

Quality and Cost Effect

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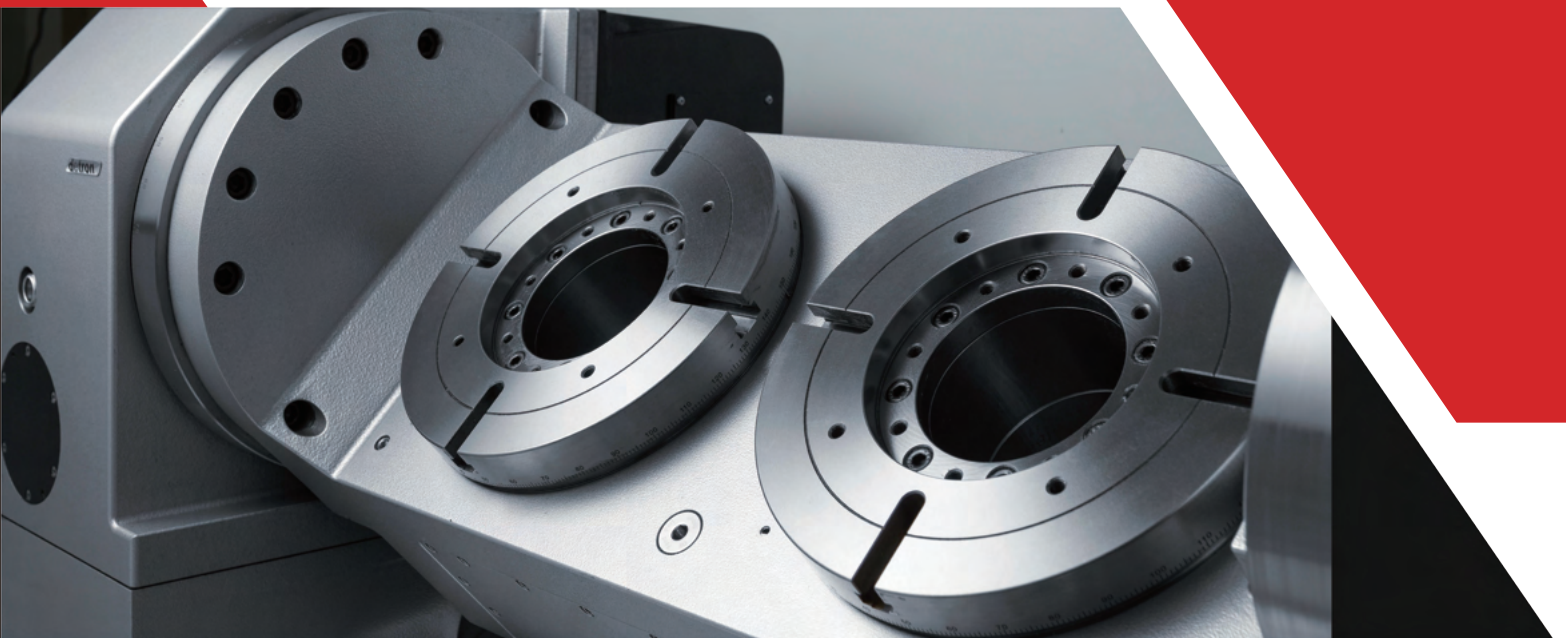
e-mail: export.sales@detron.com.tw



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.

PRODUCT LINE UP



MAGNIFY THE **VALUE** OF **MACHINERY**

www.detron-rotary.com



GN_APR_2022,EN

Company Overview



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, detr

on has become the largest NC rotary table manufacturer by volume in the World. This has ensured that detr

on are the selected partner of a wide variety of machine tool builders, both at home and internationally.



detron 2nd Factory

- production line of B axis for HMC
- production line for APC
- production line for customization



detron Global Factory Outlet

Factory Outlet in Shanghai



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

Authorized Agent in Taiwan



- 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 UK



- 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

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DDM built-in: DTF series
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for VERTICAL

Machining Center Series

4th axis

GXA-S series

multiple pneumatic power clamp



- GXA-125S
- GXA-170S
- GXA-210S
- GXA-250S

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GXA-2W series

multi spindle, pneumatic power clamp



- GXA-170S-2W-250

Page 23

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-170S
- GFA-210S
- GFA-255H/HB
- GFA-320H

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GFA-2W series

5th axis in multi spindle



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

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GTFAE-2W/3W series

trunnion 5th axis in multi spindle

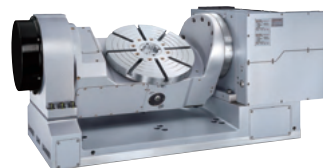


- GTFAE-210S-2W-320
- GTFAE-255H-2W(S)-400

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GTFAE series

trunnion 5th axis



- GTFAE-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

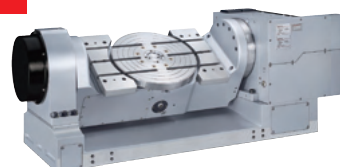


- GTFAE-170SL
- GTFAE-255SBL(S)

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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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RGX

RGX-XII series

4th axis by barrel cam, air-booster built-in



RGX-170XII

RGX-210XII

RGX-250XII

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RGX-H series

4th axis by barrel cam, hydraulic clamp



RGX-255H

RGX-320HII

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DDM

DV series

high speed 4th axis by DDM built-in



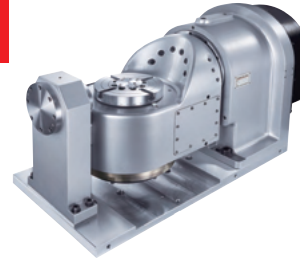
DV-170P

DV-255PII

Page 59

DTF series

high speed 5th axis by DDM built-in



DTFS-125P

DTFE-125P

DTFS-170P

DTFE-170P

DTFE-171P

DTF-280P

DTFAI-650H

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Others

GVA-B series

4th axis with motor at back



GV-170SB

GVA-210SB

GVA-255HBII

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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

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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

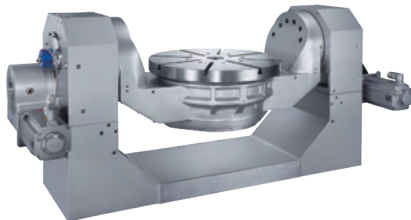


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With sub support

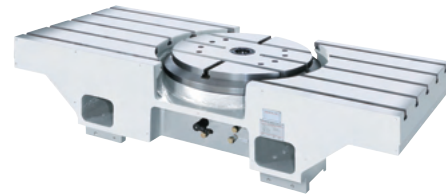


Low gravity and dual drive at tilting axis



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Built in machine table



for VERTICAL

Machining Center Series

Auto Pallet Change

For VMC with fixed column



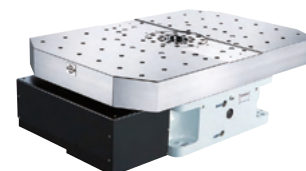
CVR-660

CVR-850

CVR-10D

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For VMC with movable column



SVC-7050 II

SVC-10065 II

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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.



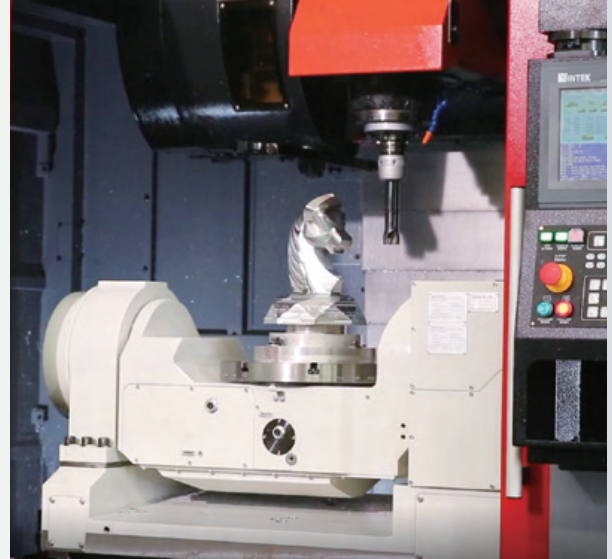
Professional Training

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.





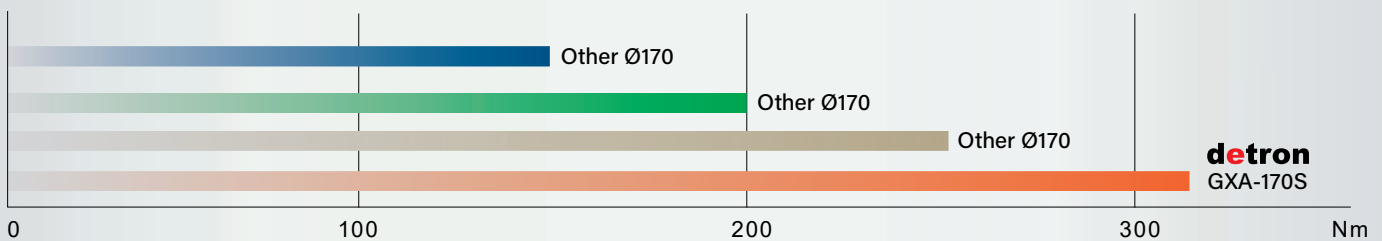
Dynamic 5 axis Location Alignment

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 in a stable position with repeated clamping forces of 300nm (+10%). This clamp test is part of the standard testing procedure of every **detron** product.

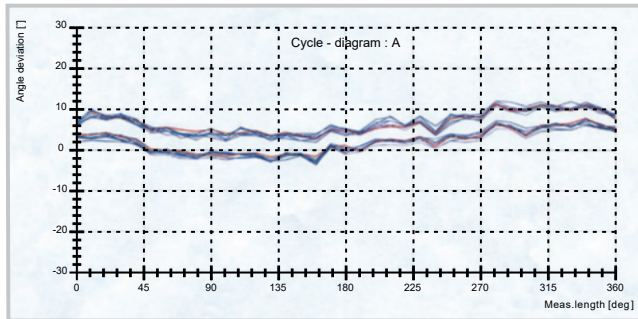
Scan these QR codes to see video:



Accuracy Inspection Norm

detron

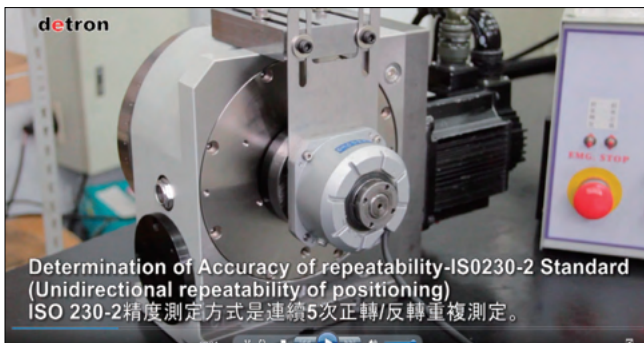
ISO 230-2 Norm (equal to JIS B 6192)



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

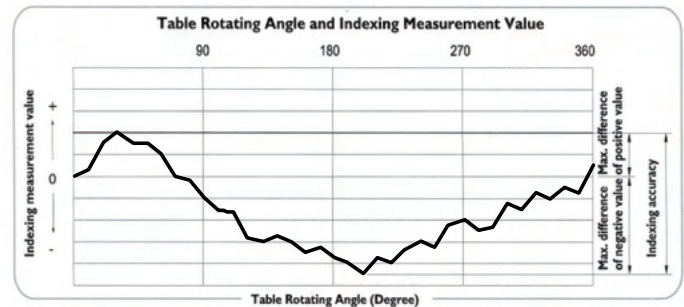
Facility of Inspection

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

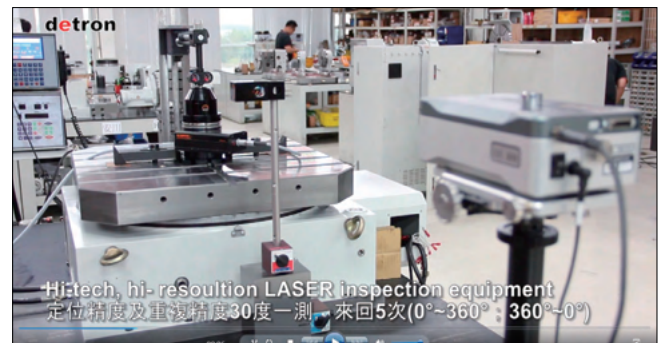


others

JIS B 6330 Norm in Single cycle



Simplified inspection norm without number of laps indicated.



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.

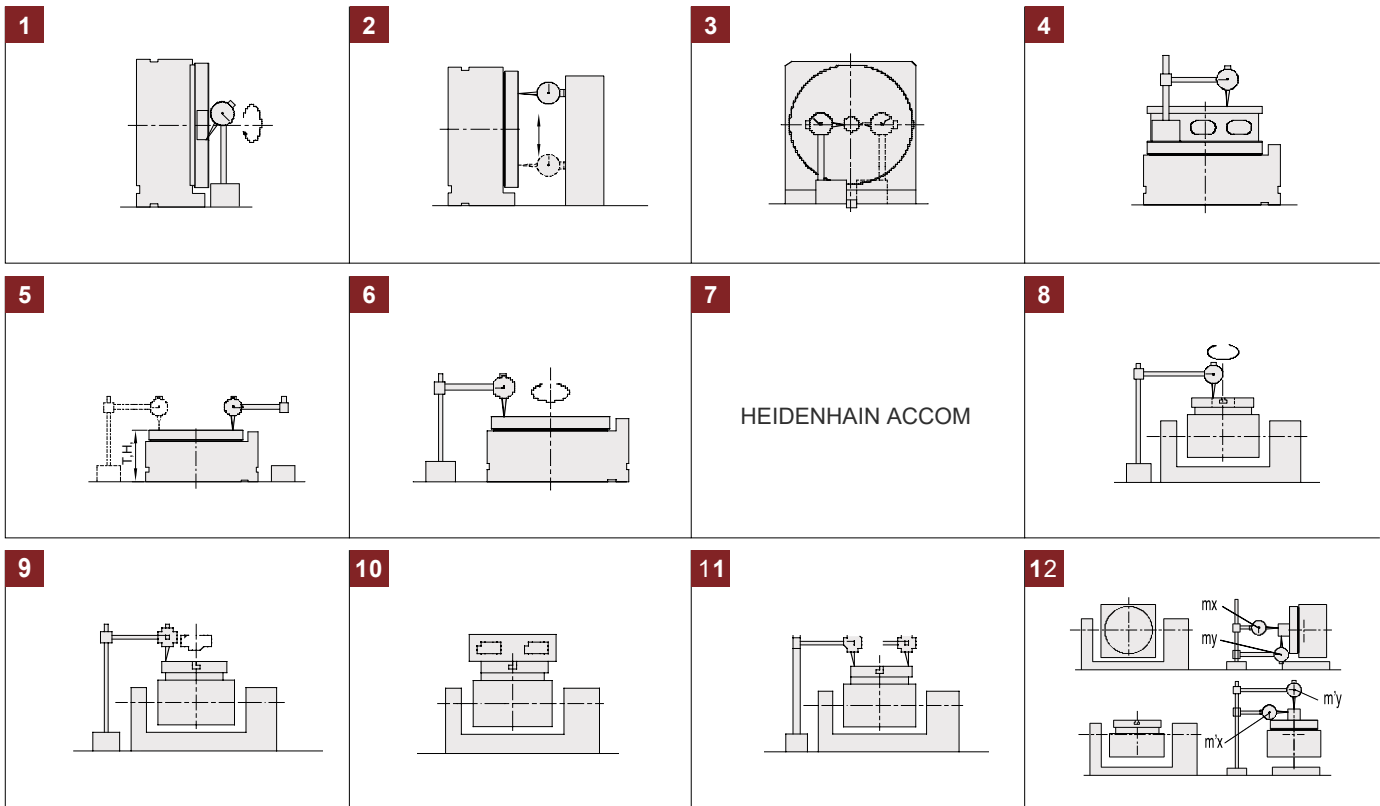
Remark: Due to environmental influences during the measurement, the recorded measuring error may exceed the catalog limit value by up to 10%.

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%.

Accuracy Tolerance Chart



Description of Inspection

NO.		Unit: mm		
		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
GFA Series (for all 5 axis)				
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)
11.	Indexing	Rotary Tilt	Refer to specification chart of each model	
	Repeatability	Rotary Tilt	6 sec. 8 sec.	
12.	Parallelism between center line of tilt axis and base plate		0.02/Dia	

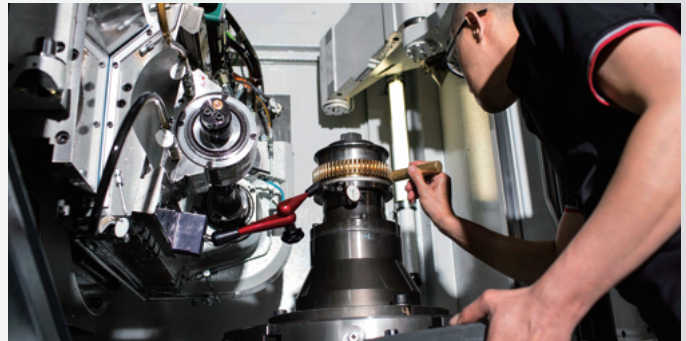
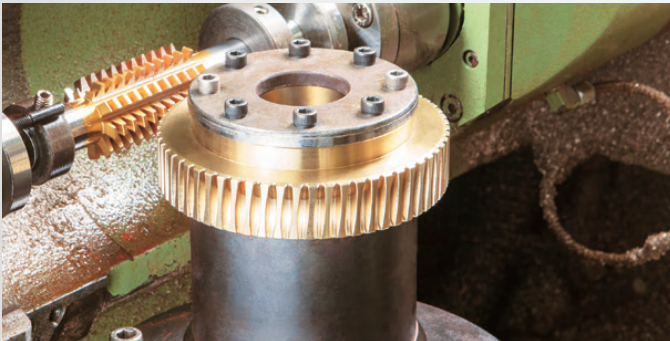
Core Components – Facilities and Precise Process

German Lieberr Hobbing Machines



Vertical Hobbing Machine

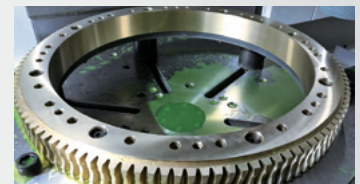
detron applies German Gleason Vertical Hobbing Machine, to achieve the accuracy of worm wheel to DIN1 level.



Vertical grinding machine with hydrostatic bearing technology



Finishing grinding for casting ID



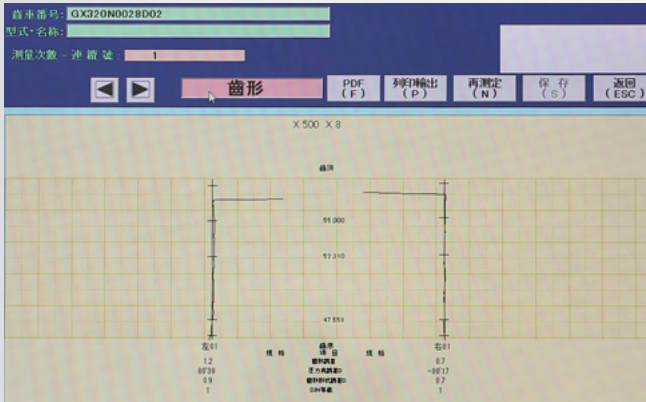
Finishing grinding for gear face



Finishing grinding for brake drum face+ID+OD

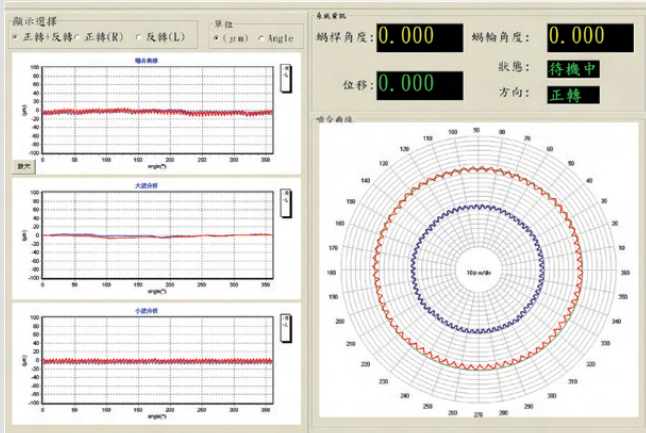
Gear Measuring Machine

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.



Automation for Burr Removing



Main Spindle Preload



Application Engineering

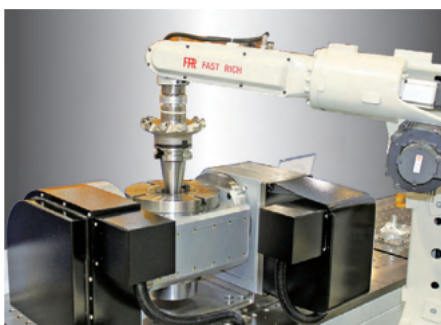
Integration for Automation



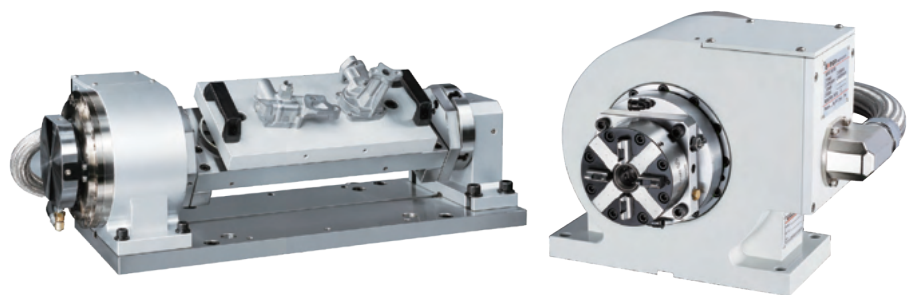
Recommended hardware corroboration in Industrial 4.0 chain.

Prepare for Industry 4.0

Integration with High Efficient Mold Change



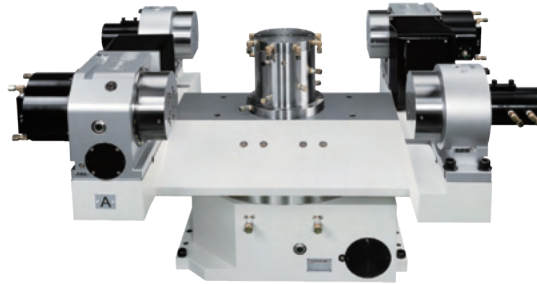
▲ Application of BT40/50 arbors as parts fixture jig can be integrated into **Auto Parts-holding** Change system.



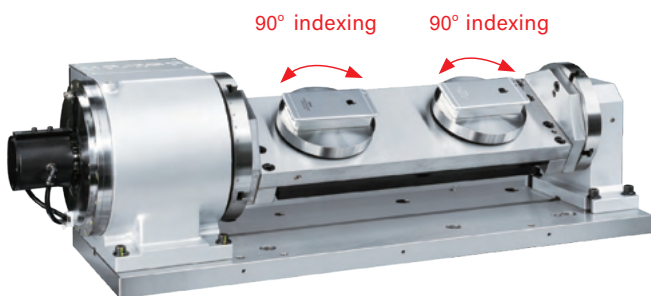
▲ To ease the modulation of parts- holding system in mass production and high end automation, **detron** develops sufficient interface to adapt various **quick mold changing** device, such as EROWA and SCHUNK.

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.



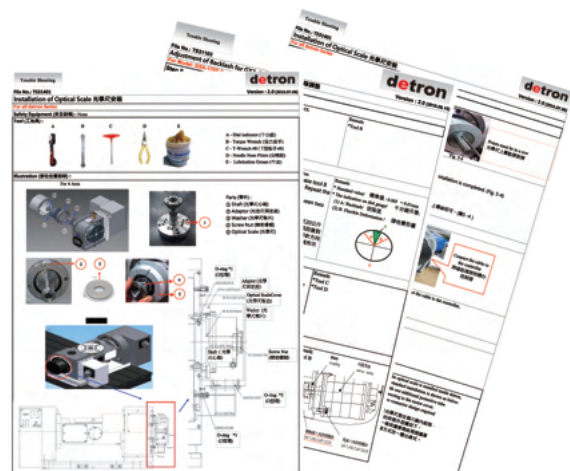
- ▲ A 90 degree indexer can be modified into a 5 face machining system, options include selected number of multiple spindles and various centre distances according to the application.

