22.2 / 2000	33.3 / 3000	22.2 / 2000
Clamping torque	N.m / ft. lbs.	200 / 148	250 / 184	140 / 103	300 / 221	300 / 221 450 / 332	400 / 295 700 / 516	400 / 295 600 / 443	600 / 443 800 / 590
Allowable loading capacity	In Horizontal	kg / lb	35 / 77	50 / 110	75 / 165	100 / 220			
	In Tilting (0~90°)	kg / lb	20 / 44	35 / 77	50 / 110	70 / 154			
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	24 / 17.69	24 / 17.69	40 / 29.5	62 / 45.7			
FxL When table clamped	F	N / lbs	4000 / 897.60	4000 / 897.60	7000 / 1570.8	14000 / 3141.6			
	FxL	N.m / ft. lbs.	200 / 147.4	140 / 103.2	300 / 221 450 / 332	400 / 295 600 / 443			
	FxL	N.m / ft. lbs.	250 / 184.25	300 / 221.1	400 / 295 700 / 516	600 / 443 800 / 590			
Allowable loading inertia	$\frac{W.D^2}{8}$	kg.m <sup>2</sup>	0.044	0.1	0.28	0.55			
Resolution	deg.		0.001	0.001	0.001	0.001			
Indexing accuracy	sec		40" 60"	40" 60"	20" 60"	20" 60"			
Repeatability	sec		6" 8"	6" 8"	6" 8"	6" 8"			
Tilting angle range	deg.		-25 ~ +110	-30 ~ +120	-30 ~ +120	-30 ~ +120			
Net weight (servo motor excluded)	kg / lb		90 / 198	120 / 264	180 / 396	230 / 490.6			
Allowable cutting torque	N.m / ft. lbs.		85 / 62.65	85 / 62.65	200 / 147.4	250 / 184.25			
Allowable Max. rotary joint quantity	Port		-	3	4	4			

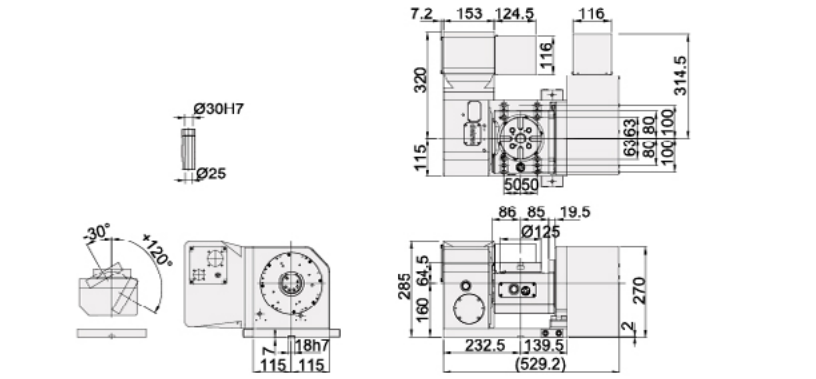
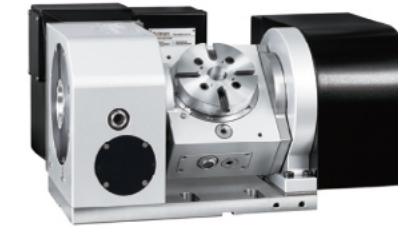
Note: 1. R: Rotary Axis T: Tilt Axis  
2. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

## DIMENSIONAL DRAWINGS

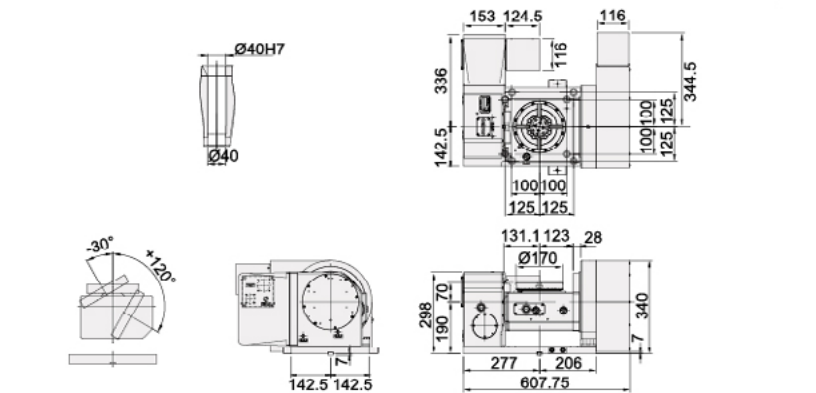
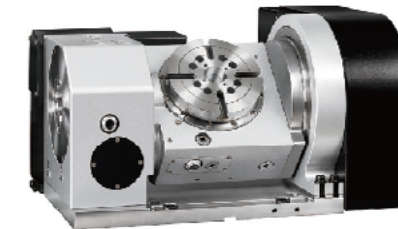
### GFA-101S



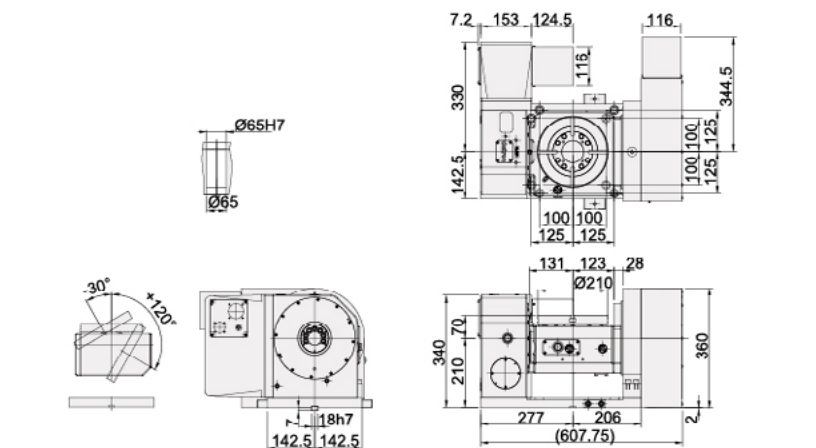
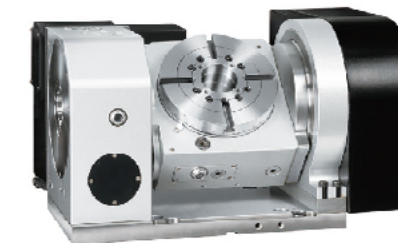
### GFA-125S



### GFA-170SII/HII



### GFA-210S/H



Note: 1. The length of servo guard may vary with servo motor type. (the metal sheet dimensions shown at above are based on Fanuc motor)  
2. Allowable wheel torque at table speed of 1 min<sup>-1</sup>.  
3. According to application engineering, optical encoder is recommended for tilting axis.



## CNC Trunnion Tilting Rotary Table

### GTFAE-410XB

- Flat supplemental base for standard 3 axis M/C
- new optimization model
- Five axis
- Trunnion type for lower gravity
- Worm gear transmission
- Tilting motor mounted at the back of table
- X hydraulic clamp by air booster converter built-in
- S superior pneumatic clamp
- H hydraulic brake
- Table size



- Worktable diameter Ø210, Ø320, Ø410, Ø500.
- The hydraulic brake equipped with radial and axial bearings.(P.18)
- Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash.(P.20)
- Built-in air-booster for appointed models.



Option type, motor mounted at the front side



customized base available according to demand

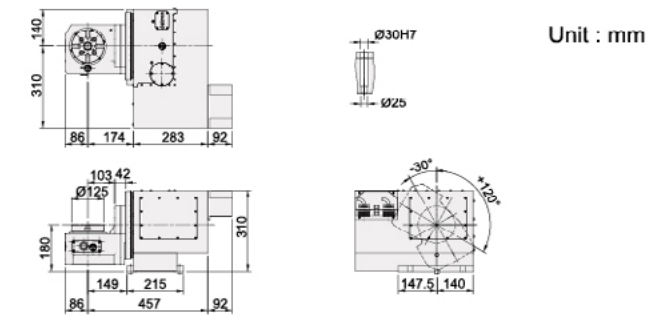
### SPECIFICATIONS

MODEL	Unit	GTFAS-125S	GTFAE-210S	GTFAE-320XB/H	GTFAE-410XB	GTFAE-500XB					
Worktable diameter	mm / inch	Ø125 / Ø4.92	Ø210 / Ø8.27	Ø320 / Ø12.60	Ø410 / Ø16.14	Ø500 / Ø19.69					
Center bore diameter	mm / inch	Ø30H7 / Ø1.181H7	Ø40H7 / Ø1.571H7	Ø50H7 / Ø1.971H7	Ø70H7 / Ø2.761H7	Ø70H7 / Ø2.761H7					
Height of table (horizontal)	mm / inch	180 / 7.09	375 / 14.76	365 / 14.37 317 / 12.48	411 / 16.18	460 / 18.11					
Height of center (vertical)	mm / inch	180 / 7.09	375 / 14.76	365 / 14.37 317 / 12.48	411 / 16.18	460 / 18.11					
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	14H7 / 0.55H7	14H7 / 0.55H7					
Clamping method /pressure	MPa / psi	*P: 0.5~0.6 / 72.5~87	*P: 0.55~0.7 / 79.7~101.5	*P:0.6~0.7/87~101.5 *H:5/725	*P: 0.6~0.7 / 87~101.5	*P: 0.6~0.7 / 87~101.5					
Servo motor spec		refer to page 71									
Transmission ratio		R: 1:60 T: 1:90	R: 1:90 T: 1:90	R: 1:100 T: 1:120	R: 1:120 T: 1:150	R: 1:120 T: 1:180					
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	33.3 / 2000	22.2 / 2000	33.3 / 3000	22.2 / 2000	25 / 2500	16.6 / 2000	11.1 / 1666	16.6 / 2000	11.1 / 2000	
Clamping torque	N.m / ft. lbs.	140 / 103.26	900 / 663.8	400 / 295	600/442.48	750/553.17	1500/1106.25	1600/1180	2000/1475	2500/1843.75	3000/2212.5
Allowable loading capacity	In Horizontal	kg / lb	30 / 66	100 / 220	200 / 440	200 / 440	300 / 660				
	In Tilting (0~90°)	kg / lb	30 / 66	70 / 154.3	100 / 220	150 / 330	250 / 550				
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	27 / 19.91	53 / 39.06	100 / 73.70	200 / 147.40	300 / 221.0				
FxL When table clamped	F	N / lbs	2800 / 629.5	14000 / 3141.60	16000 / 3590.40	20000 / 4488.0	30000 / 6732.0				
	FxL	N.m / ft. lbs.	140 / 103.26	400 / 295	750 / 553.17	1600 / 1180	2500 / 1843.75				
	FxL	N.m / ft. lbs.	900 / 663.8	600 / 442.48	1500 / 1106.25	2000 / 1475	3000 / 2212.5				
Allowable loading inertia	$\frac{W \cdot L^2}{8}$	kg.m <sup>2</sup>	0.06	0.55	2.6	4.3	9.6				
Resolution	deg.		0.001	0.001	0.001	0.001	0.001				
Indexing accuracy	sec		40" 60"	20" 60"	20" 60"	15" 60"	15" 60"				
Repeatability	sec		6" 8"	6" 8"	6" 8"	6" 8"	6" 8"				
Tilting angle range	deg.		-30 ~ +120	-120 ~ +30	-120 ~ +30	-120 ~ +30	-120 ~ +30				
Net weight (servo motor excluded)	kg / lb		142 / 312.4	455 / 1001	700 / 1540 610 / 1342	940 / 2068.0	1270 / 2794				
Allowable cutting torque	N.m / ft. lbs.		85 / 62.69	260 / 191.6	550 / 401.5	780 / 569.4	1700 / 1241				
Allowable Max. rotary joint quantity	Port		-	4	6	6	6				

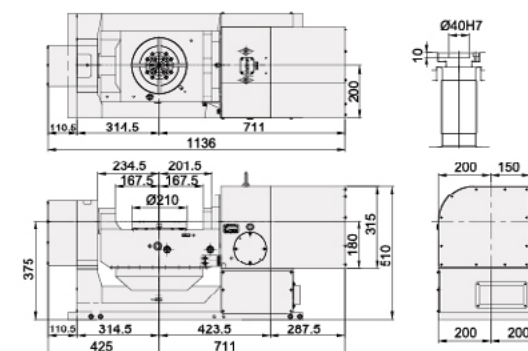
Note: 1. P: Pneumatic H:Hydraulic R: Rotary Axis T: Tilt Axis  
 2. For the motor model selection of GTFAS125S, please contact us.  
 3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

### DIMENSIONAL DRAWINGS

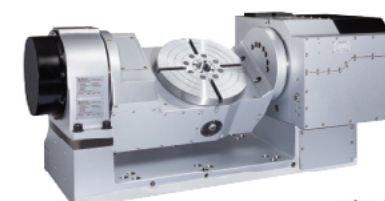
#### GTFAS-125S



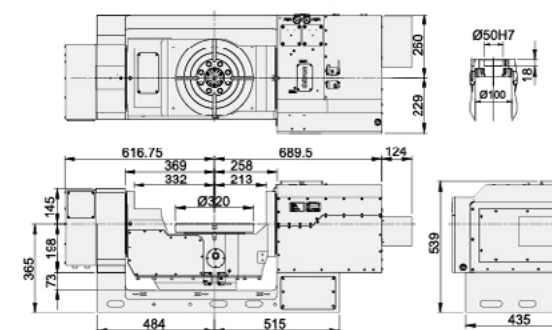
#### GTFAE-210S



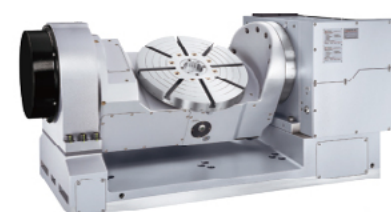
#### GTFAE-320XB



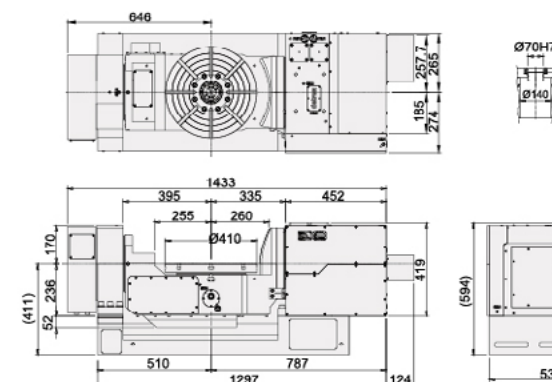
air-oil converter built-in



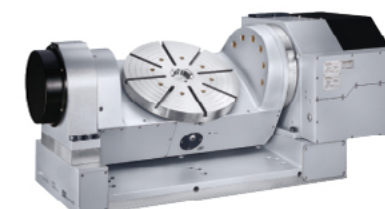
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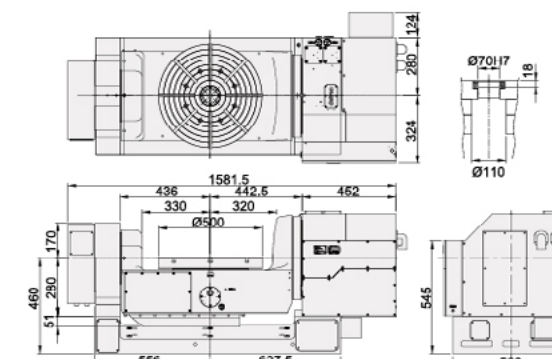
air-oil converter built-in



#### GTFAE-500XB



air-oil converter built-in

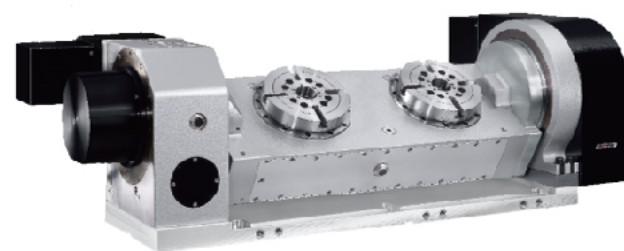
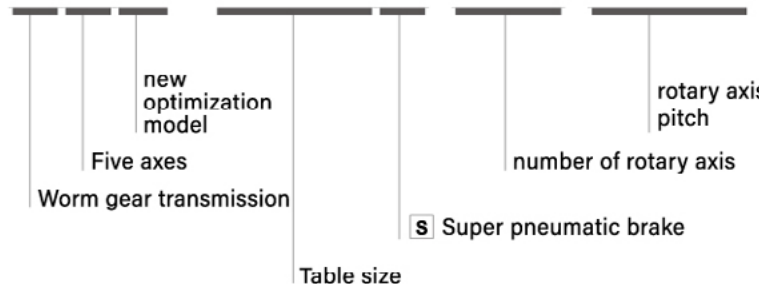


Note: 1. The length of servo guard may vary with servo motor type. (the metal sheet dimensions shown at above are based on Fanuc motor)  
 2. Allowable wheel torque at table speed of 1 min<sup>-1</sup>.  
 3. According to application engineering, optical encoder is recommended for tilting axis.  
 4. Customized table Ø630mm and dual drive at tilting axis are available.



## Multi Spindle Tilting Rotary Table

### GFA-170S-2W-300



Worktable diameter Ø125, Ø170  
Multiple rotary axis allow high volume production and automation integration.

### SPECIFICATIONS

MODEL	Unit	GFA-125S-2W-240		GFA-170S-2W-300	
Worktable diameter	mm / inch	Ø125 / Ø4.92		Ø170 / Ø6.69	
Center bore diameter	mm / inch	Ø30H7 / Ø1.18H7		Ø40H7 / Ø1.57H7	
Pitch of rotary axis	mm / inch	240 / 9.45		300 / 11.81	
Max. work swing	mm / inch	195 / 7.68		285 / 11.22	
Height of table (horizontal)	mm / inch	224.5 / 8.84		250 / 9.84	
Height of center (vertical)	mm / inch	160 / 6.30		220 / 8.66	
Width of T-slot	mm / inch	12H7 / 0.47H7		12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71		18 / 0.71	
Drive pressure / method	MPa / psi	Pneumatic 0.55~0.7 / 79.8~101.5		Pneumatic 0.55~0.7 / 79.8~101.5	
Servo motor spec		refer to page 71			
Transmission ratio		R	T	R	T
		1/90	1/90	1/90	1/90
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	22.2 / 2000	22.2 / 2000	25 / 2250	22.2 / 2000
Clamping torque	N.m / ft. lbs.	140 / 103.26	300 / 221	300 / 221.26	600 / 442.5
Allowable loading capacity	In Horizontal	kg / lb	35 / 77	40 / 88	
	In Tilting (0~90°)	kg / lb	20 / 44	30 / 66	
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	24 / 17.688	62 / 45.728	
F <sub>xL</sub> When table clamped	F	N / lbs	2800 / 629.5	4900 / 1102	
	F <sub>xL</sub>	N.m / ft. lbs.	140 / 103.26	300 / 221.26	
	F <sub>xL</sub>	N.m / ft. lbs.	300 / 221	600 / 442.5	
Allowable loading inertia $(\frac{W \cdot D^2}{8})$	kg.m <sup>2</sup>	0.1	0.15		
Resolution	deg.	0.001		0.001	
Indexing accuracy	sec	40"	60"	20"	60"
Repeatability	sec	6"	8"	6"	8"
Tilting angle range	deg.	-30 ~ +120		-30 ~ +120	
Net weight (servo motor excluded)	kg / lbs	172 / 379		355 / 783	
Allowable cutting torque	N.m / ft. lbs.	85 / 62.645		200 / 147.512	

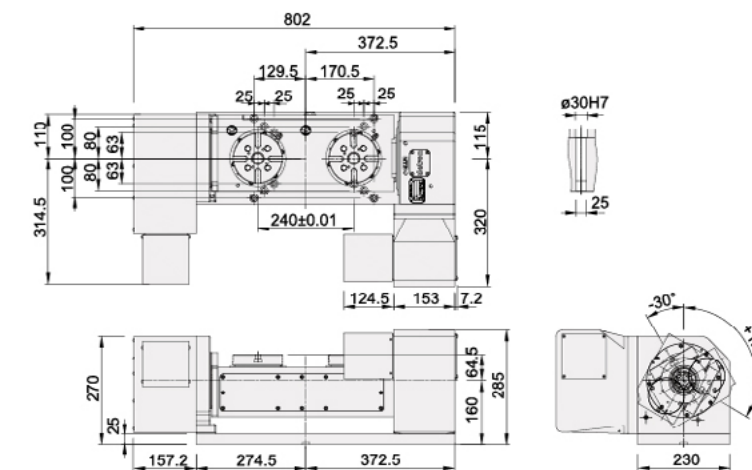
Note: 1. R: Rotary Axis T: Tilt Axis

2. F<sub>xL</sub> When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

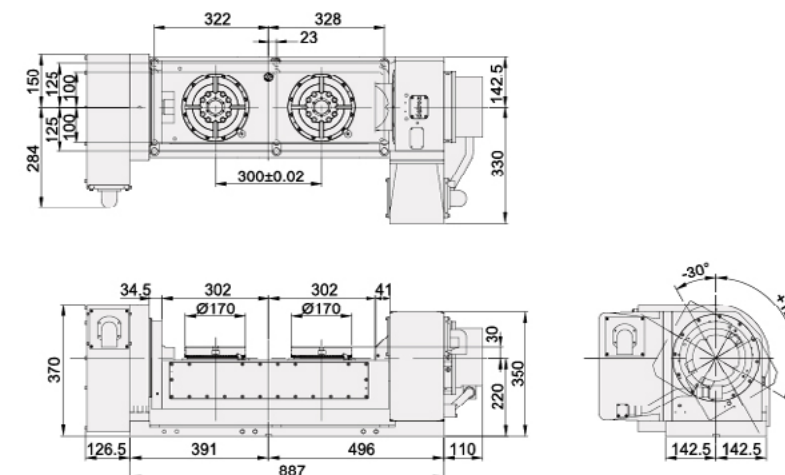
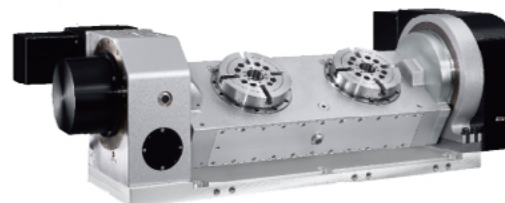
## DIMENSIONAL DRAWINGS

Unit : mm

### GFA-125S-2W-240



### GFA-170S-2W-300



Note: 1. The length of servo guard may vary with servo motor type. (the metal sheet dimensions shown at above are based on Fanuc motor)

2. Allowable wheel torque at table speed of 1 min<sup>-1</sup>.

3. According to application engineering, optical encoder is recommended for tilting axis.



# GTFAE-2W/3W series

## Multi Spindle Tilting Rotary Table

### GTFAE-210S-2W-320



Flat supplemental base for standard 3 axis M/C

new optimization model

Five axes

Trunnion type for lower gravity

Worm gear transmission

rotary axis pitch

number of rotary axis

H hydraulic brake

S Super pneumatic brake

Table size

Worktable diameter  $\varnothing 125$ ,  $\varnothing 210$ ,  $\varnothing 255$

Multiple rotary axis allow high volume production and automation integration.

