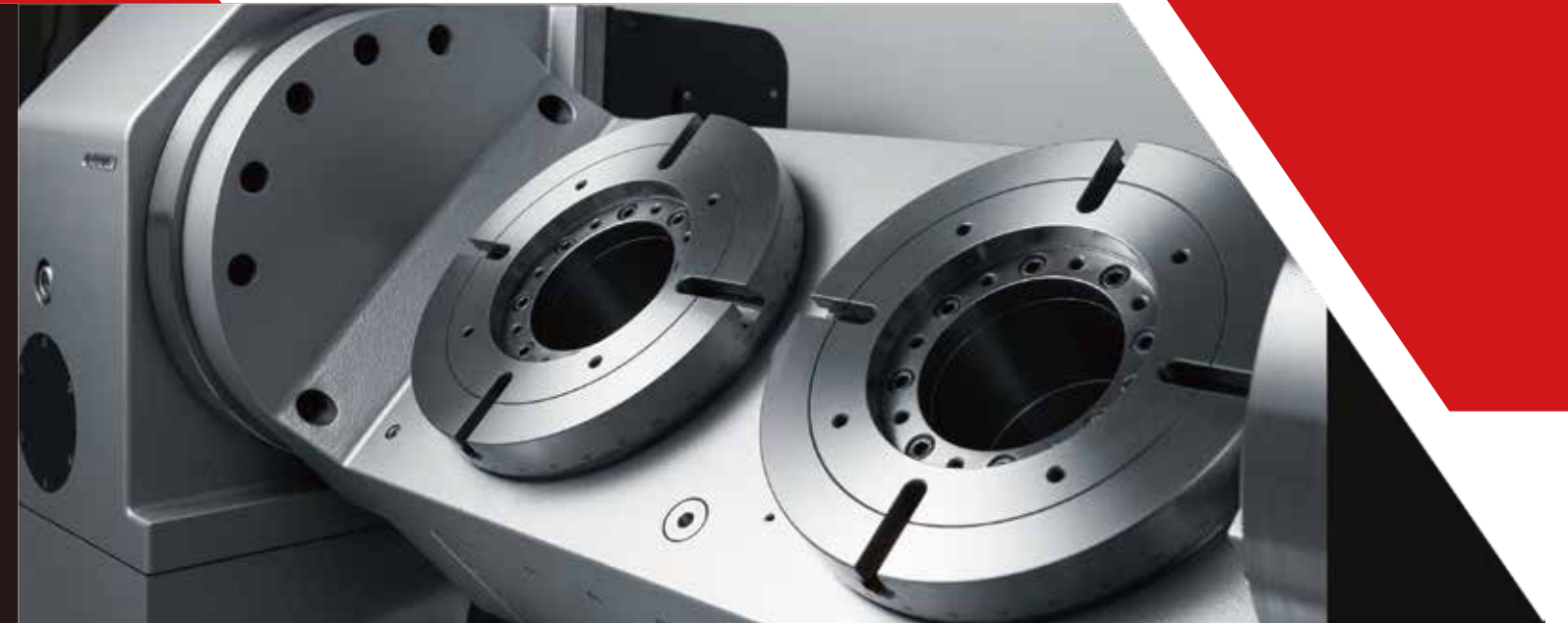


PRODUCT LINE UP

Quality and Cost Effect



detron Machine Co., Ltd.

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Taichung City, Taiwan
Tel: +886-4-2561-6000 Fax: +886-4-2562-7872
<http://www.detron-rotary.com>
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.

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

www.detron-rotary.com



GN_MAR_2025



The Largest Professional Rotary Table Manufacturer

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

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

detron 2nd Factory



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

Authorized Agent in Taiwan



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

detron Global Factory Outlet

Factory Outlet in Shanghai



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

Factory Outlet in Turkey



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

Factory Outlet in India



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

Factory Outlet in USA



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

Factory Outlet in Brazil



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

Factory Outlet in Korea



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

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for VERTICAL Machining Center Series



4th axis

GXA-S series

multiple pneumatic power clamp

- GXA-125S
- GXA-170S/H
- GXA-210S/H
- GXA-250S/H
- Page 23



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
- Page 29



5th axis

GFA-S/H/HB series

compact 5th axis

- GFA-101S
- GFA-125S
- GFA-170SII/HII
- GFA-200ESII/HII
- GFA-210S/H
- GFA-255H/HB
- GFA-320H
- Page 37-40



GFA-2W series

5th axis in multi spindle

- GFA-125S-2W-240
- GFA-170S-2W-300
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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/H
- GTFAE-410XB
- GTFAE-500XB
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GTFAE series

trunnion 5th axis

- GTFAE-170SL
- GTFAE-255SBL(S)
- GTFAE-320XBL(S)
- GTFAE-400XBL(S)/HL(S)
- GTFAE-500XBL
- Page 45



GTFA(I)-(E)HB (Suitable for BC axis application)

CNC Trunnion Tilting Rotary Table

- GTFA-650EHB
- GTFAI-650EHB
- GTFAI-720EHB
- Page 43



RCX / RCF

RCX-S/H series

Roller Gear Cam Drive Rotary Table



- RCX-210S/H
 - RCX-250ES/H
 - RCX-255H
 - RCX-300H
 - RCX-400H
- Page 55

RCF-S/H series

Roller Gear Cam Drive Rotary Table



- RCF-170S/H
 - RCF-210S/H
 - RCF-255H
 - RCF-320H
- Page 57

DDM

DV series

high speed 4th axis by DDM built-in



- DV-170P
 - DV-255PII
- Page 63

DTF series

high speed 5th axis by DDM built-in



- DTFS-125P
 - DTFE-125P
 - DTFS-170P
 - DTFE-170P
 - DTFE-171P
 - DTFAI-650H
 - DTFAI-720EH
 - D2TF-800H
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Others

GVA-B series

4th axis with motor at back



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

CX-H series

hydraulic indexing table by hirth coupling



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

Tailstock

ST-T/TP/TH series

quill type tailstock



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

SR-P/H series

rotary type tailstock



- SR-125P
 - SR-170P
 - SR-210P
 - SR-255H
 - SR-320H
 - SR-400H
 - SR-500H
- Page 36

Customized Product with DDM

Pallet changeable



With sub support



Page 68

Low gravity and dual drive at tilting axis



Page 68

Built in machine table



for VERTICAL
Machining Center Series

Auto Pallet Change

For VMC with fixed column



- CVR-660
 - CVR-850
 - CVR-10D
- Page 51

For VMC with movable column



- SVC-7050II
 - SVC-10065II
- Page 52

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.

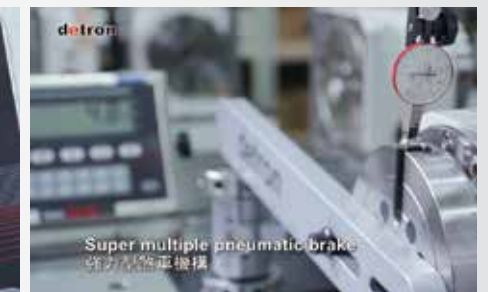
Practical Clamping Force Approved



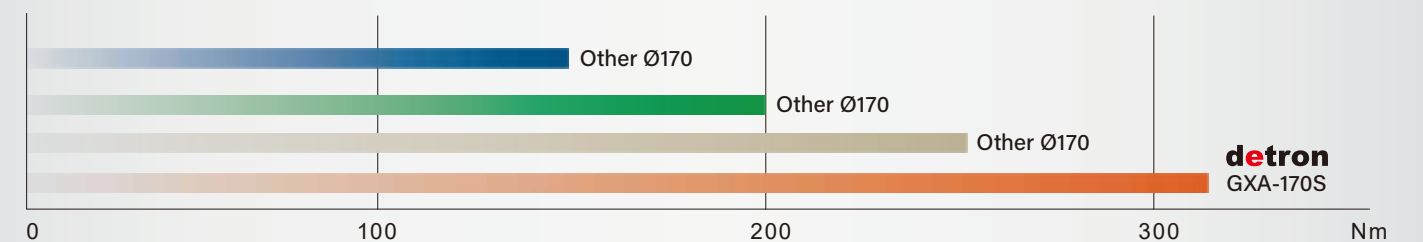
Clamping torque can reach to 35kg.m
鎖緊扭矩可達 35kg.m



T=F x r
T=100kg x 0.36m=36kg.m



Super multiple pneumatic brake
強力多路氣壓制動



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

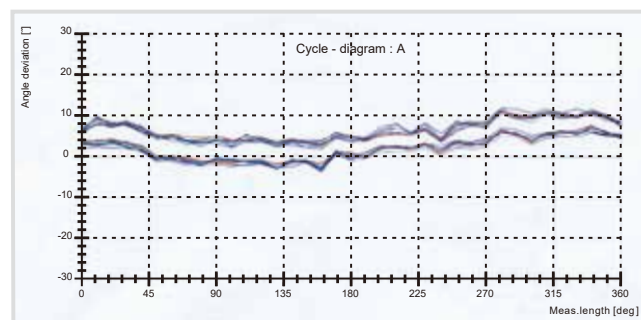
Scan these QR codes to see video:



Accuracy Inspection Norm

detron

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



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

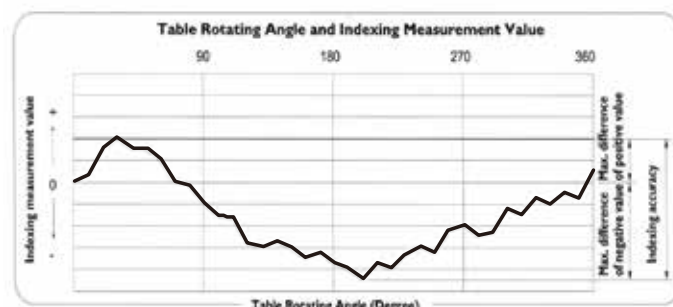
Facility of Inspection

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

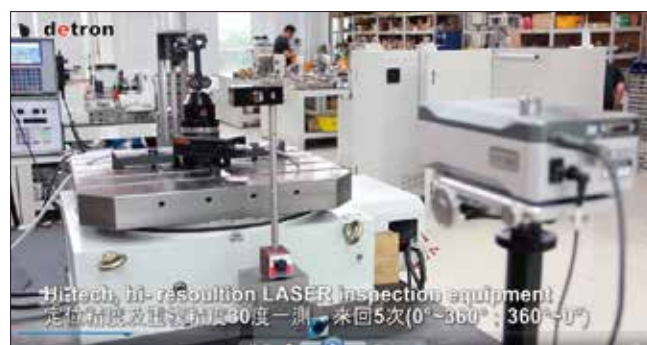


others

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.

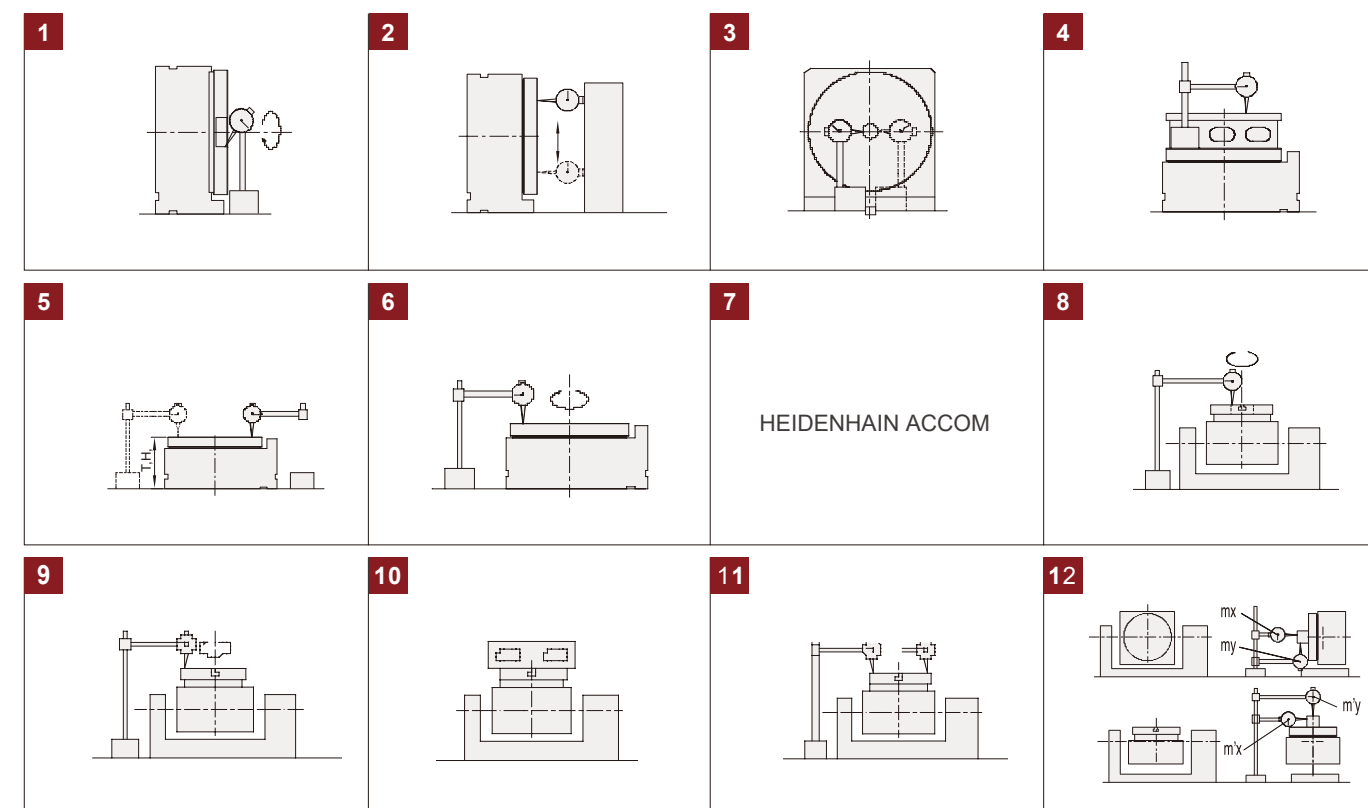
Remark: Due to environmental influences during the measurement, the recorded measuring error may exceed the catalog limit value by up to 10%.