Detron On-Line Service

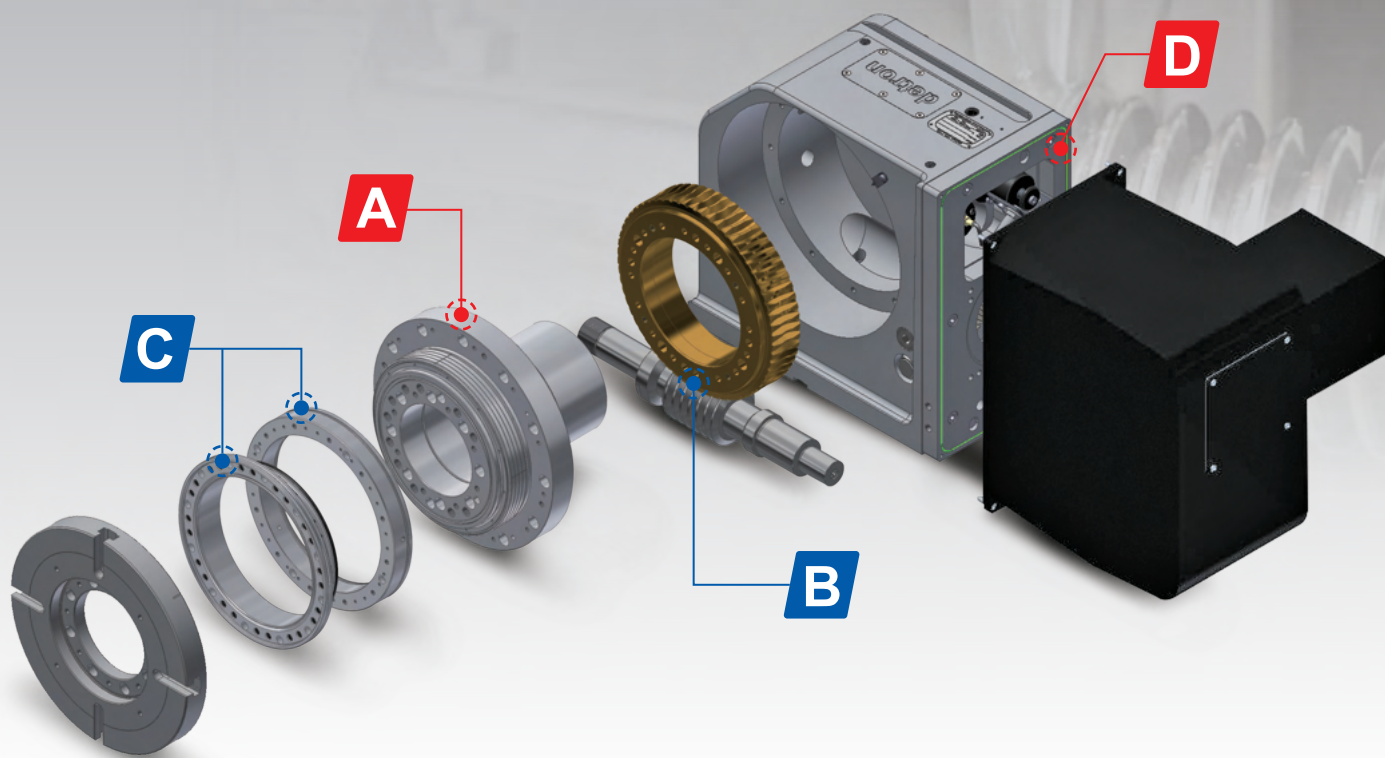


detron On-Line Service

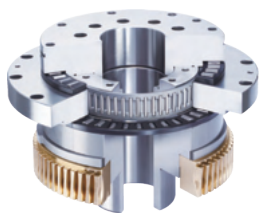
When owning a **detron** table, you become part of the **detron** family. Support is provided during the selection process, installation and aftersales and help is never far away. With instant access to on line support, or you can talk to your local detron factory outlet. Join the detron family.



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-

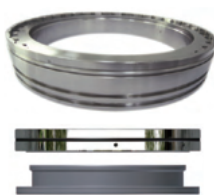
B High Endurable Worm Gear Set



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

-refer to P20 for more details-

C Reliable Clamping Force



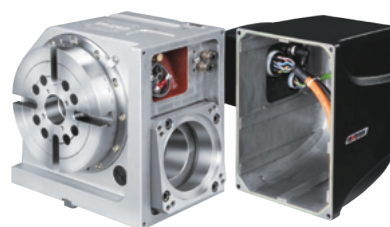
Hydraulic Model:
Special design of drum
brake system.



Pneumatic Model:
exclusive patented dual
pistons design.

-refer to P19 for more details-

D High Level Waterproof Design

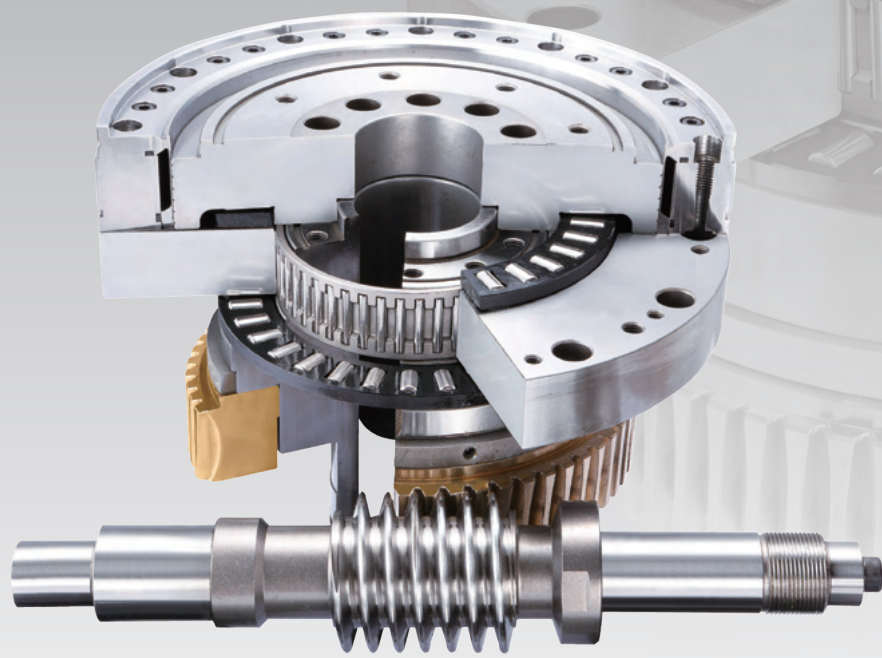


All covers interface with machined groove and Trelleborg seals applied. Waterproof grade IP65.

-refer to P21 for more details-

Core Technology – High Rigidity Consolidated Spindle

for VMC_Worm Wheel Transmission

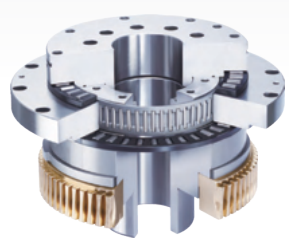


Comparison of Spindle and Bearing

detron

others

others



Rigidity



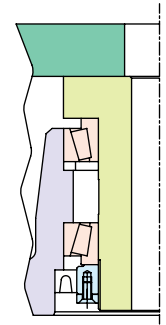
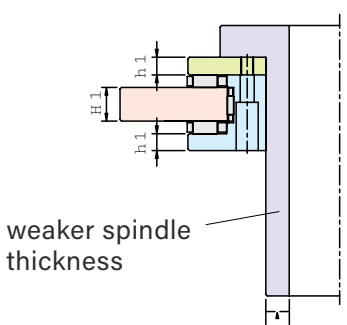
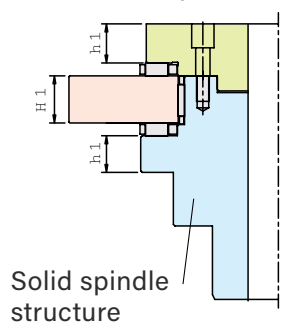
Rigidity



YRT bearing integrated in consolidated spindle.

3 pieces YRT bearing

Economic taper roller bearing



↑ 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.

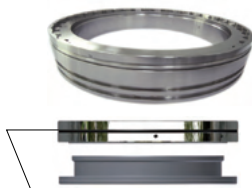
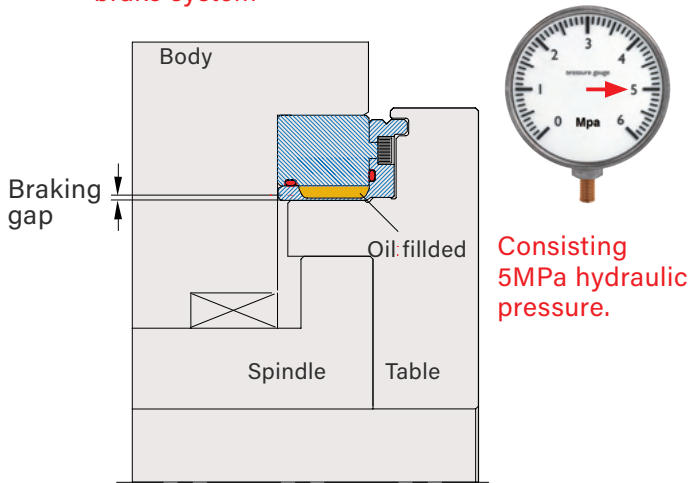
Core Technology – Reliable Clamping Force

Safe and Double Insured Hydraulic Brake

detron



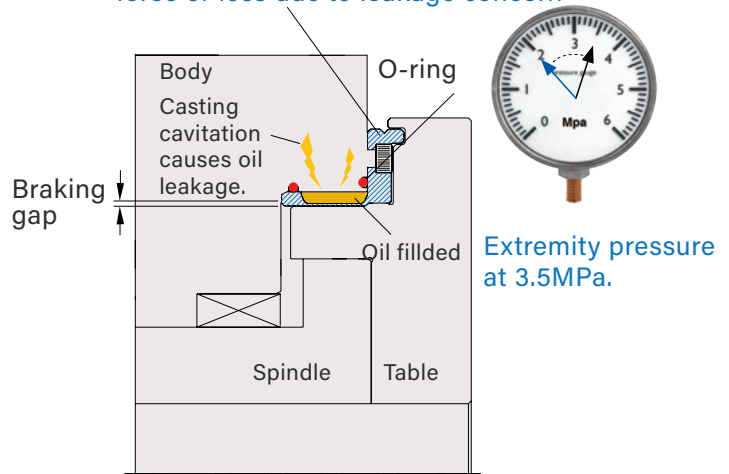
Special design of drum brake system



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.

Others

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



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

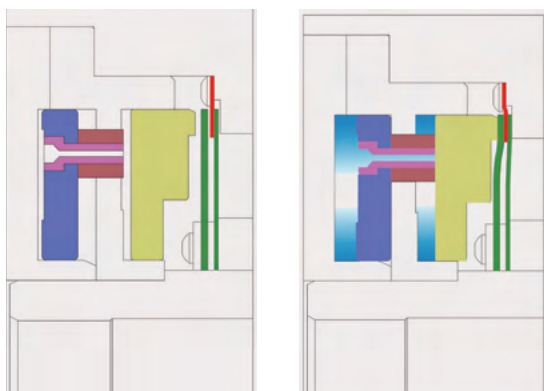
Patented Dual Pneumatic Piston, Braking Force Promoted

detron



unclamped

clamped



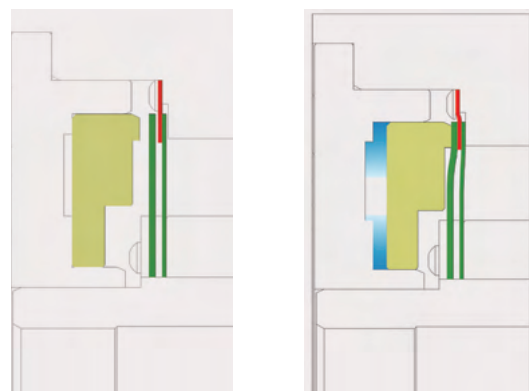
Blue zone is the pneumatic inflation room.

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

others

unclamped

clamped



Blue zone is the pneumatic inflation room.

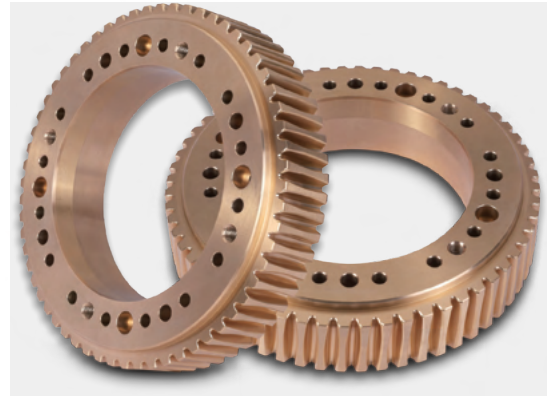
Limited effects by less pneumatic inflation zone of conventional single piston. Lower clamping force.

Core Technology – High Endurable Worm Gear Set

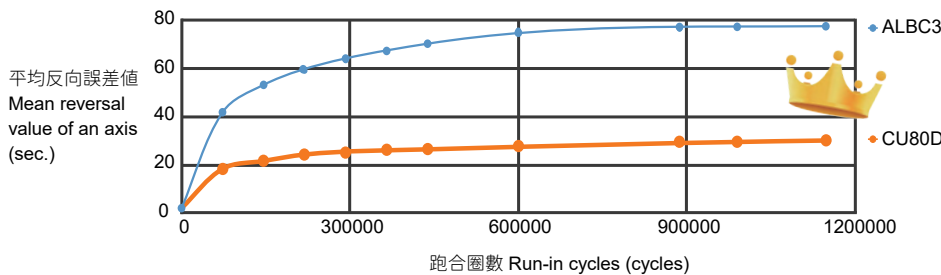
Exclusive Worm Wheel Material -CU80D

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.

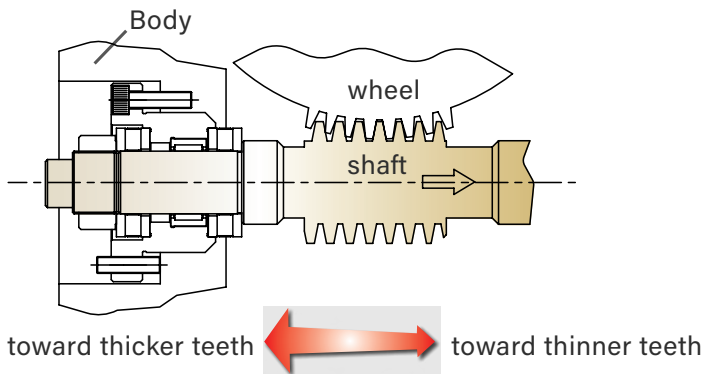


CU80D vs ALBC3



↑ 260%
resistance increased

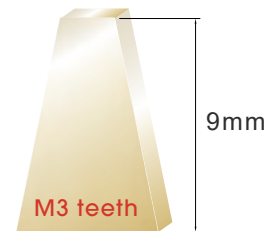
Precise Dual Lead Worm Shaft and Gear



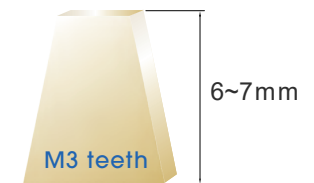
- Offset in axial direction retains **eternal radial geometry accuracy** of worm shaft and wheel.
- Stable gear occlusion accuracy.

Teeth Module Promoted

detron



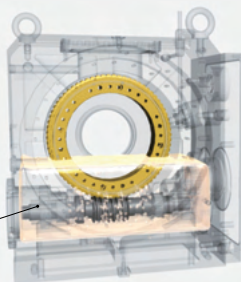
others



- 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.

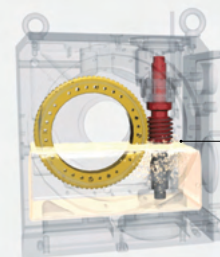
Lubrication and Thermal Control

detron



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

others

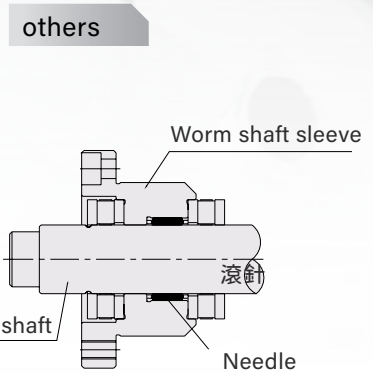
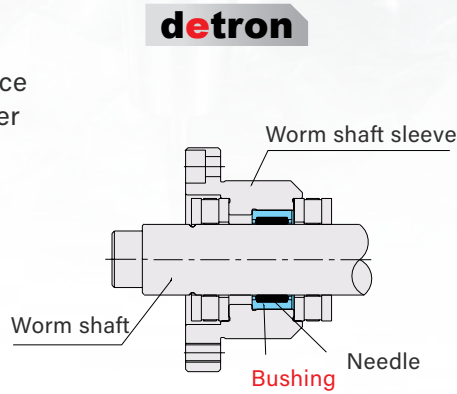


Only half section of worm shaft lubricated, thermal deformation is concerned.

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.



Without needle bush, less endurance by KT radial dearing, lower indexing accuracy.

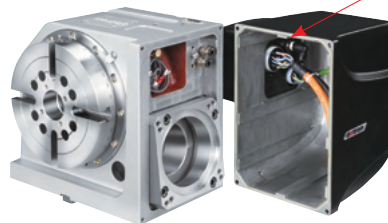
High Concentricity, Consistent Accuracy

Waterproof Design

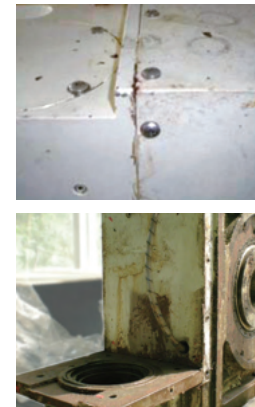
- The electronic parts guard is completely sealed by O-ring to prevent cutting fluid entering and motor burnout.
- Barotropic built-in for dew-proof.
- **Waterproof grade IP65.**

detron

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



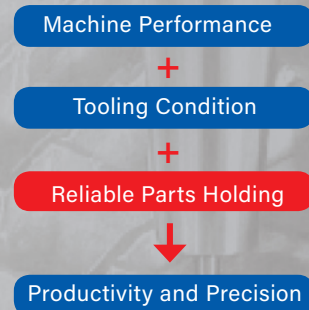
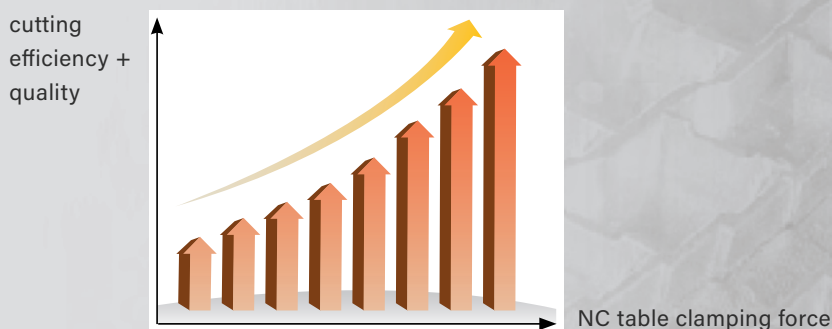
others



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



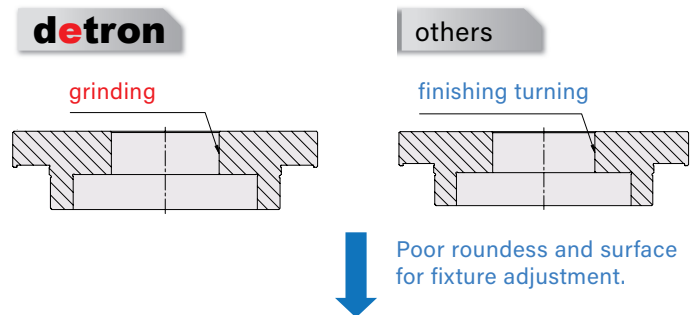
for VMC_Worm Wheel Transmission

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.

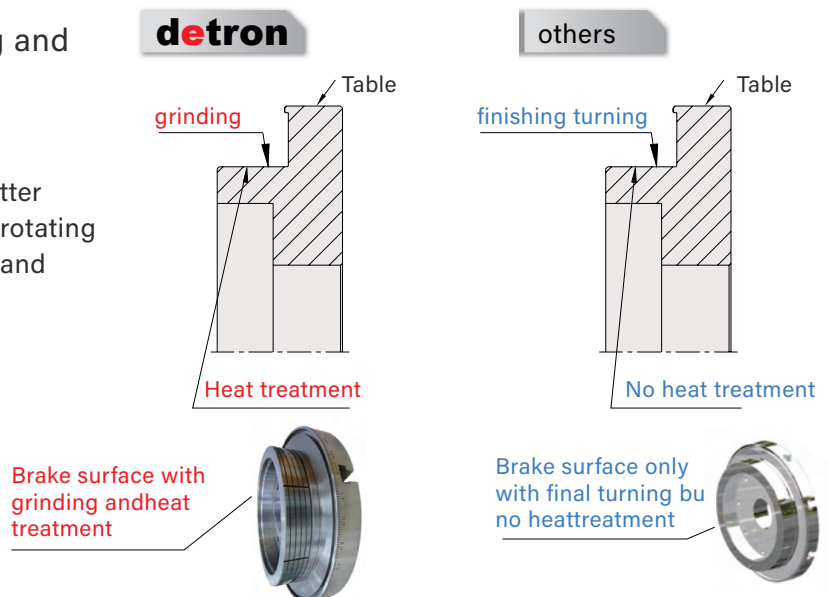


Fine Finishing Machining Of Brake Shaft

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.



GXA-S series

CNC Rotary Table

High - Power Pneumatic Clamp



G X A - 1 7 0 S

new optimization model

table size

superior pneumatic clamp

- Vertical & horizontal application
- Vertical 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	GXA-210S GXA-250S	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	Nm / ft. lbs.	140	300	400	300	
Servo motor spec		refer to page 69				
Transmission ratio		1 / 40	1 / 60	1 / 72	1/90	
Max. table speed	min ⁻¹	66.6	53.3	53.3	22.2	
Standard loading inertia*	$(\frac{W.D^2}{8})$	Kg.m ²	0.2	0.72	1.38	0.54
Maximum loading inertia*	$(\frac{W.D^2}{8})$	Kg.m ²	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
	Tailstock applied	kg / lb	100 / 220	200 / 440	250 / 550	150 / 330
Allowable load (when table clamped)		N / lbs	9700 / 2176.68	14000 / 3141.6	17000 / 3814.8	14000 / 3141.6
		Nm / ft. lbs.	410 / 302.17	1020 / 751.74	1265 / 932	1020 / 751.74
		Nm / ft. lbs.	140 / 103.8	300 / 221.1	400 / 294.8	300 / 221.1
Allowable cutting torque		Nm / ft. lbs.	85 / 62.65	200 / 147.41	260 / 191.62	200 / 147.41
Allowable Max. rotary joint quantity			-	4	4	4

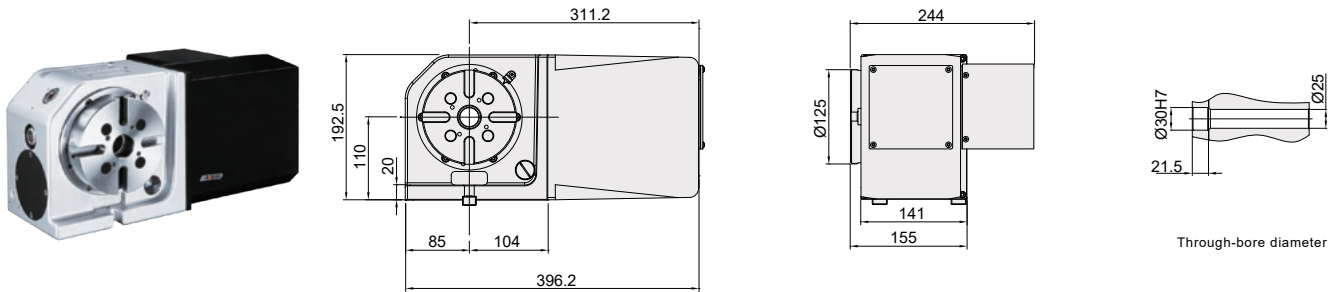
Note: 1. Allowable cutting torque at table speed of 1 min⁻¹.

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.