#### SPECIFICATIONS

MODEL	Unit	GTFAE-210S-2W-320		GTFAE-255H-2W-400	
Worktable diameter	mm / inch	$\varnothing 210 / \varnothing 8.27$		$\varnothing 255 / \varnothing 10.04$	
Center bore diameter	mm / inch	$\varnothing 40H7 / \varnothing 1.57H7$		$\varnothing 40H7 / \varnothing 1.57H7$	
Pitch of rotary axis	mm / inch	320 / 12.60		400 / 15.75	
Max. work swing	mm / inch	310 / 12.20		390 / 15.35	
Height of table (horizontal)	mm / inch	270 / 10.63		370 / 14.57	
Height of center (vertical)	mm / inch	270 / 10.63		370 / 14.57	
Width of T-slot	mm / inch	12H7 / 0.47H7		12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71		18 / 0.71	
Drive pressure / method	MPa / psi	Pneumatic 0.55~0.7 / 79.8~101.5		Hydraulic 5 / 725.0	
Servo motor spec		refer to page 71			
Transmission ratio		R	T	R	T
		1/90	1/120	1/90	1/120
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	25 / 2250	22.2 / 2664	20 / 1800	16.2 / 2000
Clamping torque	N.m / ft. lbs.	400 / 295	900 / 663.8	900 / 663.8	2500 / 1843
Allowable loading capacity	In Horizontal	kg / lb	50 / 110	100 / 220	
	In Tilting (0~90°)	kg / lb	35 / 77	75 / 165	
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	92 / 68	130 / 95.8	
F <sub>xL</sub> When table clamped	F	N / lbs	9800 / 2203	11000 / 2473	
	F <sub>xL</sub>	N.m / ft. lbs.	400 / 295	900 / 663.8	
	F <sub>xL</sub>	N.m / ft. lbs.	900 / 663.8	2500 / 1843	
Allowable loading inertia $(\frac{W.D^2}{8})$		kg.m <sup>2</sup>	0.22	0.8	
Resolution	deg.		0.001	0.001	
Indexing accuracy	sec		20"	60"	20" 60"
Repeatability	sec		6"	8"	6" 8"
Tilting angle range	deg.		-30 ~ +120		-30 ~ +120
Net weight (servo motor excluded)	kg / lbs		440 / 970	856 / 1887	
Allowable cutting torque	N.m / ft. lbs.		250 / 184	550 / 405	

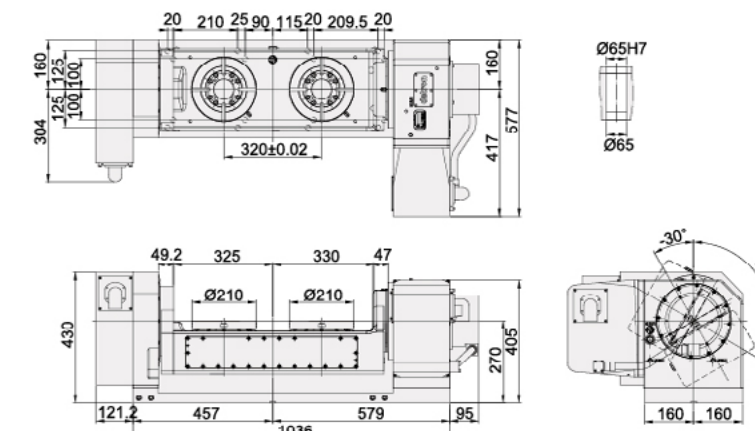
Note: 1. R: Rotary Axis T: Tilt Axis

2. F<sub>xL</sub> When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

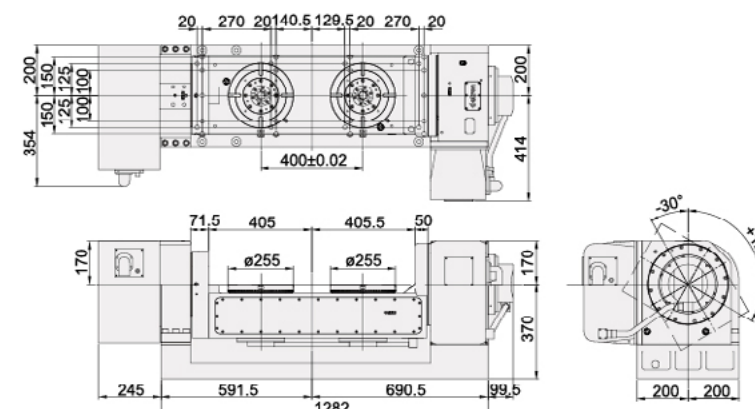
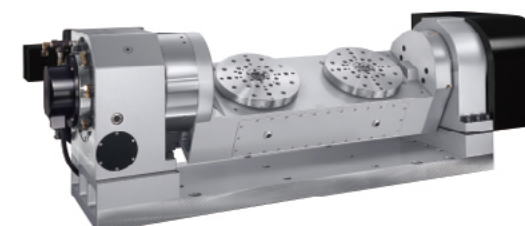
## DIMENSIONAL DRAWINGS

Unit : mm

### GTFAE-210S-2W-320

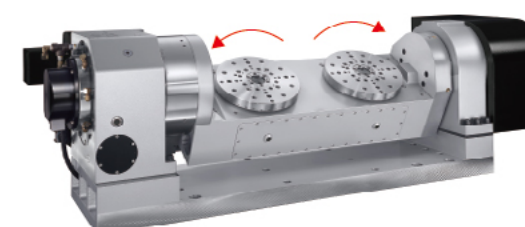


### GTFAE-255H-2W-400



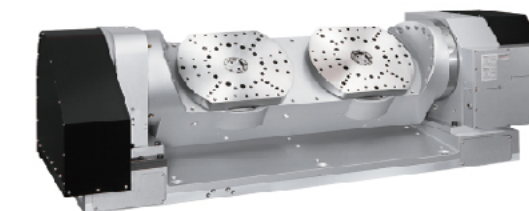
### Hybrid Drive ▶▶▶

### GTFAE-255H-2WS-400



Individual rotations on each axis.

### GDTF-500HB-2W-600



Rotary axis by DDM for 50rpm.  
Tilting axis by worm wheel transmission.

Note: 1. The length of servo guard may vary with servo motor type. (the metal sheet dimensions shown at above are based on Fanuc motor)

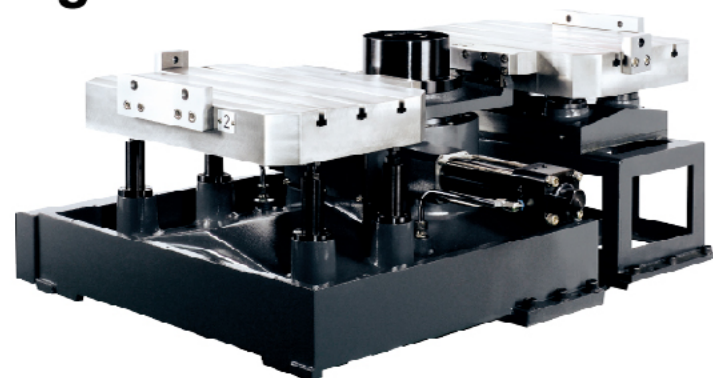
2. Allowable wheel torque at table speed of 1 min<sup>-1</sup>.

3. According to application engineering, optical encoder is recommended for tilting axis.

## Automatic Pallet Change System

### CVR-660

Rack type Pallet size  
Double pallet system (C type)



- || **EASY INSTALLATION:** The pallet change device is directly mounted on the base. Easy to install and space saving.
- || **FLEXIBLE PRODUCTION:** Available to equip with several tables to meet small lot flexible production requirements.
- || **GREAT LOADING CAPACITY:** Hydraulic drive. Workpiece loading capacity up to 300kg x 2 pcs.
- || **HIGH REPEATABILITY:** Employs high precision conical positioning blocks to ensure stability of table and repeatability in  $\pm 0.005\text{mm}$ .

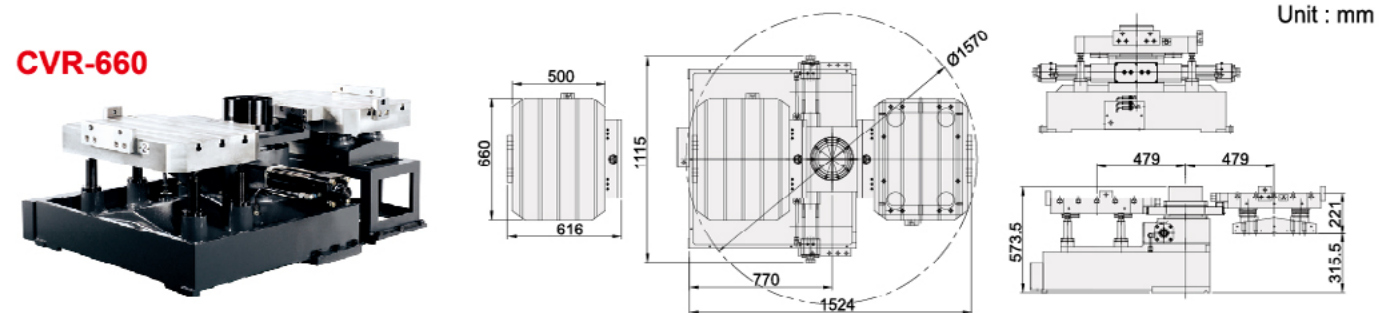
#### SPECIFICATIONS

MODEL	Unit	CVR-660	CVR-850	CVR-10D	
Pallet sizes	mm / inch	660 x 500 / 25.98 x 19.69	850 x 500 / 33.46 x 19.69	1000 x 500 / 39.37 x 19.69	
Number of pallets		2	2	2	
Pallet change method		180° Swing	180° Swing	180° Swing	
T-slot size	mm / inch	14H8 / 0.55H8	18H8 / 0.71H8	18H8 / 0.71H8	
Drive method /pressure	MPa / psi	Hydraulic 6 / 870	Hydraulic 6 / 870	Hydraulic 6 / 870	
Pallet clamping force	N / lbs	36850 / 8269.14	36850 / 8269.14	36850 / 8269.14	
Cutting load resistant capacity	N.m / ft. lbs.	2940 / 2166.78	2940 / 2166.78	2940 / 2166.78	
Pallet positioning method		Taper cone	Taper cone	Taper cone	
Allowable loading capacity	kg / lb	200 x 2 / 440 x 2	300 x 2 / 660 x 2	300 x 2 / 660 x 2	
Allowable loading inertia	kg.m <sup>2</sup>	7.5 x 2	7.5 x 2	7.5 x 2	
Lifting force	N / lbs	35280 / 7916.83	35280 / 7916.83	35280 / 7916.83	
Pallet exchange mechanism	kg / lb	550 / 1210	550 / 1210	550 / 1210	
Weight(N.W.)	Pallet	kg / lb	170x2 / 375x2	190 x 2 / 418 x 2	220 x 2 / 418 x 2
	Sub-pallet	kg / lb	105 / 231	105 / 231	105 / 231

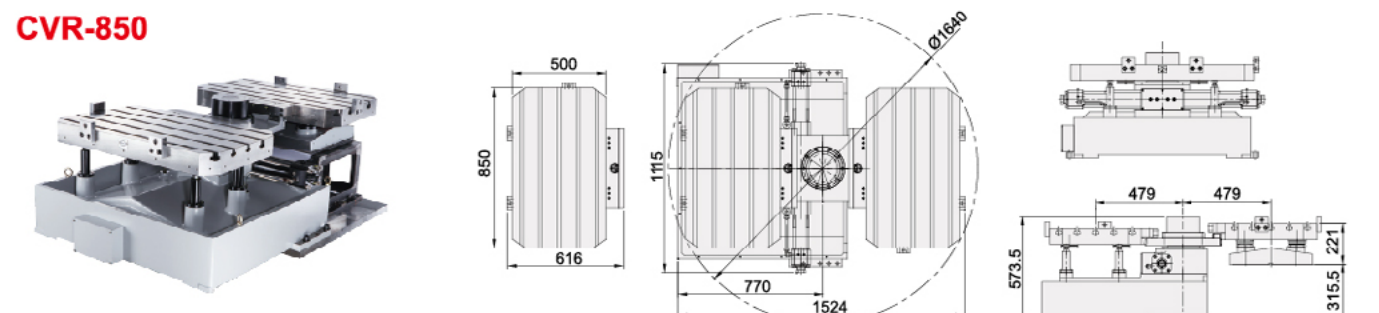
NOTE: 1. Pallet change time may varied with flow of pump, length and diameter of pipe.  
2. Allowable loading inertia means the allowable value at the distance of 450mm between the loading gravity and the APC center.

## DIMENSIONAL DRAWINGS

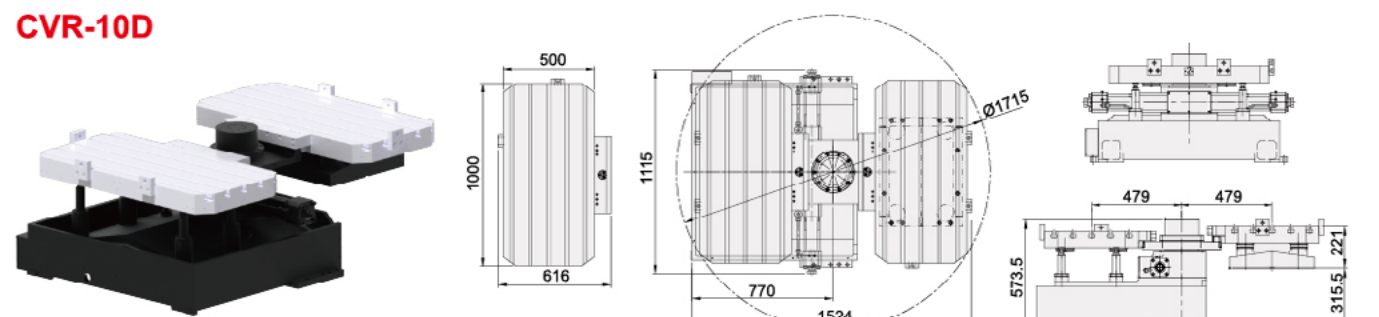
### CVR-660



### CVR-850



### CVR-10D

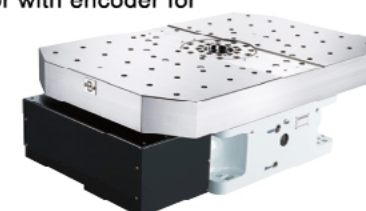


## SVC series

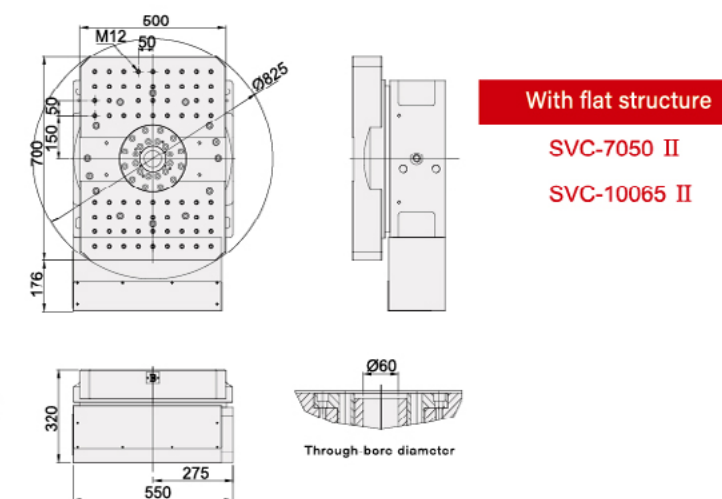
### SVC-7050 II

Roller gear cam type Pallet size  
Single pallet system (Column moving type)

- || Roller cam transmission perform backlash free without wear-out and stabilizes fast pallet change.
- || Applied for machining center with column movable. Change cycle in 3.5 sec.
- || Driven by servo motor with encoder for accurate positioning.



## Automatic Pallet Change System (Roller Gear Cam Type)

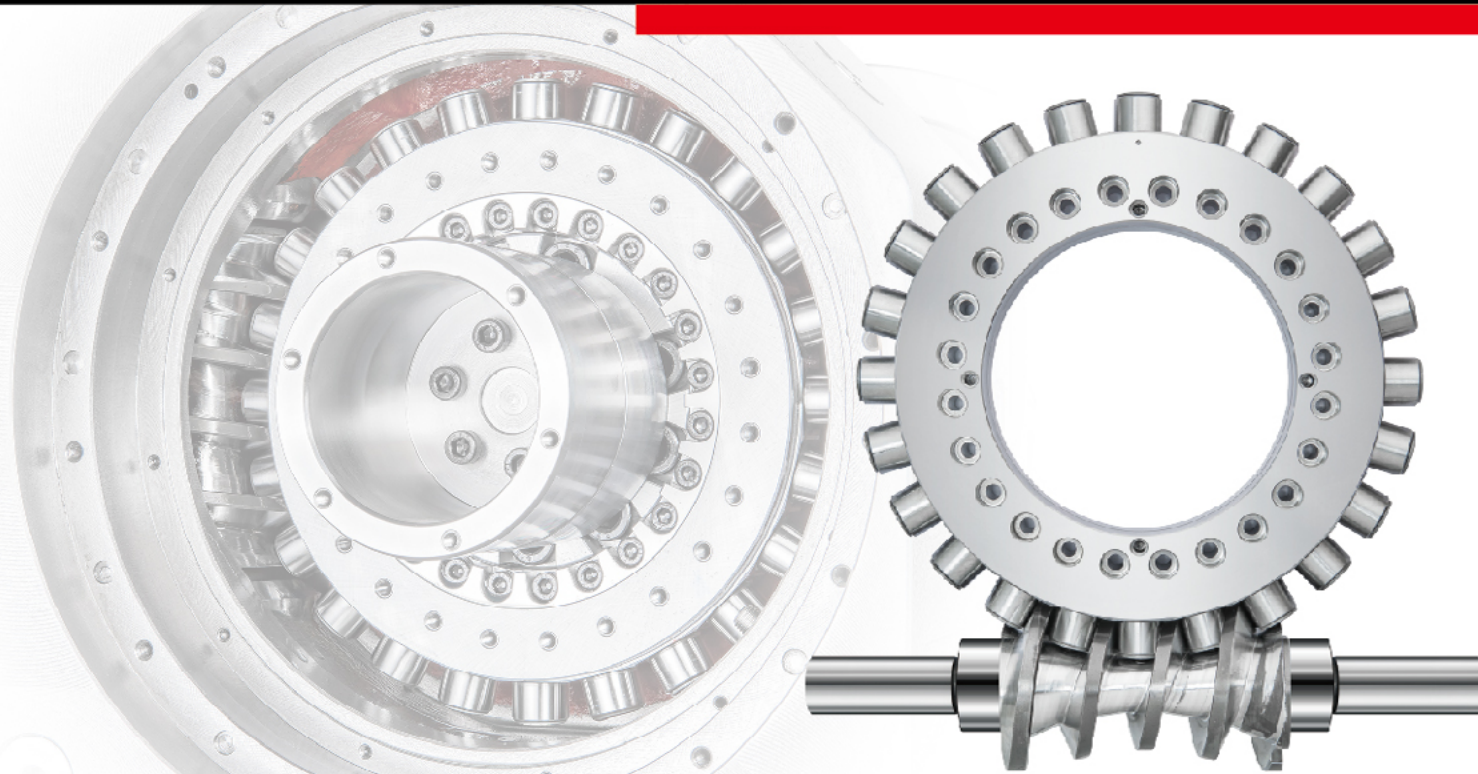


With flat structure

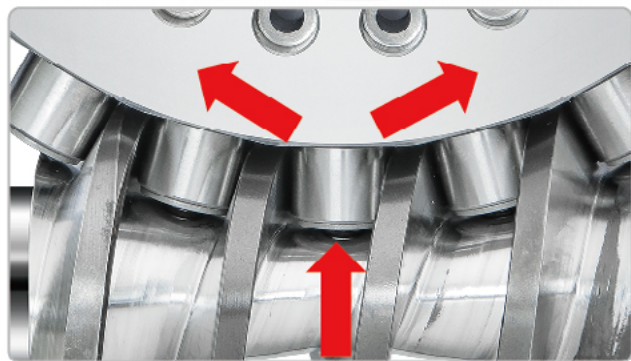
SVC-7050 II  
SVC-10065 II

# Zero-Backlash Roller Gear Cam Drive

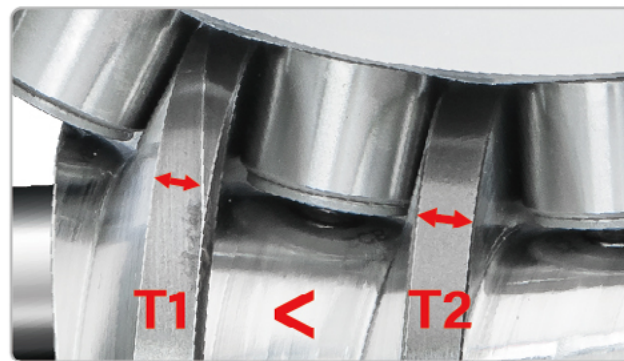
# Core Technology



Dual Lead Cam Shaft Mechanism



Preload adjustment can completely eliminate the engagement of roller and cam shaft to reach zero backlash and to ensure at least 4 rollers contacting cam shaft during rotation for high rigidity performance.