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.	0.01	0.01	0.01	
2.	0.02	0.02	0.02	
3.	0.02	0.02	0.02	
	0.02	0.02	0.02	
4.	0.01	0.015	0.02 / 0.025	
5.	0.01	0.015	0.02 / 0.025	
6.	0.01	0.015	0.02	
7.	40 sec - GXA125	15 sec	15 sec	
	20 sec - GXA170-210			
GFA Series (for all 5 axis)				
8.		0.01		
9.		0.015		
10.		0.01	(Ø400-500: 0.015)	
			0.02	
11.	Rotary	Refer to specification chart of each model		
	Tilt	Refer to specification chart of each model		
Repeatability	Rotary	6 sec.		
	Tilt	8 sec.		
12.		0.02/Dia		

German Lieberr Hobbing Machines



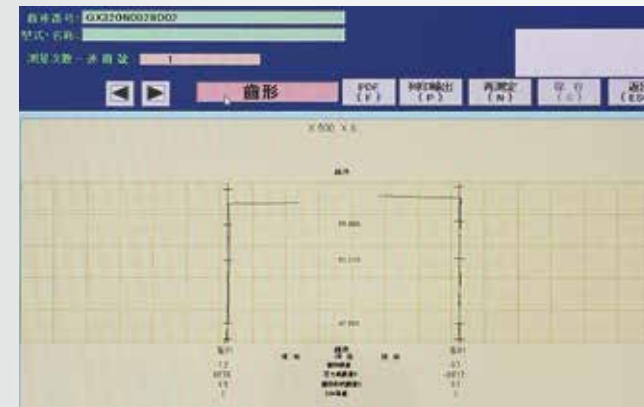
Vertical Hobbing Machine

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



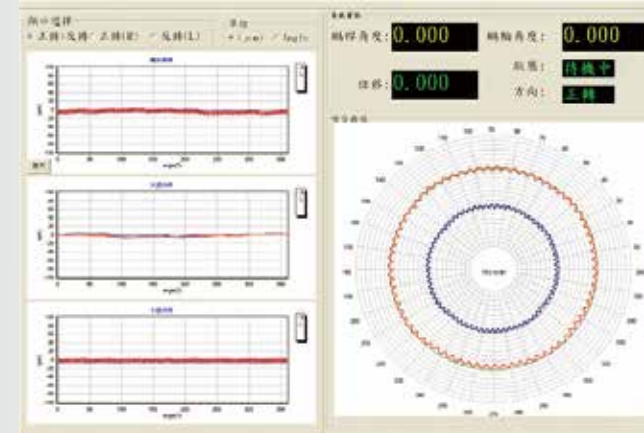
Gear Measuring Machine

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



Gear Teeth Occlusion Inspection

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



Vertical grinding machine with hydrostatic bearing technology



Finishing grinding for casting ID



Finishing grinding for gear face



Finishing grinding for brake drum face+ID+OD

Automation for Burr Removing



Main Spindle Preload

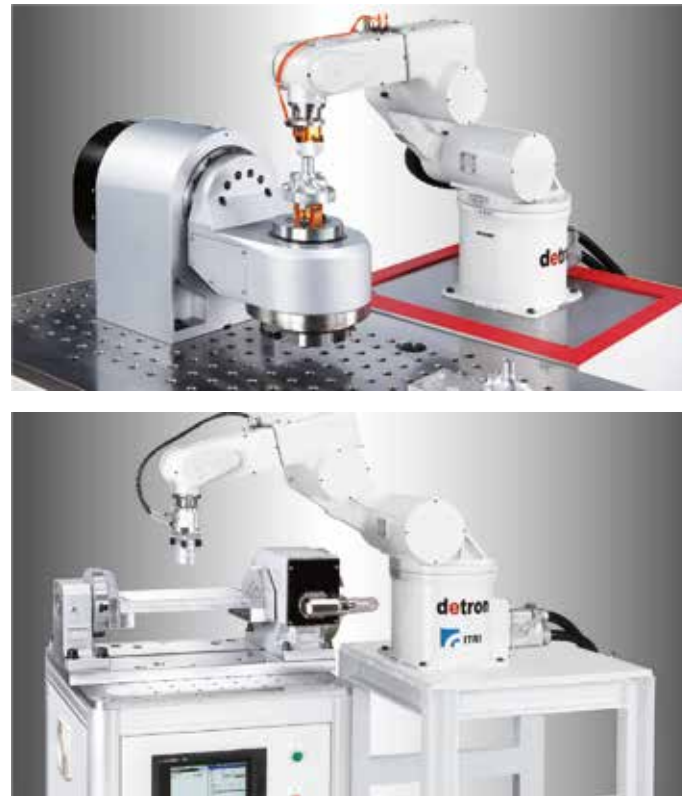


Application Engineering

Integration for Automation



Prepare for Industry 4.0



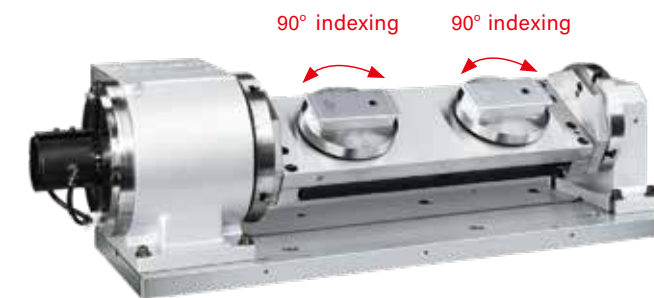
Recommended hardware corroboration in Industrial 4.0 chain.

Magnifying the Machining Value

Solutions by Smart Attachments



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

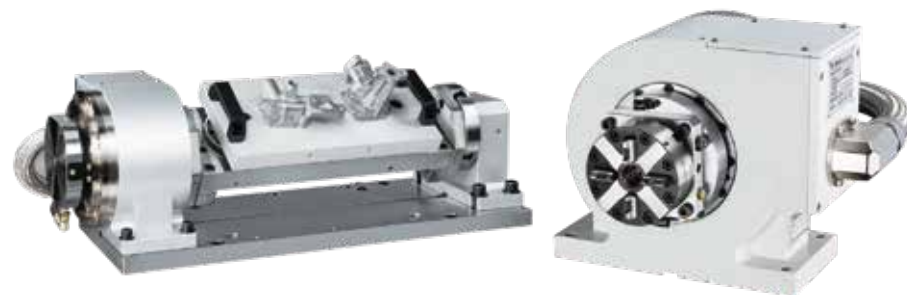


▲ A 90 degree indexer can be modified into a 5 face machining system, options include selected number of multiple spindles and various centre distances according to the application.

Integration with High Efficient Mold Change



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

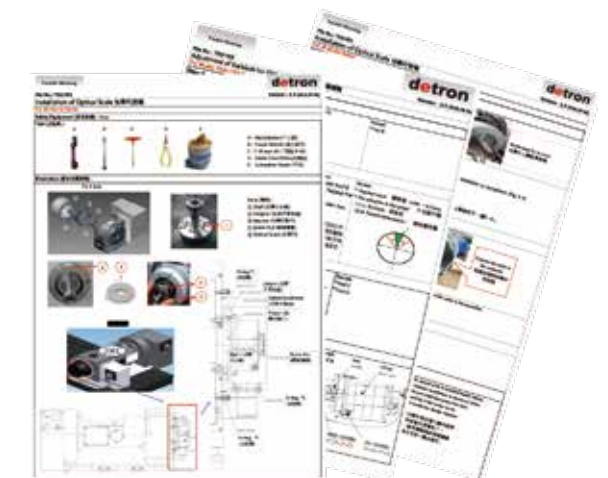


▲ To ease the modulation of parts- holding system in mass production and high end automation, **detron** develops sufficient interface to adapt various **quick mold changing** device, such as EROWA and SCHUNK.

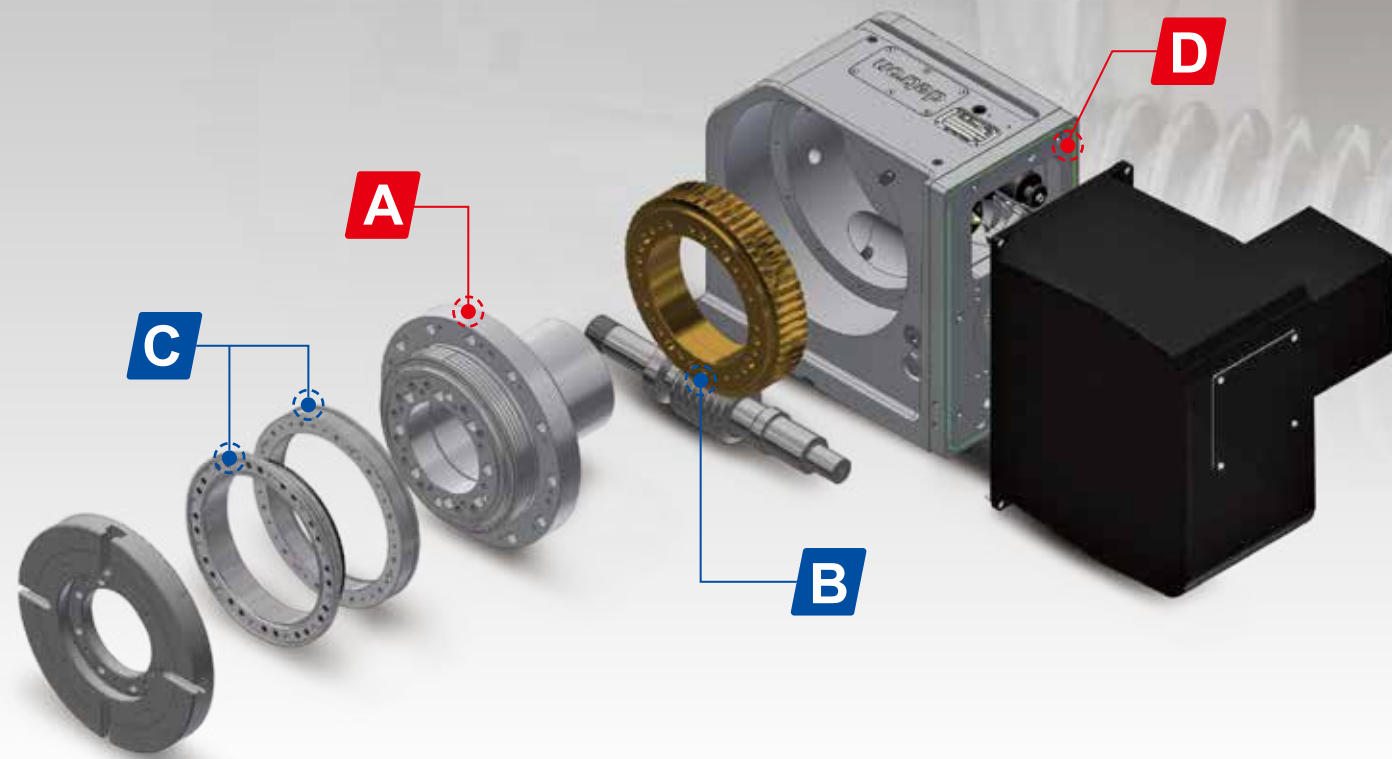
Detron On-Line Service



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



Core Technology – Key Parts & Advantages Description



A High Rigidity Consolidated Spindle



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

-refer to P18 for more details-

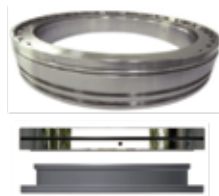
B High Endurable Worm Gear Set



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

-refer to P20 for more details-

C Reliable Clamping Force



Hydraulic Model: Special design of drum brake system.



Pneumatic Model: exclusive patented dual pistons design.

-refer to P19 for more details-

D High Level Waterproof Design



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

-refer to P21 for more details-

Core Technology – High Rigidity Consolidated Spindle



Comparison of Spindle and Bearing

detron	others	others
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.

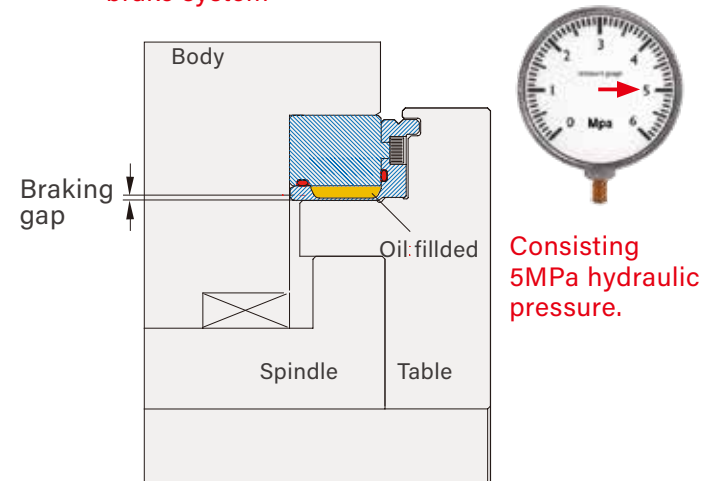
Core Technology – Reliable Clamping Force

Safe and Double Insured Hydraulic Brake

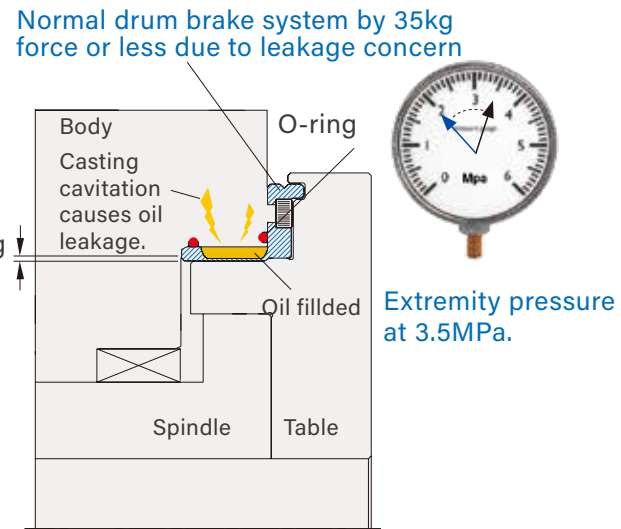
detron



Special design of drum brake system



Others



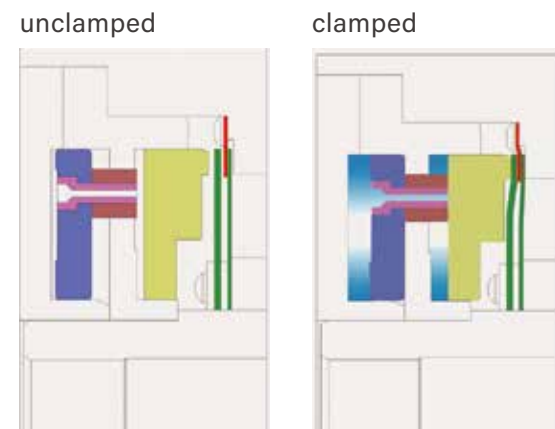
Fully enclosed drum ring resulting in thorough sealing to ensure high stability at higher pressures. Optimized alignment to table body resulting in a more uniform brake contact.



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

Patented Dual Pneumatic Piston, Braking Force Promoted

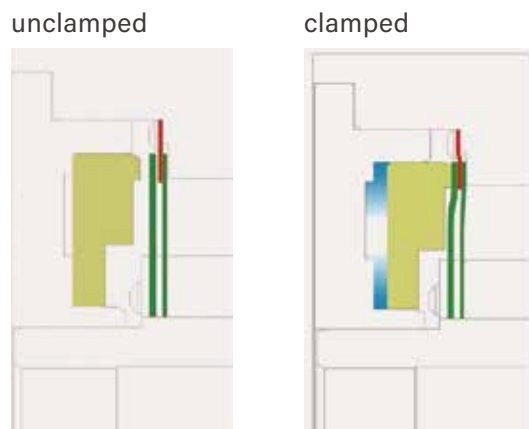
detron



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



Blue zone is the pneumatic inflation room.