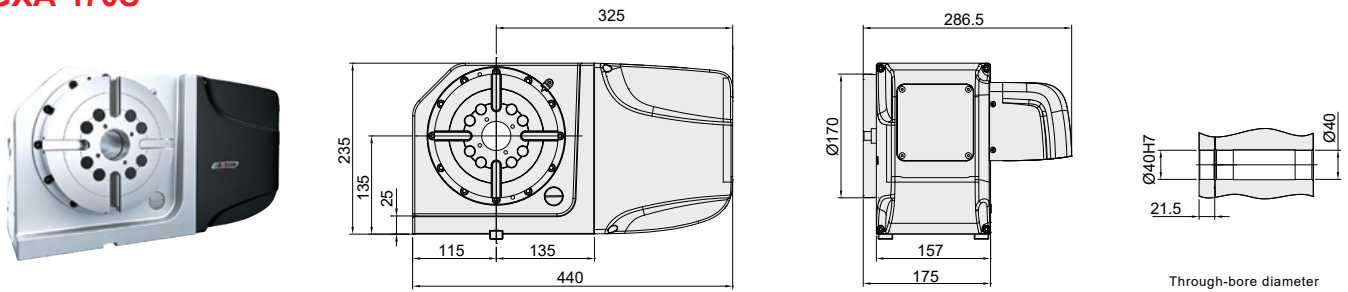
DIMENSIONAL DRAWINGS

Unit : mm

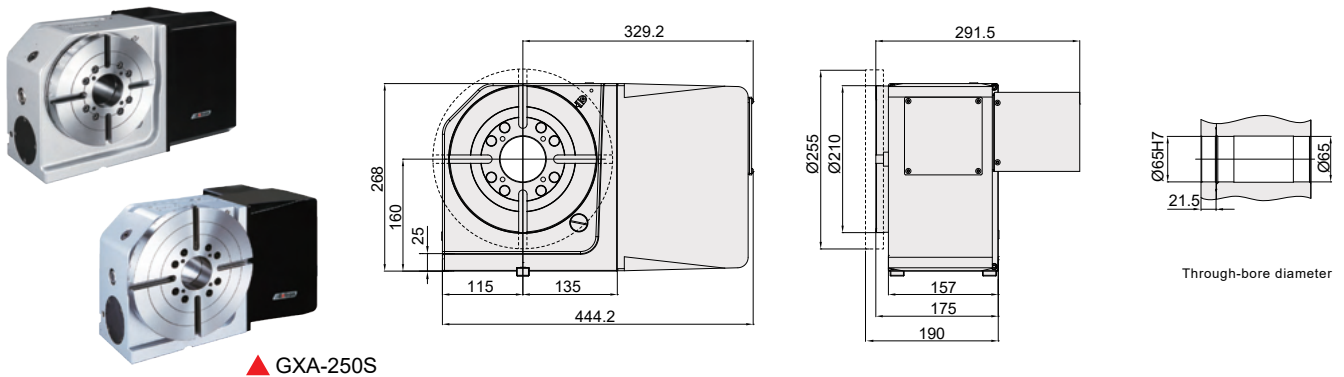
GXA-125S



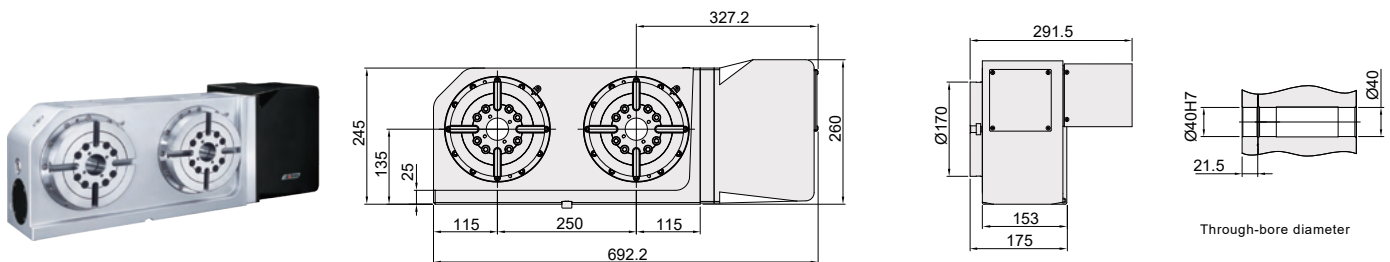
GXA-170S



GXA-210S / GXA-250S



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)

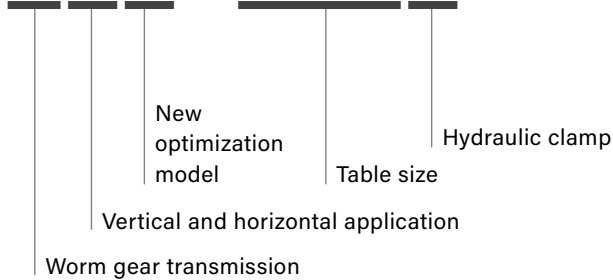
GXA-H series

CNC Rotary Table

Ultra Big Spindle Bore, Hydraulic Clamp



G X A - 2 5 5 H


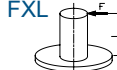

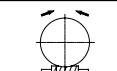


- Worktable diameter Ø255, Ø320, Ø400.
- Big spindle bore allow the more complex parts clamping and fixture.
- Ultra high clamping force by drum brake system.(P.19)
- Consolidated spindle with radial-Axial bearing built-in. (P.18)
- Full gear depth transmitted by dual lead worm drive, resulting in higher 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	Nm /ft. lbs.	900 / 663.3	1600 / 1179.2	3000 / 2211	
Servo motor spec		refer to page 69			
Transmission ratio		1 / 120	1 / 120	1 / 144	
Max. table speed	min ⁻¹	22.2	22.2	11.1	
Standard loading inertia* $(\frac{W.D^2}{8})$	Kg.m ²	2.43	5.12	10.2	
Maximum loading inertia* $(\frac{W.D^2}{8})$	Kg.m ²	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
	Tailstock applied	kg / lb	300 / 660	400 / 880	500 / 1100
Allowable load (when table clamped)		N / lbs	20000 / 4488	28000 / 6283.2	38000 / 8527.20
		Nm /ft. lbs.	1700 / 1252.9	3000 / 2211	5400 / 3979.8
		Nm /ft. lbs.	900 / 663.3	1600 / 1179.2	3000 / 2211
Allowable cutting torque		Nm /ft. lbs.	550 / 405.35	780 / 574.86	1700 / 1252.9
Allowable Max. rotary joint quantity		6	6	6	

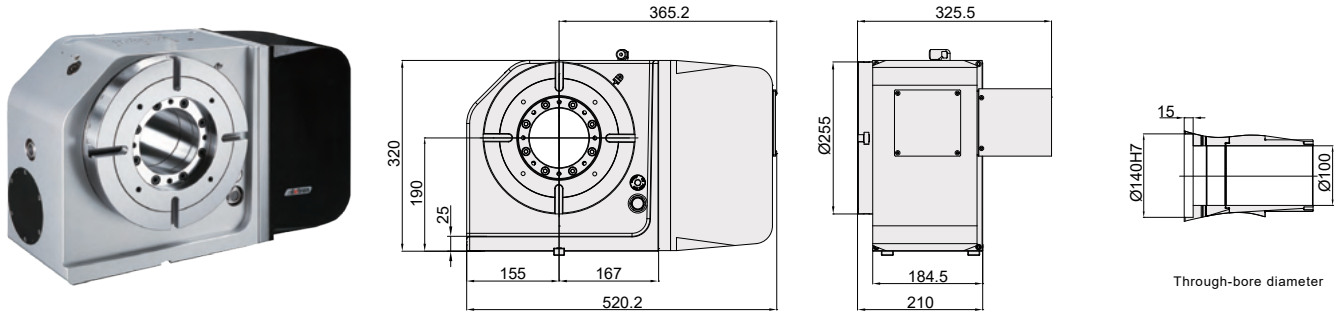
Note: 1. Allowable cutting torque at table speed of 1 min⁻¹.

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.

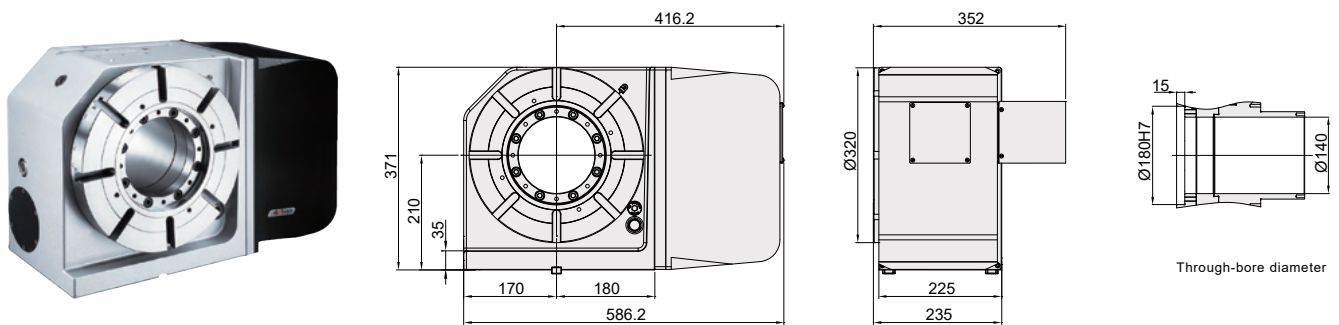
DIMENSIONAL DRAWINGS

Unit : mm

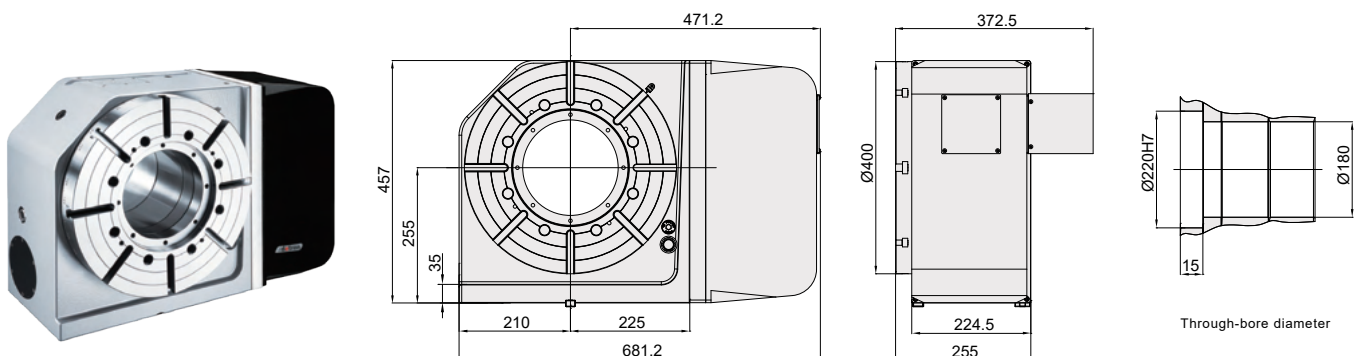
GXA-255H



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)

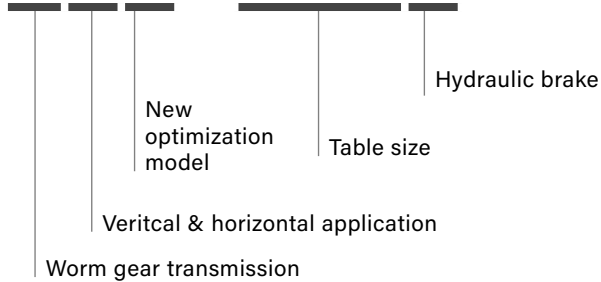
GXA-H series

CNC Rotary Table

Ultra Big Spindle Bore, Hydraulic Clamp



G X A - 5 0 0 H


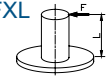
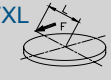



- Worktable diameter Ø500, Ø630, Ø800.
- Equipped with extra large bearings, preloaded in radial and axial directions.(P.18)
- Motor is mounted at right side(vertical and horizontal application).
- Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash.(P.20)



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	Nm /ft. lbs.	5700 / 4204.11 4500 / 3319	4500 / 3319.03	5200 / 3835.32	
Servo motor spec		refer to page 69			
Transmission ratio		1 / 180	1 / 180	1 / 180	
Max. table speed	min ⁻¹	11.1	11.1	11.1	
Allowable loading inertia	$(\frac{W.D^2}{8})$ Kg.m ²	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	450 / 990	800 / 1760
	Horizontal	Kg /lb	800 / 1760	800 / 1760	1500 / 3300
	Tailstock applied	Kg /lb	800 / 1760	800 / 1760	1500 / 3300
Allowable load (when table clamped)		N /lbs	45000 / 10098	49000 / 10780	50000 / 11000
		Nm /ft. lbs.	8300 / 6121.7	8500 / 6264.50	10000 / 7370.0
		Nm /ft. lbs.	5700 / 4204.11 4500 / 3319	4500 / 3316.5	5200 / 3832.4
Allowable cutting torque		Nm /ft. lbs.	2500 / 1842.5	4300 / 3169.1	6860 / 5059.6

Note: Allowable cutting torque at table speed of 1 min⁻¹.

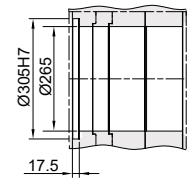
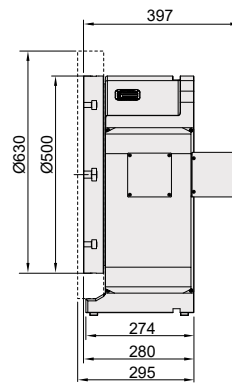
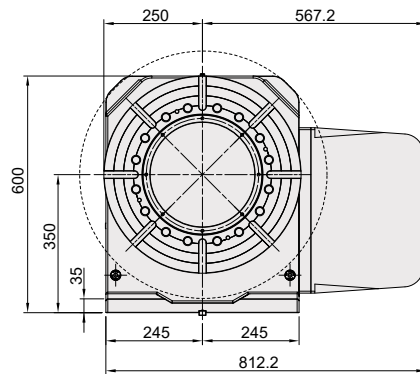
DIMENSIONAL DRAWINGS

Unit : mm

GXA-500H

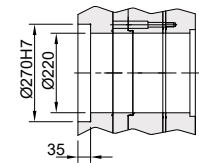
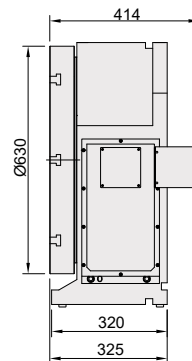
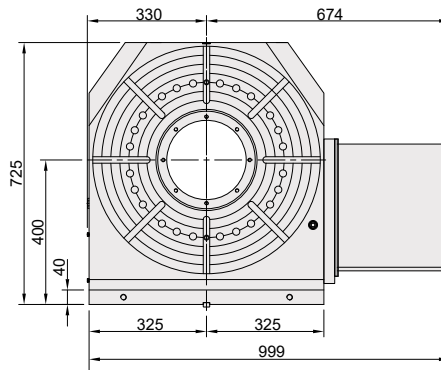
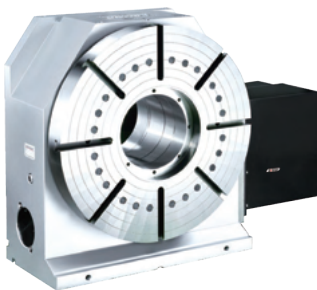


▲ GXA-630EH



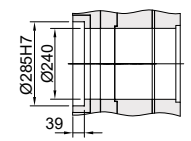
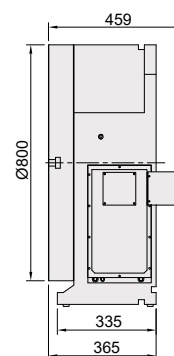
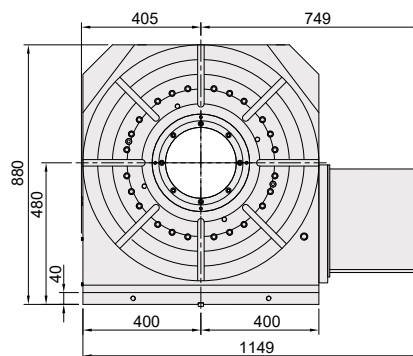
Through-bore diameter

GX-630H



Through-bore diameter

GX-800H



Through-bore diameter

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

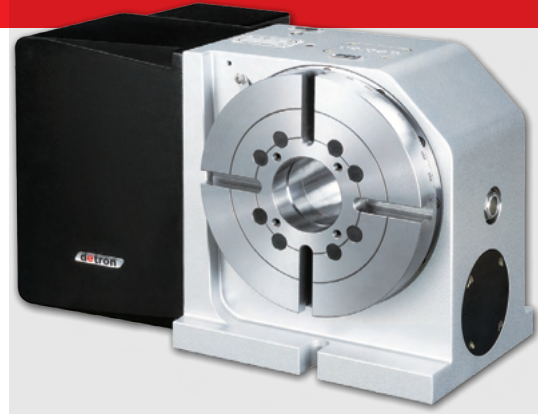
GXA-L series

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

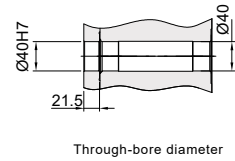
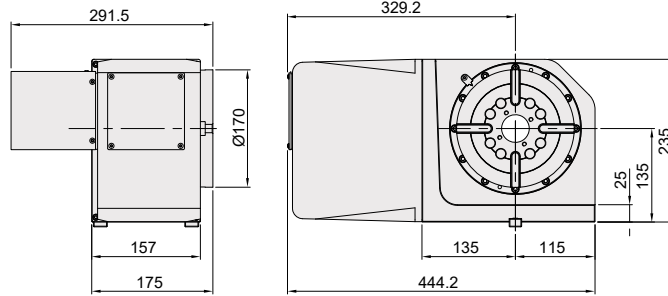
MODEL	Unit	GXA-170SL	GVA-210SL	GXA-255HL	
Worktable diameter	mm/inch	Ø170 / Ø 6.69	Ø210 / Ø 8.27	Ø255 / Ø10.04	
Center bore diameter	mm/inch	Ø40H7 / Ø 1.57H7	Ø65H7 / Ø 2.56H7	Ø140H7 / Ø 5.51H7	
Through-bor diameter	mm/inch	Ø40 / Ø 1.57H7	Ø65 / Ø 2.56H7	Ø100 / Ø 3.94	
Height of table (horizontal)	mm/inch	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 69			
Transmission ratio		1 / 60	1 / 72	1 / 120	
Max. table speed	min ⁻¹	53.3	53.3	22.2	
Allowable loading inertia $(\frac{W.D^2}{8})$	Kg.m ²	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	150 / 330
	Horizontal	kg / lb	200 / 440	–	300 / 660
	Tailstock applied	kg / lb	200 / 440	250 / 550	300 / 660
Allowable load (when table clamped)		N / lbs	14000 / 3141.6	17000 / 3814.8	20000 / 4488
		N.m / ft. lbs.	1020 / 751.74	1265 / 932	1700 / 1252.9
		N.m / ft. lbs.	300 / 221.1	400 / 294.8	900 / 663.3
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: Allowable cutting torque at table speed of 1 min⁻¹.

DIMENSIONAL DRAWINGS

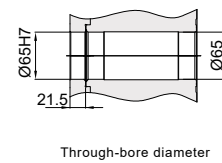
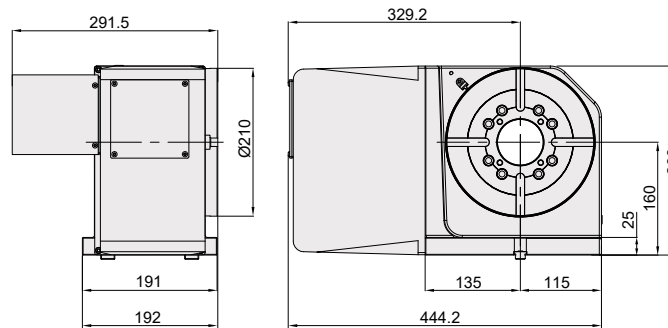
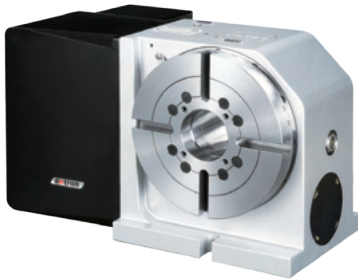
Unit : mm

GXA-170SL



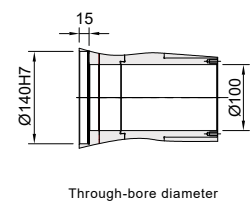
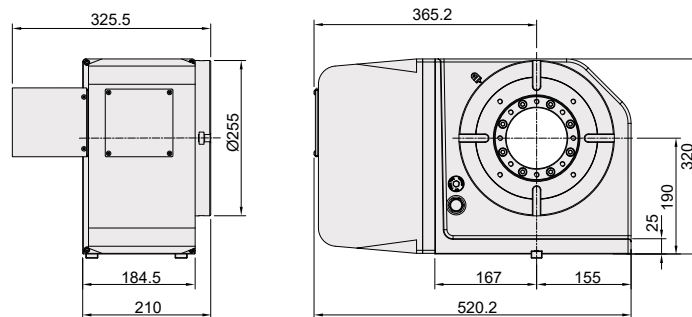
Equipped with upgraded high precision cross roller bearing.

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)

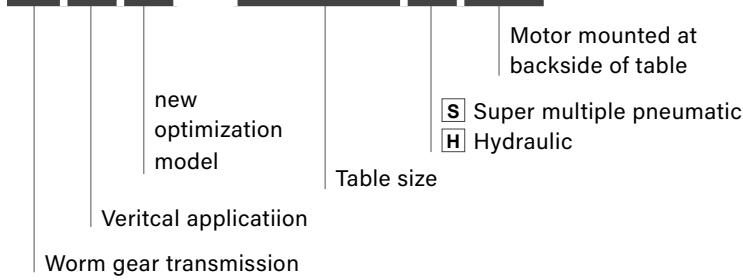
GVA-B series

CNC Rotary Table

High - Power Clamp, Motor at Back



GVA - 210SB



- Worktable diameter Ø170, Ø210, Ø255.
- 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)

SPECIFICATIONS

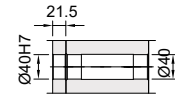
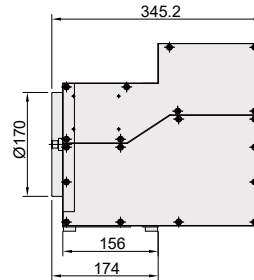
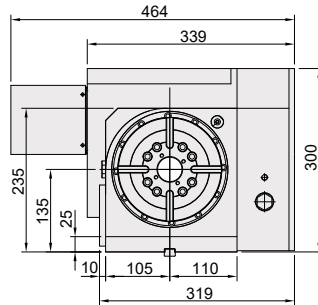
MODEL	Unit	GV-170SB	GVA-210SB	GVA-255HB	
Worktable diameter	mm / inch	Ø170 / Ø6.69	Ø210 / Ø 8.27	Ø255 / Ø10.04	
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7	Ø65H7 / Ø2.6H7	Ø140H7 / Ø 5.51H7	
Height of center (vertical)	mm / inch	135 / 5.31	160 / 6.30	190 / 7.48	
Width of T-slot	mm / inch	12H7 / 0.47H7	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	Nm / ft. lbs.	250 / 184.25	400 / 294.8	900 / 663.3	
Servo motor spec		refer to page 69			
Transmission ratio		1 / 90	1 / 90	1 / 120	
Max. table speed	min ⁻¹	44.4	44.4	22.2	
Allowable loading inertia	$\left(\frac{W \cdot D^2}{8}\right)$ Kg.m ²	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
	Tailstock applied	kg / lb	150 / 330	250 / 550	300 / 660
Allowable load (when table clamped)		N / lbs	14000 / 3141.60	17000 / 3814.8	20000 / 4488
		Nm / ft. lbs.	1020 / 751.74	1265 / 932.3	1700 / 1253.0
		Nm / ft. lbs.	250 / 184.25	400 / 294.80	900 / 663.3
Allowable cutting torque		Nm / ft. lbs.	170 / 125.29	260 / 191.62	550 / 405.35

Note: Allowable cutting torque at table speed of 1 min⁻¹.

DIMENSIONAL DRAWINGS

Unit : mm

GV-170SB

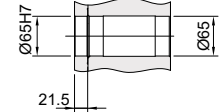
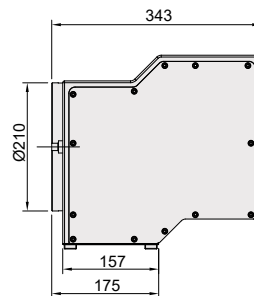
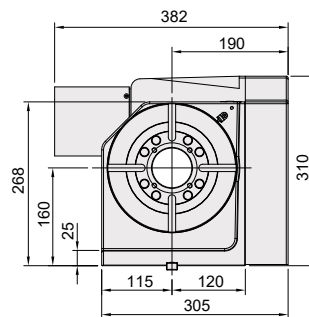


Through-bore diameter



Equipped with upgraded high precision cross roller bearing.