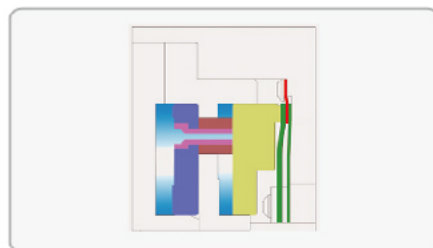


Dual Lead cam shaft design ( $T1 < T2$ ) ensures the meshing performance between rollers and the cam shaft, which significantly reduces vibration and improves surface processing accuracy. (Refer to P52)

Reliable Clamping Force



**Hydraulic Model:**  
Special design of drum brake system.



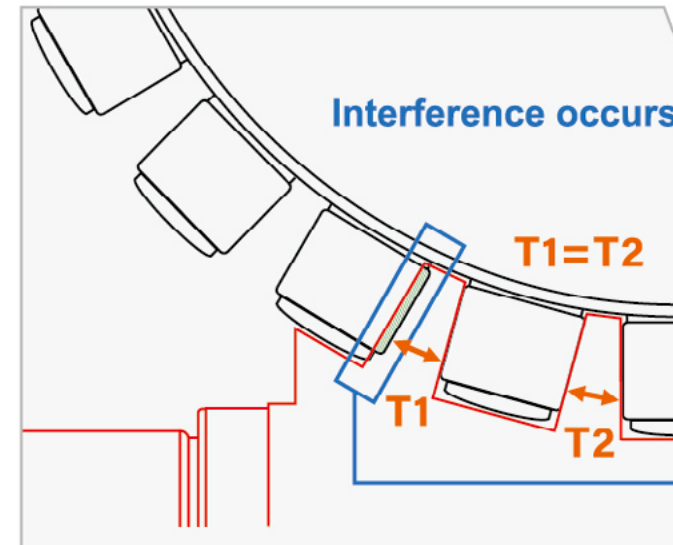
**Pneumatic Model:**  
exclusive patented dual pistons design.

High Rigidity Consolidated Spindle



YRT bearing integrated in consolidated spindle with **least separate elements & premium rigidity.**

Dual Lead Cam Shaft Mechanism



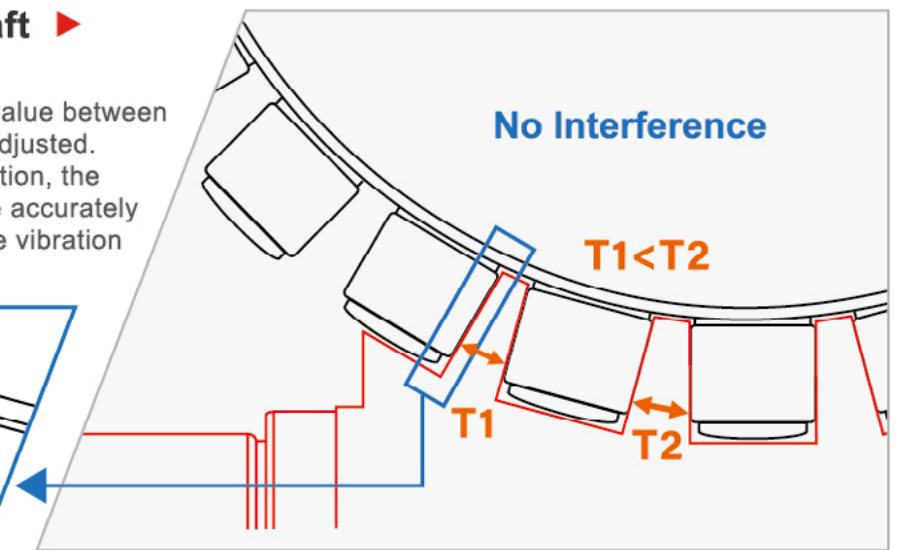
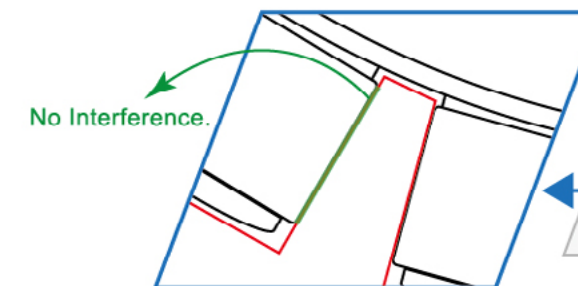
Conventional Cam Shaft Design ( $T1=T2$ ):

Conventional single-lead design relies heavily on engineers' assembling experiences and skills, this causes longer production time and unstable quality of processing accuracy and vibration issue.

Mechanical interference occurs, and it can only be eliminated manually by engineers.

Detron Own Dual Lead Cam Shaft Design ( $T1 < T2$ ):

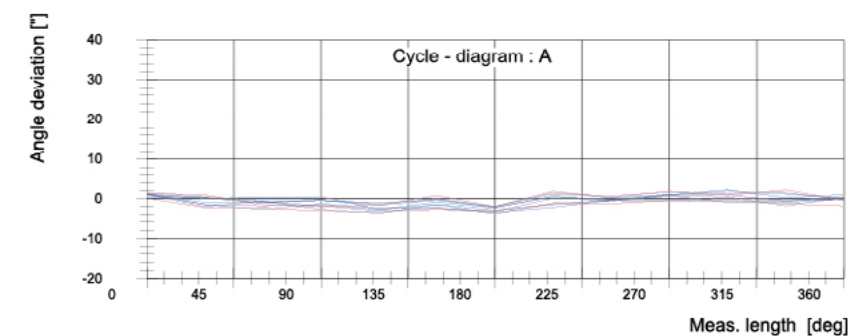
Through detron owned software, the preload value between the rollers and the cam shaft can be set and adjusted. According to the software settings and calculation, the optimal cam shaft tooth flank thickness can be accurately processed. This technology can greatly reduce vibration issue, and bring high processing accuracy.



Strict Inspection Norm

**detron**

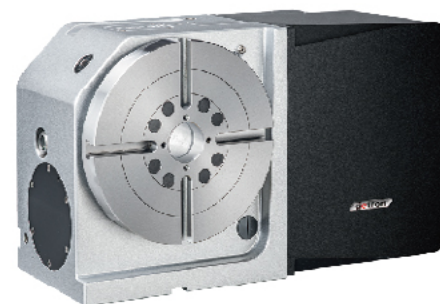
ISO 230-2 Norm (equal to JIS B 6192)



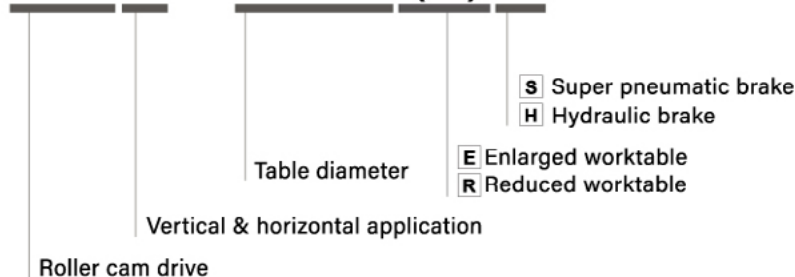
Accuracy Inspection upon ISO 230-2 international norm is operated with 5 continuous runs in clockwise and counterclockwise test.

## Roller Gear Cam Drive Rotary Table

RCX-170RS/H RCX-210S/H RCX-250ES/H  
RCX-255H RCX-320EH



RCX - 250 (E) S



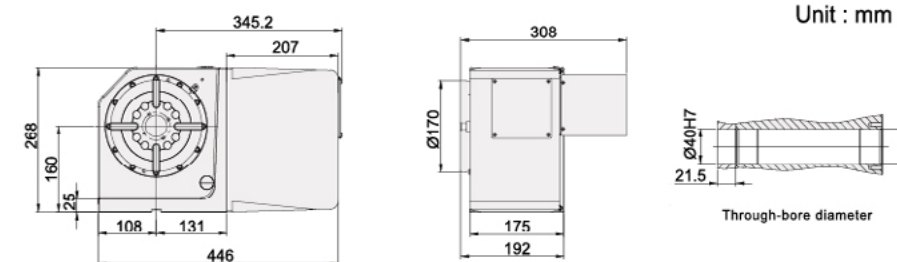
- Rolling contact reserves high rigidity, high speed and long endurance.
- Least drive energy wear-out and more than 80% transmission rate.
- Backlash-free from rolling motion achieves high accuracy.

### SPECIFICATIONS

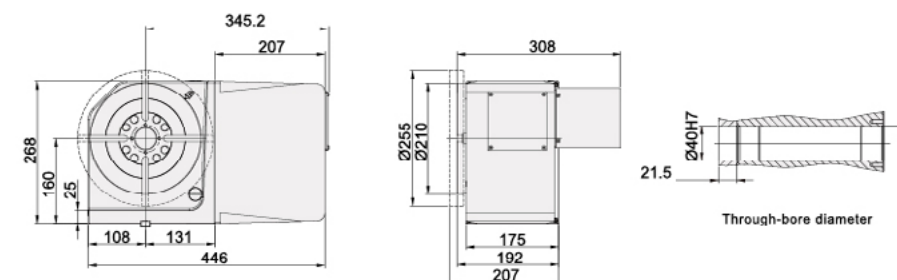
MODEL	Unit	RCX-170RS/H	RCX-210S/H RCX-250ES/H	RCX-255H	RCX-320EH	
Worktable diameter	mm / inch	Ø170 / Ø6.69	Ø210 / Ø8.27 Ø250 / Ø9.84	Ø255 / Ø10.04	Ø320 / Ø12.6	
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7	Ø40H7 / Ø1.57H7	Ø140H7 / Ø5.51H7	Ø140H7 / Ø5.51H7	
Through-bore diameter	mm / inch	Ø40 / Ø1.57	Ø40 / Ø1.57	Ø100 / Ø3.9	Ø100 / Ø3.9	
Height of table (horizontal)	mm / inch	192 / 7.6	192 / 7.6 207 / 8.15	216.5 / 8.5	222 / 8.7	
Height of center (vertical)	mm / inch	160 / 6.30	160 / 6.30	190 / 7.49	190 / 7.49	
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	MPa / psi	Pneumatic 0.55~0.7 / 79.7~101.5	Pneumatic 0.55~0.7 / 79.7~101.5	Hydraulic 5 / 725	Hydraulic 5 / 725	
Clamping torque	N.m / ft. lbs.	400 / 295 600 / 443	400 / 295 600 / 443	1270 / 937	1270 / 937	
Servo motor spec		refer to page 54				
Transmission ratio		1 / 24	1 / 24	1 / 48	1 / 48	
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	83.3 / 2000	83.3 / 2000	50 / 2400	50 / 2400	
Standard loading inertia (W.D <sup>2</sup> /8)	Kg.m <sup>2</sup>	0.72	0.72	2.43	2.43	
Resolution	deg.	0.001	0.001	0.001	0.001	
Indexing accuracy	sec.	20	20	20	20	
Repeatability	sec.	6	6	6	6	
Net weight (servo motor excluded)	kg / lb	68 / 150	70 / 154 78 / 172	126 / 278	134 / 295	
Allowable loading capacity	Vertical	kg / lb	100 / 220	100 / 220	150 / 331	150 / 331
	Horizontal	kg / lb	200 / 441	200 / 441	300 / 661	300 / 661
	Tailstock applied	kg / lb	200 / 441	200 / 441	300 / 661	300 / 661
FxL When table clamped		N / lbs	14000 / 3147	14000 / 3147	20000 / 4496	20000 / 4496
		N.m / ft. lbs.	1020 / 752	1020 / 752	1700 / 1254	1700 / 1254
		N.m / ft. lbs.	400 / 295 600 / 443	400 / 295 600 / 443	1270 / 937	1270 / 937
Cam allowable torque	N.m / ft. lbs.	280 / 207	280 / 207	800 / 590	800 / 590	
Allowable Max. rotary joint quantity	Port	4	4	6	6	

## DIMENSIONAL DRAWINGS

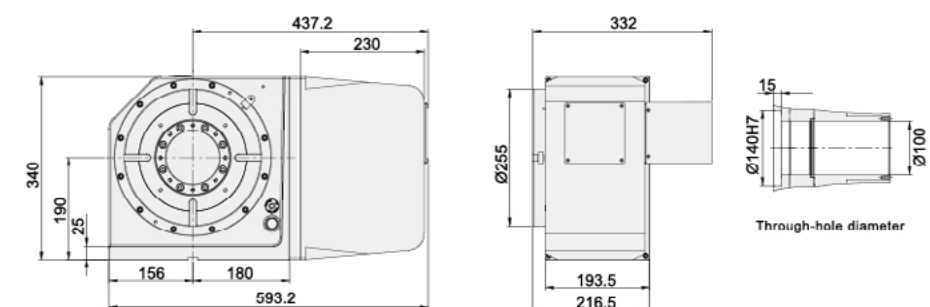
### RCX-170RS/H



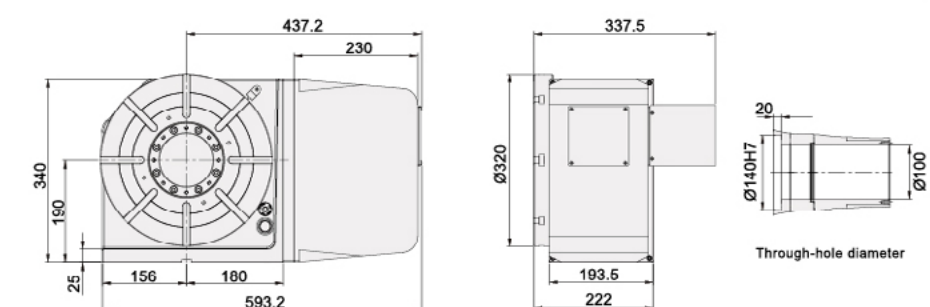
### RCX-210S/H / RCX-250ES/H



### RCX-255H



### RCX-320EH

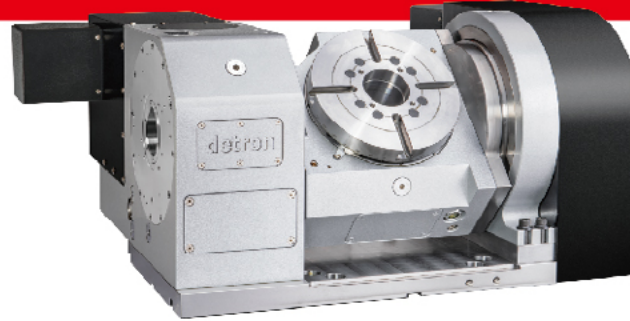


## Compatible Servo Motor

MODEL	RCX-170RS/H	RCX-210S/H	RCX-250ES/H	RCX-255H	RCX-320EH
FANUC	aiF4 / βis8	aiF4 / βis8	aiF4 / βis8	aiF8 / βis12	aiF8 / βis12
MITSUBISHI	HF/HG-104/154	HF/HG-104/154	HF/HG-104/154	HF/HG-154/224	HF/HG-154/224
SIEMENS	1FK2205-4AF 1FK2206-2AF	1FK2205-4AF 1FK2206-2AF	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	1FK2206-4AF
HEIDENHAIN	QSY116E	QSY116E	QSY116E	QSY116J	QSY116J

Note: 1. The length of servo guard may vary with servo motor type. (metal sheet dimensions shown above are based on Fanuc motor)  
Brake system must remain CLAMP status when power failure happens, otherwise, it may cause the dropping of the rotary table under different situations of the facilities and work pieces.

## Roller Gear Cam Drive Tilting Rotary Table



RCF-170S/H RCF-210S/H  
RCF-255H RCF-320EH

**RCF - 3 2 0 (E) H**

Five axis  
Roller cam drive  
Table diameter  
Enlarged worktable  
S Super pneumatic brake  
H Hydraulic brake

- Worktable diameter Ø170, Ø210, Ø255, Ø320
- Rolling contact reserves high rigidity, high speed and long endurance.
- Least drive energy wear-out and more than 80% transmission rate.
- Backlash-free from rolling motion achieves high accuracy.