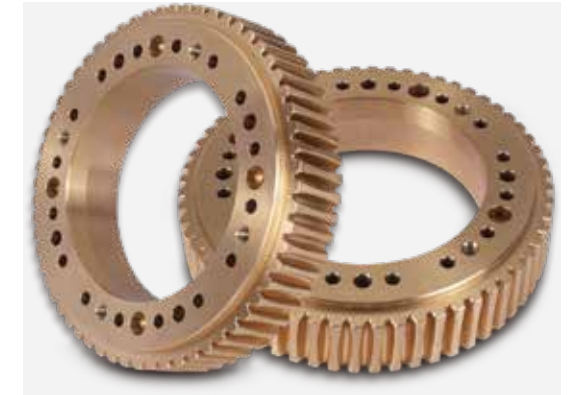
Limited effects by less pneumatic inflation zone of conventional single piston. Lower clamping force.

Core Technology – High Endurable Worm Gear Set

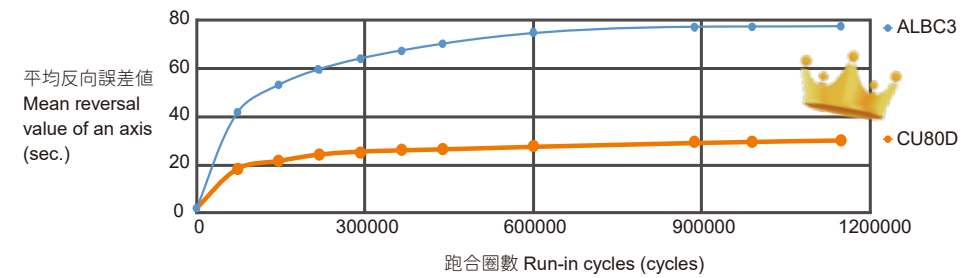
Exclusive Worm Wheel Material -CU80D

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.

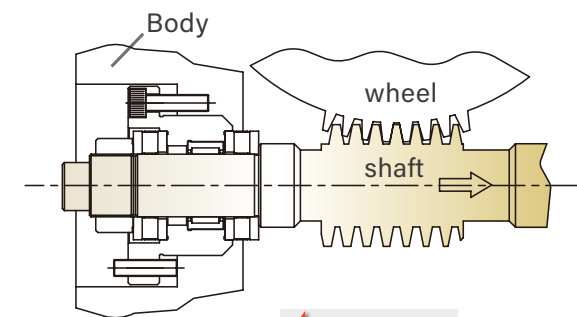


CU80D vs ALBC3



260% resistance increased

Precise Dual Lead Worm Shaft and Gear

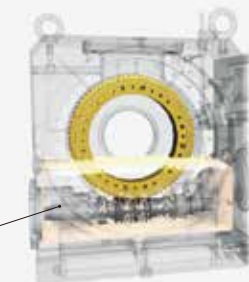


toward thicker teeth ← → toward thinner teeth

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

Lubrication and Thermal Control

detron



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

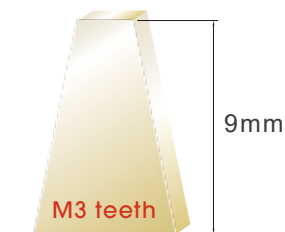
others



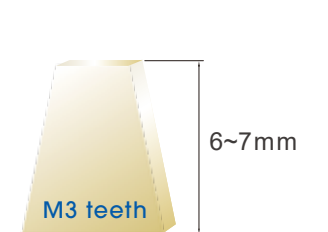
Only half section of worm shaft lubricated, thermal deformation is concerned.

Teeth Module Promoted

detron



others

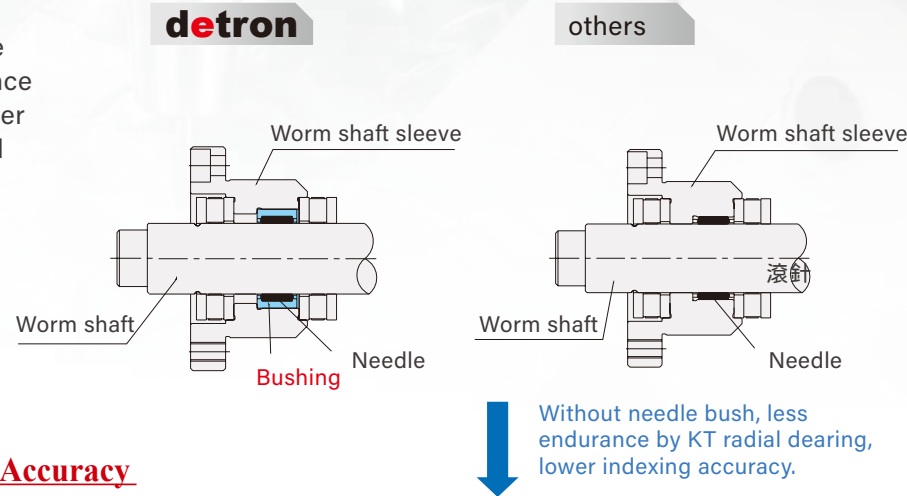


- 30% higher contact surface of gear teeth engagement than conventional worm gear.
- Comparing equal table spec, higher teeth depth provides optimum rigidity for heavy cut.

Core Technology – Endurance and Protection

Reliable Worm Shaft Rotation

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



High Concentricity, Consistent Accuracy

Waterproof Design

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

detron

Motor cover interface with machined groove and Trelleborg seals applied.



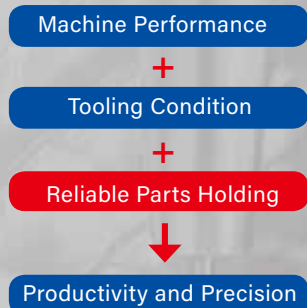
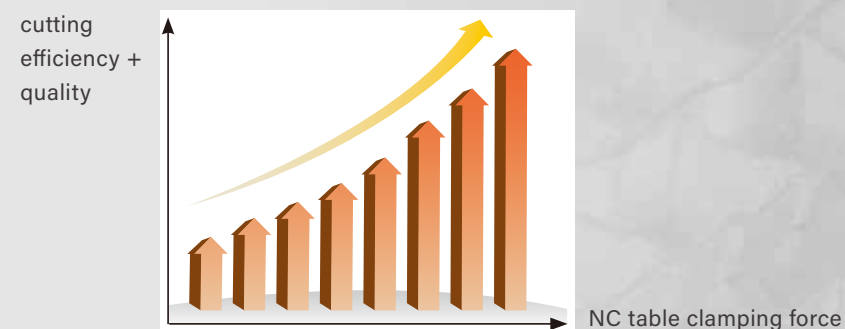
others



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

Clamping Force Supports Advanced Application Engineering

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



Core Technology

Grinding of consolidated spindle unit



Grinding of worm shaft teeth



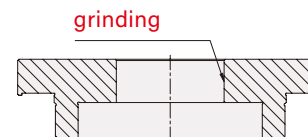
Processing Of Spindle Bore

Advantages of center positioning hole with grinding

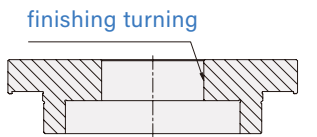
- Superior roundness and surface roughness.
- High accuracy when adjusting jig on center bore.
- Large spindle hole diameter allows multi-port oil distributor mounted.

Quicker Precise Mold Change. Higher Indexing Accuracy and Concentricity.

detron



others



Poor roundness and surface for fixture adjustment.

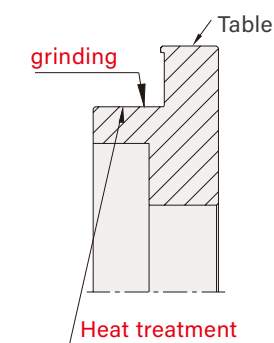
Fine Finishing Machining Of Brake Shaft

Advantages of surface with hardening and grinding

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

Increased Clamping Life. No Offset During Braking.

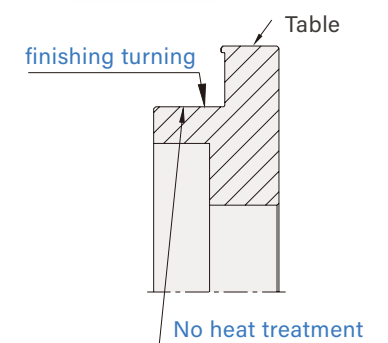
detron



Brake surface with grinding and heat treatment



others



Brake surface only with final turning but no heat treatment



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

worm gear transmission

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



Equipped with upgraded high precision cross roller bearing

SPECIFICATIONS

MODEL	Unit	GXA-125S	GXA-170S/H	GXA-210S/H GXA-250S/H	GXA-170S-2W-250	
Worktable diameter	mm / inch	Ø125 / Ø 4.92	Ø170 / Ø 6.69	Ø210 / Ø 8.27 Ø255 / Ø 10.04	Ø170 / Ø 6.69	
Center bore diameter	mm / inch	Ø30H7 / Ø 1.18H7	Ø40H7 / Ø 1.57H7	Ø65H7 / Ø 2.56H7	Ø40H7 / Ø 1.57H7	
Through-bore diameter	mm / inch	Ø25 / Ø 0.98	Ø40 / Ø 1.57H7	Ø65 / Ø 2.56H7	Ø40 / Ø 1.57H7	
Pitch of rotary axis	mm / inch	N/A	N/A	N/A	250 / 9.84	
Height of table (horizontal)	mm / inch	155 / 6.10	175 / 6.89	175 / 6.89 190 / 7.48	175 / 6.89	
Height of table (vertical)	mm / inch	110 / 4.33	135 / 5.31	160 / 6.3	135 / 5.31	
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	MPa / psi	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	Pneumatic 0.55 ~ 0.7 / 79.8-101.5	
Clamping torque	N.m / ft. lbs.	140 / 103.8	300 / 221 450 / 332	400 / 295 600 / 443	300 / 221.1	
Servo motor spec	refer to page 73					
Transmission ratio		1 / 40	1 / 60	1 / 72	1/90	
Max. table speed / at specified servo motor speed	min ⁻¹	66.6 / 2664	53.3 / 3200	53.3 / 3840	22.2 / 2000	
Standard loading inertia* $(\frac{W \cdot D^2}{8})$	kg.m ²	0.2	0.72	1.38	0.54	
Maximum loading inertia* $(\frac{W \cdot D^2}{8})$	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
	Rotary Tailstock applied	kg / lb	100 / 220	200 / 440	250 / 550	150 / 330
F _{xL} When table clamped		N / lbs	9700 / 2176.68	14000 / 3141.6	17000 / 3814.8	14000 / 3141.6
		N.m / ft. lbs.	410 / 302.17	1020 / 751.74	1265 / 932	1020 / 751.74
		N.m / ft. lbs.	140 / 103.8	300 / 221 450 / 332	400 / 295 600 / 443	300 / 221.1
Allowable cutting torque		N.m / ft. lbs.	85 / 62.65	200 / 147.41	260 / 191.62	200 / 147.41
Allowable Max. rotary joint quantity		-	4	4	4	

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

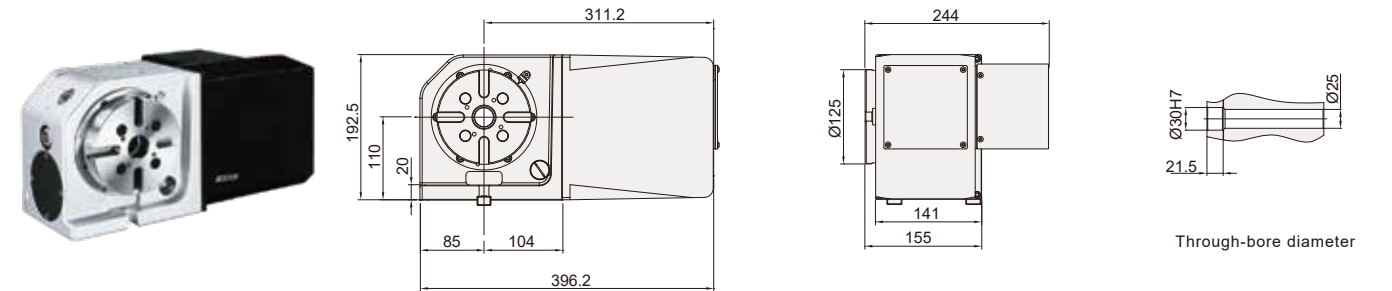
2. Standard loading inertia * is allowed in max table speed. Contact detron for the necessary adjustment of speed and others when maximum loading inertia * is required.