GVA-210SB

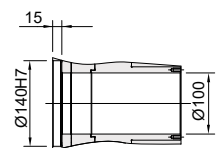
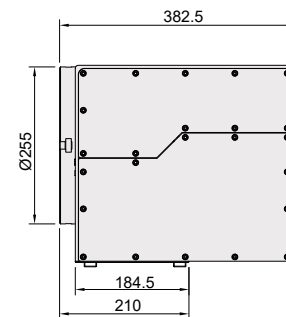
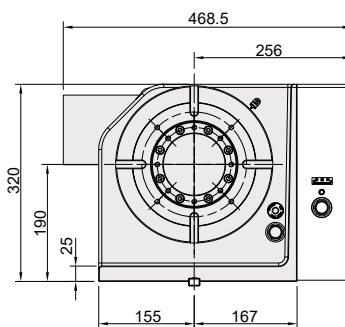


Through-bore diameter



Equipped with upgraded high precision cross roller bearing.

GVA-255HBII



Through-bore diameter



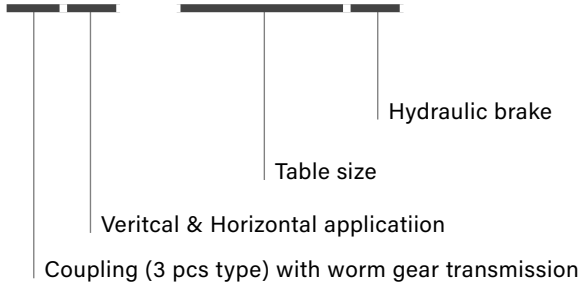
Consolidated spindle with YRT bearing built-in.

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

CX-H series

CNC Index Table

C X - 2 5 5 H






- 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°.



Equipped with 3-pcs coupling

SPECIFICATIONS

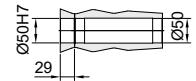
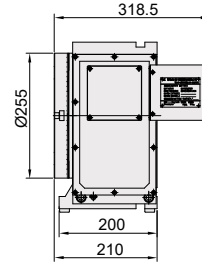
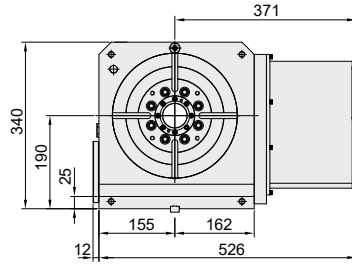
MODEL	Unit	CX-255H	CX-320H	CX-400H	CX-500H	
Worktable diameter	mm / inch	Ø255 / Ø10.04	Ø320 / Ø12.60	Ø400 / Ø15.75	Ø500 / Ø19.69	
Center bore diameter	mm / inch	Ø50H7 / Ø1.97H7	Ø70H7 / Ø2.76H7	Ø110H7 / Ø4.33H7	Ø130H7 / Ø5.12H7	
Through-bore diameter	mm / inch	Ø50 / Ø1.97	Ø70 / Ø2.76	Ø110 / Ø4.33	Ø130 / 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	Nm / ft. lbs.	3000 / 2211	4000 / 2948	5000 / 3685	10000 / 7370	
Servo motor spec		refer to page 69				
Transmission ratio		1 / 120	1 / 120	1 / 144	1 / 180	
Max. table speed	min ⁻¹	22.2	22.2	11.1	11.1	
Allowable loading inertia $(\frac{W.D^2}{8})$	Kg.m ²	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
	Tailstock applied	kg / lb	300 / 660	400 / 880	500 / 1100	600 / 1320
Allowable load (when table clamped)		N / lbs	16000 / 3590.4	20000 / 4488.0	30000 / 6732.0	40000 / 8976.0
		Nm / ft. lbs.	1750 / 1289.75	2500 / 1842.5	3000 / 2211.0	6000 / 4422.0
		Nm / ft. lbs.	3000 / 2211.0	4000 / 2948.0	5000 / 3685.0	10000 / 7370.0
Drive torque	Nm / ft. lbs.	240 / 176.9 (motor α iF4) 480 / 353.8 (motor α iF8)	720 / 530.2	864 / 618.5	1080 / 795.3	

Note: Allowable cutting torque at table speed of 1 min⁻¹.

DIMENSIONAL DRAWINGS

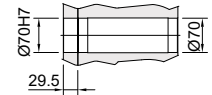
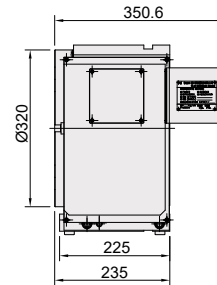
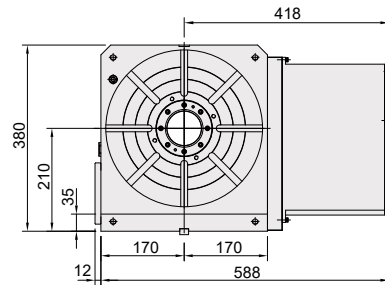
Unit : mm

CX-255H



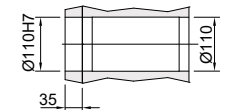
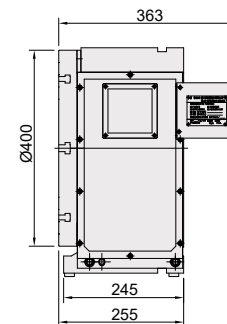
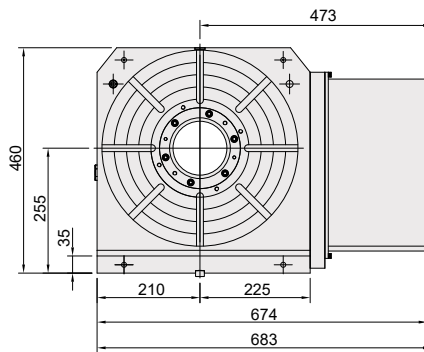
Through-bore diameter

CX-320H



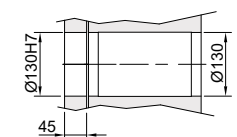
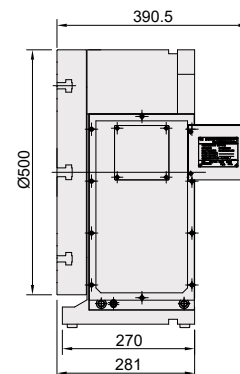
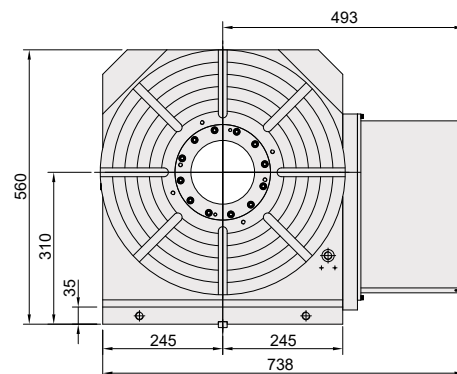
Through-bore diameter

CX-400H



Through-bore diameter

CX-500H



Through-bore diameter

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

ST-T/TP/TH series

Quill Tailstock

Manual Quill Tailstock

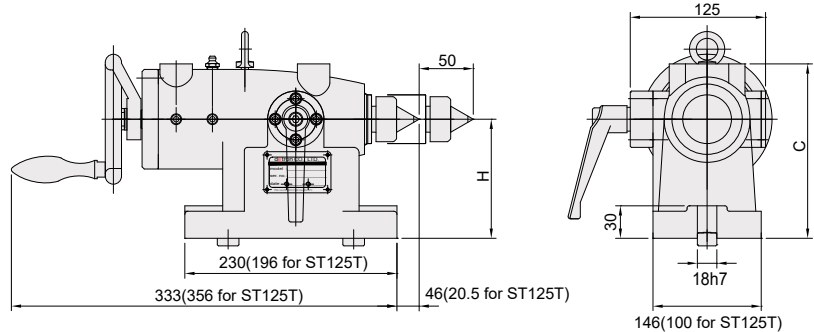


ST - 170 TP

- P** Pneumatic drive
- H** Hydraulic drive

With morse taper

Quill Tailstock Table size: Ø170



unit: mm/inch

MODEL	ST-125T	ST-170T	ST-210T	ST-255T	ST-320T	ST-400T
H	110 / 4.33	135 / 5.31	160 / 6.30	190 / 7.48	210 / 8.27	255 / 10.04
C	161 / 6.34	183 / 7.20	208 / 8.19	238 / 9.37	258 / 10.16	306 / 12.05
Weight(Kg / lb)	16 / 35.2	22 / 48.4	24 / 52.8	26 / 57.2	28 / 61.6	31 / 68.2

Pneumatic Quill Tailstock

Hydraulic Quill Tailstock



Pneumatic manual switch valve (optional)

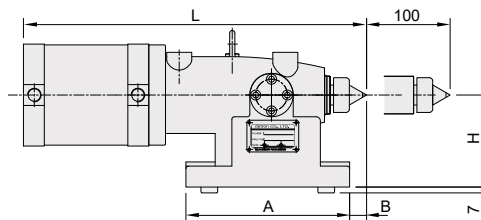
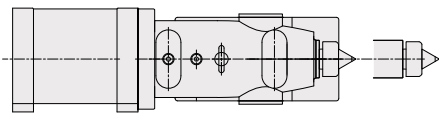


Hydraulic manual switch valve (optional)

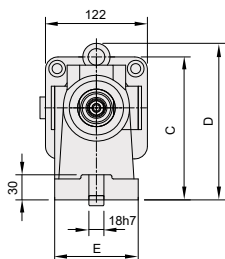
ST-255TH

ST-320TH

ST-400TH



unit: mm/inch



MODEL	ST-125TP	ST-170TP	ST-210TP	ST-255TH	ST-320TH	ST-400TH
H	110 / 4.33	135 / 5.31	160 / 6.3	190 / 7.48	210 / 8.27	255 / 10.04
C	171 / 6.73	196 / 7.72	221 / 8.70	238 / 9.37	258 / 10.16	306 / 12.05
A	196 / 7.72	230 / 9.06	230 / 9.06	230 / 9.06	230 / 9.06	230 / 9.06
B	23 / 0.91	48.5 / 1.91	48.5 / 1.91	46 / 1.81	46 / 1.81	46 / 1.81
D	191 / 7.52	216 / 8.5	241 / 9.49	271 / 10.67	291 / 11.46	336 / 13.23
E	100 / 3.94	146 / 5.75	146 / 5.75	146 / 5.75	146 / 5.75	146 / 5.75
L	416.5 / 16.4	416.5 / 16.4	416.5 / 16.4	392 / 15.43	392 / 15.43	392 / 15.43
Weight(Kg / lb)	18 / 39.6	24 / 52.8	26 / 57.2	28 / 61.6	30 / 66	33 / 72.6

Note: 1. Max. operating pressure: 2MPa

2. Illustration stroke 100mm is for quill withdraw. The effective quill stroke is 50mm.

3. Quill stroke more than 50mm is an available option.

GFA-S series

CNC Tilting Rotary Table

GFA-125S

- Worm gear transmission
- Five axes
- new optimization model
- 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

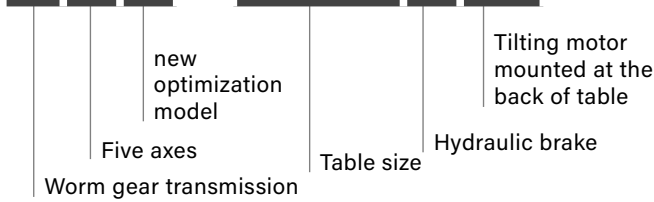
MODEL	Unit	GFA-101S	GFA-125S	GFA-170S	GFA-210S				
Worktable diameter	mm / inch	Ø100 / Ø3.94	Ø125 / Ø4.92	Ø170 / Ø6.69	Ø210 / Ø8.27				
Center bore diameter	mm / inch	Ø30H7 / Ø1.18H7	Ø30H7 / Ø1.18H7	Ø40H7 / Ø1.57H7	Ø65H7 / Ø2.56H7				
Height of table (horizontal)	mm / inch	205 / 8.07	224.5 / 8.84	260 / 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	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				
Servo motor spec	refer to page 69								
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	min ⁻¹	33.3	16.6	44.4	44.4	33.3	22.2	33.3	22.2
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 unblancing work moment	WxL	Nm / ft. lbs.	24 / 17.69	24 / 17.69	40 / 29.5	62 / 45.7			
Allowable load (when table clamped)	F	N / lbs	4000 / 897.60	4000 / 897.60	7000 / 1570.8	14000 / 3141.6			
	FxL	Nm / ft. lbs.	200 / 147.4	140 / 103.2	300 / 221	400 / 294.7			
	FxL	Nm / ft. lbs.	250 / 184.25	300 / 221.1	400 / 294.7	600 / 442			
Allowable loading inertia	$(\frac{W \cdot D^2}{8})$	kg.m ²	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.	-17 ~ +107	-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	Nm / ft. lbs.	85 / 62.65	85 / 62.65	200 / 147.4	250 / 184.25				
Allowable Max. rotary joint quantity	Port	-	3	4	4				

Note: R: Rotary Axis T: Tilt Axis

GFA-H/HB series

CNC Tilting Rotary Table

GFA - 255 H(B)



- Worktable diameter Ø255, Ø320.
- 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)



Consolidated spindle with radial-axial bearing built-in.

SPECIFICATIONS

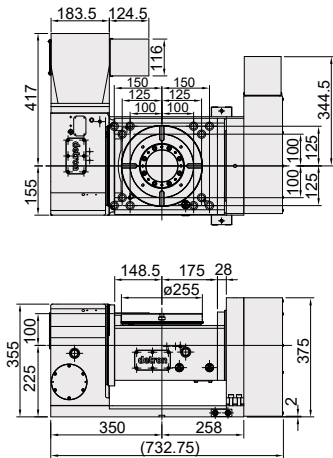
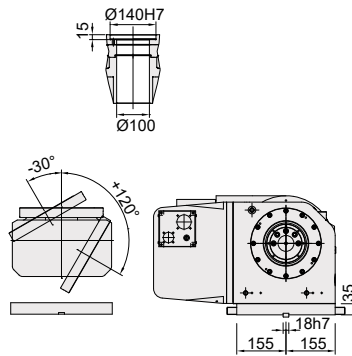
MODEL	Unit	GFA-255H/HB		GFA-320H		
Worktable diameter	mm / inch	Ø255 / Ø10.04		Ø320 / Ø12.60		
Center bore diameter	mm / inch	Ø140H7 / Ø5.51H7		Ø180H7 / Ø7.09H7		
Height of table (horizontal)	mm / inch	325 / 12.8		355 / 13.98		
Height of center (vertical)	mm / inch	225 / 8.86		255 / 10.04		
Width of T-slot	mm / inch	12H7 / 0.47H7		14H7 / 0.55H7		
Width of guide block	mm / inch	18 / 0.71		18 / 0.71		
Clamping method /pressure	MPa / psi	Hydraulic 5 / 725.0		Hydraulic 5 / 725.0		
Servo motor spec		refer to page 69				
Transmission ratio		R	T	R	T	
		1:90	1:120	1:120	1:120	
Max. table speed	min ⁻¹	22.2	16.6	22.2	16.6	
Allowable loading capacity	In Horizontal	kg / lb	120 / 264		200 / 440	
	In Tilting (0~90°)	kg / lb	90 / 166.33		150 / 330	
Allowable unblancing work moment	WxL	Nm /ft. lbs.	92 / 68		130 / 95.8	
Allowable load (when table clamped)	F	N / lbs	16000 / 3590.40		20000 / 4488.0	
	FxL	Nm /ft. lbs.	900 / 663.8		1600 / 1179.2	
	FxL	Nm /ft. lbs.	900 / 663.8		1600 / 1179.2	
Allowable loading inertia	$\frac{W.D^2}{8}$	kg.m ²	0.98		2.6	
Resolution		deg.	0.001		0.001	
Indexing accuracy		sec	15"	50"	15"	50"
Repeatability		sec	6"	8"	6"	8"
Tilting angle range		deg.	-30 ~ +120		-30 ~ +120	
Net weight (servo motor excluded)		Kg / lb	320 / 704 347 / 765		470 / 1037	
Allowable cutting torque		Nm /ft. lbs.	370 / 272.9		780 / 569.4	
Allowable Max. rotary joint quantity		Port	6 / 6		6	

Note: R: Rotary Axis T: Tilt Axis

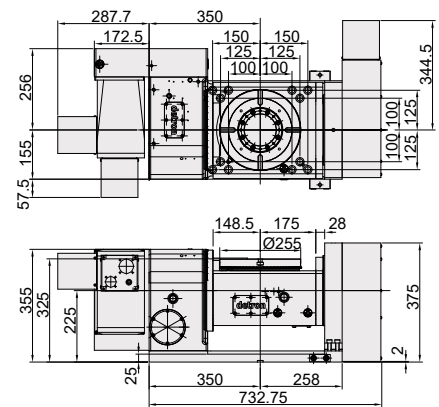
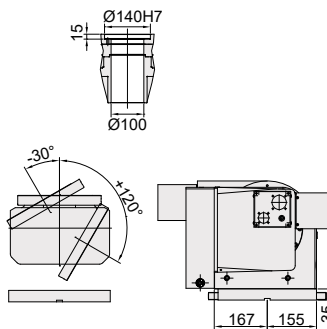
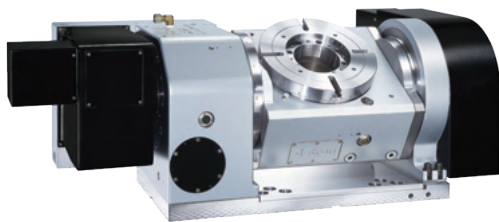
DIMENSIONAL DRAWINGS

Unit : mm

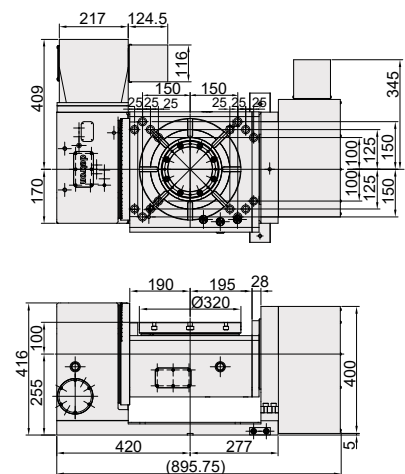
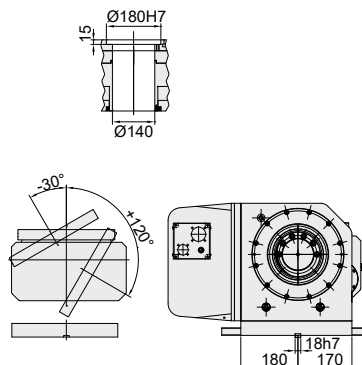
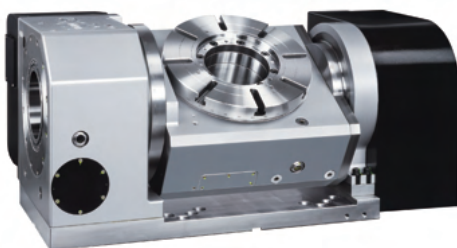
GFA-255H



GFA-255HB



GFA-320H

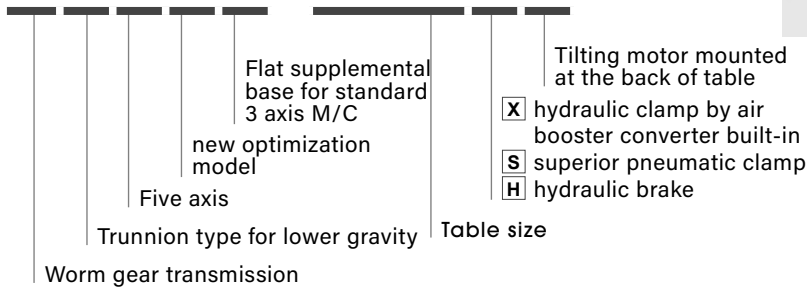


- Note: 1. The length of servo guard may vary with servo motor type. (the metal sheet dimensions shown at above are based on Fanuc motor)
 2. Allowable wheel torque at table speed of 1 min⁻¹.
 3. According to application engineering, optical encoder is recommended for tilting axis.

GTFAE series

CNC Trunnion Tilting Rotary Table

G T F A E - 4 1 0 X B



- 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

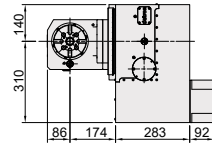
SPECIFICATIONS

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 / Ø1.18H7	Ø40H7 / Ø1.57H7	Ø50H7 / Ø1.97H7	Ø70H7 / Ø2.76H7	Ø70H7 / Ø2.76H7					
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 69									
Transmission ratio		R	T	R	T	R	T	R	T	R	T
		1:60	1:90	1:90	1:90	1:100	1:120	1:120	1:150	1:120	1:180
Max. table speed	min ⁻¹	33.3	22.2	33.3	22.2	25	16.6	16.6	11.1	16.6	11.1
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 unblancing work moment	WxL	Nm / ft. lbs.	27 / 19.91	53 / 39.06	100 / 73.70	200 / 147.40	300 / 221.0				
Allowable load (when table clamped)	F	N / lbs	2800 / 629.5	14000 / 3141.60	16000 / 3590.40	20000 / 4488.0	30000 / 6732.0				
	FxL	Nm / ft. lbs.	140 / 103.26	400 / 295	750 / 553.17	1600 / 1180	2500 / 1843.75				
	FxL	Nm / ft. lbs.	900 / 663.8	600 / 442.48	1500 / 1106.25	2000 / 1475	3000 / 2212.5				
Allowable loading inertia	$\frac{W.D^2}{8}$	kg.m ²	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	Nm / 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	

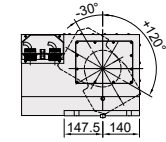
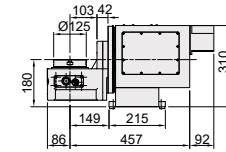
Note: 1. P: Pneumatic H:Hydraulic R: Rotary Axis T: Tilt Axis

DIMENSIONAL DRAWINGS

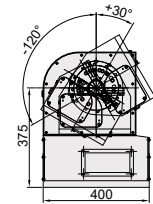
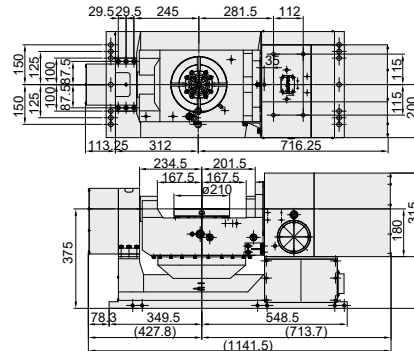
GTFAS-125S



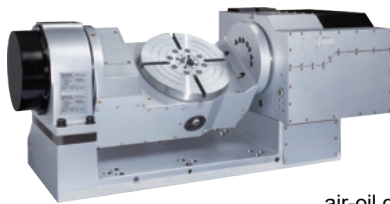
Unit : mm



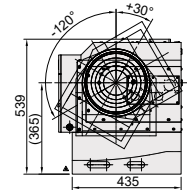
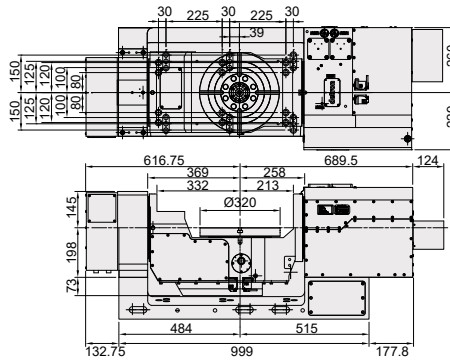
GTFAE-210S



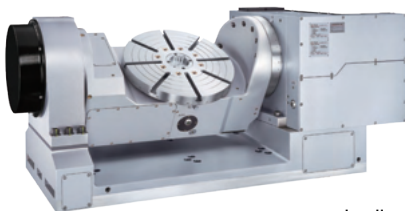
GTFAE-320XB



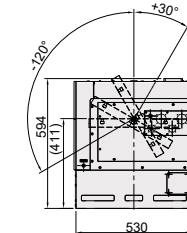
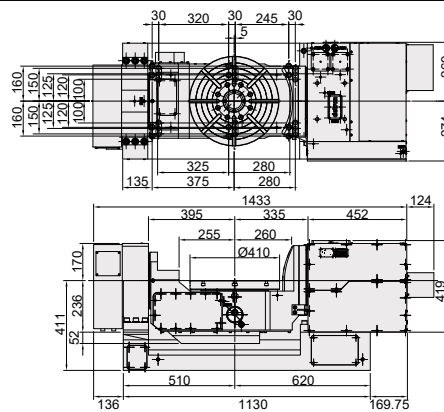
air-oil converter built-in



GTFAE-410XB



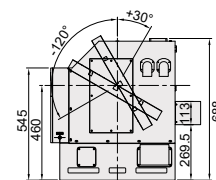
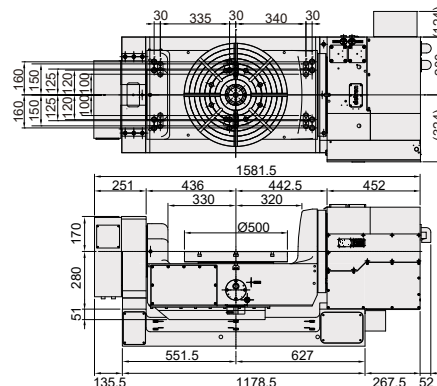
air-oil converter built-in



GTFAE-500XB



air-oil converter built-in

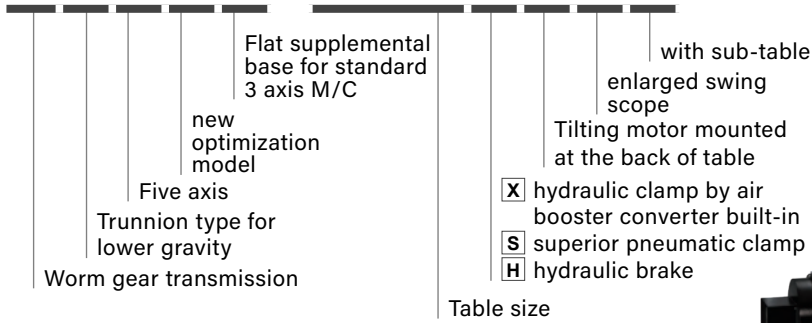


- Note: 1. The length of servo guard may vary with servo motor type. (the metal sheet dimensions shown at above are based on Fanuc motor)
 2. Allowable wheel torque at table speed of 1 min⁻¹.
 3. According to application engineering, optical encoder is recommended for tilting axis.
 4. Customized table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

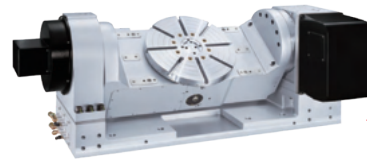
GTFAE-L(S) series

CNC Trunnion Tilting Rotary Table

G T F A E - 4 1 0 X B L S



- || Worktable diameter, Ø255, 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)
- || Enlarged swing to allow more working envelope.
- || Sub- table available as "S" model.