### SPECIFICATIONS

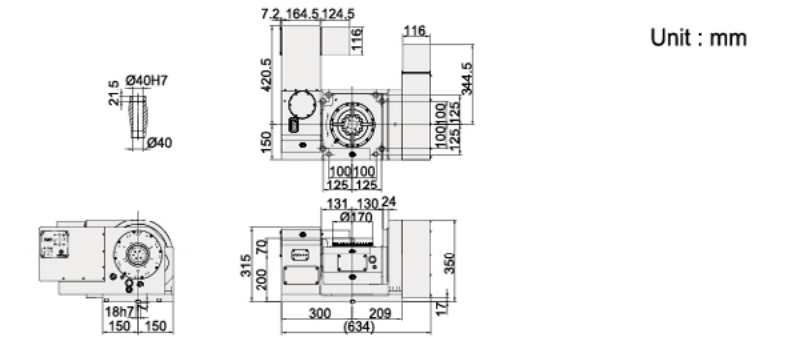
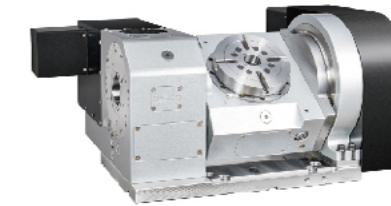
MODEL	Unit	RCF-170S/H	RCF-210S/H	RCF-255H	RCF-320EH				
Worktable diameter	mm / inch	Ø170 / Ø6.69	Ø210 / Ø8.27	Ø255 / Ø10.04	Ø320 / Ø12.60				
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7	Ø65H7 / Ø2.56H7	Ø140H7x15L/Ø5.51H7x15L	Ø140H7x15L/Ø5.51H7x15L				
Height of table (horizontal)	mm / inch	270 / 10.6	286 / 11.26	335 / 13	340.5 / 13.4				
Height of center (vertical)	mm / inch	200 / 7.87	210 / 8.27	235 / 9.25	235 / 9.25				
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7				
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71				
Clamping method /pressure	MPa / psi	P:0.55~0.7/79.8~101.5 H:2.5/363	P:0.55~0.7/79.8~101.5 H:2.5/363	Hydraulic 5 / 725	Hydraulic 5 / 725				
Servo motor spec		refer to page 56							
Transmission ratio		R	T	R	T	R	T	R	T
		1:60	1:90	1:60	1:90	1:60	1:90	1:60	1:90
Max. table speed / at specified servo motor speed	min <sup>-1</sup>	50 / 3000	33.3 / 3000	50 / 3000	33.3 / 3000	44.4 / 3000	33.3 / 3000	44.4 / 3000	33.3 / 3000
Clamping torque	N.m / ft. lbs.	300 / 221 600 / 443	400 / 295 700 / 516	400 / 295 600 / 443	600 / 443 800 / 590	1270 / 937	1270 / 937	1270 / 937	1270 / 937
Allowable loading capacity	In Horizontal	kg / lb	75 / 165	100 / 220	120 / 265	120 / 265			
	In Tilting (0~90°)	kg / lb	50 / 110	70 / 154	90 / 198	90 / 198			
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	40 / 29.5	62 / 45.7	92 / 67.8	92 / 67.8			
FxL When table clamped	F	N / lbs	7000 / 1571	14000 / 3142	20000 / 4488	20000 / 4488			
	FxL	N.m / ft. lbs.	300 / 221 600 / 443	400 / 295 600 / 443	1270 / 937	1270 / 937			
	FxL	N.m / ft. lbs.	400 / 295 700 / 516	600 / 443 800 / 590	1270 / 937	1270 / 937			
Standard loading inertia ( $\frac{W \cdot D^2}{8}$ )	kg.m <sup>2</sup>		0.2	0.4	0.94	0.94			
Resolution	deg.		0.001	0.001	0.001	0.001			
Indexing accuracy	sec		20" 60"	20" 60"	20" 50"	20" 50"			
Repeatability	sec		6" 8"	6" 8"	6" 8"	6" 8"			
Tilting angle range	deg.		-30 ~ +120	-30 ~ +120	-30 ~ +120	-30 ~ +120			
Net weight (servo motor excluded)	kg / lb		221 / 487	250 / 551	350(3D) / 771(3D)	358(3D) / 789(3D)			
Cam allowable torque	N.m / ft. lbs.		280 / 207	280 / 207	800 / 590	800 / 590			
Allowable Max. rotary joint quantity	Port		4	4	6	6			

Note: 1. R: Rotary Axis T: Tilt Axis

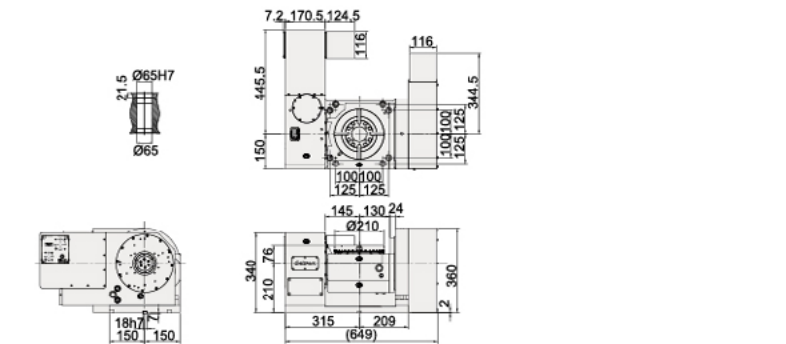
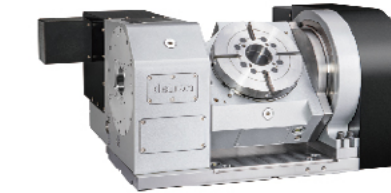
2. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

## DIMENSIONAL DRAWINGS

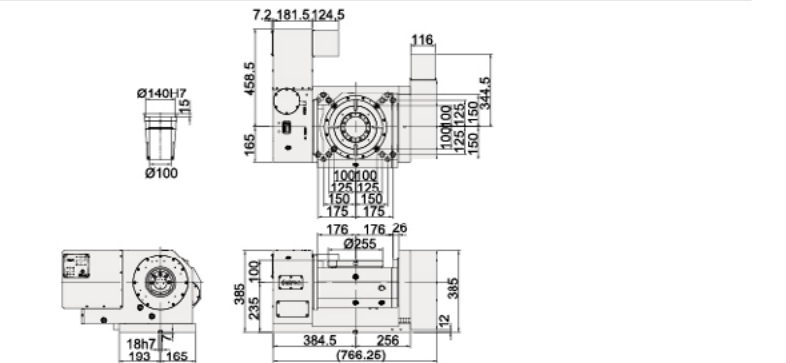
RCF-170S/H



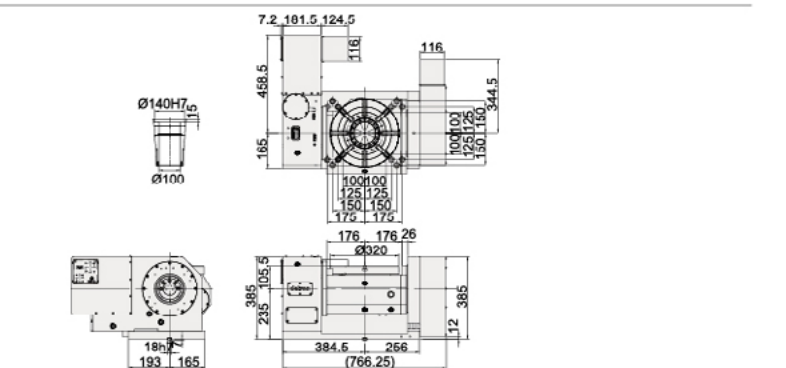
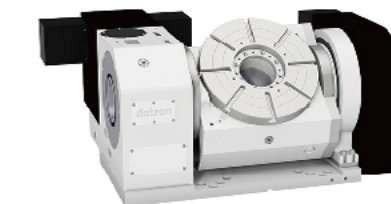
RCF-210S/H



RCF-255H



RCF-320EH



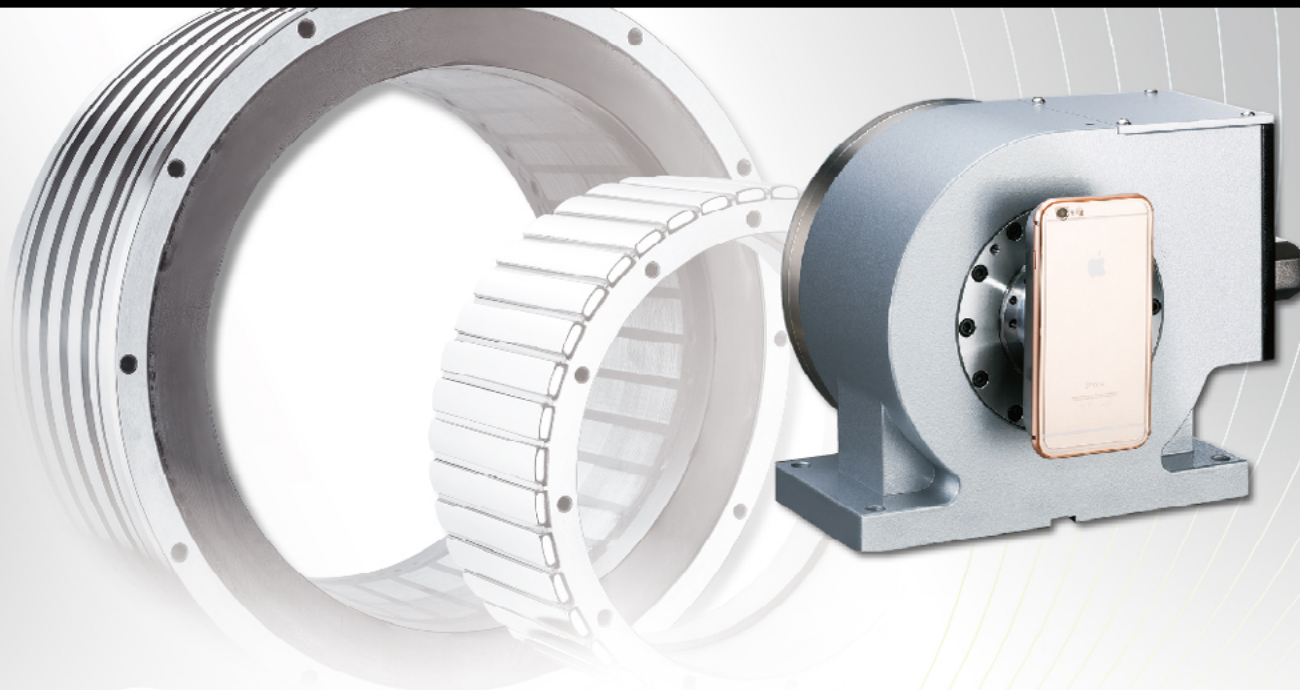
## Compatible Servo Motor

MODEL	RCF-170S/H		RCF-210S/H		RCF-255H		RCF-320EH	
Axis	Rotary Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	Tilting Axis
FANUC	aiF4 β8is	aiF4+β β8is+β	aiF4 β8is	aiF4+β β8is+β	aiF4 β8is	aiF8+β β12is+β	aiF4 β8is	aiF8+β β12is+β
MITSUBISHI	HG-54 HG-104	HG-104+β	HG-104	HG-104+β	HG-104	HG-154+β	HG-104	HG-154+β

Note: 1. The length of servo guard may vary with servo motor type. (metal sheet dimensions shown above are based on Fanuc motor) Brake system must remain CLAMP status when power failure happens, otherwise, it may cause the dropping of the rotary table under different situations of the facilities and work pieces. 2. For Siemens & Heidenhain motor selection, please contact detron for detailed information.

# Core Technology – Built-in Torque Motor for Direct Drive

# Core Technology – High Speed and Precision



## Speed

- Built-in torque motor for direct drive, max speed 250rpm.
- Super low inertia, high efficient gain loop response.
- High acceleration and deceleration, 0- 180 degree positioning in 0.2 sec.



## Precision

- Zero backlash, mechanical wear-free and least friction.
- High- end European optical encoder as standard equipment.
- Excellent accuracy guarantee- 20 sec for positioning, 4 sec for repeatability
- ISO 230-2 norm applied as standard inspection.



## Rigidity

- Consolidated main body, all mounting interface are integrated onto the cartridge. Premium rigidity retained.



## Protection

- IP65 water proof with European adherent electrical connection.
- Thermal detection as standard feature.
- Safe parts holding design during power failure.



## Environmental

- Noise- reducing, easy maintenance, free from oil waste.
- Compact structure for flexible working envelope.

## Higher Speed and Torque Performance

Table Ø 170mm model as example

### detron

Torque at Peak	201.5 N-m ↑
Rated Continuous Torque	60 N-m ↑
Continuous Power Output	0.968 KW ↑
Max Speed	250 ↑

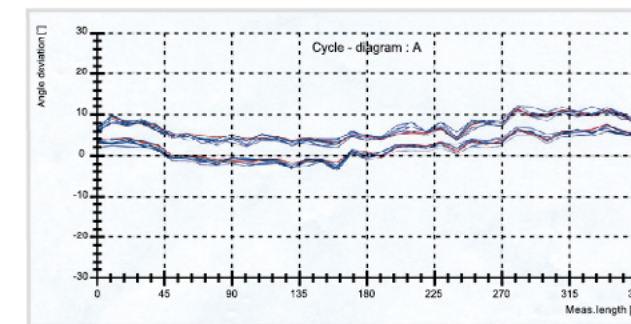
### others

Torque at Peak	184 N-m ↓
Rated Continuous Torque	46 N-m ↓
Continuous Power Output	0.75 KW ↓
Max Speed	200 ↓

## Strict Inspection Norm

### detron

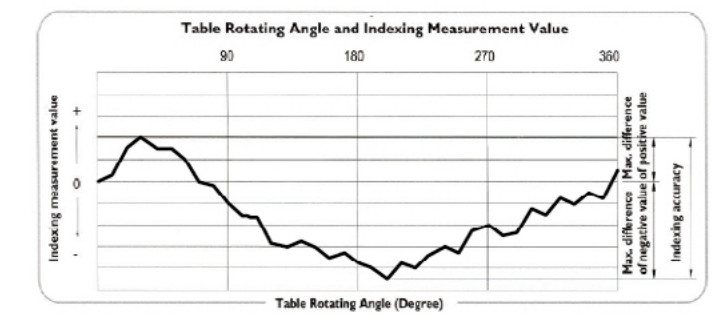
ISO 230-2 (JIS B6192)



Accuracy Inspection upon ISO 230-2 international norm is operated with **5 continuous runs** in clockwise and counterclockwise test.

### others

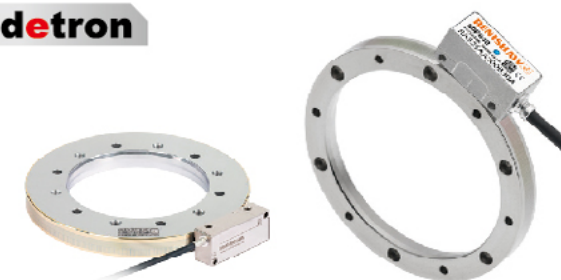
JIS B6330



Simplified inspection norm without number of laps indicated.

## European High End Optical Encoder Applied

### detron

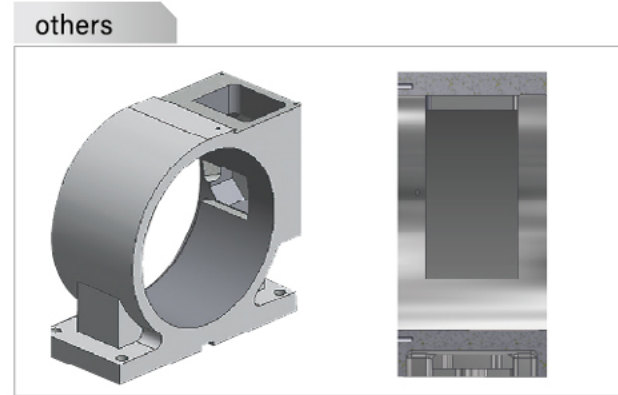
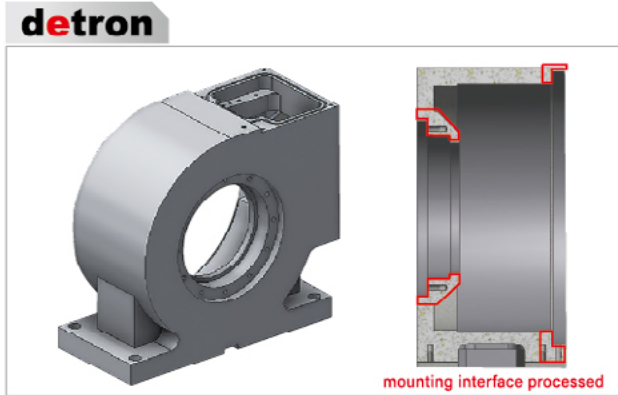


Heidenhain or Renishaw are standard attachment for all detron DDM series. High resolution to  $\pm 2.5$  secs.

### others

Economic encoder of  $\pm 10$  secs is applied, non- CNC purpose application.

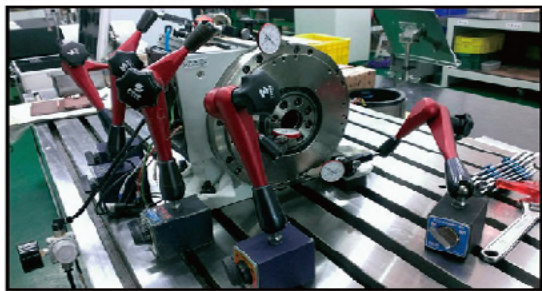
## Main Cartridge Structure



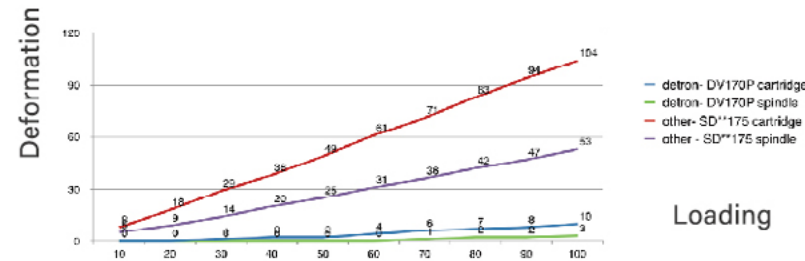
- Consolidated main cartridge with spindle mounting interface reserved.
- Least isolated components, accumulated error reduced.
- Excellent rigidity dynamic balance while high speed operation, low inertia and run-out concern.
- Closer distance between optical encoder and bearing for higher positioning detection.

- Weak and hollow cartridge without mounting interface reserved. Spindle is installed by isolated flanges.
- Isolated parts caused more accumulated errors.
- Instable rigidity and deformation, mass inertia, low loading capability. Not recommended for high speed processing.
- Longer distance between encoder and bearing, positioning detection is limited.

### practical test



## Rigidity Experiment Analysis



## Spindle Bearing



Cross Roller Bearing moment  $L_b$  is longer than  $L_c$ , better loading performance.

Cross roller bearing with high capability of axial and radial loading. Better moment to ensure dynamic rigidity.



Taper Roller Bearing moment  $L_c$  is shorter than  $L_b$ , lower loading capacity.

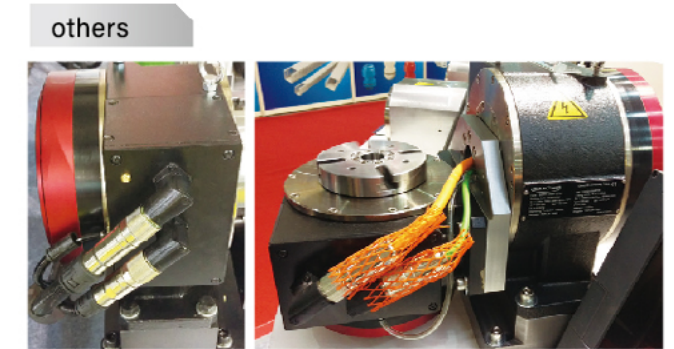
Low cost taper roller bearing, poor moment and less loading effect.

## Guarantee for Thorough Protection

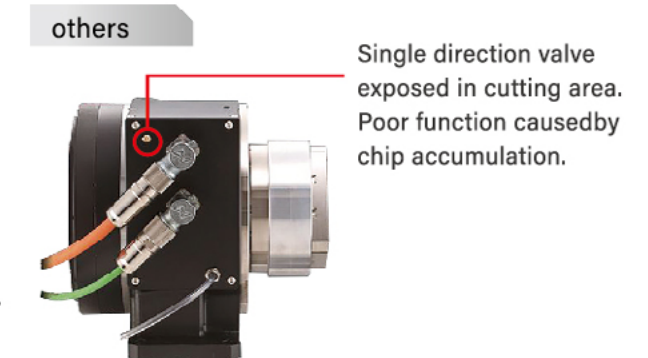
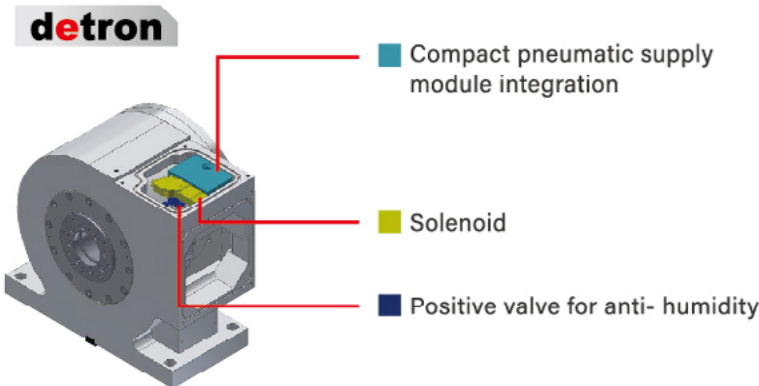
### Chip and Water Proof



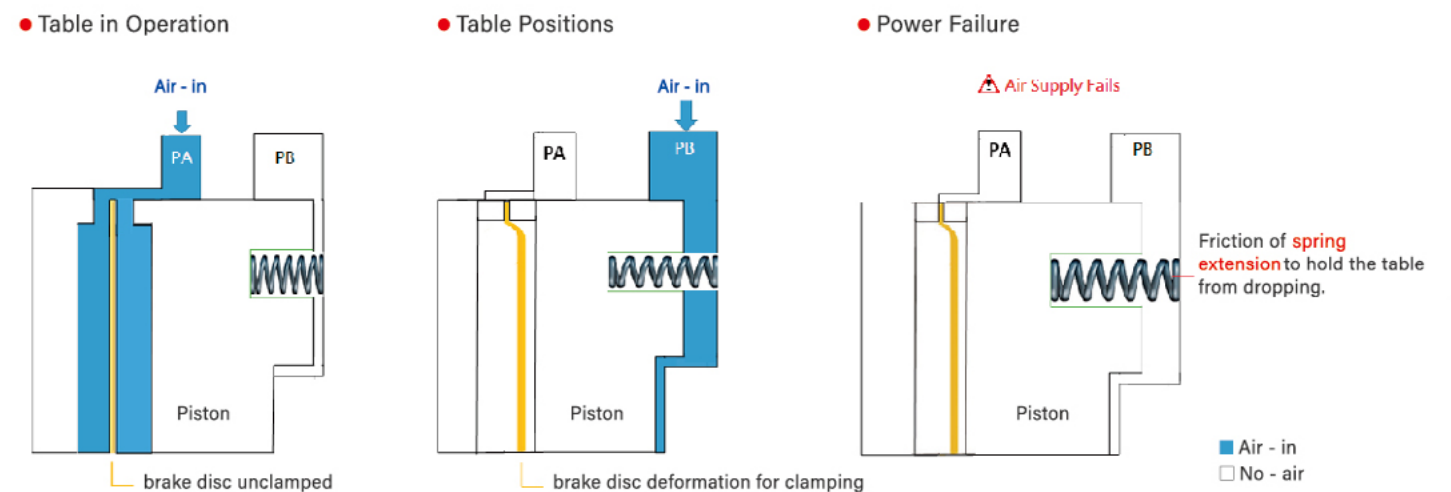
- European adherent connector guarantees safe water proof, signal/ power cable/ pneumatic tube are all integrated in 1 compact pipeline.
- All cables are shielded by anti- erosion pipe and the outer lattice prevents breakage by cutting chips.