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

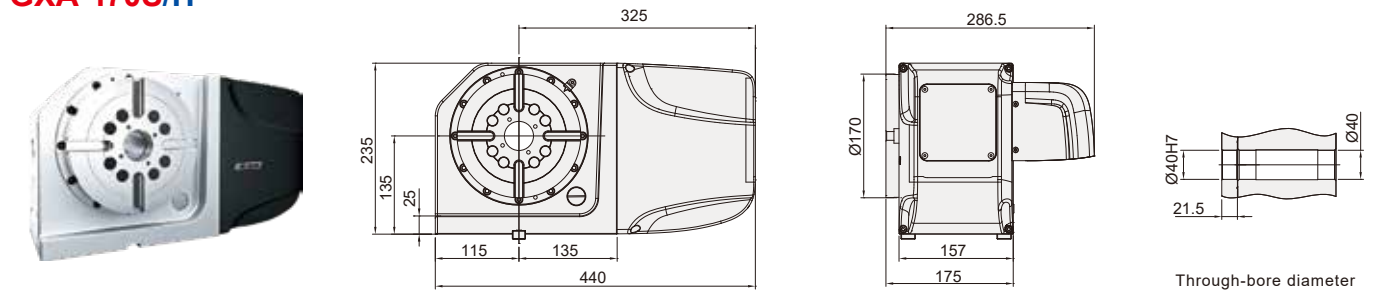
DIMENSIONAL DRAWINGS

Unit : mm

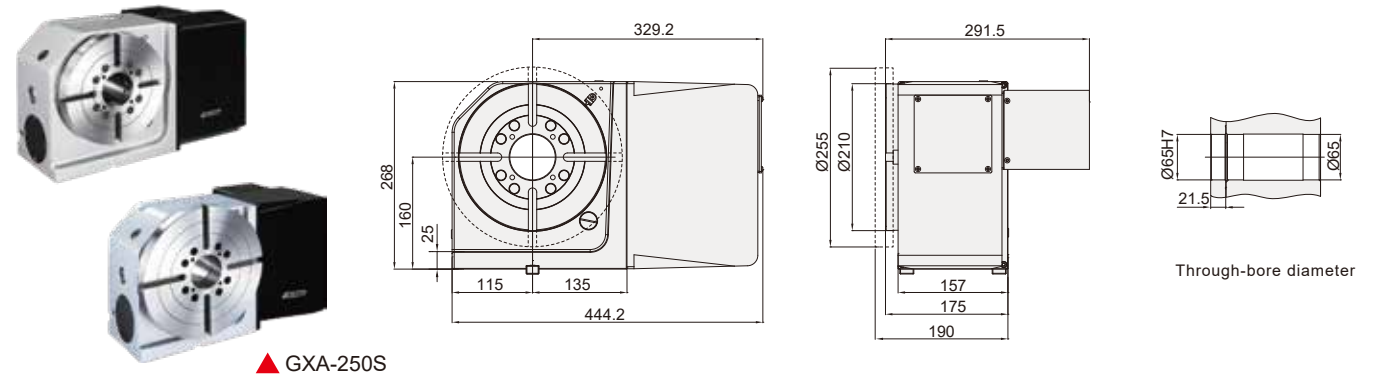
GXA-125S



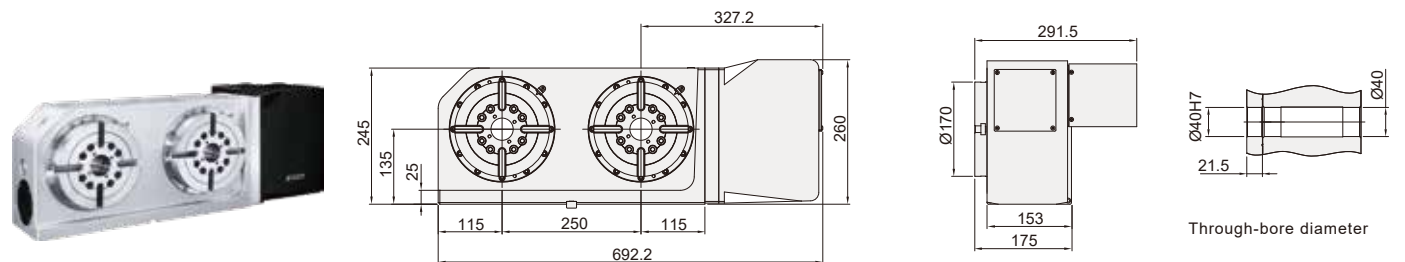
GXA-170S/H



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



GXA-170S-2W-250



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

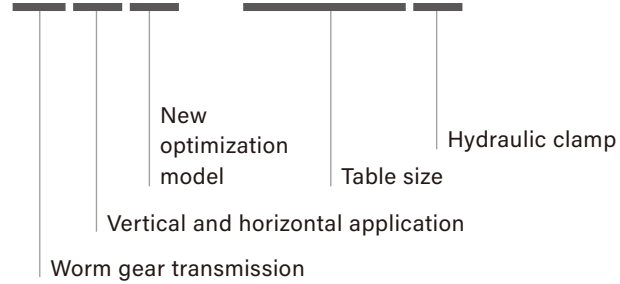
GXA-H series

CNC Rotary Table

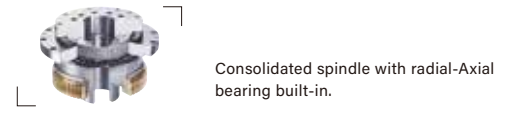
Ultra Big Spindle Bore, Hydraulic Clamp



G X A - 2 5 5 H



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



SPECIFICATIONS

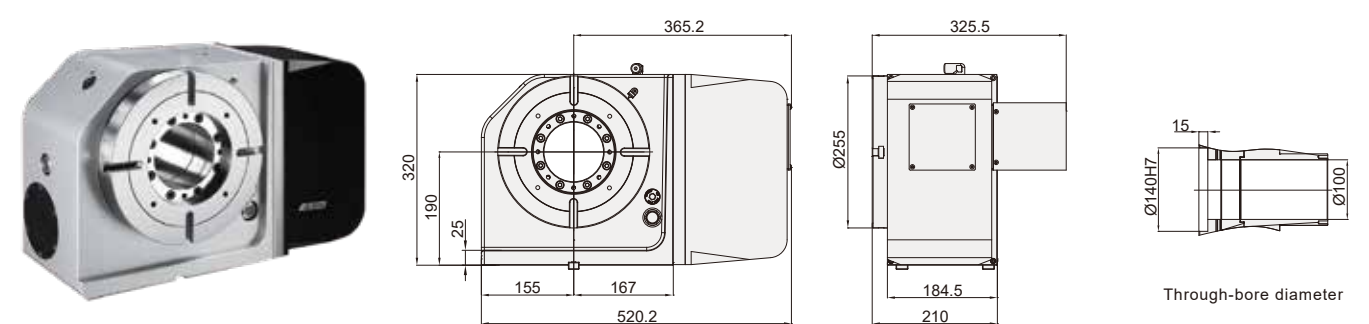
MODEL	Unit	GXA-255H	GXA-320H	GXA-400H	
Worktable diameter	mm / inch	Ø255 / Ø 10.04	Ø320 / Ø 12.6	Ø400 / Ø 15.75	
Center bore diameter	mm / inch	Ø140H7 / Ø 5.51H7	Ø180H7 / Ø 7.08H7	Ø220H7 / Ø 8.66H7	
Through-bore diameter	mm / inch	Ø100 / Ø 3.94	Ø140 / Ø 5.51	Ø180 / Ø 7.09	
Height of table (horizontal)	mm / inch	210 / 8.27	235 / 9.25	255 / 10.04	
Height of center (vertical)	mm / inch	190 / 7.48	210 / 8.27	255 / 10.04	
Width of T-slot	mm / inch	12H7 / 0.47H7	14H7 / 0.55H7	14H7 / 0.55H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	MPa / psi	Hydraulic 5 / 725	Hydraulic 5 / 725	Hydraulic 5 / 725	
Clamping torque	N.m / ft. lbs.	900 / 663.3	1600 / 1179.2	3000 / 2211	
Servo motor spec		refer to page 73			
Transmission ratio		1 / 120	1 / 120	1 / 144	
Max. table speed / at specified servo motor speed	min ⁻¹	22.2 / 2664	22.2 / 2664	11.1 / 1600	
Standard loading inertia * $(\frac{W \cdot D^2}{8})$	kg.m ²	2.43	5.12	10.2	
Maximum loading inertia * $(\frac{W \cdot D^2}{8})$	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
	Rotary Tailstock applied	kg / lb	300 / 660	400 / 880	500 / 1100
FxL When table clamped		N / lbs	20000 / 4488	28000 / 6283.2	38000 / 8527.20
		N.m / ft. lbs.	1700 / 1252.9	3000 / 2211	5400 / 3979.8
		N.m / ft. lbs.	900 / 663.3	1600 / 1179.2	3000 / 2211
Allowable cutting torque		N.m / ft. lbs.	550 / 405.35	780 / 574.86	1700 / 1252.9
Allowable Max. rotary joint quantity		6	6	6	

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

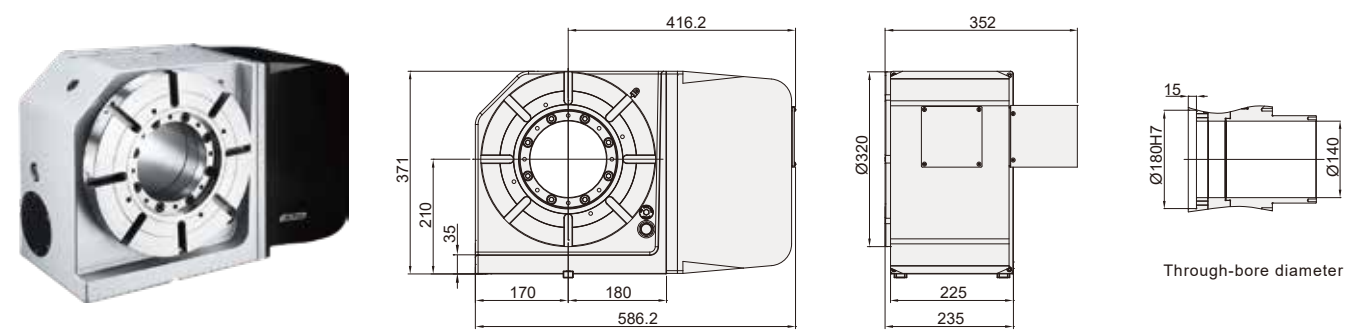
DIMENSIONAL DRAWINGS

Unit : mm

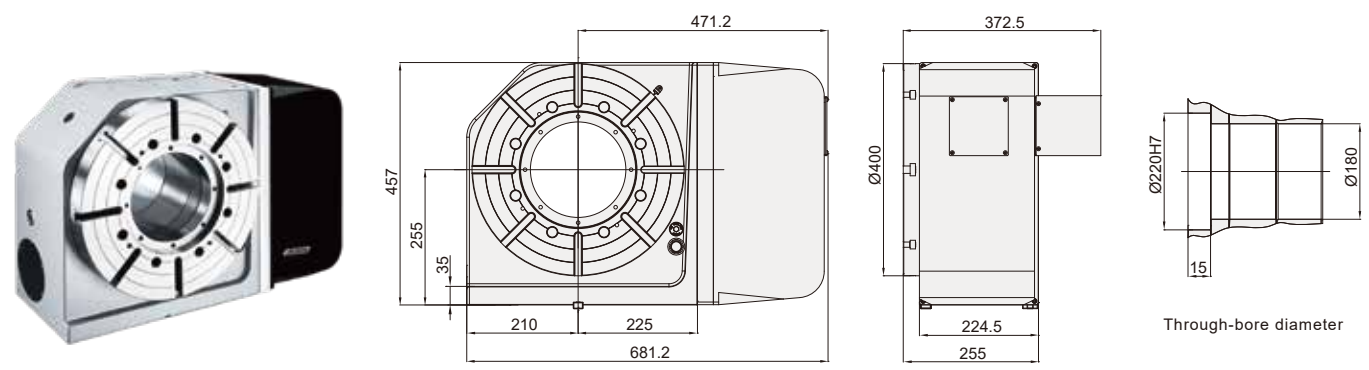
GXA-255H



GXA-320H



GXA-400H



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

for VMC_Worm Wheel Transmission

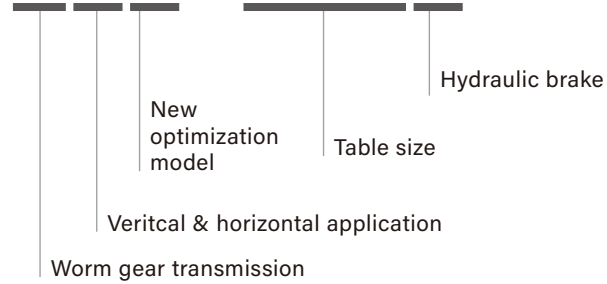
GXA-H series

CNC Rotary Table

Ultra Big Spindle Bore, Hydraulic Clamp



G X A - 5 0 0 H



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



Consolidated spindle with radial-axial bearing built-in.

SPECIFICATIONS

MODEL	Unit	GXA-500H GXA-630EH	GX-630H	GX-800H	
Worktable diameter	mm / inch	Ø500 / Ø19.69 Ø630 / Ø24.80	Ø630 / Ø24.80	Ø800 / Ø31.50	
Center bore diameter	mm / inch	Ø305H7 / Ø12H7	Ø270H7 / Ø10.63H7	Ø285H7 / Ø11.22H7	
Through-bore diameter	mm / inch	Ø265 / Ø10.43	Ø220 / Ø8.66	Ø240 / Ø9.45	
Height of table (horizontal)	mm / inch	280 / 11.02	325 / 12.80	365 / 14.37	
Height of center (vertical)	mm / inch	350 / 13.78	400 / 15.75	480 / 18.90	
Width of T-slot	mm / inch	18H7 / 0.71H7	18H7 / 0.71H7	22H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	MPa / psi	Hydraulic 5 / 725	Hydraulic 5 / 725	Hydraulic 3.5 / 507.5	
Clamping torque	N.m / ft. lbs.	5700 / 4204.11 4500 / 3319	4500 / 3319.03	5200 / 3835.32	
Servo motor spec		refer to page 73			
Transmission ratio		1 / 180	1 / 180	1 / 180	
Max. table speed / at specified servo motor speed	min ⁻¹	11.1 / 2000	11.1 / 2000	11.1 / 2000	
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	800 / 1760	
	Horizontal	kg / lb	800 / 1760	1500 / 3300	
	Rotary Tailstock applied	kg / lb	800 / 1760	1500 / 3300	
FxL When table clamped	F	N / lbs	45000 / 10098	49000 / 10780	50000 / 11000
	FxL	N.m / ft. lbs.	8300 / 6121.7	8500 / 6264.50	10000 / 7370.0
	FxL	N.m / ft. lbs.	5700 / 4204.11 4500 / 3319	4500 / 3316.5	5200 / 3832.4
Allowable cutting torque	N.m / ft. lbs.	2500 / 1842.5	4300 / 3169.1	6860 / 5059.6	

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

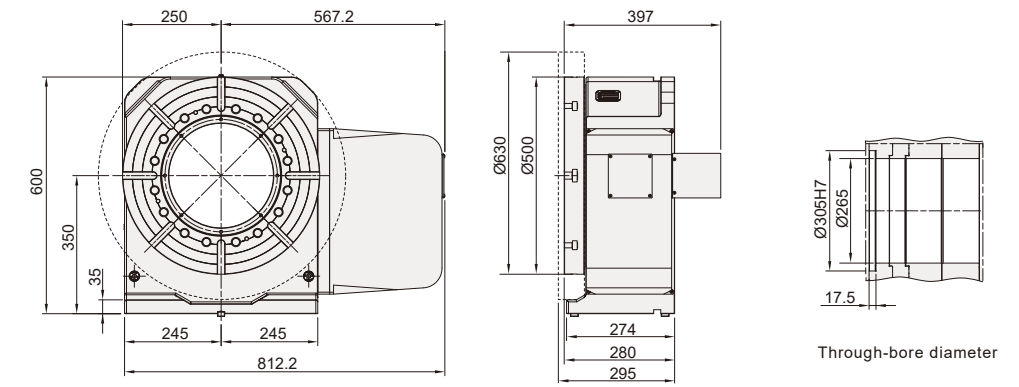
DIMENSIONAL DRAWINGS

Unit : mm

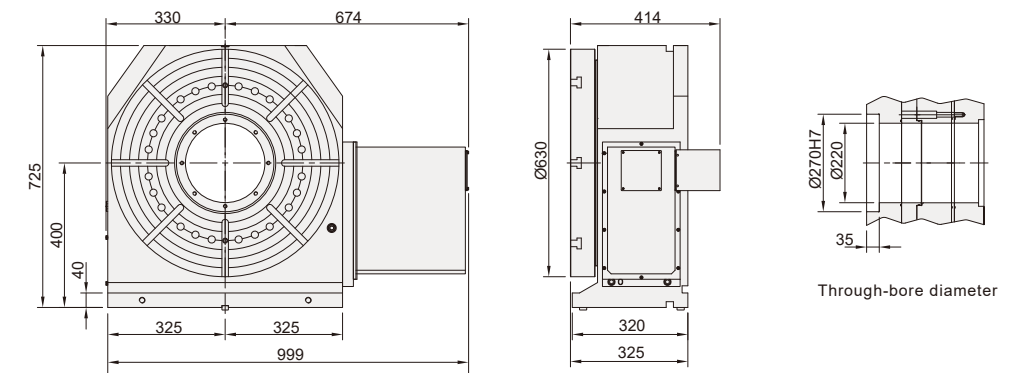
GXA-500H



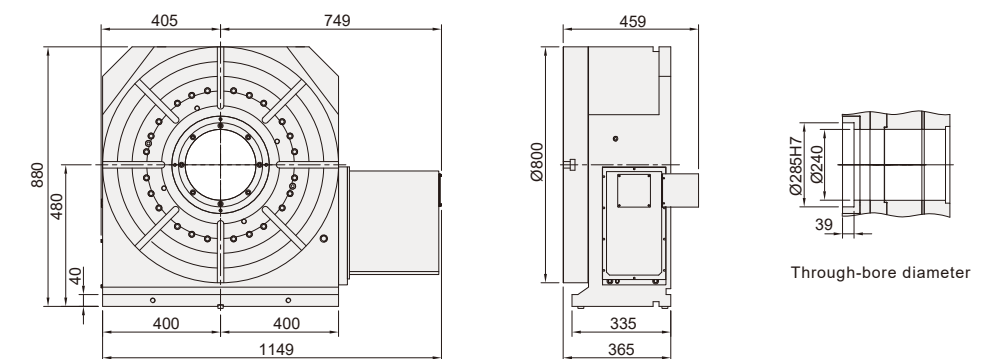
▲ GXA-630EH



GX-630H



GX-800H



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

GXA-L series

CNC Rotary Table

High - Power Clamp, Motor at Left

G X A - 1 7 0 S L

new optimization mode I

Table size

Motor mounted at left side of table

S Super multiple pneumatic
H Hydraulic

X Vertical & horizontal application
V Vertical application

worm gear transmission



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 73		
Transmission ratio		1 / 60	1 / 72	1 / 120
Max. table speed / at specified servo motor speed	min ⁻¹	53.3 / 3200	53.3 / 3840	22.2 / 2000
Allowable loading inertia $(\frac{W \cdot D^2}{8})$	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
	Horizontal	kg / lb	200 / 440	-
	Rotary Tailstock applied	kg / lb	200 / 440	250 / 550
F _{xL} When table clamped	F	N / lbs	14000 / 3141.6	17000 / 3814.8
	F _{XL}	N.m / ft. lbs.	1020 / 751.74	1265 / 932
	F _{XL}	N.m / ft. lbs.	300 / 221.1	400 / 294.8
Allowable cutting torque	N.m / ft. lbs.	200 / 147.41	260 / 191.62	550 / 405.35
Allowable Max. rotary joint quantity		4	4	6