◀ GTFAE-410HL(S) with tilting axial motor at front.

SPECIFICATIONS

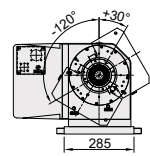
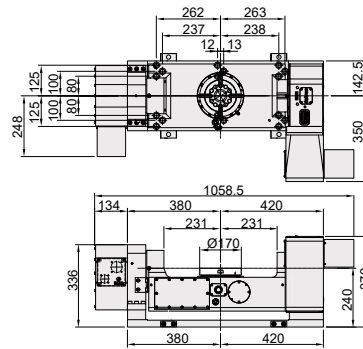
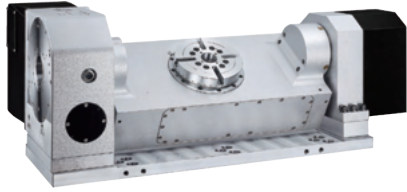
MODEL		Unit	GTFAE-170SL	GTFAE-255SBL(S)	GTFAE-320XBL(S)	GTFAE-410XBL(S)/ HL(S)	GTFAE-500XBL					
Worktable diameter		mm / inch	Ø170 / Ø6.69	Ø255 / Ø10.455	Ø320 / Ø12.60	Ø410 / Ø16.14	Ø500 / Ø19.69					
Center bore diameter		mm / inch	Ø40H7 / Ø1.57H7	Ø65H7 / Ø2.56H7	Ø50H7 / Ø1.97H7	Ø70H7 / Ø2.76H7	Ø70H7 / Ø2.76H7					
Height of table (horizontal)		mm / inch	240 / 9.45	360 / 14.17	365 / 14.37	411 / 16.18 370 / 14.57	460 / 18.11					
Height of center (vertical)		mm / inch	240 / 9.45	360 / 14.17	365 / 14.37	411 / 16.18 370 / 14.57	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: 0.55~0.7 / 72.5~101.5	*P: 0.55~0.7/ 72.5~101.5	*P: 0.6~0.7/ 87~101.5	*P:0.6~0.7/87~101.5 *H:5/725	*P:0.6 ~ 0.7 / 87~101.5					
Servo motor spec			refer to page 69									
Transmission ratio			R	T	R	T	R	T	R	T		
			1/90	1/90	1:90	1:120	1:100	1:120	1:120	1:150 1:120	1:120	1:180
Max. table speed		min ⁻¹	22.2	22.2	22.2	16.6	25	16.6	16.6	11.1	16.6	11.1
Allowable loading capacity	In Horizontal	kg / lb	75 / 165	100 / 220	200 / 440	200 / 440	300 / 660					
	In Tilting (0~90°)	kg / lb	50 / 110	75 / 165	100 / 220	150 / 330	250 / 550					
Allowable unblancing work moment	WxL	Nm /ft. lbs.	40 / 29.5	53 / 39.06	100 / 73.7	200 / 147.40	300 / 221.0					
Allowable load (when table clamped)	F	N / lbs	7000 / 1570.8	20000 / 4488.0	20000 / 4488.0	20000 / 4488.0	30000 / 6732.0					
	FxL	Nm /ft. lbs.	300 / 221	400 / 295	750 / 553.17	1600 / 1180	2500 / 1843.75					
	FxL	N.mNm /ft. lbs.	400 / 294.7	600 / 442.48	1500 / 1106.25	2000 / 1475	3000 / 2212.5					
Allowable loading inertia	$\frac{W.D^2}{8}$	kg.m ²	0.28	0.55	2.6	4.3	9.6					
Resolution		deg.	0.001	0.001	0.001	0.001	0.001					
Indexing accuracy		sec	20" 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.	-120 ~ +30	-120 ~ +30	-120 ~ +30	-120 ~ +30	-120 ~ +30					
Net weight (servo motor excluded)		kg / lb	275 / 606.3	560 / 1235	750 / 1653	1020 / 2175 850 / 1860	1270 / 2800					
Allowable cutting torque		Nm /ft. lbs.	200 / 147.4	250 / 182.5	550 / 401.5	780 / 569.4	1700 / 1241					
Allowable Max. rotary joint quantity		Port	-	4	6	6	6					

Note: P: Pneumatic H:Hydraulic R: Rotary Axis T: Tilt Axis

DIMENSIONAL DRAWINGS

Unit : mm

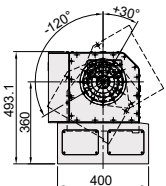
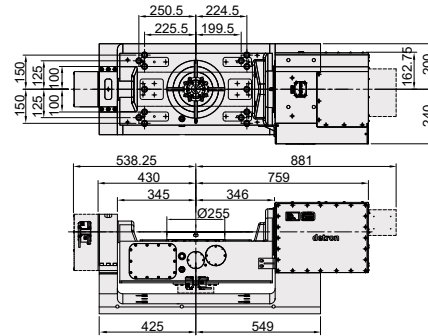
GTFAE-170SL



GTFAE-255SBL(S)



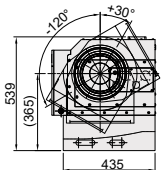
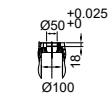
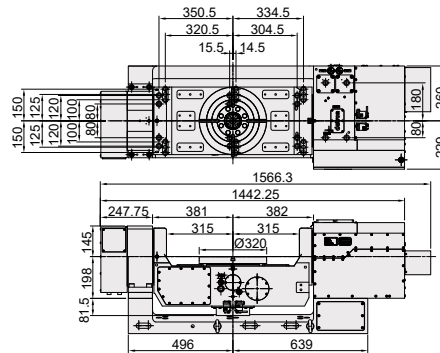
▲ 可選配附工作台，增加應用彈性。



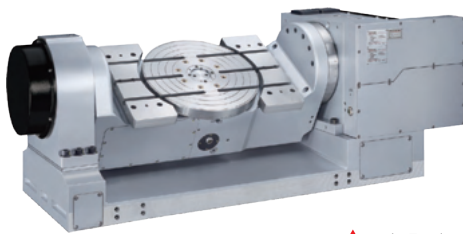
GTFAE-320XBL(S)



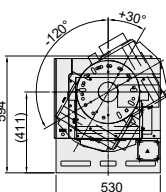
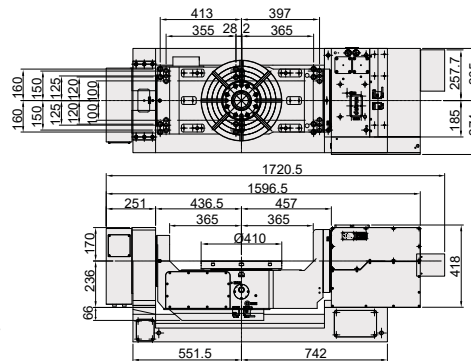
▲ 可選配副工作台，增加應用彈性。



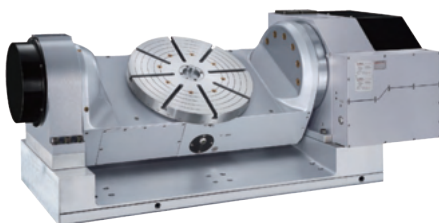
GTFAE-410XBL(S)



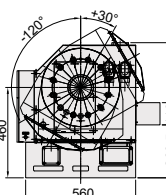
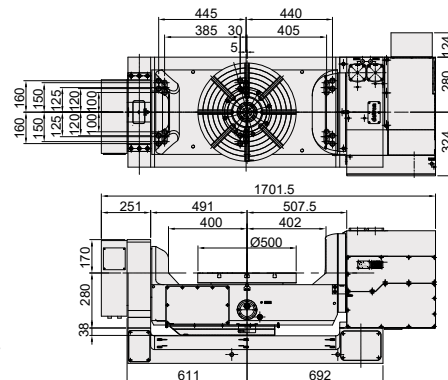
▲ 可選配副工作台，增加應用彈性。



GTFAE-500XBL



▲ 內建空轉油系統，不需油壓箱。

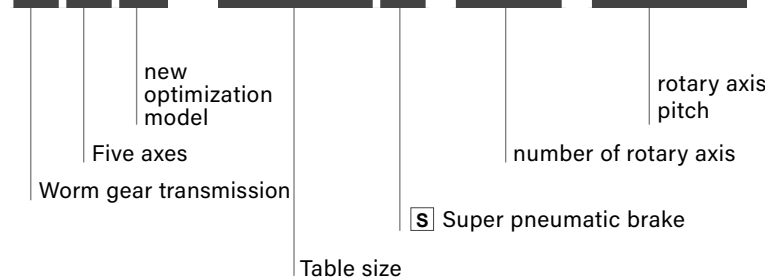
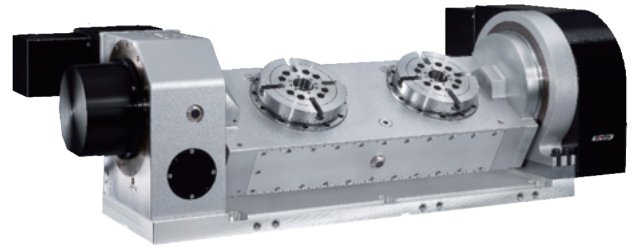


- Note: 1. The length of servo guard may vary with servo motor type. (the metal sheet dimensions shown at above are based on Fanuc motor)
 2. Allowable wheel torque at table speed of 1 min⁻¹.
 3. According to application engineering, optical encoder is recommended for tilting axis.
 4. Customized table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

GFA-2W series

Multi Spindle Tilting Rotary Table

GFA-170S-2W-300



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

SPECIFICATIONS

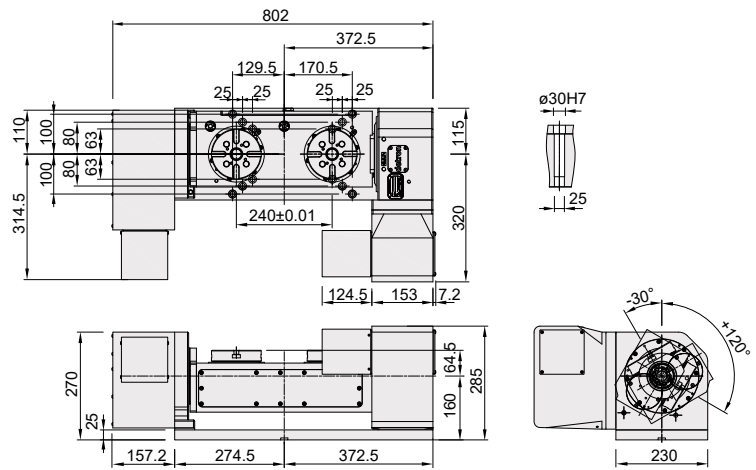
MODEL	Unit	GFA-125S-2W-240		GFA-170S-2W-300		
Worktable diameter	mm / inch	Ø125 / Ø4.92		Ø170 / Ø6.69		
Center bore diameter	mm / inch	Ø30H7 / Ø1.18H7		Ø40H7 / Ø1.57H7		
Pitch of rotary axis	mm / inch	240 / 9.45		300 / 11.81		
Max. work swing	mm / inch	195 / 7.68		285 / 11.22		
Height of table (horizontal)	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 69				
Transmission ratio		R	T	R	T	
		1/90	1/90	1/90	1/90	
Max. table speed	min ⁻¹	22.2	22.2	25	22.2	
Allowable loading capacity	In Horizontal	kg / lb	35 / 77		40 / 88	
	In Tilting (0~90°)	kg / lb	20 / 44		30 / 66	
Allowable unblancing work moment	WxL	Nm /ft. lbs.	24 / 17.688		62 / 45.728	
Allowable load (when table clamped)	F	N / lbs	2800 / 629.5		4900 / 1102	
	FxL	Nm /ft. lbs.	140 / 103.26		300 / 221.26	
	FxL	Nm /ft. lbs.	300 / 221		600 / 442.5	
Allowable loading inertia	$(\frac{W.D^2}{8})$	kg.m ²	0.1		0.15	
Resolution	sec	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	116 / 255.2		258 / 568.7		
Allowable cutting torque	Nm /ft. lbs.	85 / 62.645		200 / 147.512		

Note: R: Rotary Axis T: Tilt Axis

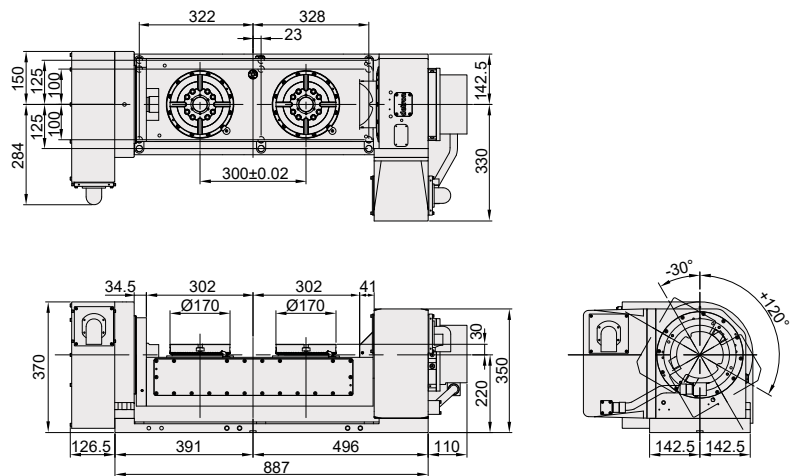
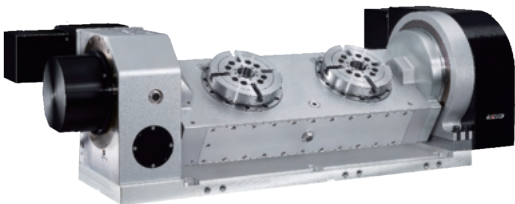
DIMENSIONAL DRAWINGS

Unit : mm

GFA-125S-2W-240



GFA-170S-2W-300



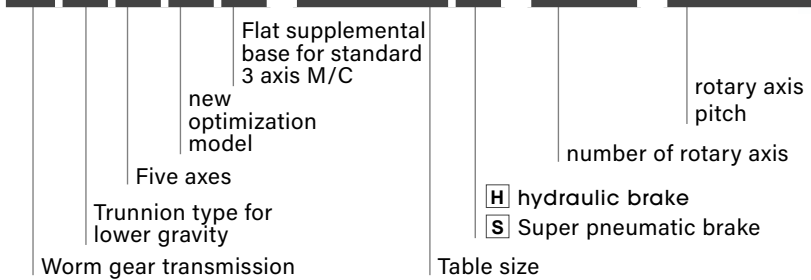
- Note: 1. The length of servo guard may vary with servo motor type. (the metal sheet dimensions shown at above are based on Fanuc motor)
 2. Allowable wheel torque at table speed of 1 min⁻¹.
 3. According to application engineering, optical encoder is recommended for tilting axis.

GFAE-2W/3W series

Multi Spindle Tilting Rotary Table



G T F A E - 2 1 0 S - 2 W - 3 2 0



Worktable diameter Ø125, Ø210, Ø255
Multiple rotary axis allow high volume production and automation integration.

SPECIFICATIONS

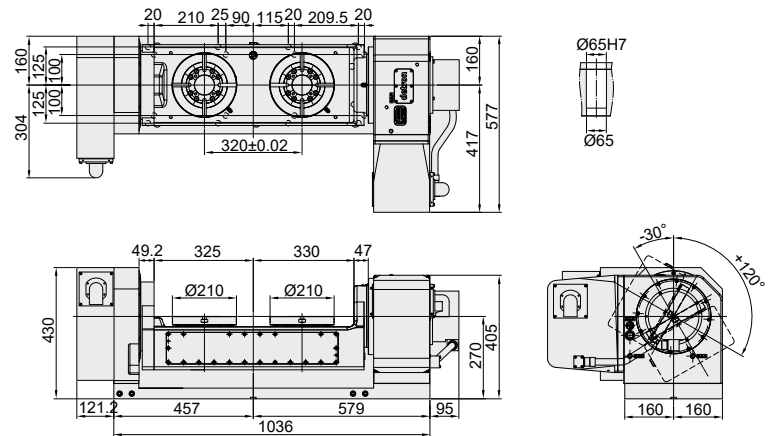
MODEL	Unit	GTF AE-210S-2W-320		GTF AE-255H-2W-400		
Worktable diameter	mm / inch	Ø210 / Ø8.27		Ø255 / Ø10.04		
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7		Ø40H7 / Ø1.57H7		
Pitch of rotary axis	mm / inch	320 / 12.60		400 / 15.75		
Max. work swing	mm / inch	310 / 12.20		390 / 15.35		
Height of table (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 69				
Transmission ratio		R	T	R	T	
		1/90	1/120	1/90	1/120	
Max. table speed	min ⁻¹	25	22.2	20	16.2	
Allowable loading capacity	In Horizontal	kg / lb	50 / 110		100 / 220	
	In Tilting (0~90°)	kg / lb	35 / 77		75 / 165	
Allowable unblancing work moment	WxL	Nm /ft. lbs.	92 / 68		130 / 95.8	
Allowable load (when table clamped)	F	N / lbs	9800 / 2203		11000 / 2473	
	FxL	Nm /ft. lbs.	400 / 295		900 / 663.8	
	FxL	Nm /ft. lbs.	900 / 663.8		2500 / 1843	
Allowable loading inertia	$(\frac{W.D^2}{8})$	kg.m ²	0.22		0.8	
Resolution	sec	0.001		0.001		
Indexing accuracy	sec	20"		60"		
Repeatability	sec	6"		8"		
Tilting angle range	deg.	-30 ~ +120		-30 ~ +120		
Net weight (servo motor excluded)	Kg/lbs	440 / 970		856 / 1887		
Allowable cutting torque	Nm /ft. lbs.	250 / 184		550 / 405		

Note: R: Rotary Axis T: Tilt Axis

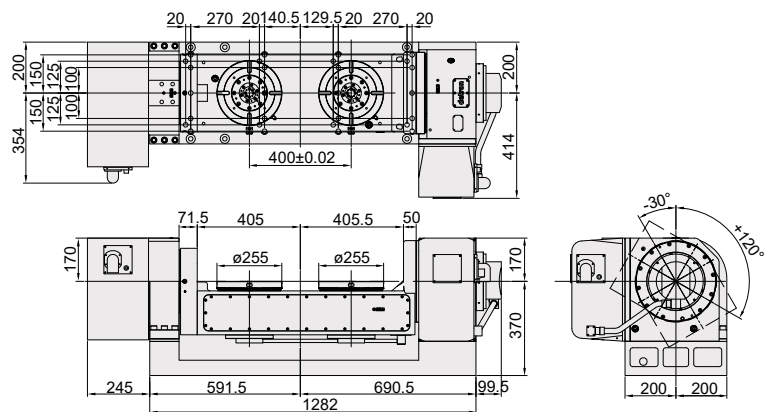
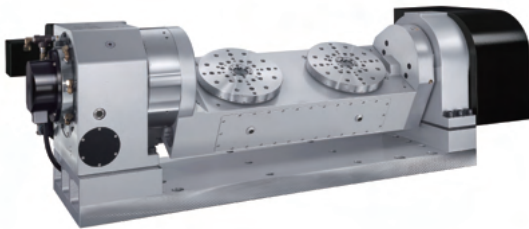
DIMENSIONAL DRAWINGS

Unit : mm

GTFAE-210S-2W-320

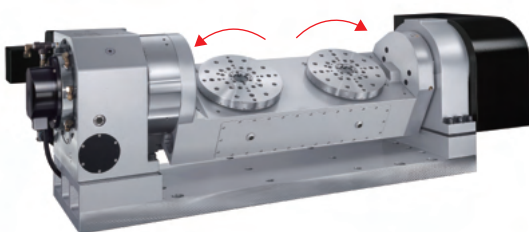


GTFAE-255H-2W-400



Hybrid Drive ▶▶▶

GTFAE-255H-2WS-400



Individual rotations on each axis.

GDTF-500HB-2W-600



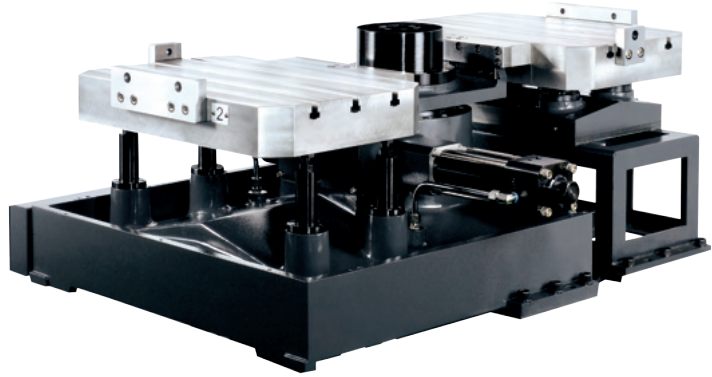
Rotary axis by DDM for 50rpm.
Tilting axis by worm wheel transmission.

- 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⁻¹.
3. According to application engineering, optical encoder is recommended for tilting axis.

Automatic Pallet Change System

CVR-660

Double pallet system (C type)
Rack type Pallet size



- || **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 $\pm 0.005\text{mm}$.