- Cables terminated in low cost plug connectors. Isolated electronic and pneumatic pipelines are randomly arranged.
- Poor pipe material. Erosion and chip cut concern on nylon pipes. High risk by frequent break-down.

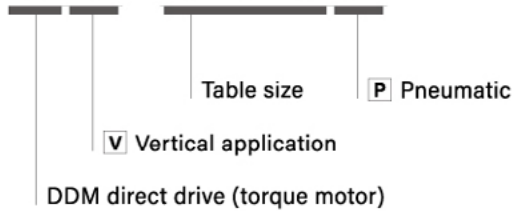


### Brake in Various Condition



## DDM Rotary Table

### D V - 1 7 0 P



equipped with optional table with T-slot

- Rotation speed exceeds 250 min<sup>-1</sup>, excellent speed and efficiency for mass production.
- Low inertia- no gears or belts drive in direct drive system, resulting in lower inertia and greater acceleration / deceleration.
- Equipped with high precision encoder to achieve high precision positioning.
- Backlash-free transmission improves workpiece accuracy and surface roughness.
- Direct drive features reach zero-wear.

### SPECIFICATIONS

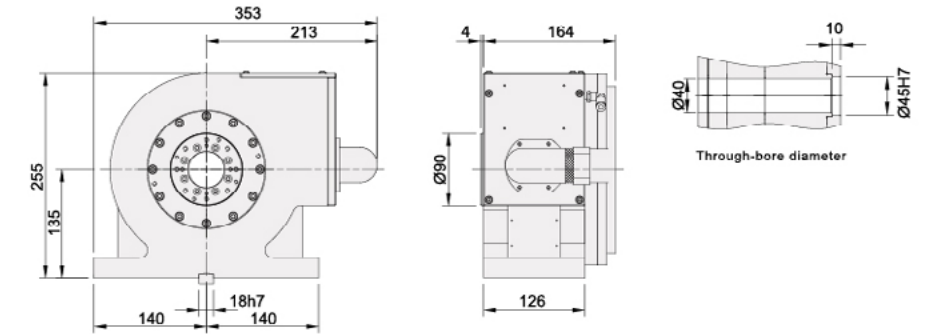
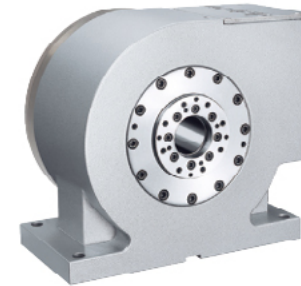
MODEL	Unit	DV-170P	DV-255P II	
Worktable diameter	mm / inch	STD : No table OPT : Ø170 / Ø6.69	STD : No table OPT : Ø255 / Ø10.04	
Center bore diameter (worktable)	mm / inch	OPT : Ø40H7 / Ø1.57H7	OPT : Ø50H7 / Ø1.96H7	
Through-bore diameter	mm / inch	Ø40 / Ø1.57	Ø40 / Ø1.57	
Height of center (vertical)	mm / inch	135 / 5.31	160 / 6.3	
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	
Clamping method and pressure	MPa / psi	Pneumatic 0.6 ~ 0.7 / 87 ~ 101.5	Pneumatic 0.5 ~ 0.7 / 72.5 ~ 101.5	
Clamping torque	N.m / ft. lbs.	230 / 169.51	400 / 294.8	
Transmission Method		Direct Drive	Direct Drive	
Max. table speed	min <sup>-1</sup>	250	250	
Allowable loading capacity	Vertical	kg / lb	30 / 66	75 / 165
	Horizontal	kg / lb	-	-
	Rotary Tailstock applied	kg / lb	70 / 154	150 / 330
F <sub>xL</sub> When table clamped	F	N / lbs	12700 / 2849.88	14000 / 3141.6
	FxL	N.m / ft. lbs.	740 / 540.2	1020 / 751.74
	FxL	N.m / ft. lbs.	230 / 169.51	400 / 294.8
Allowable cutting torque	N.m / ft. lbs.	60 / 44.22	70 / 51.6	
Allowable loading inertia $(\frac{W \cdot D^2}{8})$	kg.m <sup>2</sup>	0.11	0.61	
Resolution	deg.	0.001	0.001	
Indexing accuracy	sec.	20	20	
Repeatability	sec.	4	4	
Net weight (motor incl.)	kg / lb	47 / 104	70 / 154	
Cooling system		Air cooling	Air cooling	

Remark\*: 1. Torque motor (Direct Drive motor) can be chosen based on customers' control system.  
 2. Index accuracy will be different depending on encoder type revised.  
 3. F<sub>xL</sub> When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

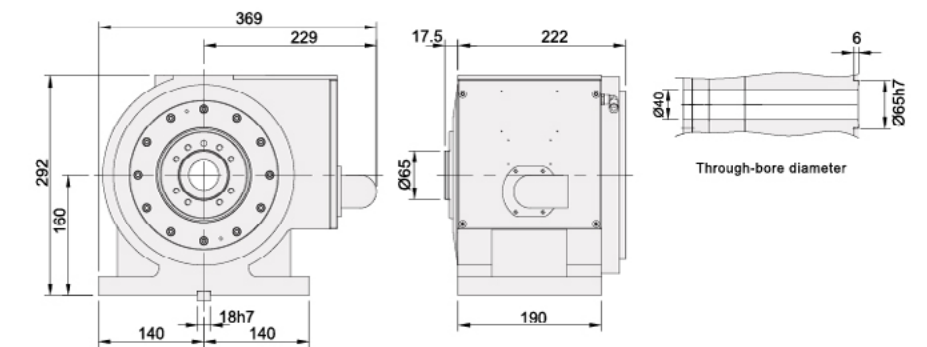
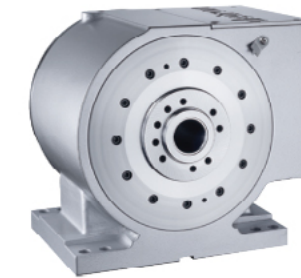
## DIMENSIONAL DRAWINGS

Unit : mm

### DV-170P



### DV-255P II



### Application Example



▲ 90° degree dividers



▲ Customized interface of quick change mold, EROWA as example



## DDM Trunnion Tilting Rotary Table



### DTFS - 170P

- S** Single support Flat
- E** Supplemental Base for standard 3 axis M/C
- P** Pneumatic
- H** Hydraulic brake
- Five axes
- Low Gravity Design
- DDM direct drive (torque motor)
- Table size

**High Speed** – The average rotation speed of a normal rotary table is 22.2 RPM. Whereas DDM Rotary Table runs at speeds exceeding 100RPM. Hence this is suitable for high speed turning and cutting applications.

**High Precision** – Direct drive design is without the normal worm gear transmission. Hence, there is no backlash and mechanical errors. This guarantees very high positional accuracy and repeatability.

**Superior Surface Finish** - No Backlash, No Abrasion & Low Inertia – No gears or belts in direct drive system ensures superior surface finish.

#### SPECIFICATIONS

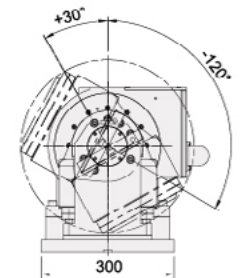
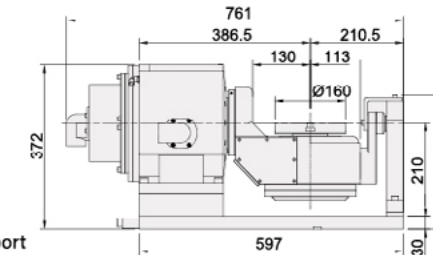
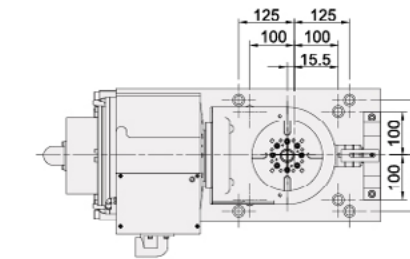
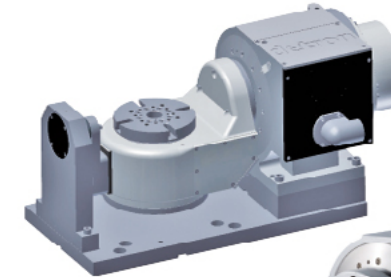
MODEL	Unit	DTFS-125P / DTFE-125P		DTFS-170P / DTFE-170P / DTFE-171P	
Worktable diameter	mm / inch	Ø160 / Ø6.29		Ø170 / Ø6.69	
Center bore diameter	mm / inch	Ø30H7 / Ø1.18H7		Ø40H7 / Ø1.57H7	
Height of table (horizontal)	mm / inch	210 / 8 240 / 9		280 / 11 310 / 12	
Height of center (vertical)	mm / inch	210 / 8		280 / 11	
Width of T-slot	mm / inch	12H7 / 0.47H7		12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71		18 / 0.71	
Clamping method / pressure	MPa / psi	pneumatic 0.6~0.7 / 87~101.5		pneumatic 0.6~0.7 / 87~101.5	
Max. table speed	min <sup>-1</sup>	R	T	R	T
		200	50	250	100
Clamping torque	N.m / ft. lbs.	100 / 73.76	400 / 295.02	230 / 169.64	400 / 295.02
Allowable loading capacity	In Horizontal	kg / lb	20 / 44.10	30 / 66.14	
	In Tilting (0~90°)	kg / lb	20 / 44.10	30 / 66.14	
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	6.4 / 4.72	30 / 14.74	
FxL When table clamped	F	N / lbs	9700 / 2180.6	12700 / 2855.07	
	FxL	N.m / ft. lbs.	100 / 73.76	230 / 169.64	
	FxL	N.m / ft. lbs.	400 / 295.02	400 / 295.02	
Allowable loading inertia $(\frac{W.D^2}{8})$	kg.m <sup>2</sup>	0.05		0.12	
Resolution	deg.	0.001		0.001	
Indexing accuracy	sec	20	30	20	30
Repeatability	sec	4	4	4	4
Tilting angle range	deg.	+30 ~ -120		+30 ~ -120	
Net weight (motor incl.)	kg / lb	DTFS-125P: 105 / 231.49 DTFE-125P: 226 / 498.24		DTFS-170P: 215 / 474 DTFE-170P: 296 / 652.56 DTFE-171P: 336 / 740.75	
Cooling system		Air cooling		DTFE-171P: Oil cooling DTFE-170P / DTFS-170P: Air cooling	

Remark\*: 1. Oil cooling device shall be connected and shared from the basic 3 axis standard machine.  
2. Air cooling device is not allowed for continuous cutting.  
3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

## DIMENSIONAL DRAWINGS

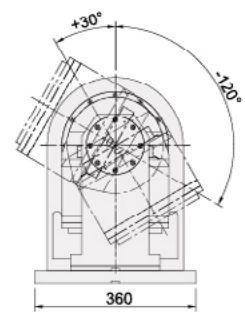
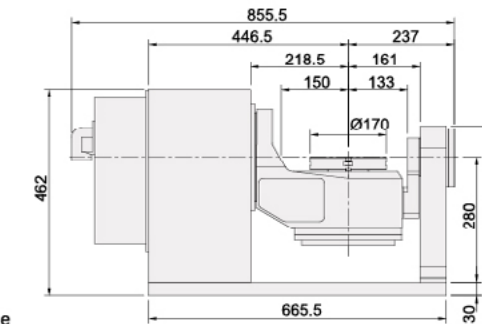
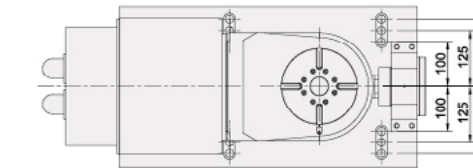
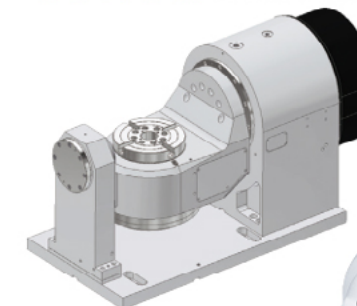
Unit : mm

**DTFE-125P** with base plate



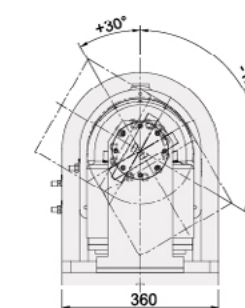
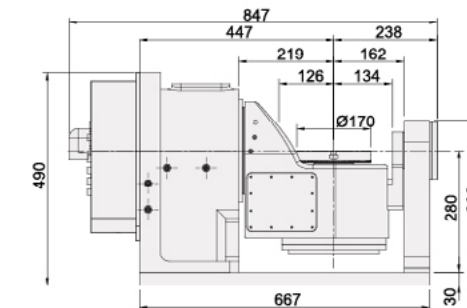
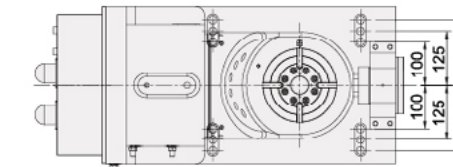
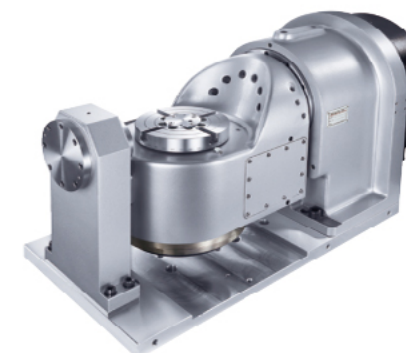
**DTFS-125P** with compact single support

**DTFE-170P** with base plate

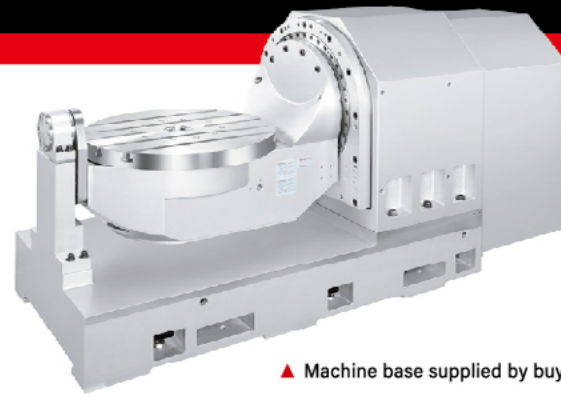


**DTFS-170P** with compact single support is recommended model for multiple faces positioning application

**DTFE-171P**



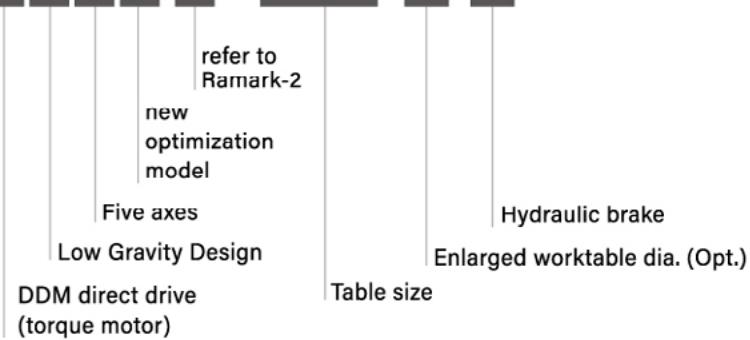
## DDM Trunnion Tilting Rotary Table



▲ Machine base supplied by buyer

- High Speed - The average rotation speed of a normal rotary table is 22.2 RPM. Whereas DDM Rotary Table runs at speeds exceeding 100RPM. Hence this is suitable for high speed turning and cutting applications.
- High Precision - Direct drive design is without the normal worm gear transmission. Hence, there is no backlash and mechanical errors. This guarantees very high positional accuracy and repeatability.
- Superior Surface Finish - No Backlash, No Abrasion & Low Inertia - No gears or belts in direct drive system ensures superior surface finish.

### DTFA(I)-650(E)H



#### SPECIFICATIONS

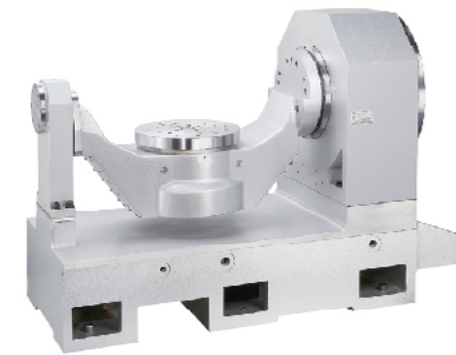
MODEL	Unit	DTF-280P	DTFAI-650H / DTFAI-720EH		
Worktable diameter	mm / inch	Ø280 / Ø11.02	Ø650 / Ø25.59 / Ø720 / Ø28.34		
Center bore diameter	mm / inch	-	Ø70H7 / Ø2.76H7		
Height of table	mm / inch	200 / 7.87	250 / 9.84		
Width of T-slot	mm / inch	12H7 / 0.47H7	18H7 / 0.71H7		
Width of guide block	mm / inch	-	-		
Clamping method / pressure	MPa / psi	R	T	hydraulic 4 / 580	
		pneumatic 0.6~0.7 / 87~101.5	pneumatic 0.4 / 58.0		
Max. table speed	min <sup>-1</sup>	R	T	R	T
		1500	150	100	50
Clamping torque	N.m / ft. lbs.	250 / 184.39	550 / 405.66	2500 / 1843.91	4500 / 3319.03
Allowable loading capacity	In Horizontal	kg / lb	60 / 132.28	300 / 661.39	
	In Tilting (0~90°)	kg / lb	60 / 132.28	300 / 661.39	
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	60 / 44.25	300 / 221.27	
	F	N / lbs	18000 / 4046.56	40000 / 8992.36	
FxL When table clamped	FxL	N.m / ft. lbs.	250 / 184.39	2500 / 1843.91	
	FxL	N.m / ft. lbs.	550 / 405.66	4500 / 3319.03	
Allowable loading inertia	$\frac{W.D^2}{8}$	kg.m <sup>2</sup>	0.22	9.4	
Resolution	deg.	0.001	0.001		
Indexing accuracy	sec	20	30	10	20
Repeatability	sec	4	4	4	4
Tilting angle range	deg.	+30~-120		+110 ~ -110	
Net weight (motor incl.)	kg / lb	432 / 952.39		1450 / 3196.7 / 1500 / 3306.9	
Cooling system		Oil cooling		Oil cooling	

Remark\*: 1. Oil cooling device shall be connected and shared from the basic 3 axis standard machine.  
 2. DTFA: Rotary table mounted on M/C base. DTFAI: Tilting axis mounted inside of MC column.  
 3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