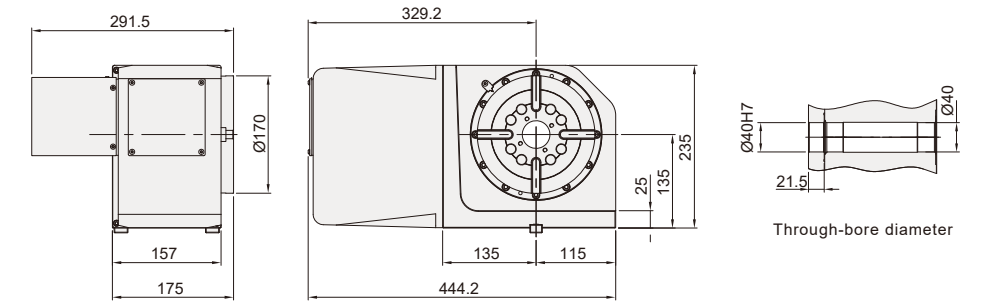
Note: 1. Allowable cutting torque at table speed of 1 min⁻¹.

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

DIMENSIONAL DRAWINGS

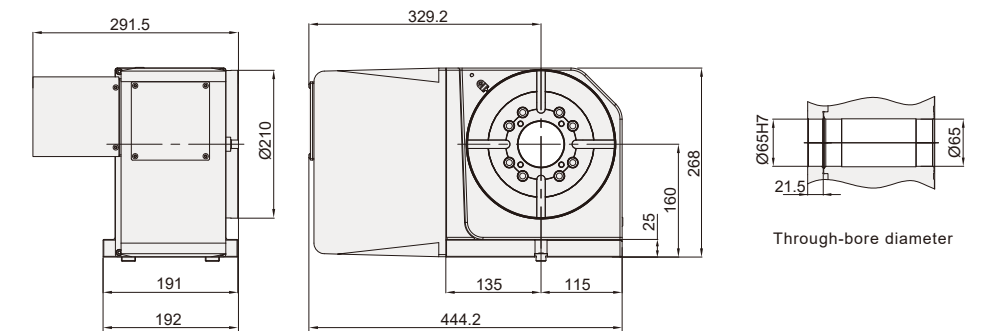
Unit : mm

GXA-170SL



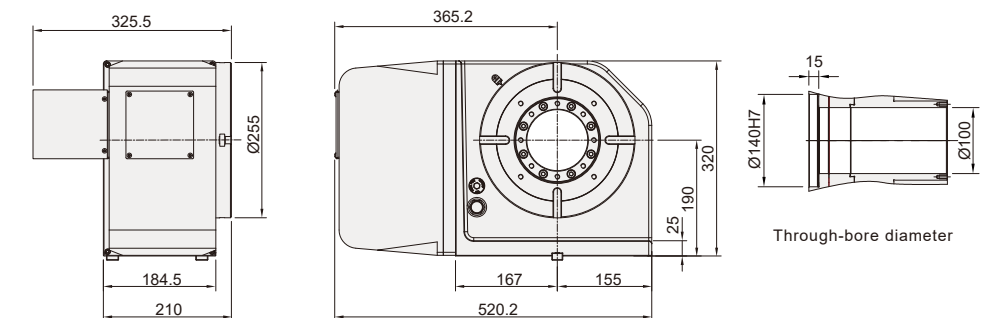
Equipped with upgraded high precision cross roller bearing.

GVA-210SL



Equipped with upgraded high precision cross roller bearing.

GXA-255HL



Consolidated spindle with YRT bearing built-in.

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

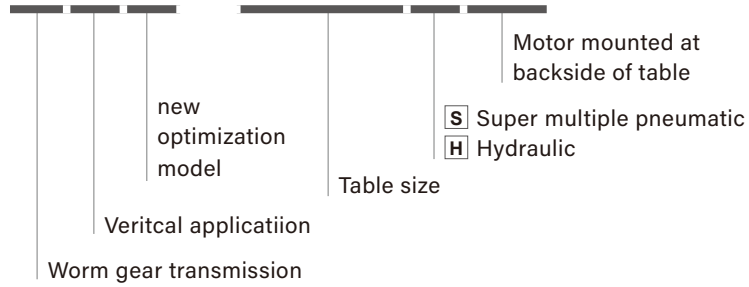
GVA-B series

CNC Rotary Table

High - Power Clamp, Motor at Back



GVA - 210SB



Worktable diameter 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

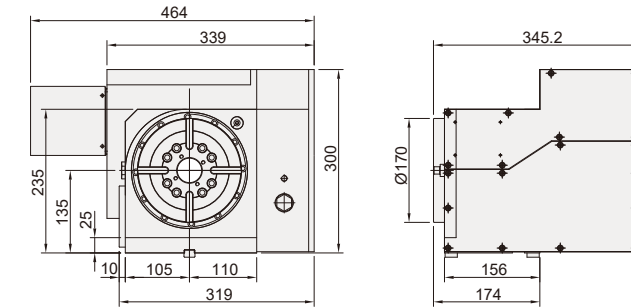
MODEL	Unit	GV-170SB	GVA-210SB	GVA-255HBII	
Worktable diameter	mm / inch	Ø170 / Ø6.69	Ø210 / Ø 8.27	Ø255 / Ø10.04	
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7	Ø65H7 / Ø2.6H7	Ø140H7 / Ø 5.51H7	
Height of center (vertical)	mm / inch	135 / 5.31	160 / 6.30	190 / 7.48	
Width of T-slot	mm / inch	12H7 / 0.47H7	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	N.m / ft. lbs.	250 / 184.25	400 / 294.8	900 / 663.3	
Servo motor spec		refer to page 73			
Transmission ratio		1 / 90	1 / 90	1 / 120	
Max. table speed / at specified servo motor speed	min ⁻¹	44.4 / 4000	44.4 / 4000	22.2 / 2664	
Allowable loading inertia	$\frac{W.D^2}{8}$ 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
	Rotary Tailstock applied	kg / lb	150 / 330	250 / 550	300 / 660
FxL When table clamped	N / lbs		14000 / 3141.60	17000 / 3814.8	20000 / 4488
	N.m / ft. lbs.		1020 / 751.74	1265 / 932.3	1700 / 1253.0
	N.m / ft. lbs.		250 / 184.25	400 / 294.80	900 / 663.3
Allowable cutting torque	N.m / ft. lbs.		170 / 125.29	260 / 191.62	550 / 405.35

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

DIMENSIONAL DRAWINGS

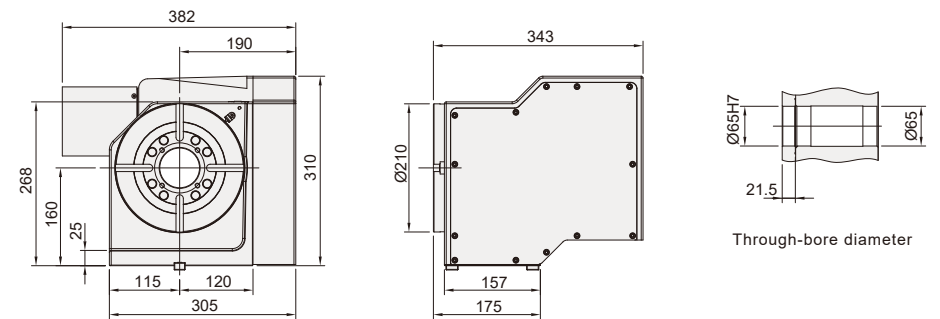
Unit : mm

GV-170SB



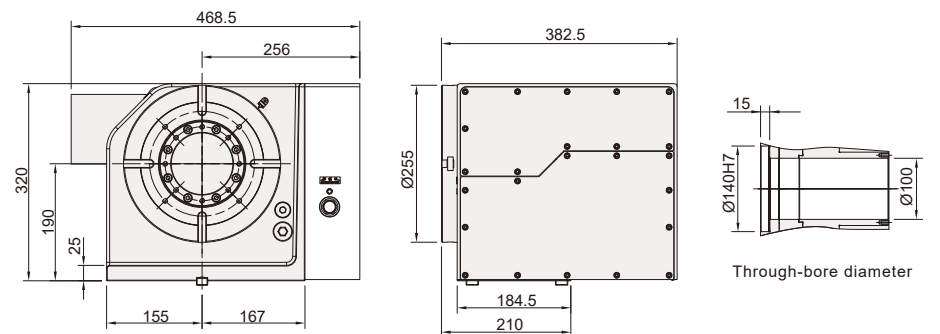
Equipped with upgraded high precision cross roller bearing.

GVA-210SB



Equipped with upgraded high precision cross roller bearing.

GVA-255HBII

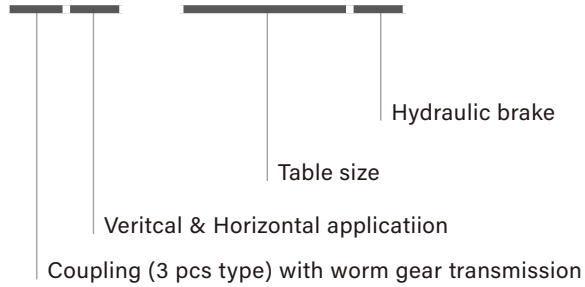


Consolidated spindle with YRT bearing built-in.

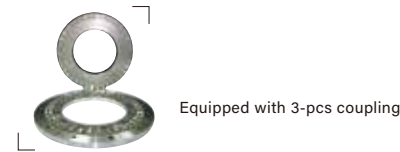
Note: The length of servo guard may vary with servo motor type.
 (metal sheet dimensions shown above are based on Fanuc motor)

CNC Index Table

CX - 255H



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



SPECIFICATIONS

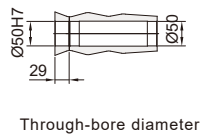
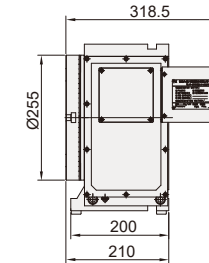
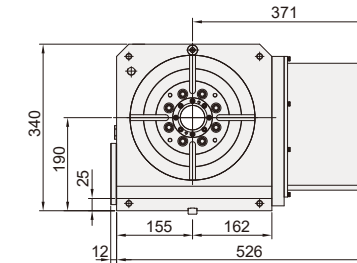
MODEL	Unit	CX-255H	CX-320H	CX-400H	CX-500H	
Worktable diameter	mm / inch	Ø255 / Ø10.04	Ø320 / Ø12.60	Ø400 / Ø15.75	Ø500 / Ø19.69	
Center bore diameter	mm / inch	Ø50H7 / Ø1.97H7	Ø70H7 / Ø2.76H7	Ø110H7 / Ø4.33H7	Ø130H7 / Ø5.12H7	
Through-bore diameter	mm / inch	Ø50 / Ø1.97	Ø70 / Ø2.76	Ø110 / Ø4.33	Ø130 / Ø5.12	
Height of table (horizontal)	mm / inch	210 / 8.27	235 / 9.25	255 / 10.04	281 / 11.06	
Height of center (vertical)	mm / inch	190 / 7.48	210 / 8.27	255 / 10.04	310 / 12.20	
Width of T-slot	mm / inch	12H7 / 0.47H7	14H7 / 0.55H7	14H7 / 0.55H7	18H7 / 0.71H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method / pressure	MPa / psi	Hydraulic 3.5 / 508	Hydraulic 3.5 / 508	Hydraulic 3.5 / 508	Hydraulic 3.5 / 508	
Clamping torque	N.m / ft. lbs.	3000 / 2211	4000 / 2948	5000 / 3685	10000 / 7370	
Servo motor spec		refer to page 73				
Transmission ratio		1 / 120	1 / 120	1 / 144	1 / 180	
Max. table speed / at specified servo motor speed	min ⁻¹	22.2 / 2664	22.2 / 2664	11.1 / 1600	11.1 / 2000	
Allowable loading inertia ($\frac{W \cdot D^2}{8}$)	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
	Rotary Tailstock applied	kg / lb	300 / 660	400 / 880	500 / 1100	600 / 1320
FxL When table clamped		N / lbs	16000 / 3590.4	20000 / 4488.0	30000 / 6732.0	40000 / 8976.0
		N.m / ft. lbs.	1750 / 1289.75	2500 / 1842.5	3000 / 2211.0	6000 / 4422.0
		N.m / ft. lbs.	3000 / 2211.0	4000 / 2948.0	5000 / 3685.0	10000 / 7370.0
Drive torque	N.m / ft. lbs.	240 / 176.9 (motor α iF4) 480 / 353.8 (motor α iF8)	720 / 530.2	864 / 618.5	1080 / 795.3	

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

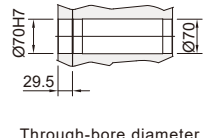
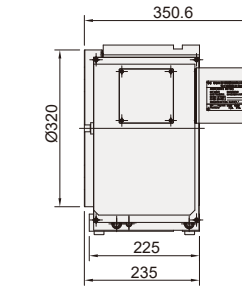
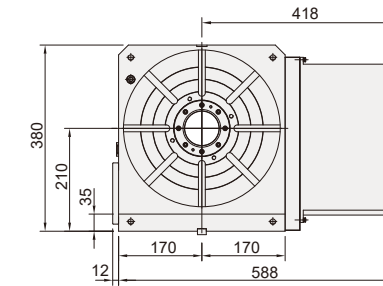
DIMENSIONAL DRAWINGS