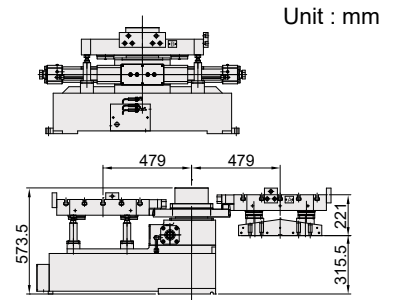
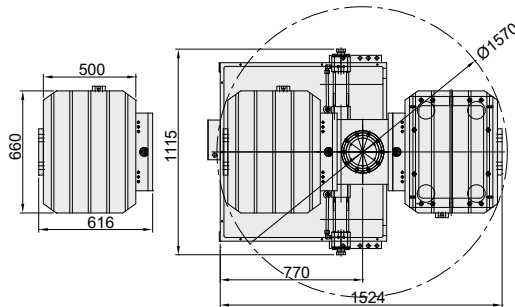
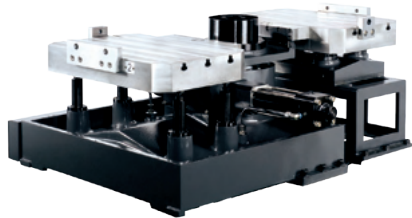
SPECIFICATIONS

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	Nm /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 ²	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
Weight(N.W.)	Pallet exchange mechanism	Kg / lb	550 / 1210	550 / 1210
	Pallet	Kg / lb	170x2 / 375x2	190 x 2 / 418 x 2
	Sub-pallet	Kg / lb	105 / 231	105 / 231

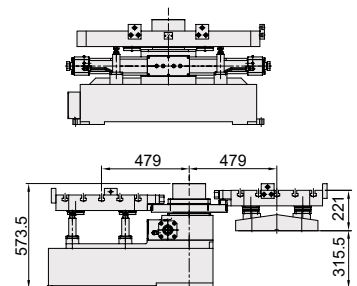
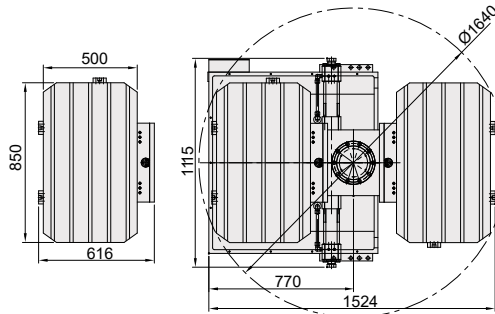
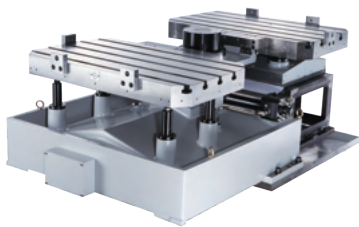
NOTE: 1. Pallet change time may varied with flow of pump, length and diameter of pipe.
2. Allowable loading inertia means the allowable value at the distance of 450mm between the loading gravity and the APC center.

DIMENSIONAL DRAWINGS

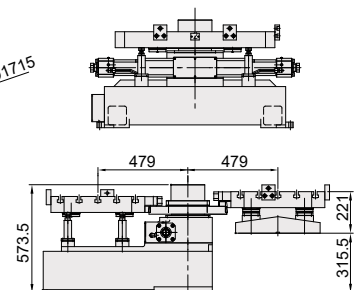
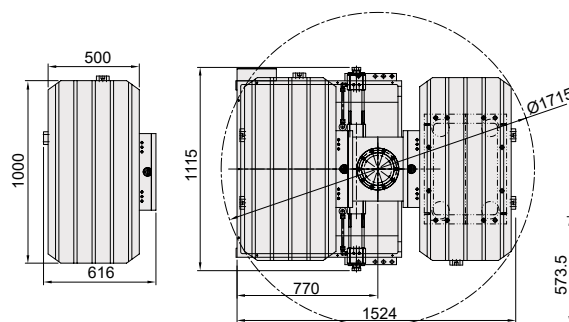
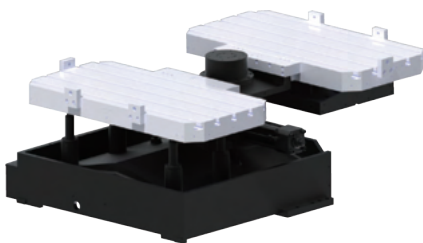
CVR-660



CVR-850



CVR-10D



SVC series

SVC - 7 0 5 0 II

Roller gear
cam type

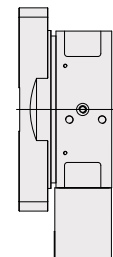
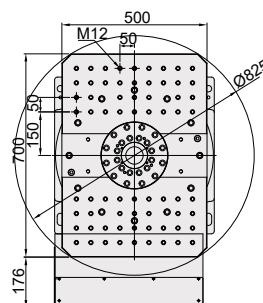
Pallet size

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.



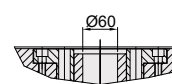
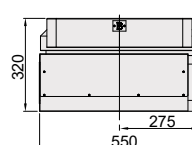
Automatic Pallet Change System (Roller Gear Cam Type)



With flat structure

SVC-7050 II

SVC-10065 II



Through-bore diameter

Core Technology – Barrel Cam



- Zero-Backlash

Patented barrel cam structure



- Zero Wear-Out

Rolling contact to eliminate wear-out



- High Rigidity

Bigger cam follower carrier under pre-loading process to achieves high rigidity



- Outstanding Precision

High repeatability accuracy clockwise and counter-clockwise



- High Torque Output

Act radius larger than other regular roller gear, resulting in 20% higher torque output



- High Speed

Speed Maximum rotation speed 83.3rpm (servo motor 2500rpm)

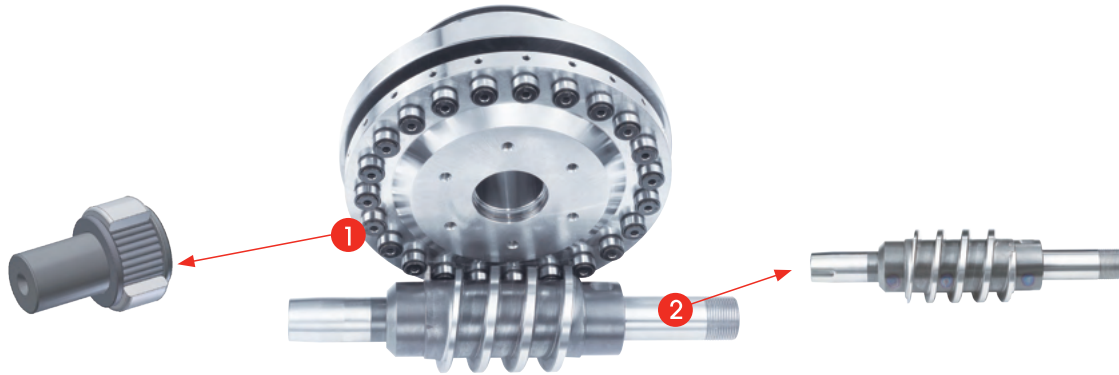


- High Clamping Force

Double insured hydraulic brake system ensures high clamping force

RGX Core Technology

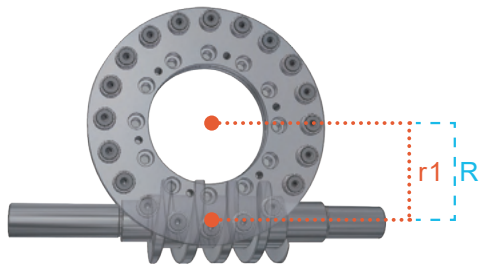
Zero-Backlash



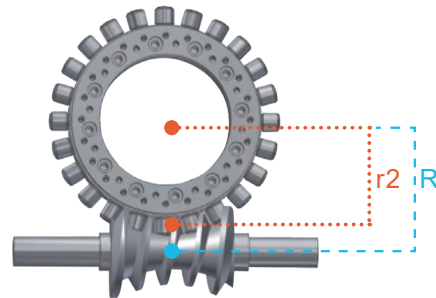
- ▲ The pre-loading process between cam follower carrier and cam with variable lead (shown as ①) can eliminate the backlash with the cam shaft (shown as ②) and approach extraordinary high precision.

High Torque

Barrel Cam Mechanism



Roller Cam Mechanism

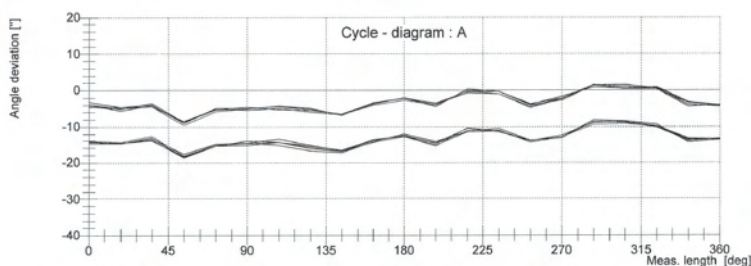


- ▲ By equal center distance R , detron RGX act radius $r1$ is larger than regular roller gear act radius $r2$, resulting the torque output performance 20% higher than other roller gear. Least geometry error and high precision.

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.

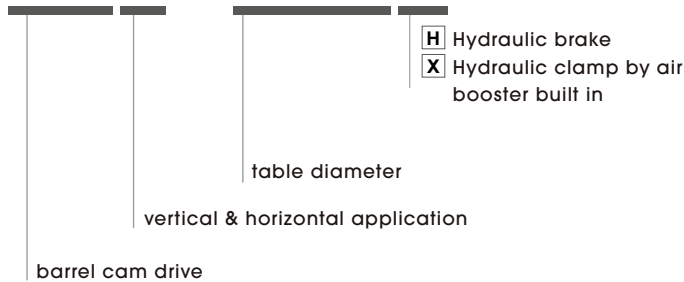
RGX170/210/255: by 18 degree measurement
RGX320H: by 30 degree measurement

Barrel Cam Drive 4 Axis

RGX-170X RGX-210X
 RGX-255H RGX-320H



RGX - 210X



- ▮ Rolling contact reserves high rigidity, high speed and long endurance.
- ▮ Least drive energy wear-out and more than 90% transmission rate.
- ▮ Backlash-free from rolling motion achieves high accuracy.
- ▮ **RGX170/210X built-in air booster system assures more superior clamping force (additional hydraulic tank not required).**



◀ RGX-250XII

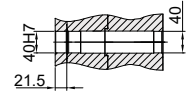
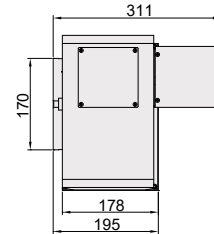
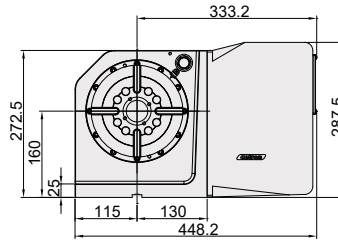
SPECIFICATIONS

MODEL SPECIFICATIONS	單位	RGX-170XII	RGX-210XII RGX-250XII	RGX-255H	RGX-320HII	
Workable diameter	mm	Ø170	Ø210 / Ø255	Ø255	Ø320	
Center bore diameter	mm	Ø40H7	Ø40H7	Ø140H7	Ø180H7	
Through hole diameter	mm	Ø40	Ø40	Ø90	Ø140	
Height of center	mm	160	160	190	210	
Clamping method / pressure	MPa	0.6-0.7 Pne (air- oil converter)	0.6-0.7 Pne (air- oil converter)	5 Hyd	5 Hyd	
Clamping torque	N.m	420	420 / 340	900	1600	
Transmission ratio		1/30	1/30	1/60	1/60	
Max. rotation speed	min ⁻¹	83.3	83.3	50	40	
Indexing accuracy	sec.	20	20	20	20	
Repeatability	sec.	6	6	6	6	
Allowable loading inertia	Kg.m ²	0.72	0.72 / 0.54	2.43	5.12	
Allowable cutting torque	N.m	190	190	780	1055	
Allowable loading capacity	Vertical	Kg	100	100 / 75	150	200
	Horizontal	Kg	200	200 / 150	300	400
	Tailstock applied	Kg	200	200 / 150	300	400
Net Weight (servo motor excluded)	Kg	72	75 / 82	126	200	

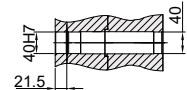
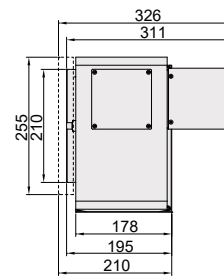
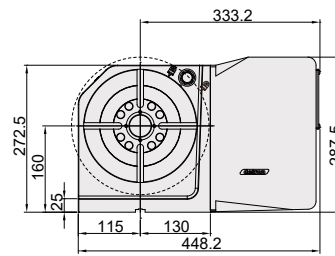
DIMENSIONAL DRAWINGS

Unit : mm

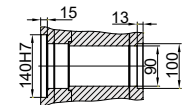
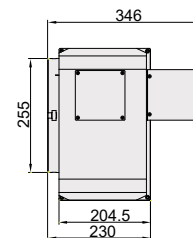
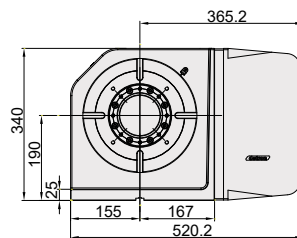
RGX-170XII



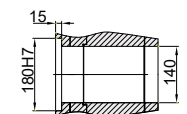
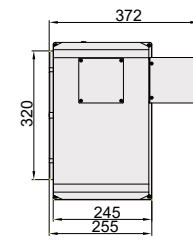
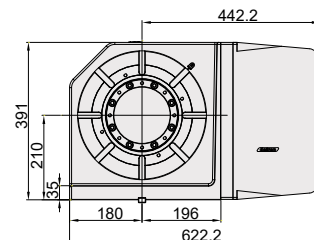
RGX-210XII / RGX-250XII



RGX-255H

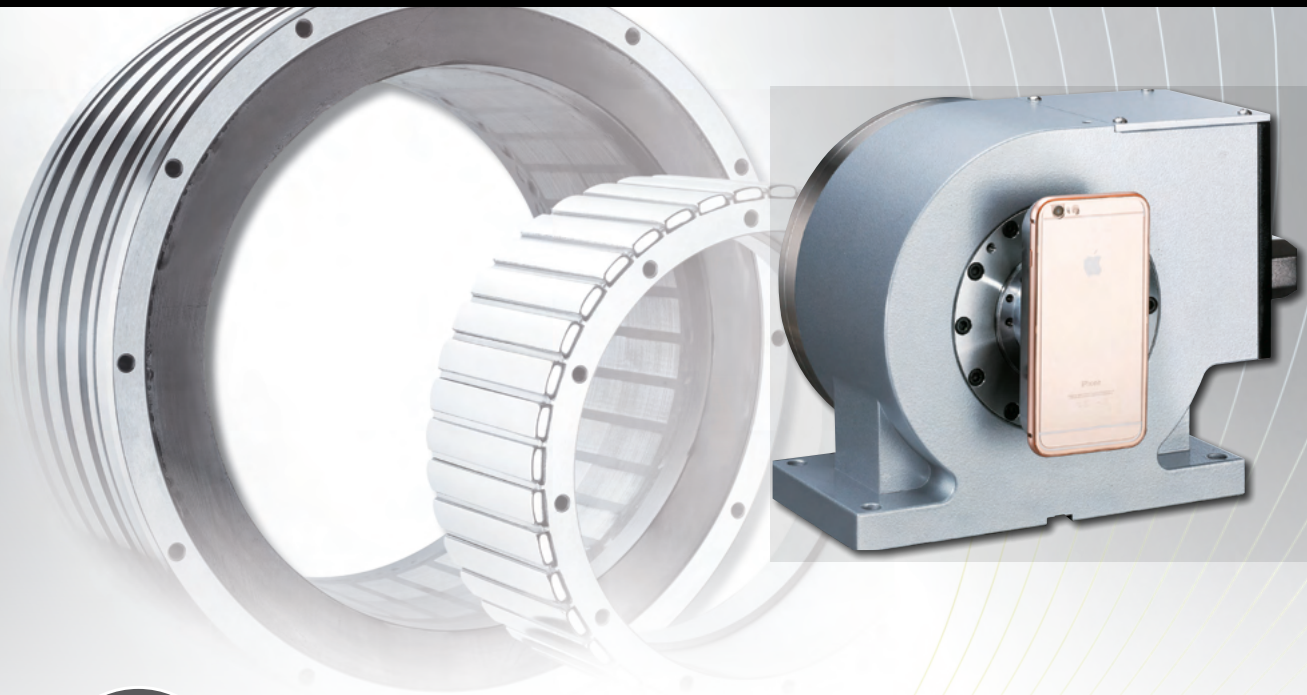


RGX-320HII



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.

Core Technology – Built-in Torque Motor for Direct Drive



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.

Core Technology – High Speed and Precision

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	↑

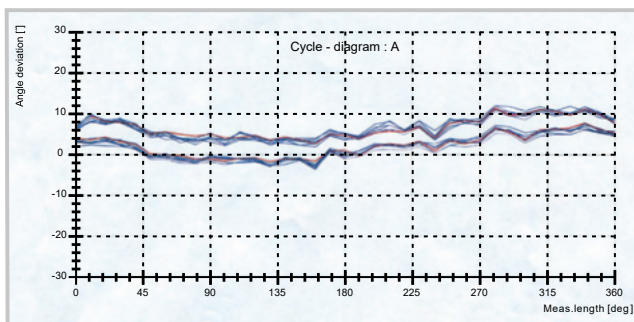
others

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

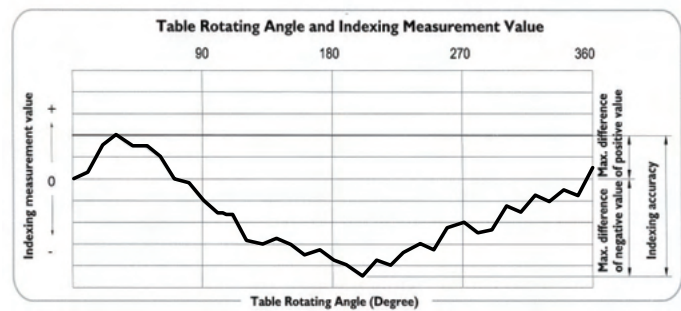
ISO 230-2 (JIS B6192)



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



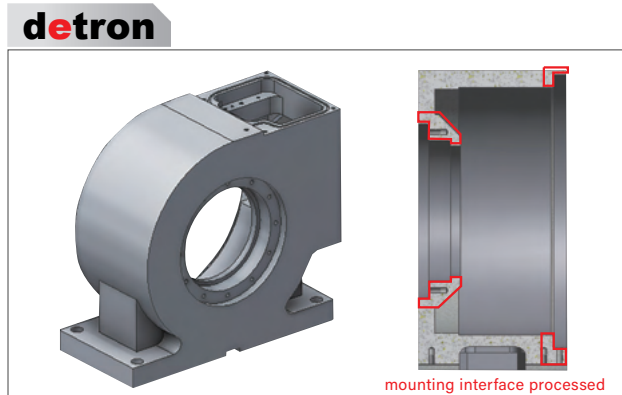
others

Economic encoder of ± 10 secs is applied, non- CNC purpose application.

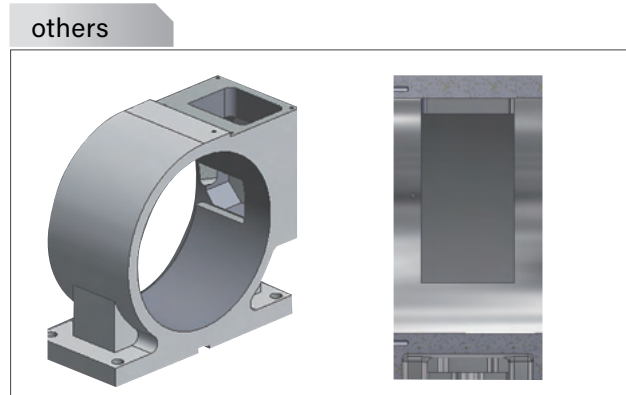
Heidenhain or Renishaw are standard attachment for all detron DDM series. High resolution to ± 2.5 secs.

Core Technology — High Rigidity

Main Cartridge Structure

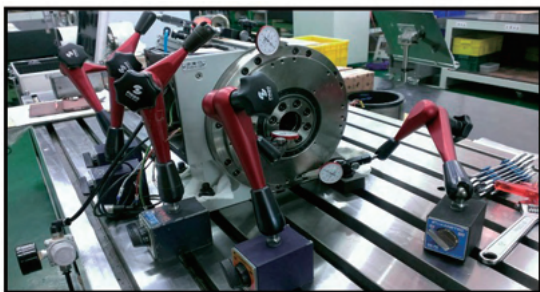


- Consolidated main cartridge with spindle mounting interface reserved.
- Least isolated components, accumulated error reduced.
- Excellent rigidity dynamic balance while high speed operation, low inertia and run-out concern.
- Closer distance between optical encoder and bearing for higher positioning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

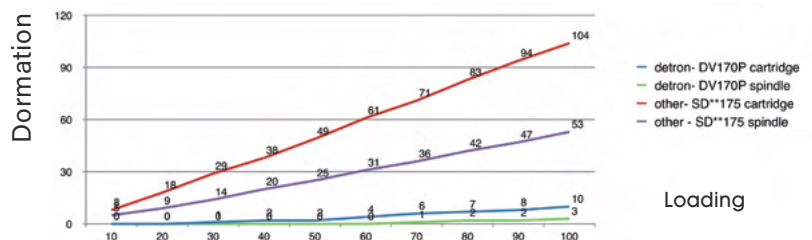


- Weak and hollow cartridge without mounting interface reserved. Spindle is installed by isolated flanges.
- Isolated parts caused more accumulated errors.
- Instable rigidity and deformation, mass inertia, low loading capability. Not recommended for high speed processing.
- Longer distance between encoder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

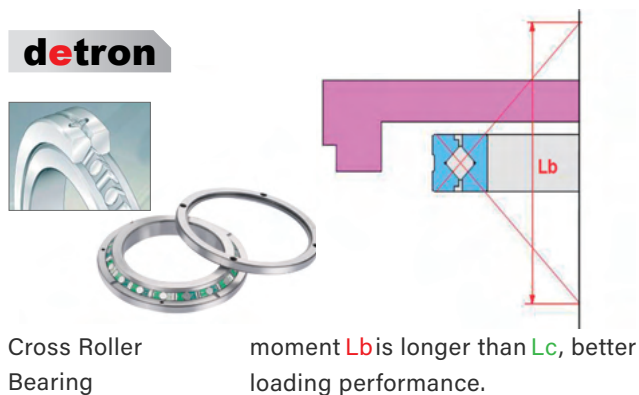
practical test



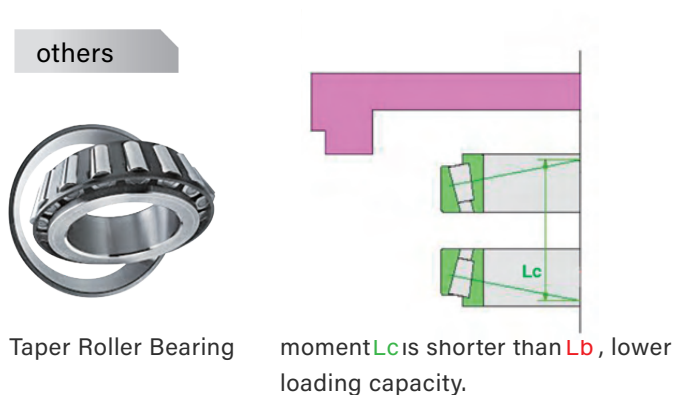
Rigidity Experiment Analysis



Spindle Bearing



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

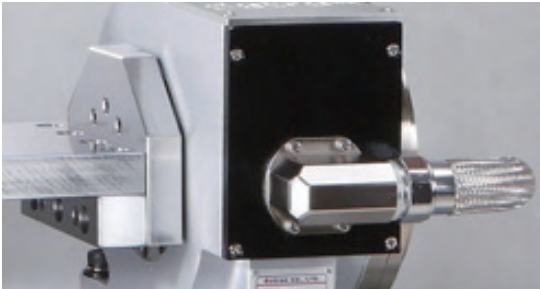


Low cost taper roller bearing, poor moment and less loading effect.