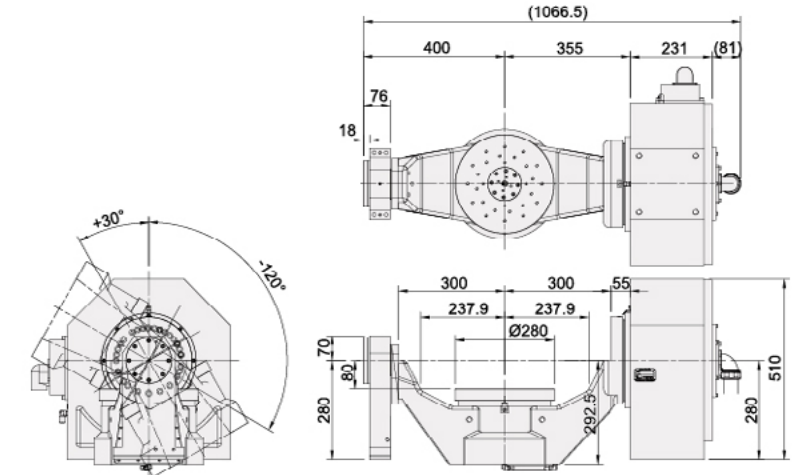
## DIMENSIONAL DRAWINGS

Unit : mm

### DTF-280P



Machine base supplied by buyer

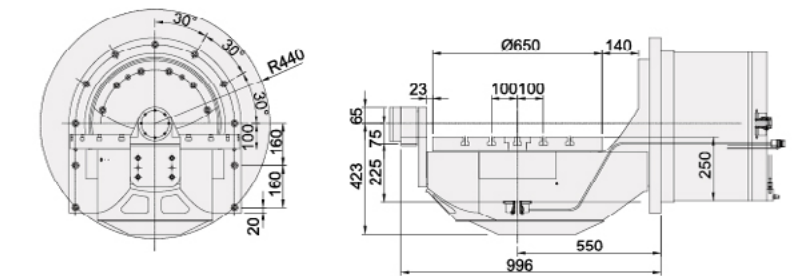


### DTFAI-650H



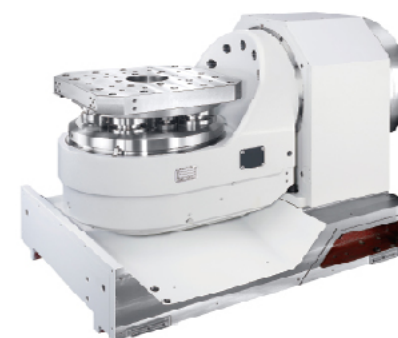
▲ DTFAI-720EH

Machine base supplied by buyer



### Hybrid Drive ▶▶▶

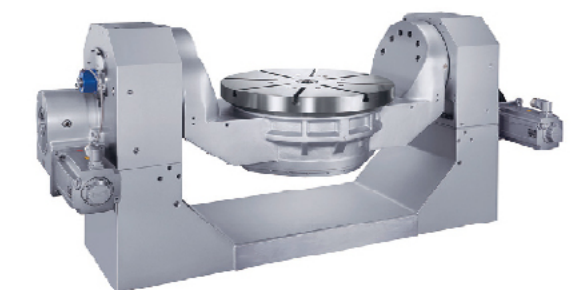
### DTF-410H



Rotary Axis - DDM (100rpm)  
Tilting Axis - DDM (60rpm)

### G2DTF-630H(S)

Dual Drive CNC Deep Tilting Rotary Table  
(Max. table size 800mm)



Rotary Axis - DDM (80rpm, option 800rpm)  
Tilting Axis - Tandem drive by spur gear and worm gear

# NC Integration for Detron DDM series

## DDM Rotary Table

Compatible System & Spec.	ø170mm		
	DV-170P	DV-255P II	
Cooling System	Air Cooling	Air Cooling	
Optical Scale	Renishaw or Heideihain		
NC parameter	Exclusive tech of detron		
Fanuc System	Driver	α iSV20: New: A06B-6240-H123 Old : A06B-6117-H103 β iSV20: New: A06B-6160-H002 Old : A06B-6130-H002	α iSV80: New: A06B-6240-H125 Old : A06B-6117-H105 β iSV80: New: A06B-6160-H004 Old : A06B-6130-H004
	Remark	Purchase software "Pole Position Detection Function" from NC service center: Oi-MC: A02B-0310-S744 Oi-MD: A02B-0320-S744 Oi-MF: A02B-0340-S744 31i-B5: A02B-0326-S744	
Mitsubishi System	Driver	New: MDS-EJ-V1-30 Old : MDS-DJ-V1-30	New: MDS-EJ-V1-40 Old : MDS-DJ-V1-40
	Remark	N/A	
Siemens System	Driver	With Internal Cooling: 6SL3120-1TE15-0AA4 Compact Type: 6SL3420-1TE15-0AA1	With Internal Cooling: 6SL3120-1TE21-0AA4 Compact Type: 6SL3420-1TE21-0AA1
	Remark	- Purchase Siemens "SMC40" module while applying Heidenhain encoder. - Purchase Renishaw "A-977-0575" signal transferrer while applying Renishaw encoder.	
Heidenhain System	Driver	UM111D	UM111D
	Remark	- Compatible with Heideihain Optical Scale Only	

## DDM Trunnion Tilting Rotary Table

Compatible System & Spec.	ø125mm		
	DTFS125P / DTFE125P		
Axis	Tilting Axis	Rotary Axis	
Cooling System	Air Cooling	Air Cooling	
Optical Scale	Renishaw or Heideihain		
NC parameter	Exclusive tech of detron		
Fanuc System	Driver	α iSV80: New: A06B-6240-H125 Old : A06B-6117-H105 β iSV80: New: A06B-6160-H004 Old : A06B-6130-H004	α iSV40: New: A06B-6240-H124 Old : A06B-6117-H104 β iSV40: New: A06B-6160-H003 Old : A06B-6130-H003
	Remark	Purchase software "Pole Position Detection Function" from NC service center: Oi-MC: A02B-0310-S744 Oi-MD: A02B-0320-S744 Oi-MF: A02B-0340-S744 31i-B5: A02B-0326-S744	
Mitsubishi System	Driver	New: MDS-EJ-V1-40 Old : MDS-DJ-V1-40	New: MDS-EJ-V1-40 Old : MDS-DJ-V1-40
	Remark	N/A	
Siemens System	Driver	With Internal Cooling: 6SL3120-1TE21-0AD0 Compact Type: 6SL3420-1TE21-0AA1	With Internal Cooling: 6SL3120-1TE21-0AD0 Compact Type: 6SL3420-1TE21-0AA1
	Remark	- Purchase Siemens "SMC40" module while applying Heidenhain encoder. - Purchase Renishaw "A-977-0575" signal transferrer while applying Renishaw encoder.	
Heidenhain System	Driver	UM111D	UM111D
	Remark	- Compatible with Heideihain Optical Scale Only	

## DDM Trunnion Tilting Rotary Table

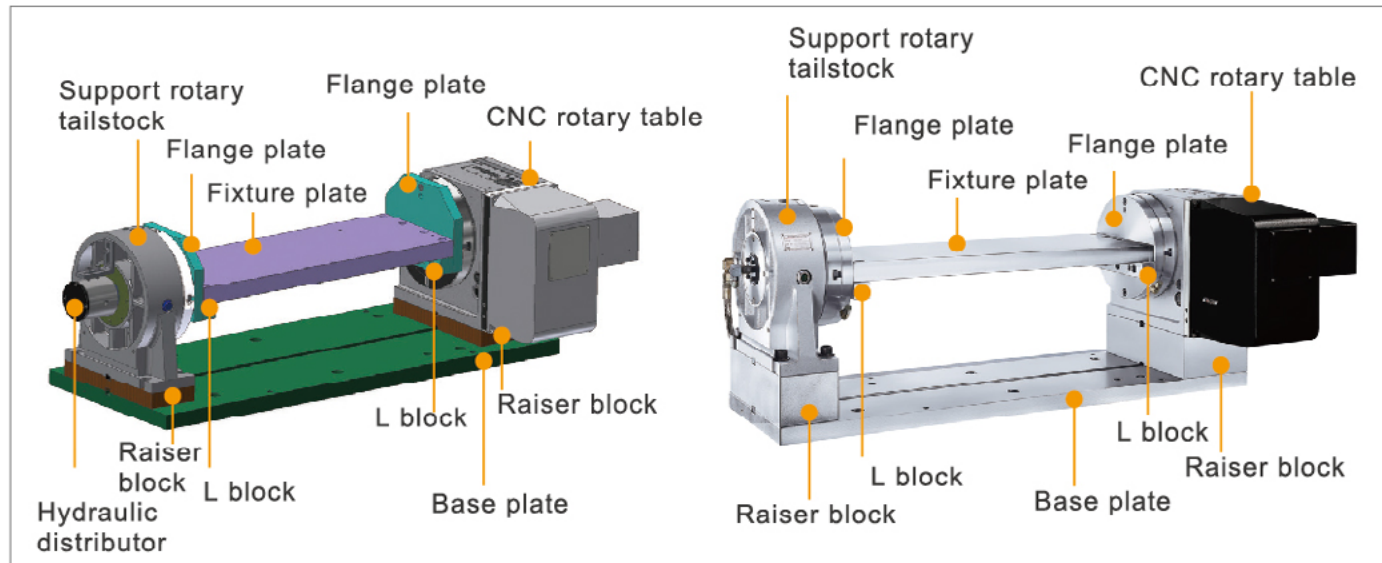
Compatible System & Spec.	ø170mm				
	DTFS170P / DTFE170P		DTFE171P		
Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	
Cooling System	Air Cooling	Air Cooling	Oil Cooling	Oil Cooling	
Optical Scale	Renishaw or Heideihain				
NC parameter	Exclusive tech of detron				
Fanuc System	Driver	α iSV40: New: A06B-6240-H124 Old : A06B-6117-H104 β iSV40: New: A06B-6160-H003 Old : A06B-6130-H003	α iSV20: New: A06B-6240-H123 Old : A06B-6117-H103 β iSV20: New: A06B-6160-H002 Old : A06B-6130-H002	α iSV80: New: A06B-6240-H125 Old : A06B-6117-H105 β iSV80: New: A06B-6160-H004 Old : A06B-6130-H004	α iSV40: New: A06B-6240-H124 Old : A06B-6117-H104 β iSV40: New: A06B-6160-H003 Old : A06B-6130-H003
	Remark	Purchase software "Pole Position Detection Function" from NC service center: Oi-MC: A02B-0310-S744 Oi-MD: A02B-0320-S744 Oi-MF: A02B-0340-S744 31i-B5: A02B-0326-S744			
Mitsubishi System	Driver	New: MDS-EJ-V1-80 Old : MDS-DJ-V1-80	New: MDS-EJ-V1-30 Old : MDS-DJ-V1-30	New: MDS-EJ-V1-80 Old : MDS-DJ-V1-80	New: MDS-EJ-V1-40 Old : MDS-DJ-V1-40
	Remark	N/A			
Siemens System	Driver	With Internal Cooling: 6SL3120-1TE21-8AD0	With Internal Cooling: 6SL3120-1TE15-0AD4	With Internal Cooling: 6SL3120-1TE23-0AD0	With Internal Cooling: 6SL3120-1TE21-0AD0
	Remark	- Purchase Siemens "SMC40" module while applying Heidenhain encoder. - Purchase Renishaw "A-977-0575" signal transferrer while applying Renishaw encoder.			
Heidenhain System	Driver	UM112D	UM111D	UM112D	UM111BD
	Remark	- Compatible with Heideihain Optical Scale Only			

## DDM Trunnion Tilting Rotary Table

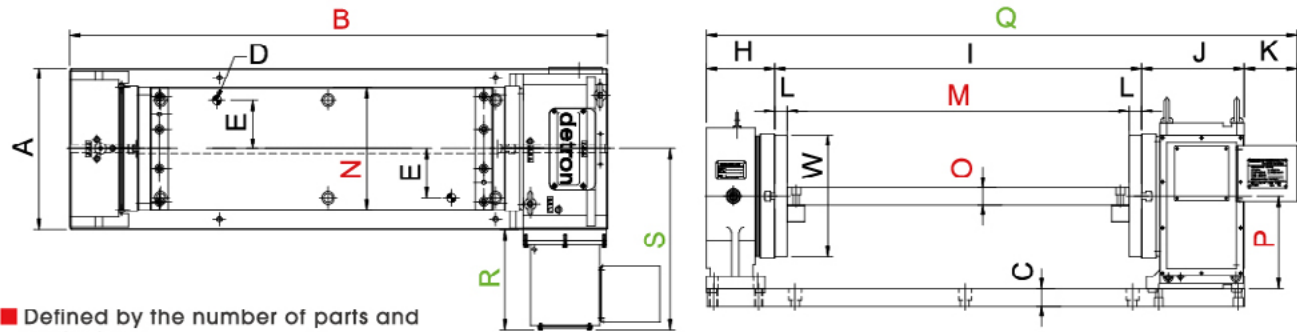
Compatible System & Spec.	ø280 mm & ø650 mm				
	DTF-280P		DTFAI-650H		
Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	
Cooling System	Oil Cooling	Oil Cooling	Oil Cooling	Oil Cooling	
Optical Scale	Renishaw or Heideihain				
NC parameter	Exclusive tech of detron				
Fanuc System	Driver	Please See Note*	Please See Note*	α iSV360S-B: A06B-6240-H169	α iSV160S-B: A06B-6240-H126
	Remark	Purchase software "Pole Position Detection Function" from NC service center: Oi-MC: A02B-0310-S744 Oi-MD: A02B-0320-S744 Oi-MF: A02B-0340-S744 31i-B5: A02B-0326-S744			
Mitsubishi System	Contact us for further information of integration with Mitsubishi system.				
Siemens System	Driver	With Internal Cooling: 6SL3120-1TE24-5AC0	With Internal Cooling: 6SL3120-1TE23-0AD0	With Internal Cooling: 6SL3120-1TE26-0AC0	With Internal Cooling: 6SL3120-1TE23-0AD0
	Remark	- Purchase Siemens "SMC40" module while applying Heidenhain encoder. - Purchase Renishaw "A-977-0575" signal transferrer while applying Renishaw encoder.			
Heidenhain System	Driver	UM113D	UM112D	UM114D	UM113D
	Remark	- Compatible with Heideihain Optical Scale Only			

Note\*: For detailed information, please contact detron.

# Fixture Plate and Base



## Suggested Dimension of Fixture and Base Plate



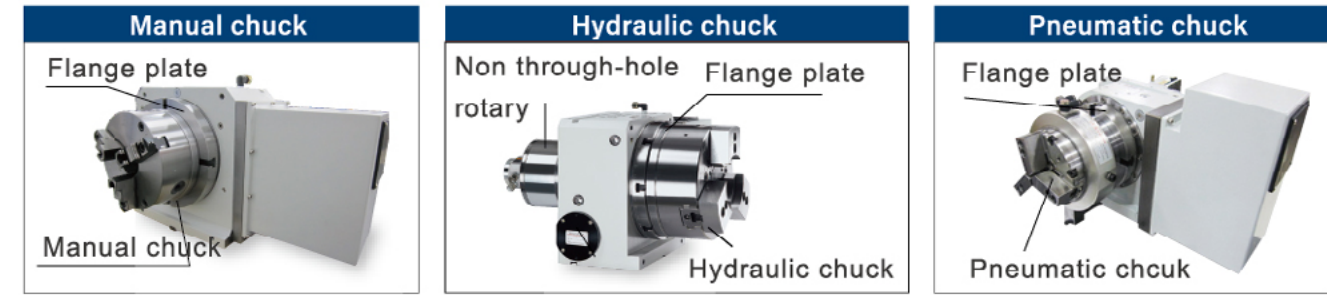
- Defined by the number of parts and work pieces
- Attention to machine interference

unit: mm / inch

MODEL	Unit	GXA-125S	GXA-170S	GXA-210S	GXA-255H	GXA-320H	GXA-400H	DV-170P	DV-255PII
X axis stock	mm / inch	500 / 20	600 / 24	700 / 28	800 / 32	1000 / 40	1300 / 51	500/20	700/28
A	mm/inch	210 / 8.27	270 / 10.63	270 / 10.63	330 / 12.99	360 / 14.17	450 / 17.72	290 / 11.42	290 / 11.41
B	mm/inch	726 / 28.58	856 / 33.7	956 / 37.64	1101 / 43.35	1241 / 48.86	1440 / 56.69	635 / 25	849 / 33.42
C	mm/inch	30 / 1.18	35 / 1.38	35 / 1.38	35 / 1.38	40 / 1.57	40 / 1.57	35 / 1.38	35 / 1.38
D	mm/inch	2-Ø14 / 2-Ø0.55	2-Ø18 / 2-Ø0.71	2-Ø18 / 2-Ø0.71	2-Ø18 / 2-Ø0.71	2-Ø18 / 2-Ø0.71	2-Ø18 / 2-Ø0.71	2-Ø18 / 2-Ø0.71	2-Ø18 / 2-Ø0.71
E	mm/inch	80 / 3.15	100 / 3.94	100 / 3.94	100 / 3.94	100 / 3.94	125 / 4.92	100 / 3.94	125 / 4.92
H	mm/inch	130 / 5.12	130 / 5.12	130 / 5.12	140 / 5.51	145 / 5.71	190 / 7.48	100 / 3.94	100 / 3.94
I	mm/inch	441 / 17.36	551 / 21.69	651 / 25.63	751 / 29.57	861 / 33.90	961 / 37.83	401 / 15.79	551 / 21.7
J	mm/inch	155 / 6.10	175 / 6.9	175 / 6.9	210 / 8.27	235 / 9.25	254 / 10	168 / 6.61	230 / 9.05
K	mm/inch	89 / 3.5	111.5 / 4.4	118.5 / 4.66	115 / 4.52	116.5 / 4.58	117.5 / 4.63	-	-
L	mm/inch	20 / 0.79	25 / 0.98	25 / 0.98	25 / 0.98	30 / 1.18	30 / 1.18	25 / 0.98	25 / 0.98
M	mm/inch	400 / 15.75	500 / 19.69	600 / 23.62	700 / 27.56	800 / 31.50	900 / 35.43	350 / 13.78	500 / 19.69
N	mm/inch	120 / 4.72	170 / 6.69	200 / 7.87	250 / 9.84	300 / 11.81	400 / 15.75	170 / 6.69	200 / 7.87
O	mm/inch	30 / 1.18	30 / 1.18	30 / 1.18	40 / 1.57	40 / 1.57	40 / 1.57	30 / 1.18	30 / 1.18
P	mm/inch	110 / 4.33	135 / 5.31	160 / 6.30	190 / 7.48	210 / 8.27	255 / 10.04	135 / 5.31	160 / 6.30
Q	mm/inch	815 / 32.08	967.5 / 38.1	1072.5 / 42.2	1216 / 47.87	1357.5 / 53.4	1523 / 60	669 / 26.33	881 / 34.68
R	mm/inch	206 / 8.11	190 / 7.48	194 / 7.63	200 / 7.87	236 / 9.29	246 / 9.68	68 / 2.67	84 / 3.30
S	mm/inch	311 / 12.24	325 / 12.8	329 / 12.95	365 / 14.37	416 / 16.37	471 / 18.54	213 / 8.38	229 / 9.01
W	mm/inch	107 / 4.21	126 / 4.96	141 / 5.55	180.5 / 7.10	206.5 / 8.12	230 / 9.05	126 / 4.96	141 / 5.55

Remark 1: The center height of permissible error between rotary table and support rotary tailstock is within  
 Remark 2: Contact detron technical division for proper software adjustment under mass factors of fixture. ±0.01 mm

# Chuck and Other Accessories



## ROTARY TABLE AND COMPATIBLE CHUCK

MODEL	GXA-125S	GXA-170S	GXA-210S	GXA-255H	GXA-320H	GXA-400H	GX-500H
Manual chuck	SC-4", SC-5"	SK-6", SK-7"	SK-7", SK-8"	SK-8", SK-9"	SK-10", SK-12"	SK-10", SK-12"	SK-12", SK-16"
Hydraulic chuck		HCK-6"	HCK-6"	HCK-8"	HCK-10"		

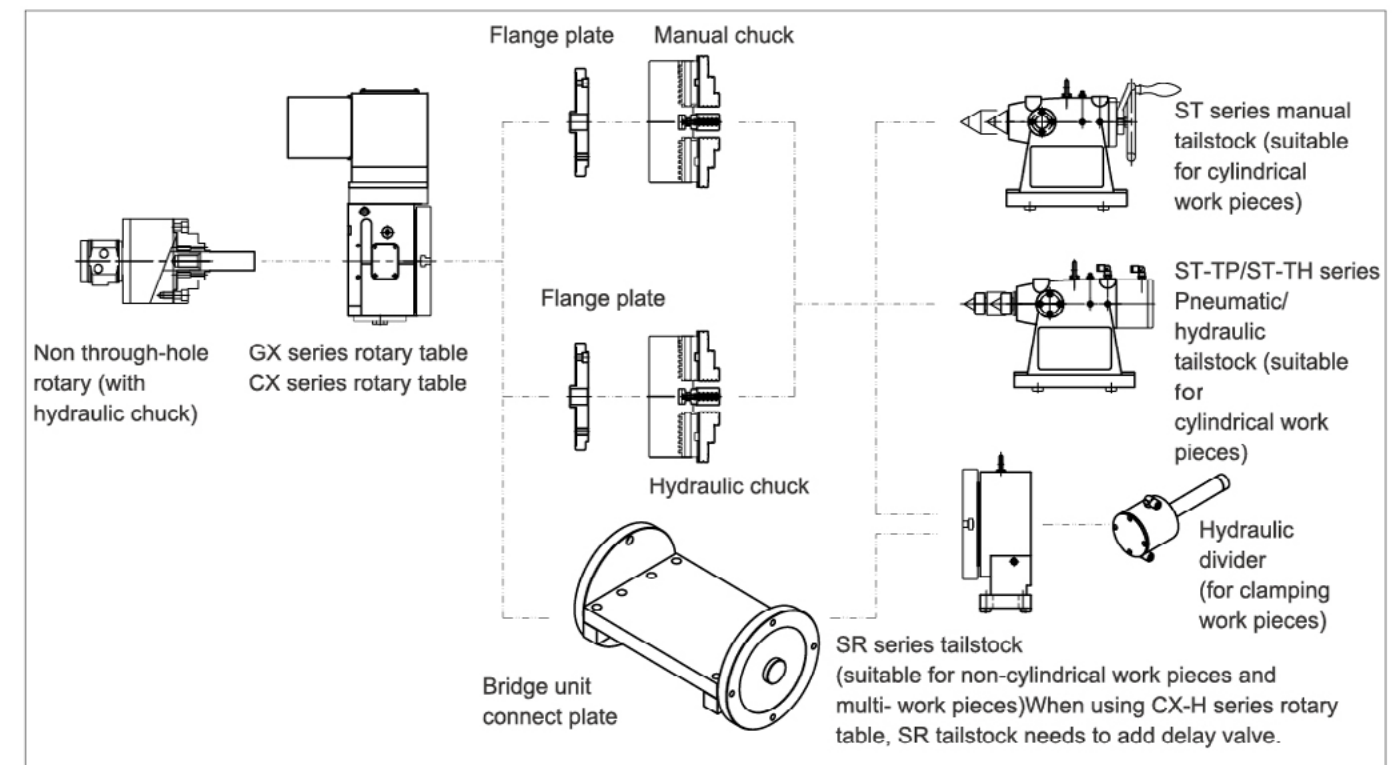
\*Model in red is suggested

## GRIPPING RANGE OF 3-JAW CHUCK

unit: mm / inch

MODEL	SC-4	SC-5	SK-6	SK-7	SK-8	SK-9	SK-10	SK-12	SK-16
O.D. range	Ø 3 - 90 / Ø 0.12 - 3.5	Ø3-110/ Ø0.12-4.33	Ø3-160/ Ø0.12-6.30	Ø8-180/ Ø0.31-7.09	Ø8-190/ Ø0.31-7.48	Ø11-220/ Ø0.43-8.66	Ø12-260/ Ø0.47-10.24	Ø15-300/ Ø0.59-11.81	Ø30-400/ Ø1.18-15.75
I.D range	Ø1.26-3.31	Ø1.38-3.94	Ø2.17-5.91	Ø2.44-6.69	Ø2.67-7.08	Ø2.76-8.27	Ø3.15-9.84	Ø3.54-11.42	Ø4.33-14.96

## ACCESSORIES CONNECTION DIAGRAM



### Hydraulic power unit (HTK series)

Applied for GXA-H & CX-H, series rotary tables.  
 Recommended for application with **hydraulic chuck or hydraulic fixture.**



### ABR-50 air booster unit

Use for GXA-H series  
 Recommended for application in NC table only or with SR-H hydraulic tailstock. Additional hydraulic unit is suggested for peripheral hydraulic part- holding device.