Unit : mm

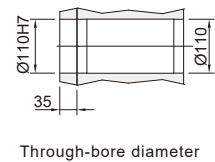
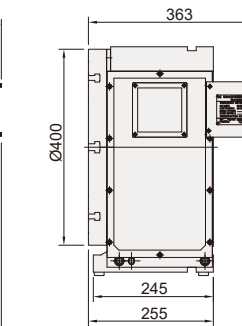
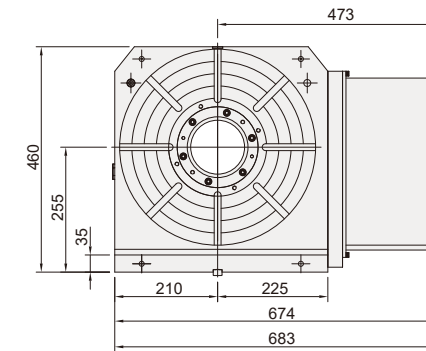
CX-255H



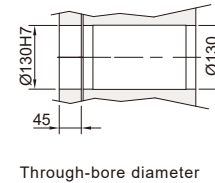
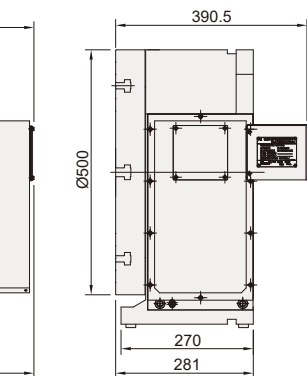
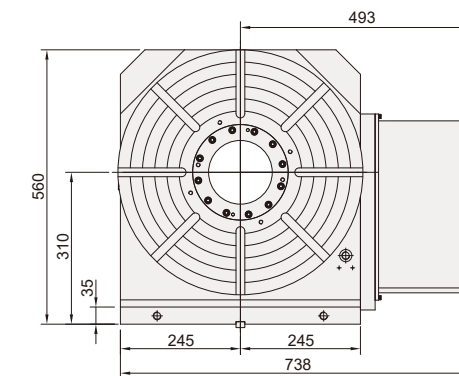
CX-320H



CX-400H



CX-500H



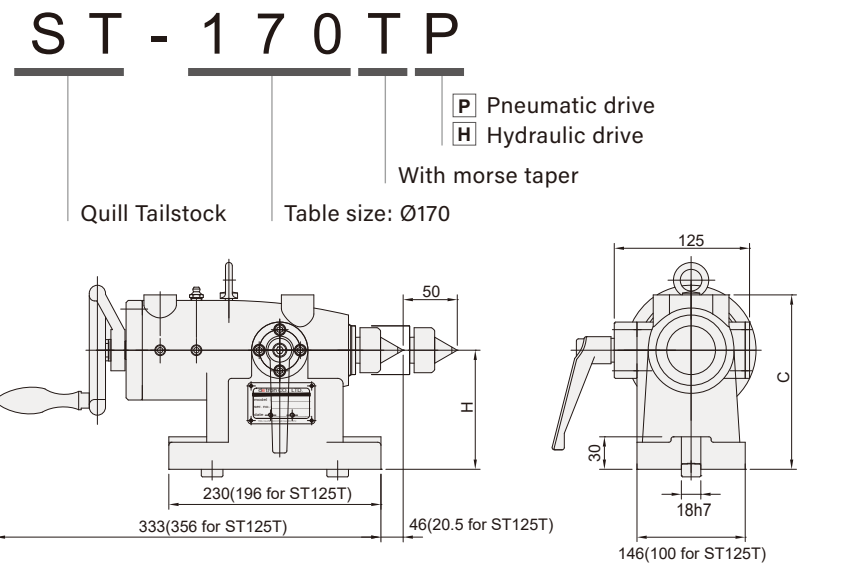
Note: The length of servo guard may vary with servo motor type.
(metal sheet dimensions shown above are based on Fanuc motor)

ST-T/TP/TH series

SR-P/H series

Quill Tailstock

Manual Quill Tailstock



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

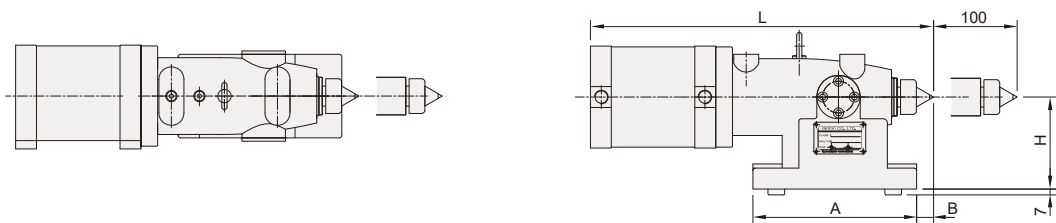


Pneumatic manual switch valve (optional)



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.

Rotary Tailstock

SR - 170 P



Pneumatic clamping
 Hydraulic clamping

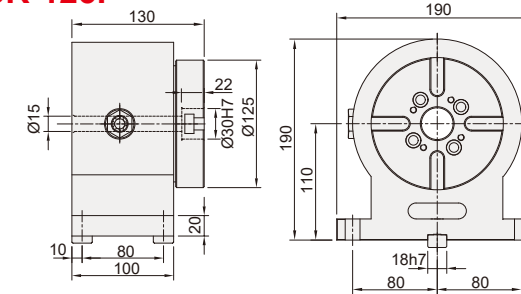
Rotary tailstock Table size: Ø170

MODEL	SR-125P	SR-170P	SR-210P	SR-255H	SR-320H	SR-400H	SR-500H
Clamping torque (N.m)	70	130	130	400	400	1600	2400
Clamping method / pressure(MPa)	Pneumatic 0.55~0.7			Hydraulic 5			
Net weight (Kg)	20	28	33	58	70	140	265

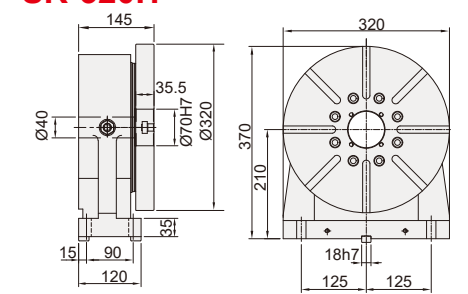
Note: SR rotary tailstock without brake is available, please contact the local agent for application info.

DIMENSIONAL DRAWINGS

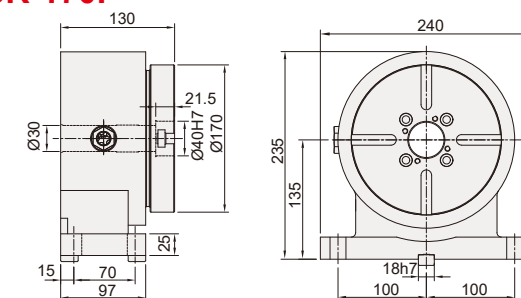
SR-125P



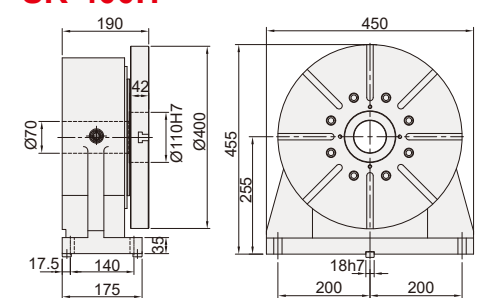
SR-320H



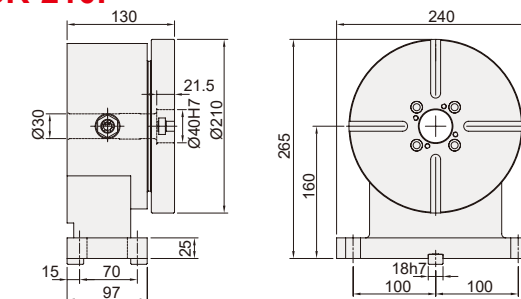
SR-170P



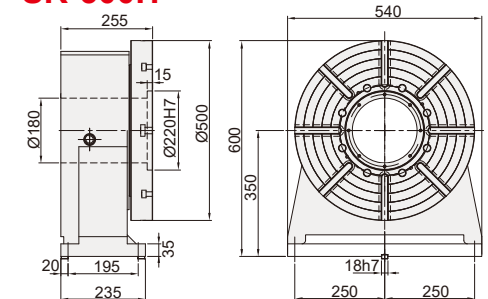
SR-400H



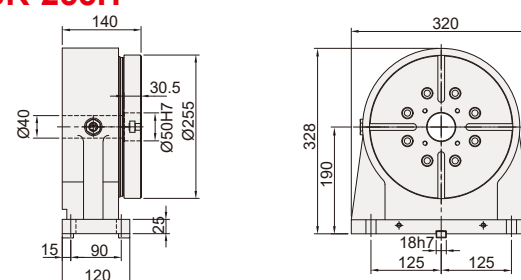
SR-210P



SR-500H



SR-255H



CNC Tilting Rotary Table



GFA-125S

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

- Worktable diameter Ø100, Ø125, Ø170, Ø200.
- 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)



SPECIFICATIONS

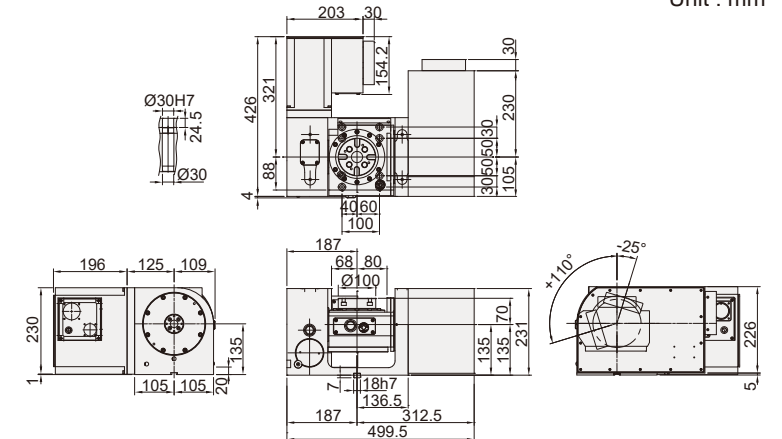
MODEL	Unit	GFA-101S	GFA-125S	GFA-170SII/HII	GFA-200ESII/HII	
Worktable diameter	mm / inch	Ø100 / Ø3.94	Ø125 / Ø4.92	Ø170 / Ø6.69	Ø200 / Ø7.87	
Center bore diameter	mm / inch	Ø30H7 / Ø1.18H7	Ø30H7 / Ø1.18H7	Ø40H7 / Ø1.57H7	Ø40H7 / Ø1.57H7	
Height of table (horizontal)	mm / inch	205 / 8.07	224.5 / 8.84	260 / 10.24	260 / 10.24	
Height of center (vertical)	mm / inch	135 / 5.31	160 / 6.30	190 / 7.48	190 / 7.48	
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method /pressure	MPa / psi	P:0.55~0.7/79.8~101.5	P:0.55~0.7/79.8~101.5	P:0.55~0.7/79.8~101.5 H:2.5/363	P:0.55~0.7/79.8~101.5 H:2.5/363	
Servo motor spec	refer to page 74					
Transmission ratio		R 1:75	T 1:120	R 1:90	T 1:90	
Max. table speed / at specified servo motor speed	min ⁻¹	33.3 / 2500	16.6 / 2000	44.4 / 4000	44.4 / 4000	
Clamping torque	N.m / ft. lbs.	200 / 148	250 / 184	140 / 103	300 / 221	
Allowable loading capacity	In Horizontal	kg / lb	35 / 77	50 / 110	75 / 165	75 / 165
	In Tilting (0~90°)	kg / lb	20 / 44	35 / 77	50 / 110	50 / 110
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	24 / 17.69	24 / 17.69	40 / 29.5	40 / 29.5
FxL When table clamped	F	N / lbs	4000 / 897.60	4000 / 897.60	7000 / 1570.8	7000 / 1570.8
	FxL	N.m / ft. lbs.	200 / 147.4	140 / 103.2	300 / 221 450 / 332	300 / 221 450 / 332
	FxL	N.m / ft. lbs.	250 / 184.25	300 / 221.1	400 / 295 700 / 516	400 / 295 700 / 516
Allowable loading inertia	$\frac{W \cdot D^2}{8}$	kg.m ²	0.044	0.1	0.28	0.28
Resolution	deg.		0.001	0.001	0.001	0.001
Indexing accuracy	sec		40" 60"	40" 60"	20" 60"	20" 60"
Repeatability	sec		6" 8"	6" 8"	6" 8"	6" 8"
Tilting angle range	deg.		-25 ~ +110	-30 ~ +120	-30 ~ +120	-30 ~ +120
Net weight (servo motor excluded)	kg / lb		90 / 198	120 / 264	180 / 396	180 / 396
Allowable cutting torque	N.m / ft. lbs.		85 / 62.65	85 / 62.65	200 / 147.4	200 / 147.4
Allowable Max. rotary joint quantity	Port		-	3	4	4

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

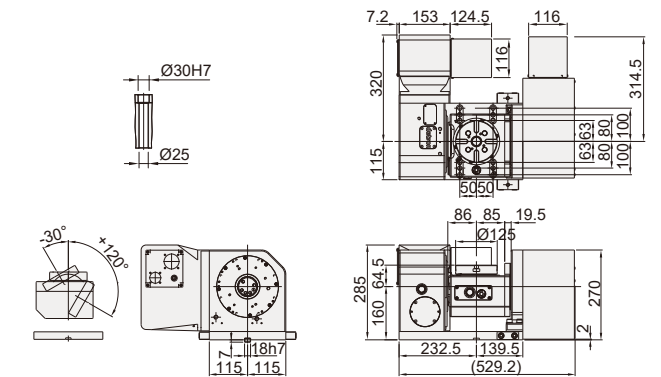
DIMENSIONAL DRAWINGS

Unit : mm

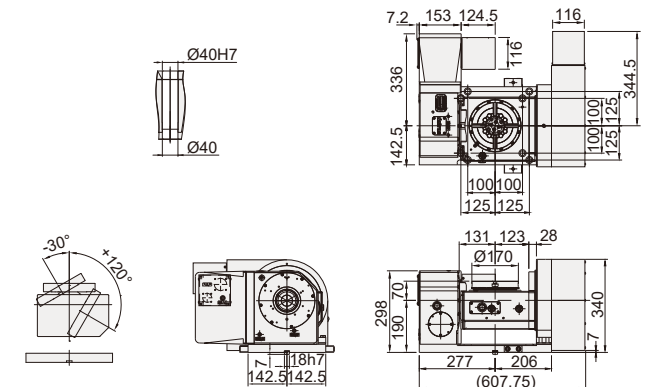
GFA-101S



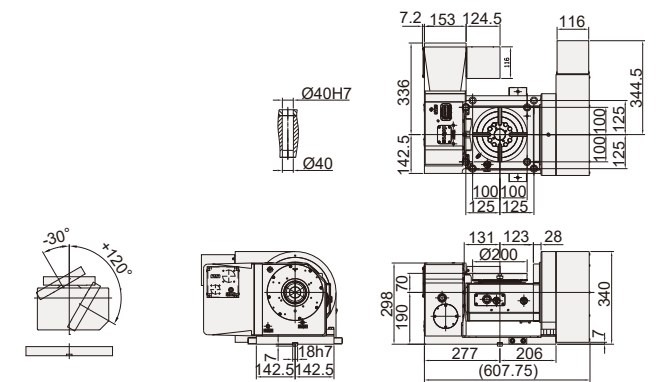
GFA-125S



GFA-170SII/HII



GFA-200ESII/HII



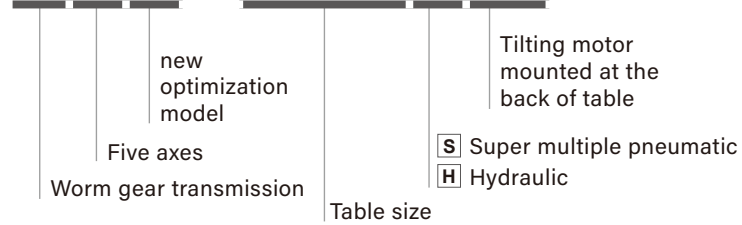
Note: 1. The length of servo guard may vary with servo motor type. (the metal sheet dimensions shown at above are based on Fanuc motor)
2. Allowable wheel torque at table speed of 1 min⁻¹.
3. According to application engineering, optical encoder is recommended for tilting axis.