Guarantee for Thorough Protection

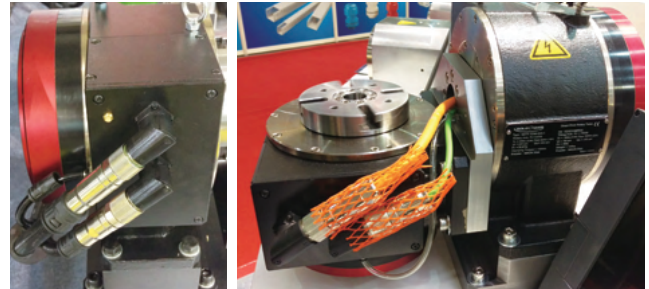
Chip and Water Proof

detron



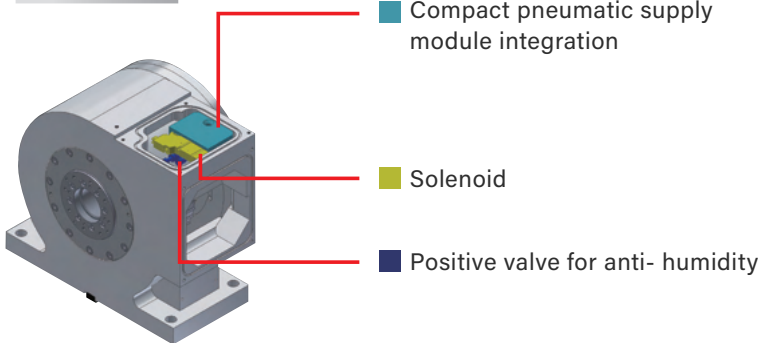
- European adherent connector guarantees safe water proof, signal/ power cable/ pneumatic tube are all integrated in 1 compact pipeline.
- All cables are shielded by anti- erosion pipe and the outer lattice prevents breakage by cutting chips.

others



- 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.

detron

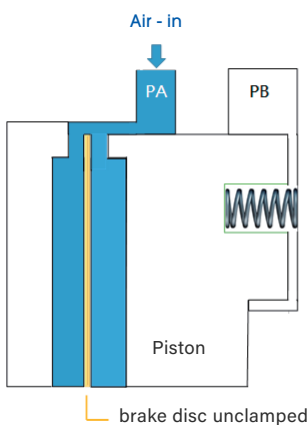


others

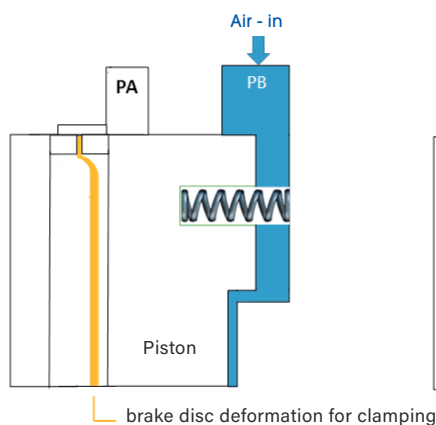


Brake in Various Condition

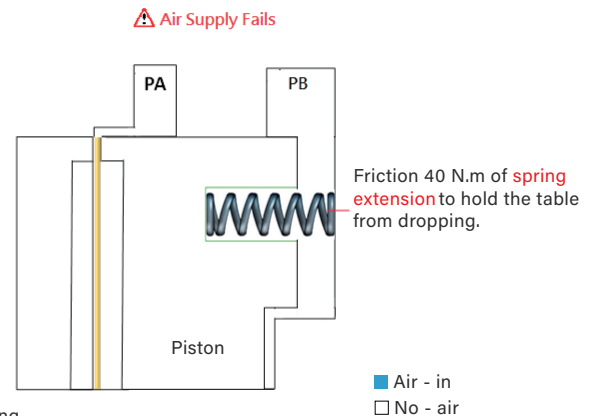
● Table in Operation



● Table Positions

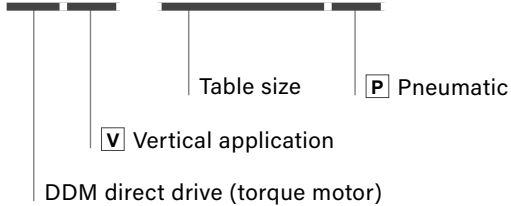


● Power Failure



DDM Rotary Table


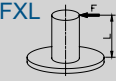
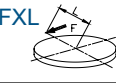
D V - 1 7 0 P



equipped with optional table with T-slot

- ▮ Rotation speed exceeds 250 min⁻¹, 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

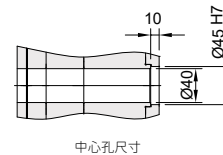
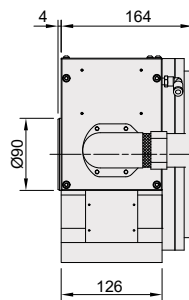
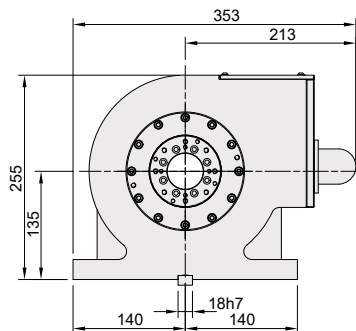
MODEL	Unit	DV-170P	DV-255PII	
Worktable diameter	mm / inch	STD : No table OPT : Ø170 / Ø6.69	STD : No table OPT : Ø255 / Ø10.04	
Center bore diameter	mm / inch	Ø45H7 / Ø1.77H7 / OPT : Ø45H7 / Ø1.77H7	Ø65g6 / Ø2.55g6 / OPT : Ø50H7 / Ø1.96H7	
Through-bore diameter	mm / inch	Ø40 / Ø1.57	Ø40 / Ø1.57	
Height 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	Nm / ft. lbs.	230 / 169.51	400 / 294.8	
Transmission Method		Direct Drive	Direct Drive	
Max. table speed	min ⁻¹	250	250	
Allowable loading capacity	Vertical	Kg / lb	30 / 66	75 / 165
	Horizontal	Kg / lb	-	-
	Tailstock applied	Kg / lb	70 / 154	150 / 330
		N / lbs	12700 / 2849.88	14000 / 3141.6
Allowable cutting force (while braking)		Nm / ft. lbs.	740 / 540.2	1020 / 751.74
		Nm / ft. lbs.	230 / 169.51	400 / 294.8
Allowable cutting torque	Nm / ft. lbs.	60 / 44.22	70 / 51.6	
Allowable loading inertia	$(\frac{W.D^2}{8})$	Kg.m ²	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.

DIMENSIONAL DRAWINGS

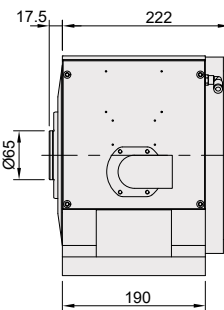
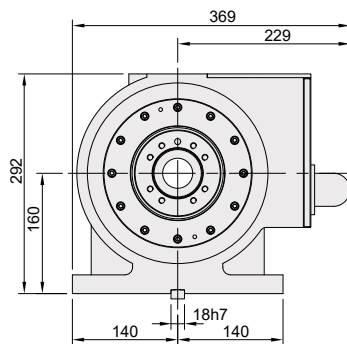
Unit : mm

DV-170P



中心孔尺寸

DV-255P II



中心孔尺寸

Application Example



▲ 90° degree dividers



▲ Customized interface of quick change mold , EROWA as example

for VMC_DDM series

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

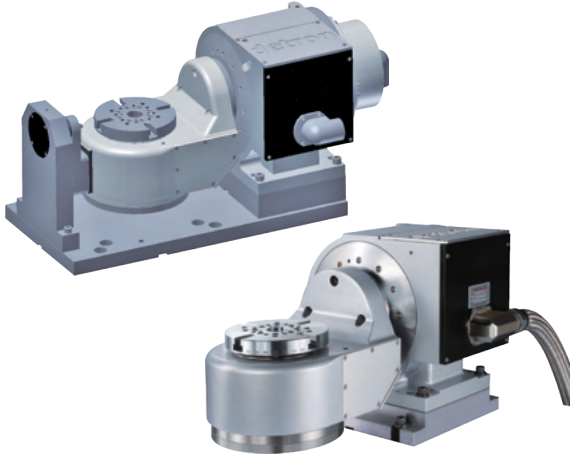
MODEL		Unit	DTFS-125P / DTFE-125P		DTFS-170P / DTFE-170P / DTFE-171P	
Worktable diameter		mm / inch	Ø160 / Ø6.29		Ø170 / Ø6.69	
Center bore diameter		mm / inch	Ø30H7 / Ø1.18H7		Ø40H7 / Ø1.57H7	
Height of table (horizontal)		mm / inch	210 / 8 240 / 9		280 / 11 310 / 12	
Height of center (vertical)		mm / 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 ⁻¹	R 200	T 50	R 250	T 100
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 unblancing work moment	WxL	Nm / ft. lbs.	6.4 / 4.72		30 / 14.74	
Allowable cutting force (while braking)	F	N / lbs	9700 / 2180.6		12700 / 2855.07	
	FxL	Nm / ft. lbs.	100 / 73.76		230 / 169.64	
	FxL	Nm / ft. lbs.	400 / 295.02		400 / 295.02	
Allowable loading inertia	$(\frac{W.D^2}{8})$	kg.m ²	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.

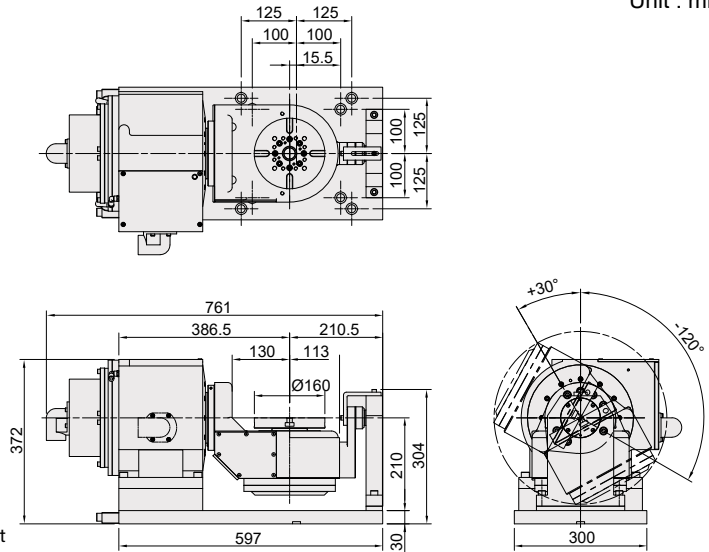
DIMENSIONAL DRAWINGS

Unit : mm

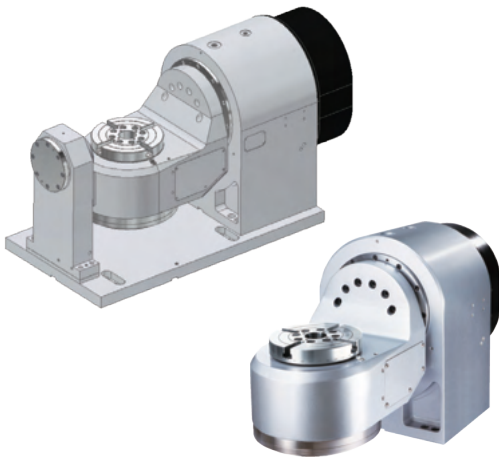
DTFE-125P with base plate



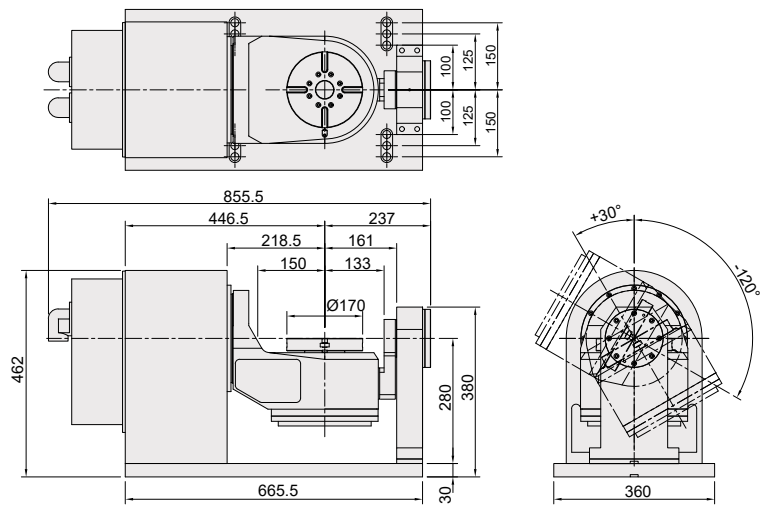
▲ **DTFS-125P** with compact single support



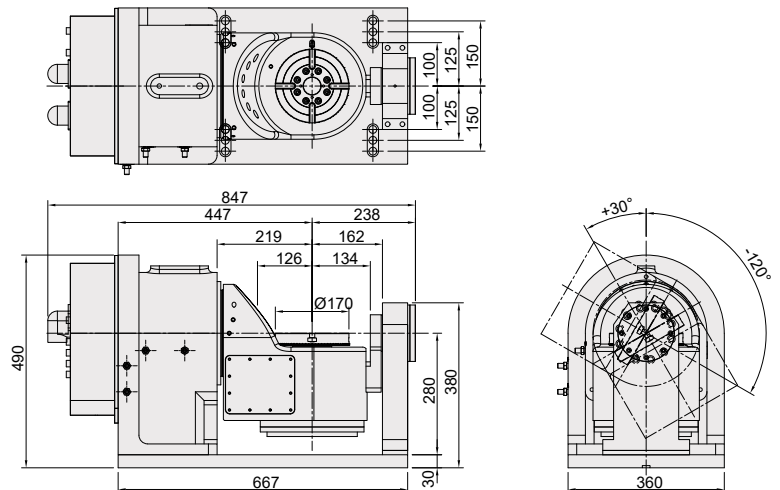
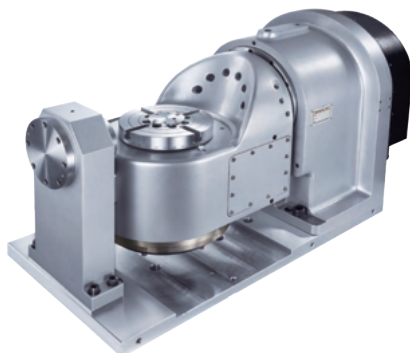
DTFE-170P with base plate



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



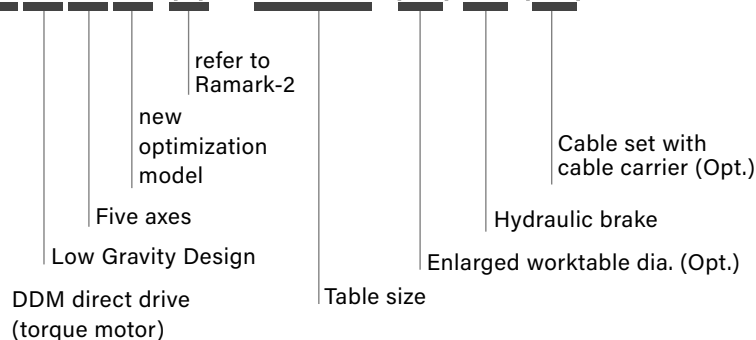
DTFE-171P



DDM Trunnion Tilting Rotary Table



D T F A (I) - 6 5 0 (E) H (C)



- ▮ 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

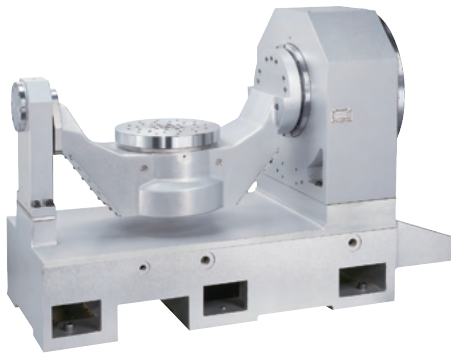
MODEL	Unit	DTF-280P		DTFAI-650H / DTFAI-720EH	
Worktable diameter	mm / inch	Ø280 / Ø11.02		Ø650 / Ø25.59 / Ø720 / Ø28.34	
Center bore diameter	mm / inch	-		Ø70H7 / Ø2.76H7	
Height of table	mm / inch	200 / 7.87		250 / 9.84	
Width of T-slot	mm / inch	12H7 / 0.47H7		18H7 / 0.71H7	
Width of guide block	mm / 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 ⁻¹	R	T	R	T
		1500	150	100	50
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 unblancing work moment	WxL	Nm / ft. lbs.	60 / 44.25		300 / 221.27
Allowable load (when table clamped)	F	N / lbs	18000 / 4046.56		40000 / 8992.36
	FxL	Nm / ft. lbs.	250 / 184.39		2500 / 1843.91
	FxL	Nm / ft. lbs.	550 / 405.66		4500 / 3319.03
Allowable loading inertia	$\frac{W.D^2}{8}$	kg.m ²	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.

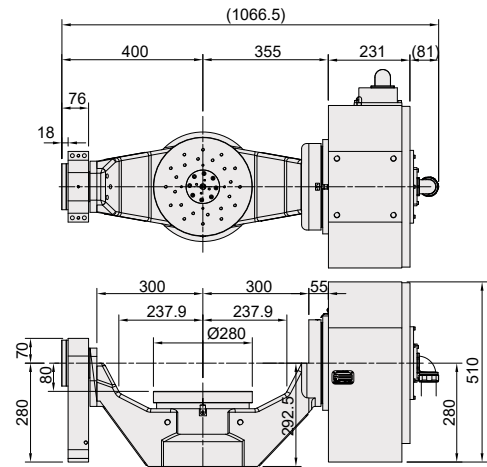
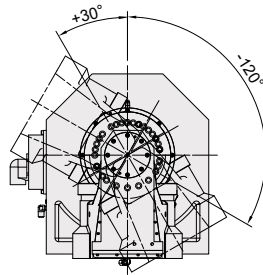
DIMENSIONAL DRAWINGS

Unit : mm

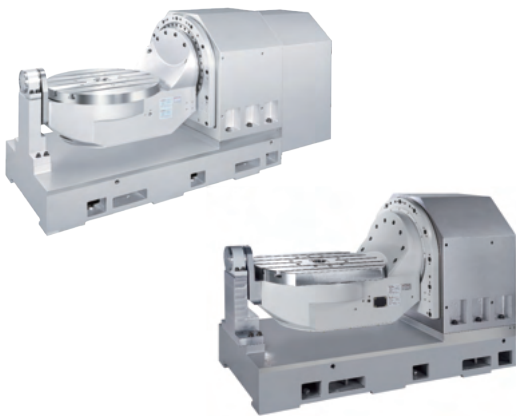
DTF-280P



Machine base supplied by buyer

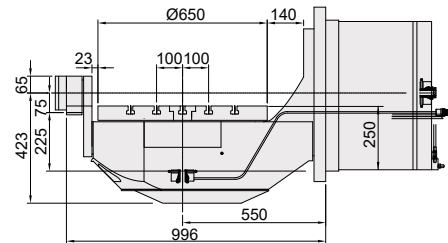
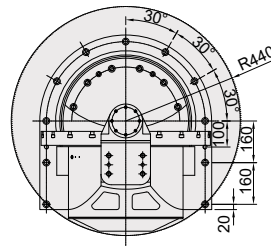


DTFAI-650H



▲ DTFAI-720EH

Machine base supplied by buyer



Hybrid Drive ▶▶▶

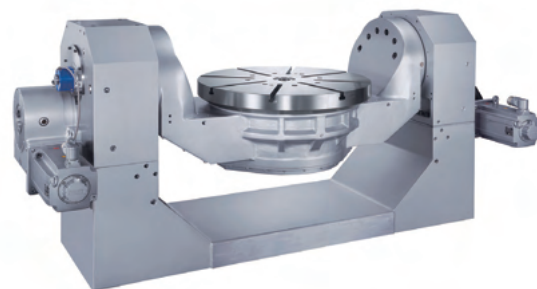
DTF-410H



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.	detron DD 4th Axis Rotary Table		
	DV-170P	DV-255PII	
Cooling System	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: 0i-MC: A02B-0310-S744 0i-MD: A02B-0320-S744 0i-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	
	Remark	- Compatible with Heideihain Optical Scale Only	

DDM Trunnion Tilting Rotary Table

Compatible System & Spec.	detron DD 5th Axis Rotary Table ϕ 125mm		
	DTFS125P / DTFE125P		
Axis	Tilting Axis	Rotary Axis	
Cooling System	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: 0i-MC: A02B-0310-S744 0i-MD: A02B-0320-S744 0i-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	
	Remark	- Compatible with Heideihain Optical Scale Only	

DDM Trunnion Tilting Rotary Table

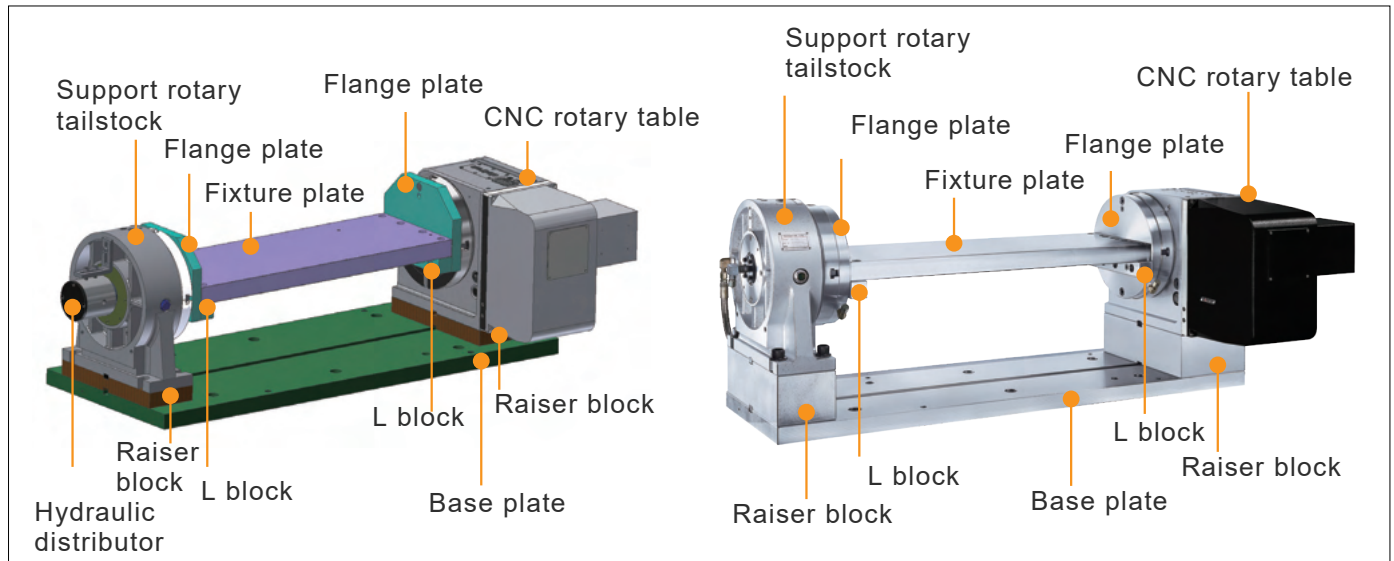
Compatible System & Spec.		detron DD 5th Axis Rotary Table ϕ 170mm			
		DTFS170P / DTFE170P		DTFE171P	
Axis		Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis
Cooling System		Air Cooling	Air Cooling	Oil Cooling	Oil Cooling
Optical Scale		Renishaw or Heideihain			
NC parameter		Exclusive tech of detron			
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: 0i-MC: A02B-0310-S744 0i-MD: A02B-0320-S744 0i-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

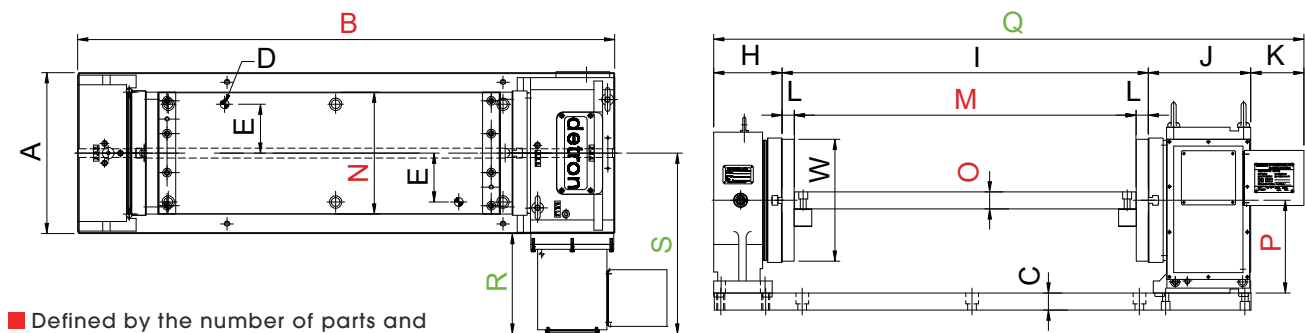
Compatible System & Spec.		detron DD 5th Axis Rotary Table ϕ 280 mm & ϕ 650 mm			
		DTF-280P		DTFAI-650H	
Axis		Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis
Cooling System		Oil Cooling	Oil Cooling	Oil Cooling	Oil Cooling
Optical Scale		Renishaw or Heideihain			
NC parameter		Exclusive tech of detron			
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: 0i-MC: A02B-0310-S744 0i-MD: A02B-0320-S744 0i-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