# Compatible Servo Motors

4th Axis							
Model	CNC and Servo System						
Model	FANUC	MITSUBISHI	YASKAWA	SIEMENS	HEIDENHAIN	FAGOR	Brother (SANGYO)
GXA-125S	aiF2 / βis4	HG-75	SGM7J08A	1FK2204-6AF 1FK2205-2AF	QSY-96A	FKM22.30A	-
GXA-170S GXA-170S-2W	aiF4 / βis8	HG-104	SGM7G09A	1FK2205-4AF 1FK2206-2AF	QSY-116C	FKM42.30A	R2AA08075FXPHV R2AAB8100HXP5F RS2W03A0KL10XXXXC00
GXA-210S	aiF4 / βis8	HG-104	SGM7G09A	1FK2205-4AF 1FK2206-2AF	QSY-116C	FKM42.30A	R2AA08075FXPHV R2AAB8100HXP5F RS2W03A0KL10XXXXC00
GXA-250S	aiF4 / βis8	HG-104	SGM7G09A	1FK2205-4AF 1FK2206-2AF	QSY-116C	FKM42.30A	-
GXA-255H CX-255H	aiF8 / βis8	HG-154	SGM7G13A	1FK2206-4AF	QSY-116E	FKM44.30A	-
GXA-320H CX-320H	aiF12 / βis22	HG-204	SGM7G30A	1FK2208-3AC	QSY-155B	FKM64.30A	-
GXA-400H CX-400H	aiF12 / βis22	HG-204	SGM7G30A	1FK2208-3AC	QSY-155B	FKM64.30A	-
GXA-500H CX-500H	aiF12 / βis22	HG-204	SGM7G30A	1FK2208-3AC	QSY-155B	FKM64.30A	-
GX-630H GXA-630EH	aiF22 / βis22	HG-354	SGM7G44A	1FK2208-4AC	QSY-155D	FKM66.30A	-
GX-800H	aiF22 / βis22	HG-354	SGM7G44A	1FK2208-4AC	QSY-155D	FKM66.30A	-

5th Axis												
Motor & NC system												
Axis	FANUC		MITSUBISHI		YASKAWA		SIEMENS		HEIDENHAIN		FAGOR	
	Rotary Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	Tilting Axis
GFA-101S	aiF2 / βis4	aiF2 / βis4	HG-105	HG-105	SGMJV08A SGM7J08A	SGMJV08A SGM7J08A	1FK2204-6AF 1FK2205-2AF	1FK2204-6AF 1FK2205-2AF	QSY-96A	QSY-96G	FKM22.30A	FKM22.30A
GFA-125S GFA-125S-2W-240	aiF2 / βis4	aiF4 / βis8	HG-75	HG-104	SGMJV08A SGM7J08A	SGMGV09A SGM7G09A	1FK2204-6AF 1FK2205-2AF	1FK2205-4AF 1FK2206-2AF	QSY-96A	QSY-116C	FKM22.30A	FKM42.30A
GFA-170S	aiF4 / βis8	aiF4 / βis8	HG-104	HG-104	SGMGV09A SGM7G09A	SGMGV09A SGM7G09A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY-116C	QSY-116C	FKM22.30A	FKM42.30A
GFA-210S	aiF4 / βis8	aiF8 / βis12	HG-104	HG-104	SGMGV09A SGM7G09A	SGMGV09A SGM7G09A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY-116C	QSY-116C	FKM42.30A	FKM42.30A
GTFAE-210-2W-320 GFA-255H GFA-170S-2W-300	aiF4 / βis8	aiF8 / βis12	HG-104	HG-154	SGMGV09A SGM7G09A	SGMGV13A SGM7G13A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY-116C	QSY-116E	FKM42.30A	FKM42.30A
GFA-320H	aiF8 / βis12	aiF12 / βis22	HG-154	HG-204	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2206-4AF	1FK2208-3AC	QSY116E	QSY155B	FKM42.30A	FKM44.30A
GTFAE-170SL	aiF2 / βis4	aiF4 / βis8	HG06S	HG H104S	SGMJV08A	SGMJV13A	-	-	-	-	-	-
GTFAE-320H	aiF4 / βis8	aiF12 / βis22	HG-104	HG-204	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2205-4AF 1FK2206-2AF	1FK2208-3AC	QSY116E	QSY155B	FKM42.30A	FKM44.30A
GTFA(E)-210S GTFA(E)-255SBL(S)	aiF4 / βis8	aiF8 / βis12	HG-104	HG-224	SGMGV09A SGM7G09A	SGMGV13A SGM7G13A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY116C	QSY116J	FKM42.30A	FKM42.30A
GTFA-320X	aiF4 / βis8	aiF8 / βis12	HG-104	HG-224	SGMGV09A SGM7G09A	SGMGV13A SGM7G13A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY116E	QSY116J	FKM42.30A	FKM42.30A
GTFA(E)-320XB/ XBL(S)	aiF4 / βis8	aiF12 / βis22	HG-104	HG-204	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2206-4AF	1FK2208-3AC	QSY116E	QSY155B	FKM42.30A	FKM64.30A
GTFA(E)-410XB/ XBL(S)/HL(S) GTFAE-255H-2W-400	aiF8 / βis12	aiF12 / βis22	HG-154	HG-204 HG-354	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2206-4AF	1FK2208-3AC	QSY116J	QSY155C	FKM44.30A	FKM64.30A
GTFA(E)-500XB GTFA(E)-500XBL	aiF8 / βis12	aiF22	HG-154	HG-354	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2206-4AF	1FK2208-4AC	QSY-116J QSY-130E	QSY155F	FKM44.30A	FKM66.30A

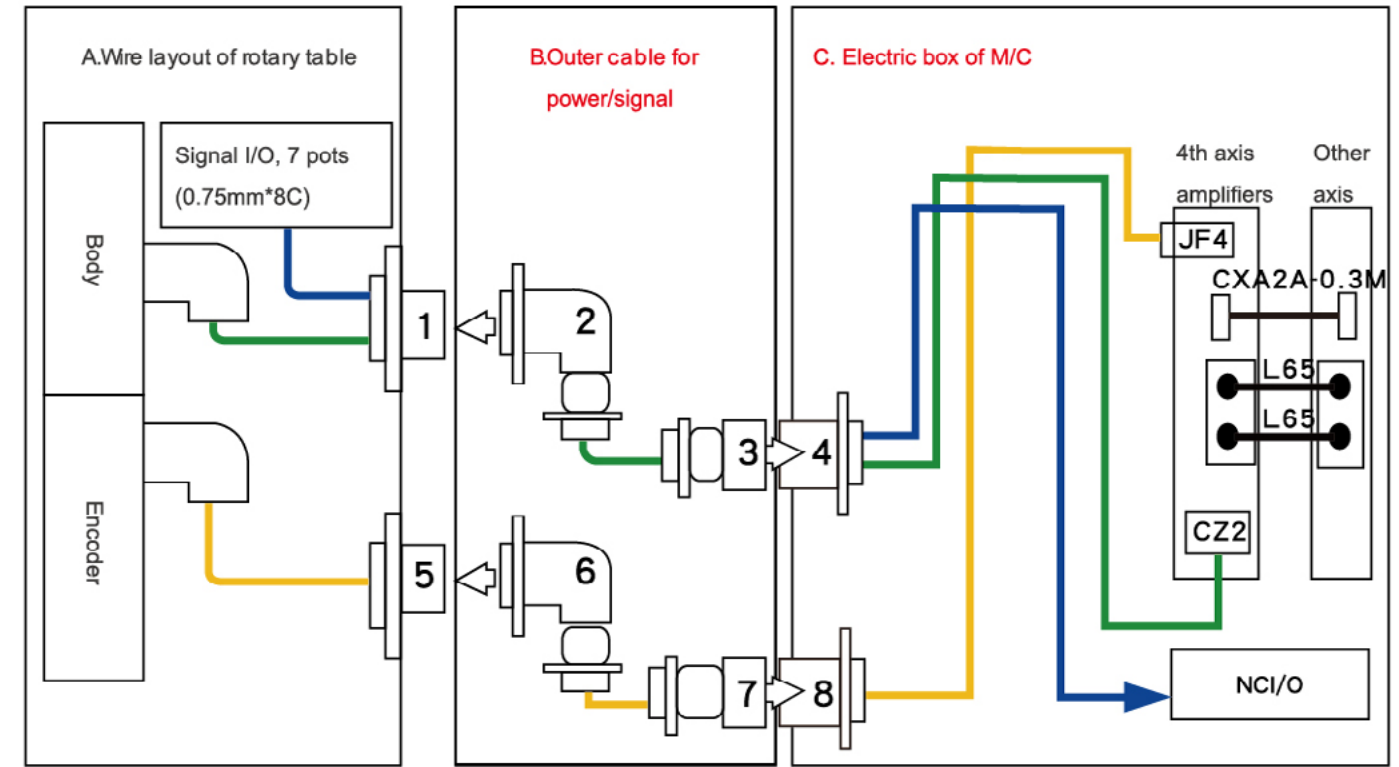
\* Please refer to the basic X/Y/Z axial motor to identify compatible 4/5th motor specification.

# Diagram Illustration

## Diagram sample to connect Japan NC



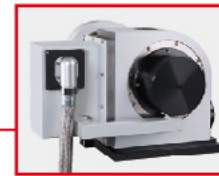
Standard military connector (Japanese CNC system)  
Military connector is used for FANUC and Mitsubishi controls.



## Cable spec. for JP NC

Power connector #	1	2	3	4
connector SPEC	MS3102A28-11P	MS3108A28-11S	MS3106A28-11P	MS3102A28-11S
Signal connector #	5	6	7	8
connector SPEC	MS3102A20-29PW	MS3108A20-29SW	MS3106A20-29PW	MS3102A20-29SW
FANUC / 17Pin				
MITSUBISHI / 17Pin	MS3102A20-29P	MS3108A20-29S	MS3106A20-29P	MS3102A20-29S
MITSUBISHI / 19Pin	MS3102A22-14P	MS3108A22-14S	MS3106A22-14P	MS3102A22-14S

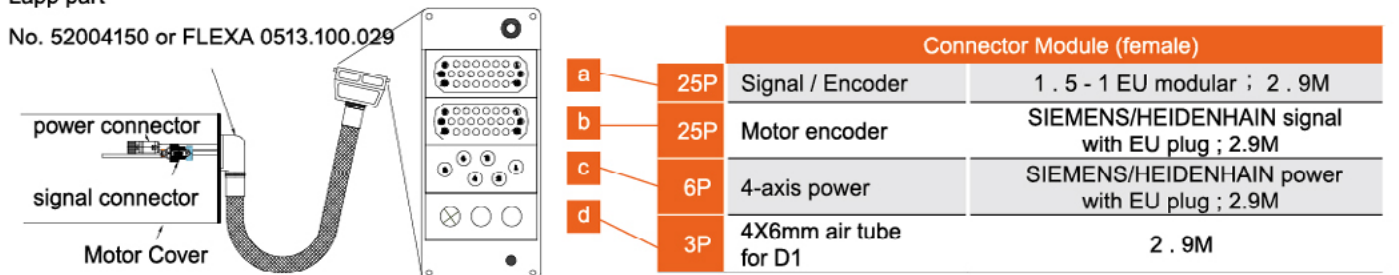
## Diagram sample to connect EU NC



Adherent-type connector (European CNC system or with optical encoder)  
One outlet-type connector is used for Siemens and Heidenhain controls.

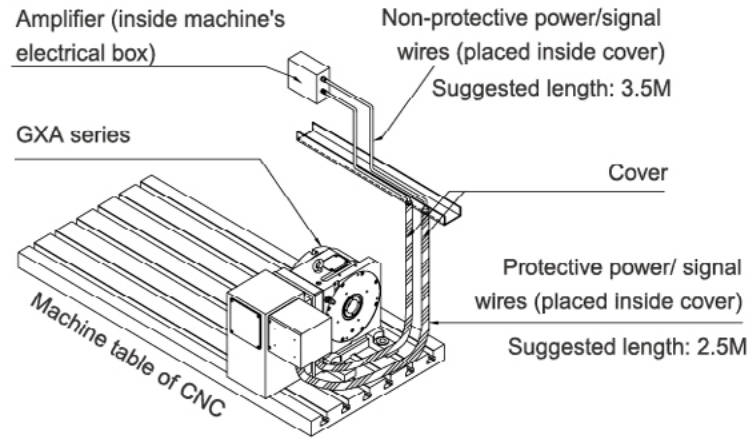
Lapp part

No. 52004150 or FLEXA 0513.100.029



# Guidance to Select Rotary Table

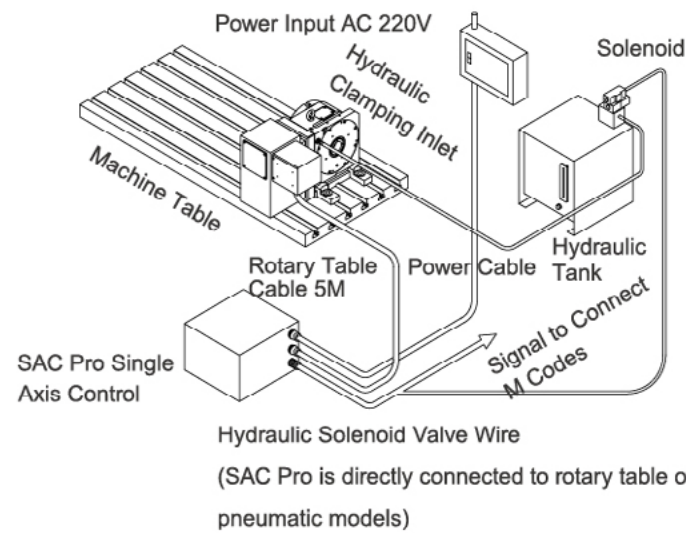
## SCHEMATIC DIAGRAM OF ROTARY TABLE AND CNC MACHINE



### Feature

- Allows for simultaneous control with X, Y, Z-axis of machine and ARC machining.
- Programs can be directly edited on the control screen of the machine.
- Suggested length 2.5M with protective pipe for outer power / signal cable, from motor cover to machine guarding. (for X travel 500-1300mm machines)
- for power / signal cable, from machine guarding for power / signal cable, from machine guarding to amplifier.

## SCHEMATIC DIAGRAM OF ROTARY TABLE AND SINGLE AXIS CONTROLLER



### SAC Pro Series- Single Axis Control

#### Features:

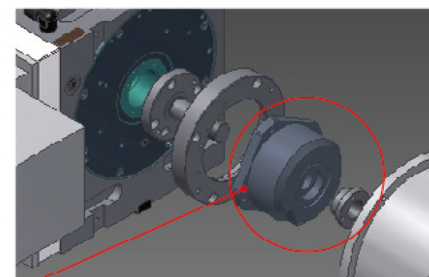
- For machine NC without 4th axis function, SAC Pro provide signals to allow indexing application (no simultaneous function available).
- Programs of rotary table can be directly input through SAC Pro and allow machine NC M code command.
- Compatible with any brand of NC control.



## OPTIONAL OPTICAL SCALE



	±5"	FANUC	MITSUBISHI	SIEMENS	±5"	
Heidenhain Model	RCN2390 F	●			H2AF-26-D90	Fagor Model
	RCN2390 M		●		H2AM-26-D90	
	RCN2380			●	H2AS-23-D90	
	RCN2310					
Heidenhain Model	±10"	FANUC	MITSUBISHI	SIEMENS	±10"	
	ECN2190 F	●			H2AF-23-D87	Fagor Model
	ECN2190 M		●		H2AM-23-D87	
	ECN2180			●	H2AS-23-D87	

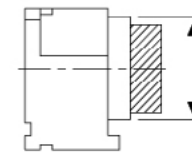


Heidenhain encoder

\* Recommended option for tilting axis of 5 axis.

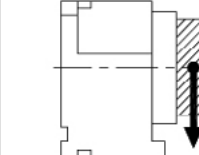
## SELECT A PROPER ROTARY TABLE ACCORDING TO WORKPIECE AND CUTTING CONDITIONS

### Workpiece diameter



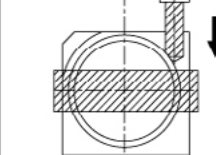
Within rotary table diameter

### Workpiece weight



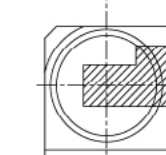
Within allowable load range

### Indexing processing



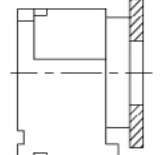
FXL value should be within the range of clamping torque

### Eccentric Load



- Movement of inertia of workpiece should be within the permissible angle
- Consider interference

### For workpiece with large diameter but light weight



- Movement of inertia of workpiece should be within the permissible range
- Consider interference

## Interference Reminders

Please refer to right illustration:

### X axis (Fig 1)

- A. Pay attention to total length of rotary table+tailstock+fixture+base plate, machine table envelope, rest space between splashguard and X axial limit.

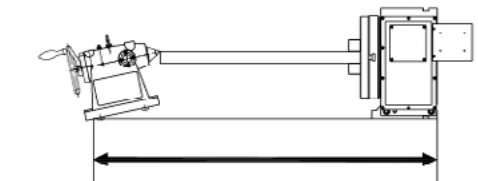


Fig 1

### Y axis (Fig 2)

- B. Locate table center paralleled to Y axis center. Pay attention to the clearance of rotary table cover to front splashguard.
- C1 & C2 as the rest space between Y+ / Y- limit.

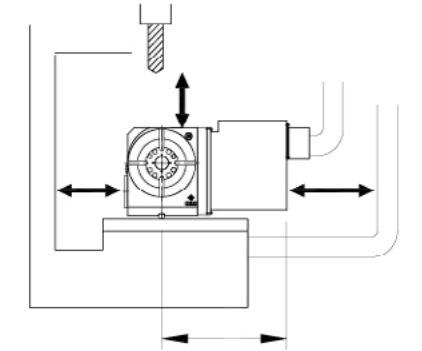


Fig 2

### Z axis (Fig 2 and Fig 3)

- D. as maximum distance between tooling and NC table body (refer to item E-1).
- E. Distance between spindle nose to working table.
- F. Stroke for tool change.
- G. Allowable maximum tool length.
- H. Swing of tool change.