GFA-H/HB series

CNC Tilting Rotary Table



GFA - 255H(B)



- Worktable diameter Ø210, Ø255, Ø320.
- The hydraulic brake equipped with radial and axial bearings.(P.18)
- Exclusive **patented dual pneumatic piston braking system**.(P.19) (GFA-210S)
- Enlarged the **high precision cross roller bearing**. (GFA-210S)
- 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. (GFA-255H/GFA-320H)

SPECIFICATIONS

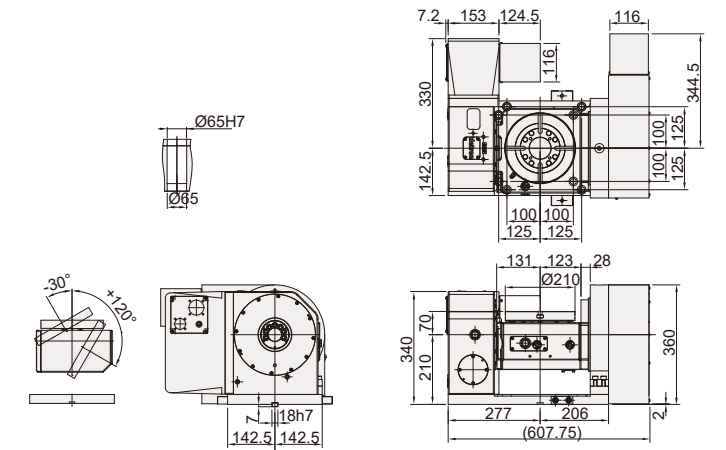
MODEL	Unit	GFA-210S/H	GFA-255H/HB	GFA-320H	
Worktable diameter	mm / inch	Ø210 / Ø8.26	Ø255 / Ø10.04	Ø320 / Ø12.60	
Center bore diameter	mm / inch	Ø65H7 / Ø2.55H7	Ø140H7 / Ø5.51H7	Ø180H7 / Ø7.09H7	
Height of table (horizontal)	mm / inch	280 / 11	325 / 12.8	355 / 13.98	
Height of center (vertical)	mm / inch	210 / 8.26	225 / 8.86	255 / 10.04	
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	14H7 / 0.55H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method /pressure	MPa / psi	S:0.55~0.7 / 79.7~101 H:2.5 / 362.5	Hydraulic 5 / 725	Hydraulic 5 / 725	
Servo motor spec		refer to page 74			
Transmission ratio		R: 1:90 T: 1:90	R: 1:90 T: 1:120	R: 1:120 T: 1:120	
Max. table speed / at specified servo motor speed	min ⁻¹	33.3 / 3000 22.2 / 2000	22.2 / 2000 16.6 / 2000	22.2 / 2664 16.6 / 2000	
Clamping torque	N.m / ft. lbs.	400 / 295 600 / 442	600 / 442 800 / 590	900 / 663.8 900 / 663.8	1600 / 1179.2 1600 / 1179.2
Allowable loading capacity	In Horizontal	kg / lb	100 / 220	120 / 264	200 / 440
	In Tilting (0~90°)	kg / lb	70 / 154	90 / 166.33	150 / 330
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	62 / 46	92 / 68	130 / 95.8
FxL When table clamped	F	N / lbs	14000 / 3147	16000 / 3590.40	20000 / 4488.0
	FxL	N.m / ft. lbs.	400 / 295 600 / 442	900 / 663.8	1600 / 1179.2
	FxL	N.m / ft. lbs.	600 / 442 800 / 590	900 / 663.8	1600 / 1179.2
Allowable loading inertia	($\frac{W \cdot D^2}{8}$)	kg.m ²	0.55	0.98	2.6
Resolution	deg.		0.001	0.001	0.001
Indexing accuracy	sec		15" 50"	15" 50"	15" 50"
Repeatability	sec		6" 8"	6" 8"	6" 8"
Tilting angle range	deg.		-30 ~ +120	-30 ~ +120	-30 ~ +120
Net weight (servo motor excluded)	kg / lb		230 / 507 320 / 704 347 / 765	470 / 1037	
Allowable cutting torque	N.m / ft. lbs.		250 / 184	370 / 272.9	780 / 569.4
Allowable Max. rotary joint quantity	Port		4	6 / 6	6

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

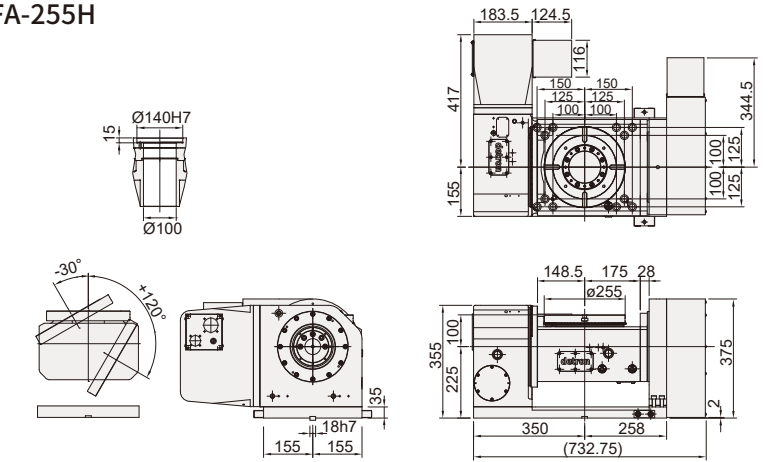
DIMENSIONAL DRAWINGS

Unit : mm

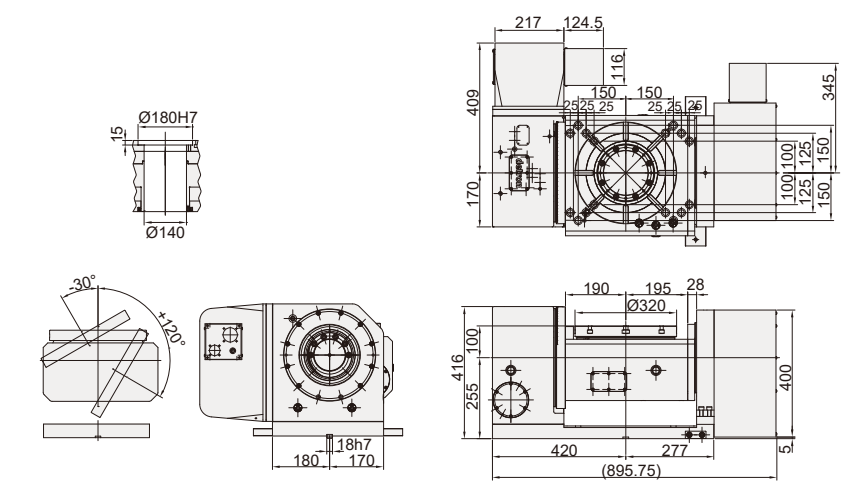
GFA-210S/H



GFA-255H Optional Interface For BT / HSK / CAPTO Tool Holder Available For GFA-255H



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.

CNC Trunnion Tilting Rotary Table

G T F A E - 4 1 0 X B



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

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

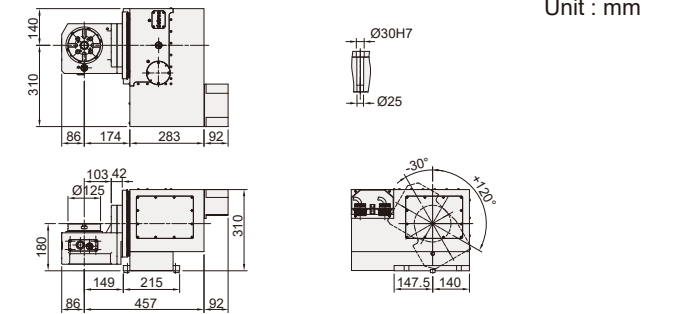
SPECIFICATIONS

MODEL	Unit	GTFAS-125S	GTFAE-210S	GTFAE-320XB/H	GTFAE-410XB				
Worktable diameter	mm / inch	Ø125 / Ø4.92	Ø210 / Ø8.27	Ø320 / Ø12.60	Ø410 / Ø16.14				
Center bore diameter	mm / inch	Ø30H7 / Ø1.18H7	Ø40H7 / Ø1.57H7	Ø50H7 / Ø1.97H7	Ø70H7 / Ø2.76H7				
Height of table (horizontal)	mm / inch	180 / 7.09	375 / 14.76	365 / 14.37 317 / 12.48	411 / 16.18				
Height of center (vertical)	mm / inch	180 / 7.09	375 / 14.76	365 / 14.37 317 / 12.48	411 / 16.18				
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	12H7 / 0.47H7	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				
Servo motor spec		refer to page 74							
Transmission ratio		R 1:60	T 1:90	R 1:90 T 1:90	R 1:100 T 1:120				
Max. table speed / at specified servo motor speed	min ⁻¹	33.3 / 2000	22.2 / 2000	33.3 / 3000	22.2 / 2000	25 / 2500	16.6 / 2000	16.6 / 2000	11.1 / 1666
Clamping torque	N.m / ft. lbs.	140 / 103.26	900 / 663.8	400 / 295	600/442.48	750/553.17	1500/1106.25	1600/1180	2000/1475
Allowable loading capacity	In Horizontal	kg / lb	30 / 66	100 / 220	200 / 440	200 / 440			
	In Tilting (0~90°)	kg / lb	30 / 66	70 / 154.3	100 / 220	150 / 330			
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	27 / 19.91	53 / 39.06	100 / 73.70	200 / 147.40			
	F	N / lbs	2800 / 629.5	14000 / 3141.60	16000 / 3590.40	20000 / 4488.0			
FxL When table clamped	FxL	N.m / ft. lbs.	140 / 103.26	400 / 295	750 / 553.17	1600 / 1180			
	FxL	N.m / ft. lbs.	900 / 663.8	600 / 442.48	1500 / 1106.25	2000 / 1475			
Allowable loading inertia	($\frac{W \cdot D^2}{8}$)	kg.m ²	0.06	0.55	2.6	4.3			
Resolution	deg.	0.001	0.001	0.001	0.001				
Indexing accuracy	sec	40" 60"	20" 60"	20" 60"	15" 60"				
Repeatability	sec	6" 8"	6" 8"	6" 8"	6" 8"				
Tilting angle range	deg.	-30 ~ +120	-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				
Allowable cutting torque	N.m / ft. lbs.	85 / 62.69	260 / 191.6	550 / 401.5	780 / 569.4				
Allowable Max. rotary joint quantity	Port	-	4	6	6				

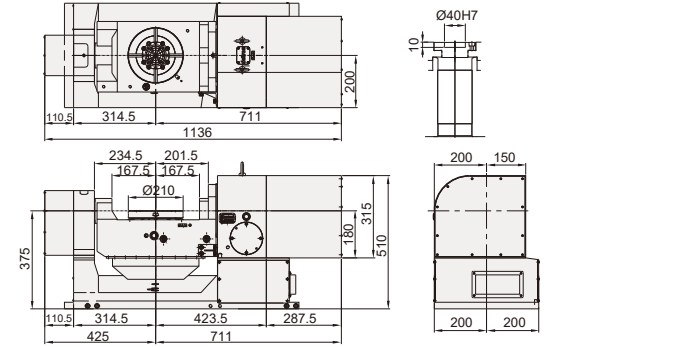
- Note: 1. P: Pneumatic H:Hydraulic R: Rotary Axis T: Tilt Axis
 2. For the motor model selection of GTFAS125S, please contact us.
 3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

DIMENSIONAL DRAWINGS

GTFAS-125S



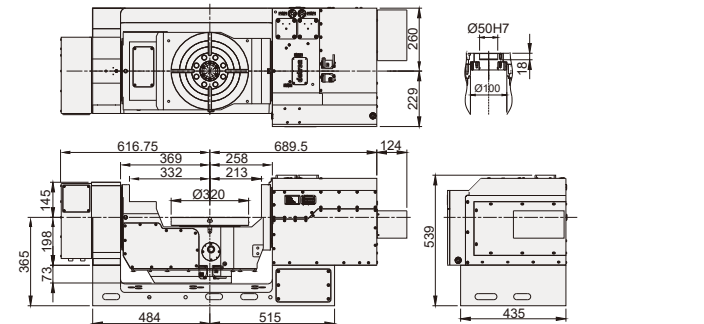
GTFAE-210S



GTFAE-320XB



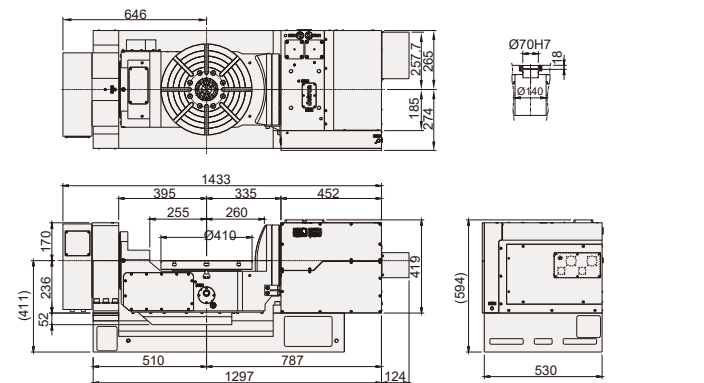
air-oil converter built-in



GTFAE-410XB



air-oil converter built-in



▲ Optional: Motor Cover At Front (GTFAS350H)



▲ GTFAE-410HBSL With Customized Base

- 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.