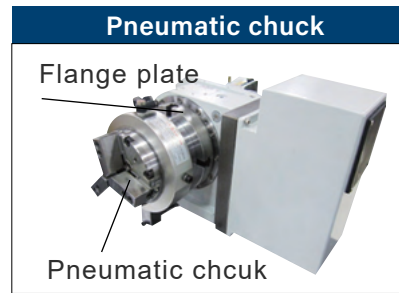
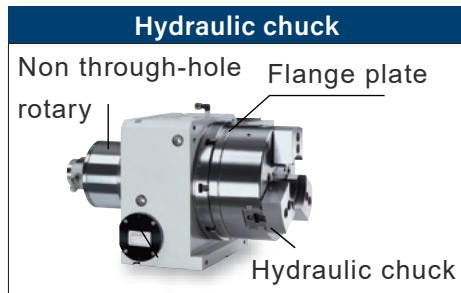
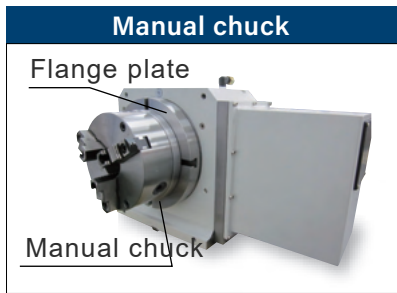
- Defined by the number of parts and work pieces
- Attention to machine interference

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"		

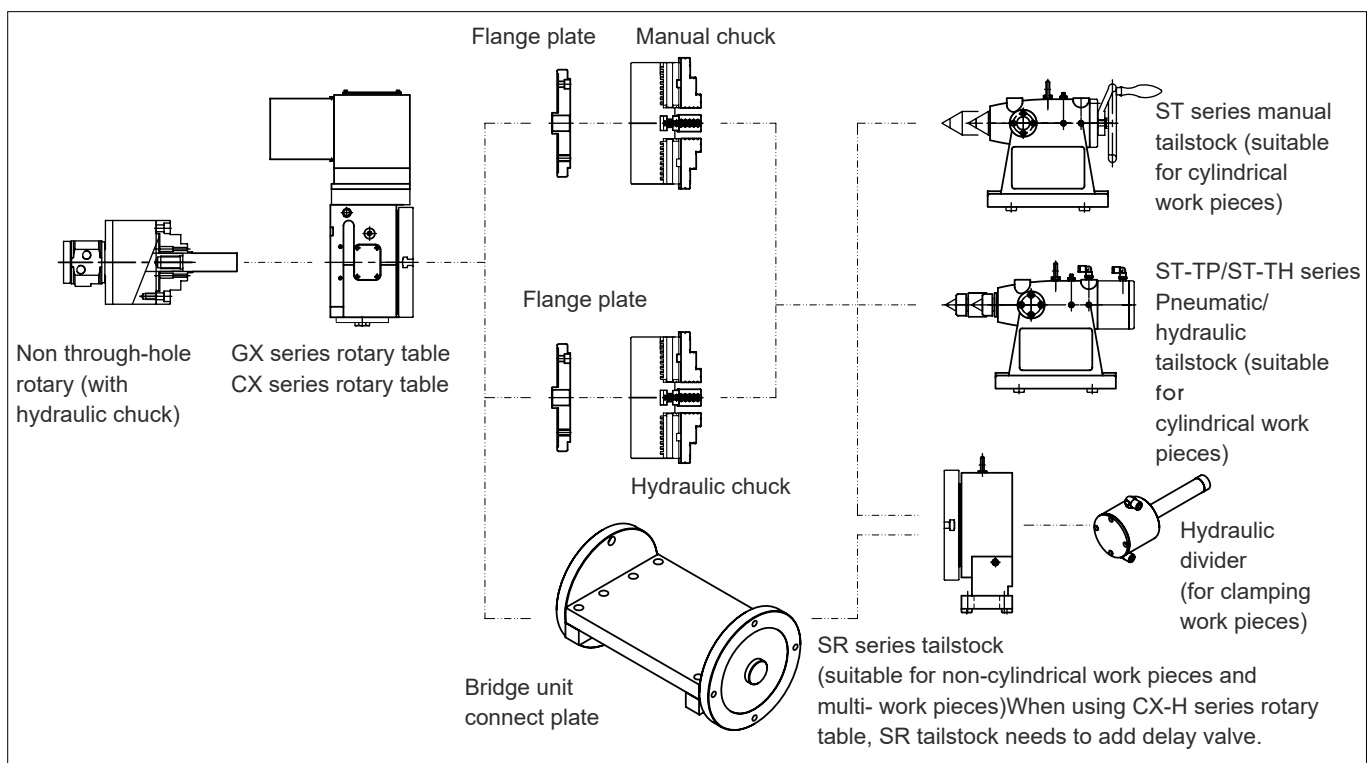
*Model in red is suggested

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	Ø32-84/ Ø1.26-3.31	Ø35-100/ Ø1.38-3.94	Ø55-150/ Ø2.17-5.91	Ø62-170/ Ø2.44-6.69	Ø68-180/ Ø2.67-7.08	Ø70-210/ Ø2.76-8.27	Ø80-250/ Ø3.15-9.84	Ø90-290/ Ø3.54-11.42	Ø110-380/ 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-35 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	αiF2	HG-75	SGM7J08A	1FK2204-6AF	QSY-96A	FKM22.30A	-
	βis4			1FK2205-2AF			
GXA-170S RGX-170XII RGX-210XII	αiF4	HG-104	SGM7G09A	1FK2205-4AF	QSY-116C	FKM42.30A	R2AA08075FXPHV R2AAB8100HXP5F RS2W03A0KL10XXXXC00
	βis8			1FK2206-2AF			
GXA-210S	αiF4	HG-104	SGM7G09A	1FK2205-4AF	QSY-116C	FKM42.30A	R2AA08075FXPHV R2AAB8100HXP5F RS2W03A0KL10XXXXC00
	βis8			1FK2206-2AF			
GXA-250S RGX-250XII	αiF4	HG-104	SGM7G09A	1FK2205-4AF	QSY116C	FKM42.30A	-
	βis8			1FK2206-2AF			
GXA-255H CX-255H RGX-255H	αiF8	HG-154	SGM7G13A	1FK2206-4AF	QSY-116E	FKM44.30A	-
	βis8						
GXA-320H CX-320H RGX-320HII	αiF12	HG-204	SGM7G30A	1FK2208-3AC	QSY-155B	FKM64.30A	-
	βis22						
GXA-400H CX-400H	αiF12	HG-204	SGM7G30A	1FK2208-3AC	QSY-155B	FKM64.30A	-
	βis22						
GX-500H CX-500H	αiF12	HG-204	SGM7G30A	1FK2208-3AC	QSY-155B	FKM64.30A	-
	βis22						
GX-630H	αiF22	HG-354	SGM7G44A	1FK2208-4AC	QSY-155D	FKM66.30A	-
	βis22						
GX-800H	αiF22	HG-354	SGM7G44A	1FK2208-4AC	QSY-155D	FKM66.30A	-
	βis22						

5th Axis

Model	Motor & NC system											
	FANUC		MITSUBISHI		YASKAWA		SIEMENS		HEIDENHAIN		FAGOR	
Axis	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	αiF2 / βis4	αiF2 / 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	αiF2 / βis4	αiF4 / 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	αiF4 / βis8	αiF4 / 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	αiF4 / βis8	αiF8 / βis12	HG-104	HG-104	SGMGV09A SGM7G09A	SGMGV09A SGM7G09A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY-116C	QSY-116C	FKM22.30A	FKM42.30A
GFA-255H GTFAE-125S-3W-200	αiF4 / βis8	αiF8 / 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	αiF8 / βis12	αiF12 / βis22	HG-154	HG-204	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2206-4AF	1FK2208-3AC	QSY116E	QSY155B	FKM42.30A	FKM44.30A
GTFAE-170SL	αiF2 / βis4	αiF4 / βis8	HG96S	HG-H104S	SGMJV08A	SGMJV13A	-	-	-	-	-	-
GTFAE-320H	αiF4 / βis8	αiF12 / 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)	αiF4 / βis8	αiF8 / βis12	HG-104	HG-224	SGMGV09A SGM7G09A	SGMGV13A SGM7G13A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY116C	QSY116J	FKM42.30A	FKM42.30A
GTFA-320X	αiF4 / βis8	αiF8 / 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)	αiF4 / βis8	αiF12 / 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-300	αiF8 / βis12	αiF12 / 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	αiF8 / βis12	αiF22	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.

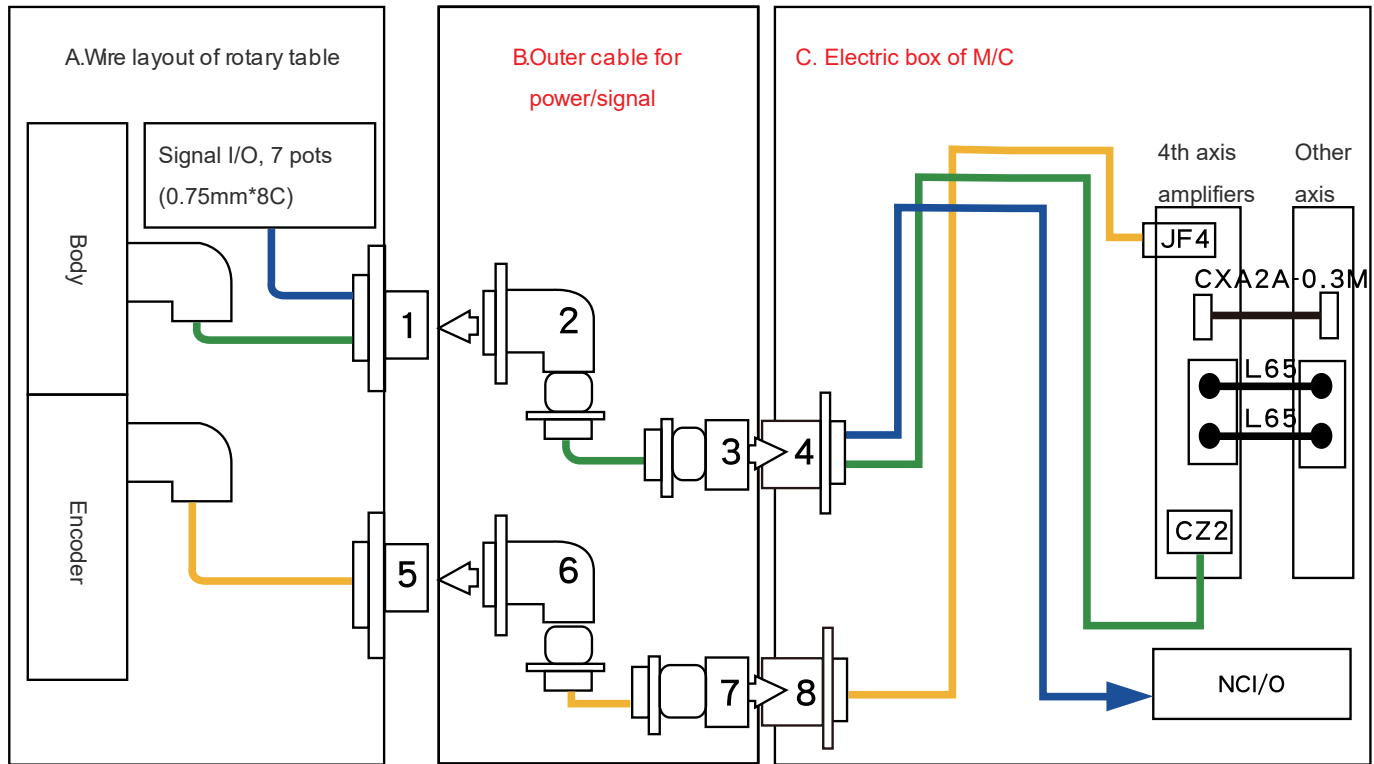
Diagram Illustration

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

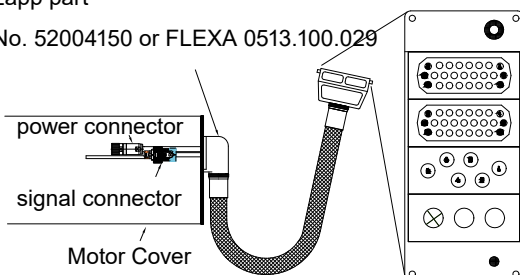


Adherent-type connector (European CNC system or with optical encoder)

One outlet-type connector is used for Siemens and Heidenhain controls.

Lapp part

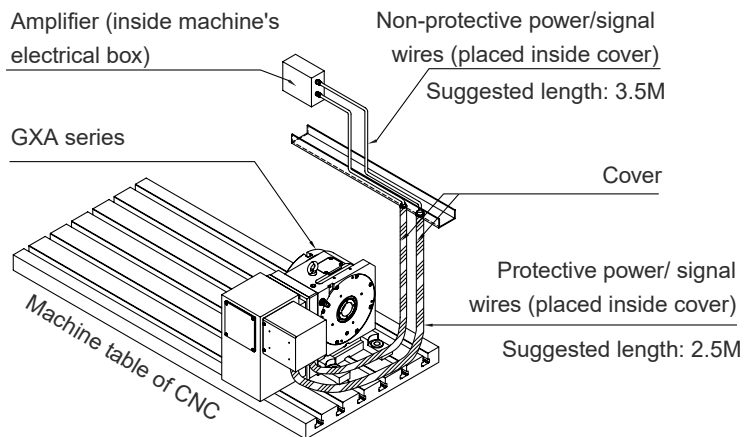
No. 52004150 or FLEXA 0513.100.029



		Connector Module (female)
a	25P	Signal / Encoder 1 . 5 - 1 EU modular ; 2 . 9M
b	25P	Motor encoder SIEMENS/HEIDENHAIN signal with EU plug ; 2.9M
c	6P	4-axis power SIEMENS/HEIDENHAIN power with EU plug ; 2.9M
d	3P	4X6mm air tube for D1 2 . 9M

Guidance to Select Rotary Table

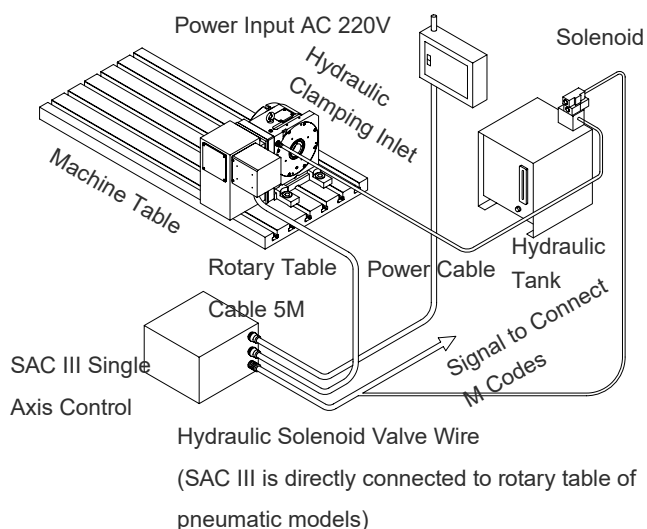
SCHEMATIC DIAGRAM OF ROTARY TABLE AND CNC MACHINE



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 Series- Single Axis Control

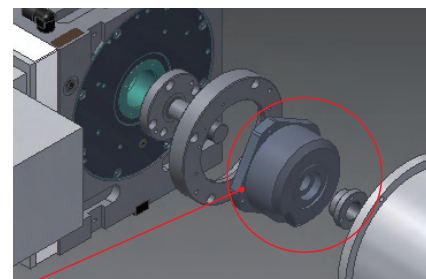
Features:

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

OPTIONAL OPTICAL SCALE



NC System & Scale Resolution		Heidehain Model	Fagor Model
For Fanuc	±5"	RNC2390F	H2AF-26-D90
	±10"	ENC2190F	H2AF-23-D87
For Mistubishi	±5"	RNC2390M	H2AM-26-D90
	±10"	ENC2190M	H2AM-23-D87
For Siemens	±5"	RCN2380 RNC2310	H2AS-23-D90
	±10"	ENC2180	H2AS-23-D87

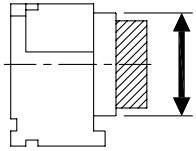


Heidenhain encoder

* Recommended option for titling axis of 5 axis.

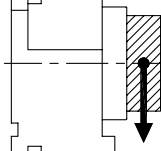
SELECT A PROPER ROTARY TABLE ACCORDING TO WORKPIECE AND CUTTING CONDITIONS

Workpiece diameter



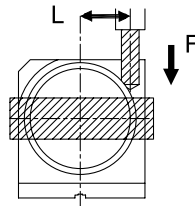
Within rotary table diameter

Workpiece weight



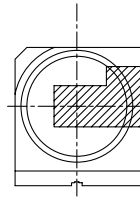
Within allowable load range

Indexing processing



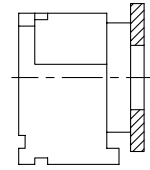
FXL value should be within the range of clamping torque

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.

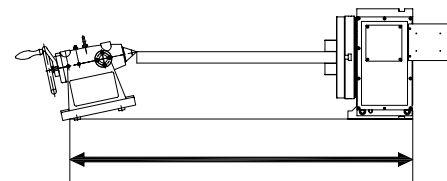


Fig 1

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.

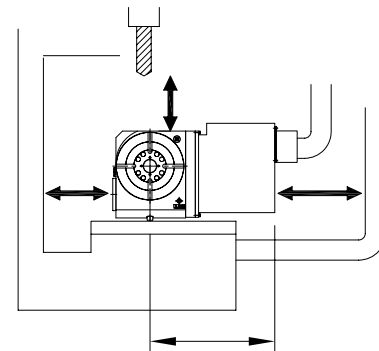


Fig 2

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.

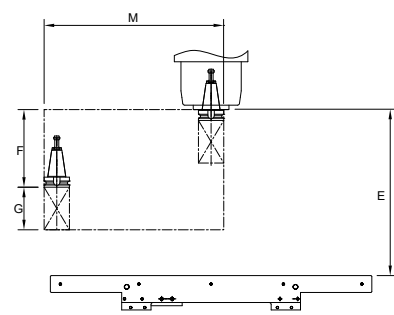


Fig 3

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 P74_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 P74_Fig. 5 Catalog P74_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 P74_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 P68
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 P68
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

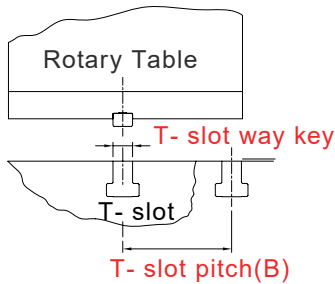


Fig 4

Connector Location

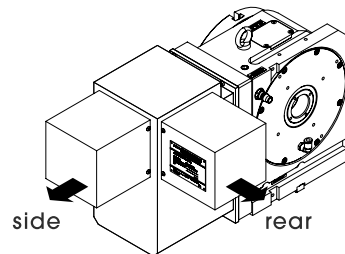


Fig 5

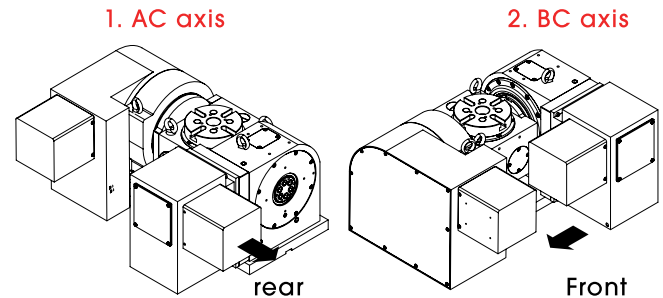
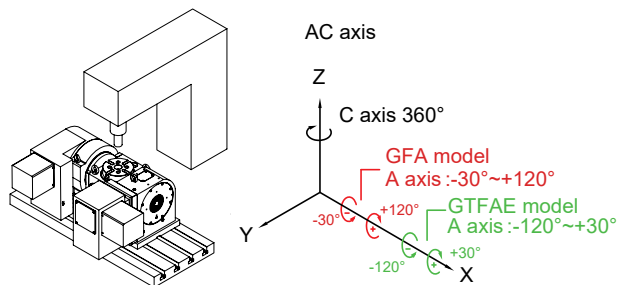


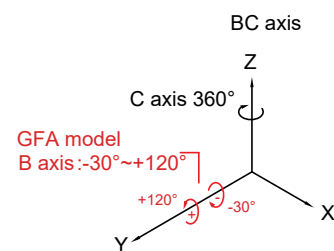
Fig 6

Illustration of Tilting Angle Range

1. AC axis application



2. BC axis application



Sections of Cables

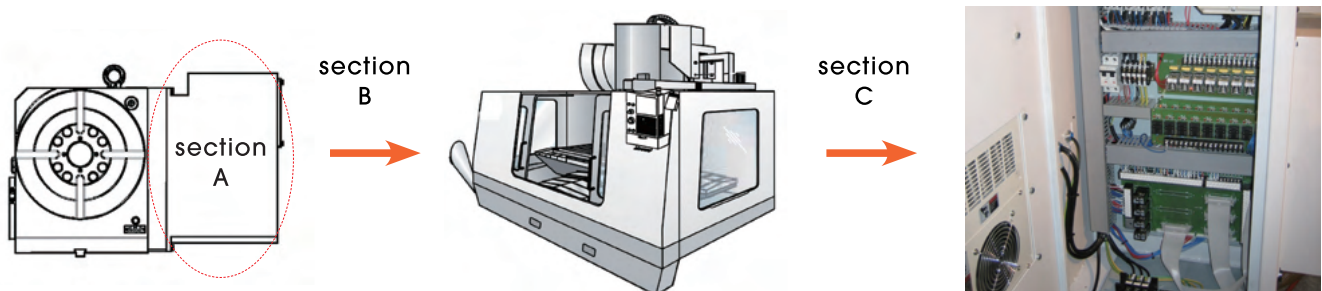


Fig 7

	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 _____	Catalog P76_Fig.1
	T-slot pitch (B)	<input type="checkbox"/> 100mm <input type="checkbox"/> 125mm <input type="checkbox"/> 150mm <input type="checkbox"/> Others _____	Catalog P76_Fig.2
	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"/> DTF-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"/> α i system, Model _____ <input type="checkbox"/> β 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 _____ 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	Catalog P65
Peripheral Accessories	Faceplate	<input type="checkbox"/> Without(detron standard) <input type="checkbox"/> incl. faceplate <input type="checkbox"/> Others _____	
	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 _____ <input type="checkbox"/> Only flange plate (Chuck supplied by buyer), Chuck brand _____, Model _____ (Please provide relating drawing)	Catalog P68
	Fixture plate and Accessories	<input type="checkbox"/> Required (Please discuss more details with detron)	Catalog P67
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"/> α i system, Model _____ <input type="checkbox"/> β i system, Model _____ Mitsubishi system <input type="checkbox"/> MDS-EJ- _____ <input type="checkbox"/> MDS-DJ- _____ Siemens <input type="checkbox"/> 6SL3120-1TE _____ 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	Catalog P65 & P66

NC Control for tilting axis	Torque	<input type="checkbox"/> detron <input type="checkbox"/> Others, Model _____	
	Driver	<input type="checkbox"/> Supplied by <input type="checkbox"/> buyer <input type="checkbox"/> detron FANUC system <input type="checkbox"/> α i system, Model _____ <input type="checkbox"/> β i system, Model _____ Mitsubishi system <input type="checkbox"/> MDS-EJ- _____ <input type="checkbox"/> MDS-DJ- _____ Siemens <input type="checkbox"/> 6SL3120-1TE _____ Heidenhain <input type="checkbox"/> UM _____ 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	Catalog P65 & P66

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 Renishawa "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: detrom M/C guarding to amplifier	Catalog P76_Fig.3
Rotary Joint	<input type="checkbox"/> Pneumatic _____ port <input type="checkbox"/> Hydraulic _____ port <input type="checkbox"/> Pressure required _____ Mpa		

STEP 6_Others

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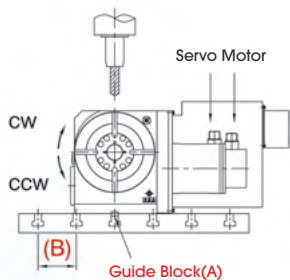


Fig.1

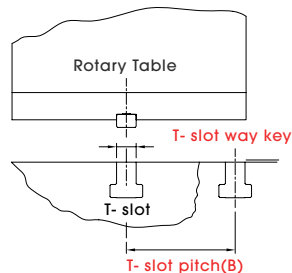


Fig.2

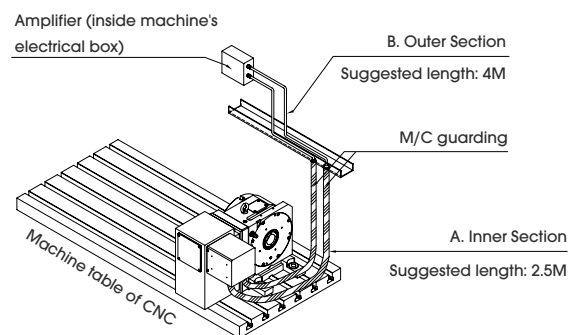


Fig.3