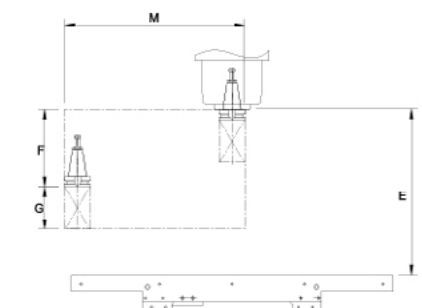


Fig 3

# Order Sheet of 4/5th axis

STEP 1 _ Machine Info			
Q1	Machine Information	Machine Brand _____ Machine Model _____	
Q2	Control System	<input type="checkbox"/> Fanuc <input type="checkbox"/> Mitsubishi <input type="checkbox"/> Siemens <input type="checkbox"/> Heidenhain <input type="checkbox"/> Others _____	
Q3	Working Table Info	Size: L _____ *W _____ T-slot size: <input type="checkbox"/> 14mm <input type="checkbox"/> 16mm <input type="checkbox"/> 18mm <input type="checkbox"/> 22mm T-slot Pitch: <input type="checkbox"/> 80mm <input type="checkbox"/> 100mm <input type="checkbox"/> 125mm <input type="checkbox"/> 150mm <input type="checkbox"/> Others _____ Number of T-slot: <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6	Catalog P76_Fig. 4
STEP 2 _ NC Table Selection			
Q4	Rotary Table	<input type="checkbox"/> 4th Axis Rotary Table, Model No. _____, Q'ty _____ <input type="checkbox"/> 5th Axis Tilting Rotary Table, Model No. _____, Q'ty _____	
Q5	Connector Cover Location	4th Axis cable connector located at <input type="checkbox"/> rear (vertical application) <input type="checkbox"/> side (horizontal application) 5th Axis cable connector located at <input type="checkbox"/> rear (AC axis application) <input type="checkbox"/> front (BC axis application)	Catalog P76_Fig. 5 Catalog P76_Fig. 6
	Connector Interface	<input type="checkbox"/> Interface of MS connector, <input type="checkbox"/> Interface of PG29 connector <input type="checkbox"/> Inner cable prepared by buyer, motor cover attached with connector plate without holes	
Q5	Inner and Outer Cable Type	<input type="checkbox"/> Section A (Inside the motor cover), 0.5M, standard attachment for Fanuc and Mitsubishi System <input type="checkbox"/> Section A+B <input type="checkbox"/> separated type <input type="checkbox"/> integrated type Section A: 0.5M, Section B: _____ M <input type="checkbox"/> Section A+B+C <input type="checkbox"/> separated type <input type="checkbox"/> integrated type Section A: 0.5M, Section B: _____ M, Section C: _____ M Connector Type <input type="checkbox"/> 17 pin <input type="checkbox"/> 19 pin (only selected for Mitsubishi system) Remark: Inner cable for tilting axis: 1.2M, inner cable for rotary axis (4th axis): 0.5M	Catalog P76_Fig. 7 Remark: detron standard cable length: 2.5M for section B & 3.5M for section C
Q6	Tailstock	<input type="checkbox"/> Rotary tailstock, model SR- _____ <input type="checkbox"/> Quill tailstock, model ST- _____, <input type="checkbox"/> standard quill taper MT3 <input type="checkbox"/> optional quill taper MT4 <input type="checkbox"/> Manual Switch Valve required for pneumatic or hydraulic quill tailstock (optional)	
Q7	M/C Control System & Servo Motor	<input type="checkbox"/> Fanuc system <input type="checkbox"/> alpha <input type="checkbox"/> beta; <input type="checkbox"/> 4th axis _____ <input type="checkbox"/> 5th axis _____ <input type="checkbox"/> straight shaft <input type="checkbox"/> taper shaft <input type="checkbox"/> Mitsubishi system <input type="checkbox"/> 4th axis _____ <input type="checkbox"/> 5th axis _____ <input type="checkbox"/> straight shaft <input type="checkbox"/> taper shaft <input type="checkbox"/> Siemens system <input type="checkbox"/> 4th axis _____ <input type="checkbox"/> 5th axis _____ <input type="checkbox"/> Heidenhain system <input type="checkbox"/> 4th axis _____ <input type="checkbox"/> 5th axis _____ <input type="checkbox"/> Other system _____ <input type="checkbox"/> 4th axis _____ <input type="checkbox"/> 5th axis _____ Motor supplied by <input type="checkbox"/> buyer or <input type="checkbox"/> detron <input type="checkbox"/> special request _____ Amplifier supplied by <input type="checkbox"/> buyer or <input type="checkbox"/> detron, model _____ <input type="checkbox"/> Amplifier wirings required Independent Controller <input type="checkbox"/> Single Axis <input type="checkbox"/> Dual Axis	
Q8	Limit switch (5th axis only)	<input type="checkbox"/> Standard tilting axis limit setting as catalogue diagram, <input type="checkbox"/> Others _____ <input type="checkbox"/> Standard 2 wires NC, <input type="checkbox"/> Others _____	
Q9	Solenoid	<input type="checkbox"/> DC24V, <input type="checkbox"/> AC110V, <input type="checkbox"/> AC220V	
STEP 3 _ Peripheral Accessories			
Q10	Optical scale	<input type="checkbox"/> Heidenhain <input type="checkbox"/> Renishaw <input type="checkbox"/> Fagor <input type="checkbox"/> 5" <input type="checkbox"/> 10" <input type="checkbox"/> 13" <input type="checkbox"/> Optical scale cable required, <input type="checkbox"/> 10M <input type="checkbox"/> 12M as a recommended option for tilting axis upon 5th axis application	
Q11	Chuck	<input type="checkbox"/> 3-Jaw Manual scroll chuck, SC- _____, <input type="checkbox"/> 3-Jaw Powerful chuck, SK- _____ <input type="checkbox"/> Pneumatic chuck, _____; <input type="checkbox"/> Hydraulic chuck, _____; <input type="checkbox"/> Others _____ <input type="checkbox"/> Chuck interface flanged required only. (Chuck equipped by buyer)	Catalog P70
Q12	Air / Hydraulic System accessories	<input type="checkbox"/> Air booster (air-oil converter) ABR-35, for hydraulic table (+tailstock) only <input type="checkbox"/> Hydraulic Unit, please describe the detailed application below: _____ <input type="checkbox"/> Pneumatic Connector & Tube Kit, _____ M <input type="checkbox"/> Hydraulic Connector & Tube Kit _____ M	Catalog P70
Q13	Rotary Joint	<input type="checkbox"/> 4 port <input type="checkbox"/> 6 port <input type="checkbox"/> 8 port <input type="checkbox"/> 10 port <input type="checkbox"/> _____ port, please refer to spec sheet for suitable port q'ty. <input type="checkbox"/> _____ port with air tube, _____ port with hydraulic tube Tube Size <input type="checkbox"/> 1/4" <input type="checkbox"/> 1/8", tube size will be determined by the center bore size (please refer to the final layout)	
Q14	Others	<input type="checkbox"/> Please describe the detailed application below: _____	

## M/C table

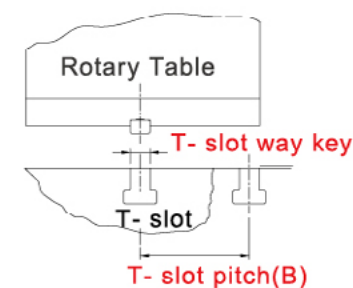


Fig 4

## Connector Location

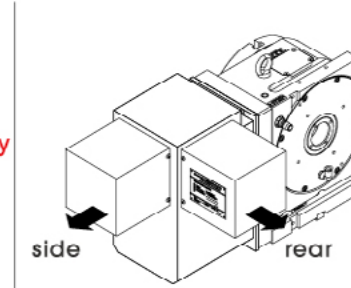


Fig 5

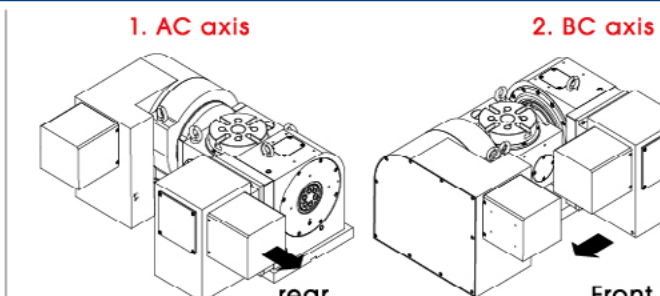
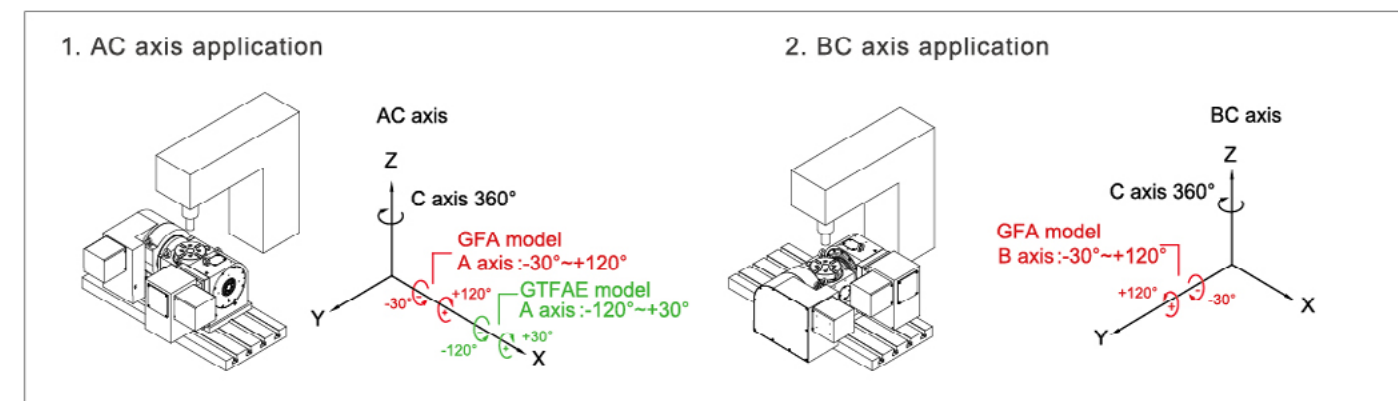


Fig 6

## Illustration of Tilting Angle Range



## Sections of Cables

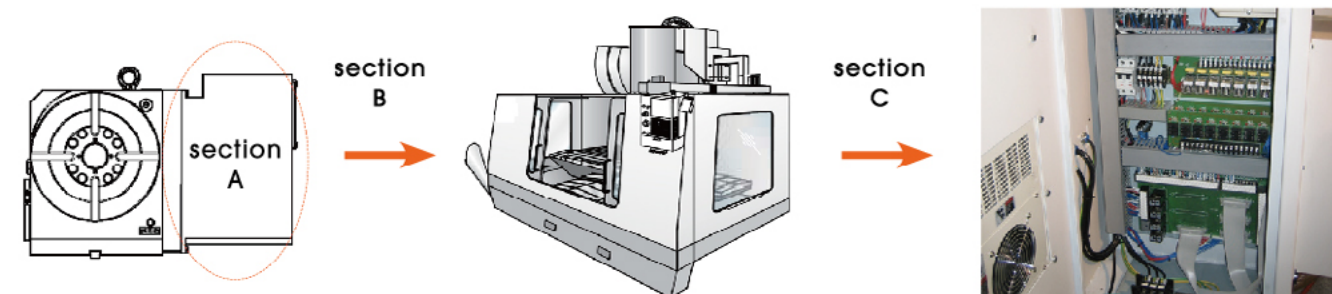


Fig 7

	Regular Connection of Japan NC System	Regular Connection of European NC System	
Section A Power+Signal Wire of NC Table	Individual Wires	Integrated Cable	Integrated Cable
Section B Power+Signal Cables between NC Table to MC Guard	Individual Cables		
Section C Power+Signal Connection in M/C Electrical Cabinet	Individual Connection	Individual Connection	

# Order Sheet of DDM Rotary Table

STEP 1_ Machine Info			
Machine Spec	Machine information	Machine brand	Machine model
	Control System	<input type="checkbox"/> FANUC <input type="checkbox"/> MITSUBISHI <input type="checkbox"/> SIEMENS <input type="checkbox"/> HEIDENHAIN <input type="checkbox"/> Others	
	Original 3 axis Driver Information	<input type="checkbox"/> model _____	
Working Table Info	Table size	L _____ *W _____ (Please provide relating drawing)	
	T-slot width (A)	<input type="checkbox"/> 14mm <input type="checkbox"/> 16mm <input type="checkbox"/> 18mm <input type="checkbox"/> 22mm <input type="checkbox"/> Others	
	T-slot pitch (B)	<input type="checkbox"/> 100mm <input type="checkbox"/> 125mm <input type="checkbox"/> 150mm <input type="checkbox"/> Others	
	Number of T-slot	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> Others	
STEP 2_ Rotary Table Spec			
DDM Rotary Table	detron Model	<input type="checkbox"/> DV-170P <input type="checkbox"/> DV-255PII <input type="checkbox"/> DTFs-125P <input type="checkbox"/> DTFE-125P <input type="checkbox"/> DTFs-170P <input type="checkbox"/> DTFE-170P <input type="checkbox"/> DTFE-171P <input type="checkbox"/> DTF-280P <input type="checkbox"/> DTFA-650H <input type="checkbox"/> DTFAI-650H	
	Solenoid for Pneumatic model	<input type="checkbox"/> AC110V <input type="checkbox"/> AC220V <input type="checkbox"/> DC24V	
	Limit switch (5 axis only)	<input type="checkbox"/> standard tilting axis limit setting (refer to each model ' s specification list on catalogue) <input type="checkbox"/> Others _____ <input type="checkbox"/> 2 wires NC(detron standard) <input type="checkbox"/> Others _____	
Parameter	Exclusive Tech of detron		
Operation Manual	<input type="checkbox"/> English <input type="checkbox"/> Japanese		
STEP 3_for 4th axis DDM Model choose only			
NC Control	Torque motor	<input type="checkbox"/> detron <input type="checkbox"/> Others, Model _____	
	Driver	Supplied by <input type="checkbox"/> buyer <input type="checkbox"/> detron	
		FANUC system <input type="checkbox"/> $\alpha$ i system, Model _____ <input type="checkbox"/> $\beta$ i system, Model _____	
		Mitsubishi system <input type="checkbox"/> MDS-EJ- _____ <input type="checkbox"/> MDS-DJ- _____	
Siemens <input type="checkbox"/> 6SL3120-1TE _____ <input type="checkbox"/> 6SL3420-1TE _____		Catalog P67	
Heidenhain <input type="checkbox"/> UM111D			
Remark: Purchase software "Pole Position Detection Function" from NC service center: 0i-MC: A02B-0310-S744 0i-MD: A02B-0320-S744 0i-MF: A02B-0340-S744 31i-B5: A02B-0326-S744			
Faceplate <input type="checkbox"/> Without(detron standard) <input type="checkbox"/> incl. faceplate <input type="checkbox"/> Others _____			
Peripheral Accessories	Tailstock	<input type="checkbox"/> Rotary tailstock, model SR- _____ <input type="checkbox"/> Quill tailstock, model ST- _____, quill taper MT3 <input type="checkbox"/> optional quill taper MT4 <input type="checkbox"/> live center <input type="checkbox"/> Manual Switch Valve required for pneumatic or hydraulic quill tailstock (optional)	
	Chuck	<input type="checkbox"/> 3-Jaw Powerful chuck, SK- _____ <input type="checkbox"/> Pneumatic chuck, _____; <input type="checkbox"/> Hydraulic chuck, _____; <input type="checkbox"/> Others _____	
	Fixture plate and Accessories	<input type="checkbox"/> Only flange plate (Chuck supplied by buyer), Chuck brand _____, Model _____ (Please provide relating drawing)	
		<input type="checkbox"/> Required (Please discuss more details with detron)	
Catalog P70			
Catalog P69			
STEP 4_for 5th axis DDM model choose only			
NC Control for rotary axis	Torque	<input type="checkbox"/> detron <input type="checkbox"/> Others, Model _____	
	Driver	Supplied by <input type="checkbox"/> buyer <input type="checkbox"/> detron	
		FANUC system <input type="checkbox"/> $\alpha$ i system, Model _____ <input type="checkbox"/> $\beta$ i system, Model _____	
		Mitsubishi system <input type="checkbox"/> MDS-EJ- _____ <input type="checkbox"/> MDS-DJ- _____	
Siemens <input type="checkbox"/> 6SL3120-1TE _____		Catalog P67 & P68	
Heidenhain <input type="checkbox"/> UM _____			
Remark: Purchase software "Pole Position Detection Function" from NC service center: 0i-MC: A02B-0310-S744 0i-MD: A02B-0320-S744 0i-MF: A02B-0340-S744 31i-B5: A02B-0326-S744			

NC Control for tilting axis	Torque	<input type="checkbox"/> detron <input type="checkbox"/> Others, Model _____	
	Driver	Supplied by <input type="checkbox"/> buyer <input type="checkbox"/> detron	
		FANUC system <input type="checkbox"/> $\alpha$ i system, Model _____ <input type="checkbox"/> $\beta$ i system, Model _____	
		Mitsubishi system <input type="checkbox"/> MDS-EJ- _____ <input type="checkbox"/> MDS-DJ- _____	
Siemens <input type="checkbox"/> 6SL3120-1TE _____		Catalog P67 & P68	
Heidenhain <input type="checkbox"/> UM _____			
Remark: Purchase software "Pole Position Detection Function" from NC service center: 0i-MC: A02B-0310-S744 0i-MD: A02B-0320-S744 0i-MF: A02B-0340-S744 31i-B5: A02B-0326-S744			

STEP 5_Accessories required info			
Accessories	Optical scale	detron standard-Renishaw optical scale <input type="checkbox"/> R+F (suitable for Fanuc control) <input type="checkbox"/> R+M (suitable for Mitsubishi control) <input type="checkbox"/> R+S (suitable for Siemens control) <input type="checkbox"/> R+B (suitable for PC-based control) optional Heidenhain optical scale <input type="checkbox"/> H+F (suitable for Fanuc control) <input type="checkbox"/> H+M (suitable for Mitsubishi control) <input type="checkbox"/> H+S (suitable for Siemens/Heidenhain control)	
	Sensor Module (while applying Siemens control)	<input type="checkbox"/> Heidenhain optical scale shall be equipped with Siemens "SMC40" module, supplied by buyer <input type="checkbox"/> Renishaw optical scale shall be equipped with Renishaw "A-977-0575" module, supplied by detron	
	Temperature Control	<input type="checkbox"/> Supplied by detron TM-K2(3pcs for each axis) <input type="checkbox"/> Supplied by buyer	
	Cable set	Supplied by <input type="checkbox"/> buyer <input type="checkbox"/> detron (if supplied by detron, please choose below items)  <input type="checkbox"/> Standard: Integrated cable with adherent connector. Inner Section: 2.5M, Outer Section: 4.0M <input type="checkbox"/> Special length required: Integrated cable with adherent connector. Inner Section: _____M, Outer Section: _____M  Inner Section: from table to M/C guarding Outer Section: detron M/C guarding to amplifier	
Rotary Joint	<input type="checkbox"/> Pneumatic _____ port <input type="checkbox"/> Hydraulic _____ port <input type="checkbox"/> Pressure required _____ Mpa		
Catalog P78_Fig.3			

STEP 6_Others	
Others	<input type="checkbox"/> Please describe the detailed application below: _____

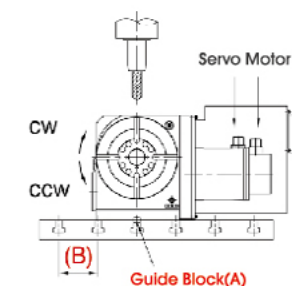


Fig.1

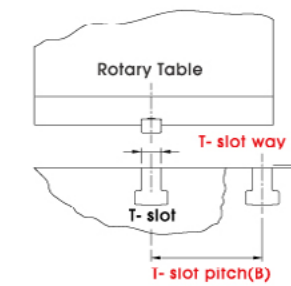


Fig.2

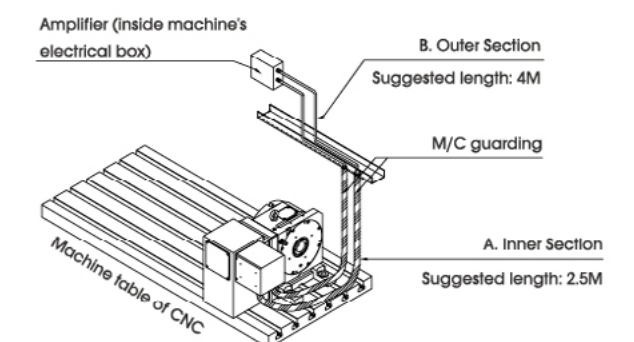


Fig.3