CNC Trunnion Tilting Rotary Table



G T F A - 6 5 0 E H B

- Five axis
- Trunnion type for lower gravity
- Worm gear transmission
- Table size
- new optimization model
- Tilting motor mounted at the back of table
- Enlarged worktable (E)
- Reduced worktable (R)
- hydraulic clamp by air booster converter built-in (X)
- superior pneumatic clamp (S)
- hydraulic brake (H)

- 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.**

SPECIFICATIONS

MODEL	Unit	GTFAE-500XB	GTFA-650EHB	GTFAI-650EHB GTFAI-720EHB			
Worktable diameter	mm / inch	Ø500 / Ø19.69	Ø650x520W / Ø26x20W	Ø650x520W / Ø26x20W Ø720 / Ø28			
Center bore diameter	mm / inch	Ø70H7 / Ø2.76H7	Ø70H7 / Ø2.76H7	Ø70H7 / Ø2.76H7			
Height of table (horizontal)	mm / inch	460 / 18.11	295 / 12	250 / 9.8			
Height of center (vertical)	mm / inch	460 / 18.11	345 / 14	300 / 11.8			
Width of T-slot	mm / inch	14H7 / 0.55H7	18H7 / 0.7H7	18H7 / 0.7H7			
Clamping method /pressure	MPa / psi	*P: 0.6~0.7 / 87~101.5	*H:4 / 580	*H:4 / 580			
Servo motor spec		refer to page 74					
Transmission ratio		R 1:120	T 1:180	R 1:72	T 1:120	R 1:72	T 1:120
Max. table speed / at specified servo motor speed	min ⁻¹	16.6 / 2000	11.1 / 2000	25 / 1800	25 / 3000	25 / 1800	25 / 3000
Clamping torque	N.m / ft. lbs.	2500/1843.75	3000/2212.5	2000	3400	2000	3400
Allowable loading capacity	In Horizontal	kg / lb	300 / 660	300 / 660	300 / 660		
	In Tilting (0~90°)	kg / lb	250 / 550	300 / 660	300 / 660		
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	300 / 221.0	300 / 221	300 / 221		
	F	N / lbs	30000 / 6744	30000 / 6744	30000 / 6744		
FxL When table clamped	FxL	N.m / ft. lbs.	2500 / 1844	2000 / 1475	2000 / 1475		
	FxL	N.m / ft. lbs.	3000 / 2213	3400 / 2508	3400 / 2508		
Allowable loading inertia	$\frac{W \cdot D^2}{8}$	kg.m ²	9.6	9.4	9.4		
Resolution	deg.		0.001	0.001	0.001		
Indexing accuracy	sec		15"	60"	15"	60"	
Repeatability	sec		6"	8"	6"	8"	
Tilting angle range	deg.		-120 ~ +30	-90 ~ +110	-90 ~ +110		
Net weight (servo motor excluded)	kg / lb		1270 / 2794	1228	1178		
Allowable cutting torque	N.m / ft. lbs.		1700 / 1254	1700 / 1254	1700 / 1254		
Allowable Max. rotary joint quantity	Port		6	6	6		

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

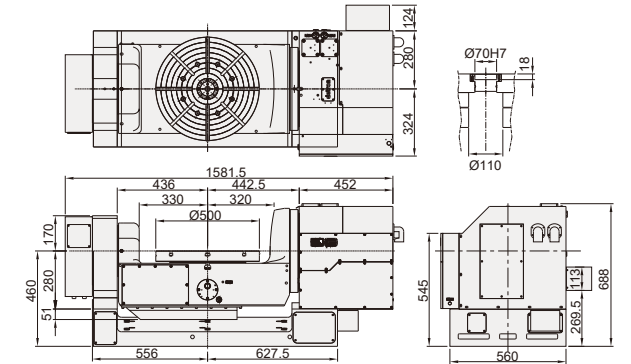
DIMENSIONAL DRAWINGS

Unit : mm

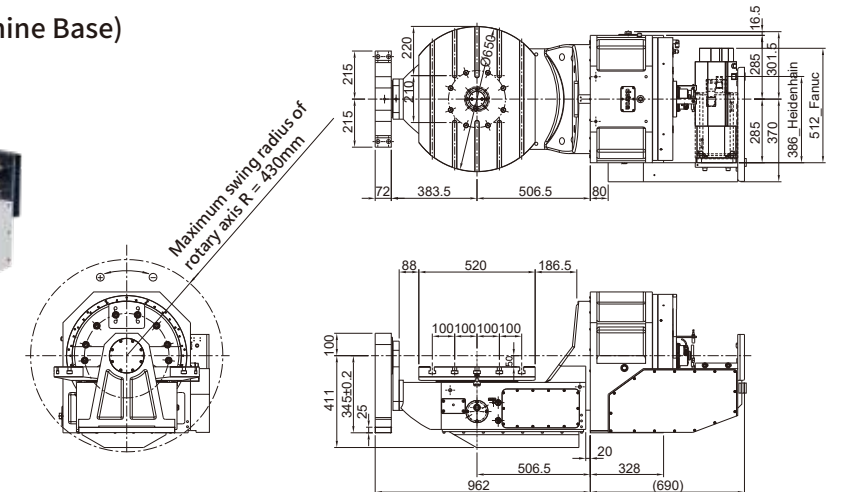
GTFAE-500XB



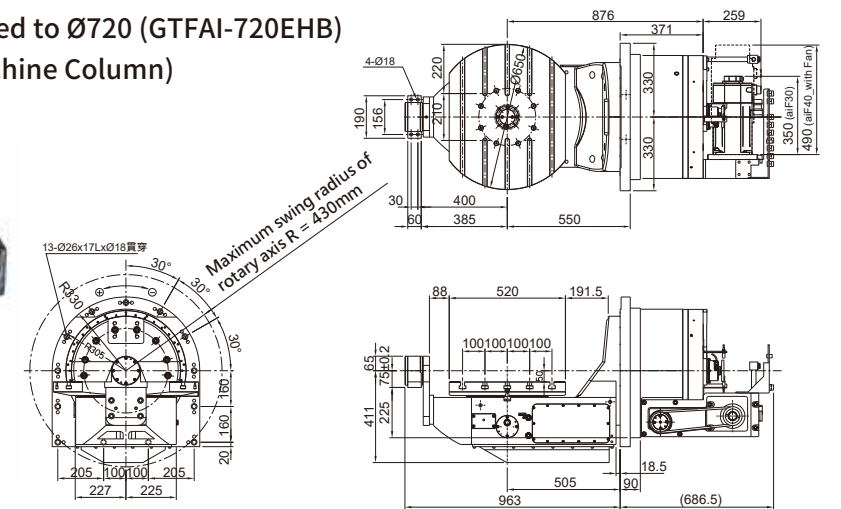
With 2 sets of built-in air-booster



GTFA-650EHB (Tilting Axis Fixed On Machine Base)



GTFAI-650EHB Worktable can be enlarged to Ø720 (GTFAI-720EHB) (Tilting Axis Fixed On Machine Column)



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

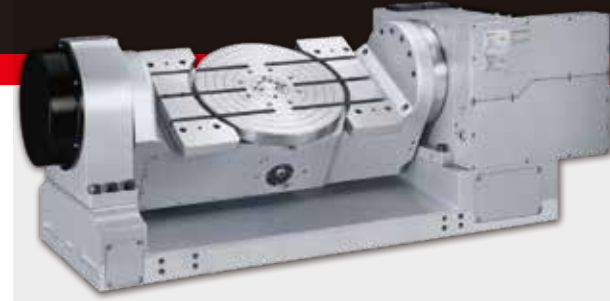
CNC Trunnion Tilting Rotary Table

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

Flat supplemental base for standard 3 axis M/C
 new optimization model
 Five axis Trunnion type for lower gravity
 Worm gear transmission

with sub-table enlarged swing scope
 Tilting motor mounted at the back of table
 X hydraulic clamp by air booster converter built-in
 S superior pneumatic clamp
 H hydraulic brake

Table size



- Worktable diameter, 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

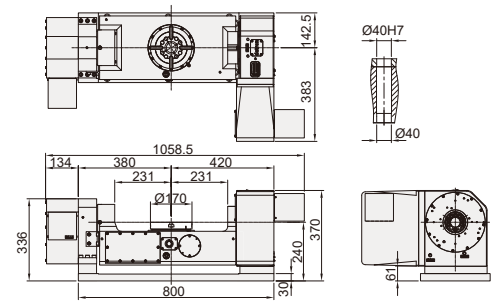
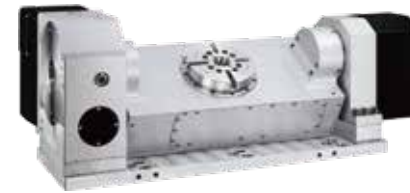
MODEL	Unit	GTFAE-170SL	GTFAE-255SBL(S)	GTFAE-320XBL(S)	GTFAE-410XBL(S)/HL(S)	GTFAE-500XBL					
Worktable diameter	mm / inch	Ø170 / Ø6.69	Ø255 / Ø10.455	Ø320 / Ø12.60	Ø410 / Ø16.14	Ø500 / Ø19.69					
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7	Ø40H7 / Ø1.57H7	Ø50H7 / Ø1.97H7	Ø70H7 / Ø2.76H7	Ø70H7 / 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 74									
Transmission ratio		R	T	R	T	R	THL(S)	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 / at specified servo motor speed	min ⁻¹	22.2 / 2000	22.2 / 2000	22.2 / 2000	16.6 / 2000	25 / 2500	16.6 / 2000	16.6 / 2000	11.1 / 1685 1332	16.6 / 2000	11.1 / 2000
Clamping torque	N.m / ft. lbs.	300/221	400/294.7	400/295	600/442.48	750/553.17	1500/1106.25	1600/1180	2000/1475	2500/1843.75	3000/2212.5
Allowable loading capacity	In Horizontal	kg / lb	75 / 165	100 / 220	200 / 440	200 / 440	200 / 440	200 / 440	200 / 440	300 / 660	300 / 660
	In Tilting (0~90°)	kg / lb	50 / 110	75 / 165	100 / 220	150 / 330	150 / 330	150 / 330	150 / 330	250 / 550	250 / 550
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	40 / 29.5	53 / 39.06	100 / 73.7	200 / 147.40	200 / 147.40	200 / 147.40	200 / 147.40	300 / 221.0	300 / 221.0
FxL When table clamped	F	N / lbs	7000 / 1570.8	20000 / 4488.0	20000 / 4488.0	20000 / 4488.0	20000 / 4488.0	20000 / 4488.0	20000 / 4488.0	30000 / 6732.0	30000 / 6732.0
	FxL	N.m / ft. lbs.	300 / 221	400 / 295	750 / 553.17	1600 / 1180	1600 / 1180	1600 / 1180	1600 / 1180	2500 / 1843.75	2500 / 1843.75
Allowable loading inertia	FxL	N.m / ft. lbs.	400 / 294.7	600 / 442.48	1500 / 1106.25	2000 / 1475	2000 / 1475	2000 / 1475	2000 / 1475	3000 / 2212.5	3000 / 2212.5
	($\frac{W.D^2}{8}$)	kg.m ²	0.28	0.55	2.6	4.3	4.3	4.3	4.3	9.6	9.6
Resolution	deg.	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Indexing accuracy	sec	20" 60"	20" 60"	20" 60"	20" 60"	15" 60"	15" 60"	15" 60"	15" 60"	15" 60"	15" 60"
Repeatability	sec	6" 8"	6" 8"	6" 8"	6" 8"	6" 8"	6" 8"	6" 8"	6" 8"	6" 8"	6" 8"
Tilting angle range	deg.	-120 ~ +30	-120 ~ +30	-120 ~ +30	-120 ~ +30	-120 ~ +30	-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	1020 / 2175 850 / 1860	1020 / 2175 850 / 1860	1020 / 2175 850 / 1860	1020 / 2175 850 / 1860	1270 / 2800	1270 / 2800
Allowable cutting torque	N.m / ft. lbs.	200 / 147.4	250 / 182.5	550 / 401.5	780 / 569.4	780 / 569.4	780 / 569.4	780 / 569.4	780 / 569.4	1700 / 1241	1700 / 1241
Allowable Max. rotary joint quantity	Port	-	4	6	6	6	6	6	6	6	6

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

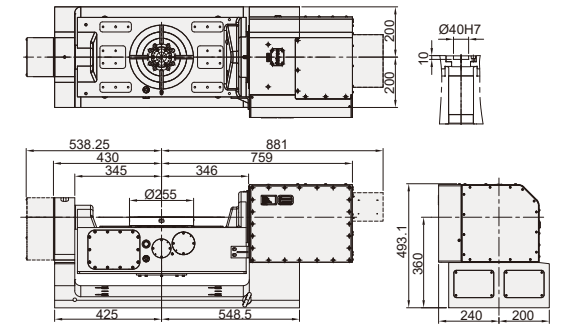
DIMENSIONAL DRAWINGS

Unit : mm

GTFAE-170SL

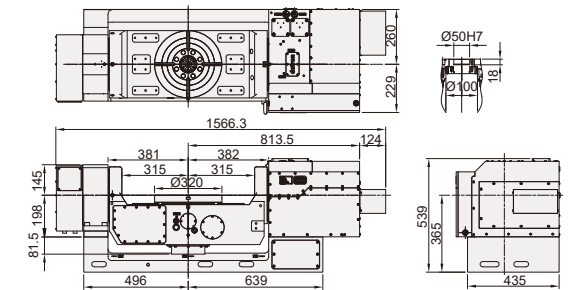
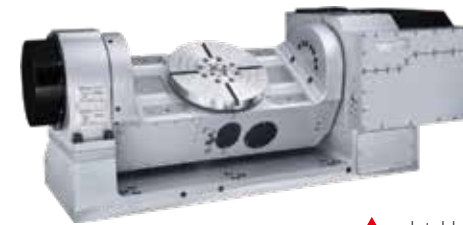


GTFAE-255SBL(S)



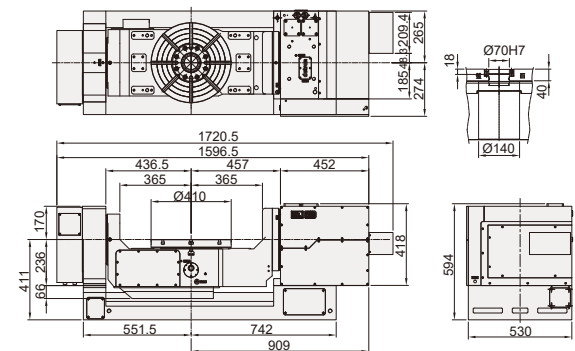
▲ sub table as available option

GTFAE-320XBL(S)



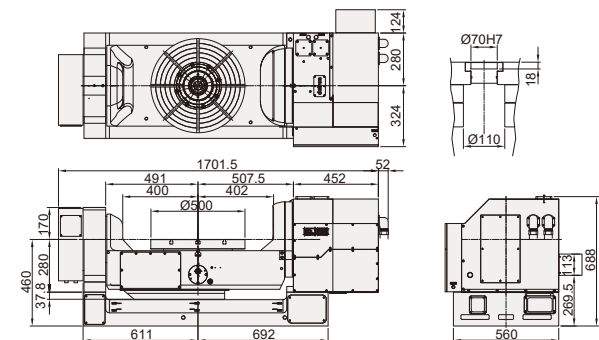
▲ sub table as available option

GTFAE-410XBL(S)



▲ sub table as available option

GTFAE-500XBL



▲ 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-2W/3W series

Multi Spindle Tilting Rotary Table

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



Flat supplemental base for standard 3 axis M/C

new optimization model

Five axes

Trunnion type for lower gravity

Worm gear transmission

rotary axis pitch

number of rotary axis

H hydraulic brake

S Super pneumatic brake

Table size

Worktable diameter Ø125, Ø210, Ø255

Multiple rotary axis allow high volume production and automation integration.

SPECIFICATIONS

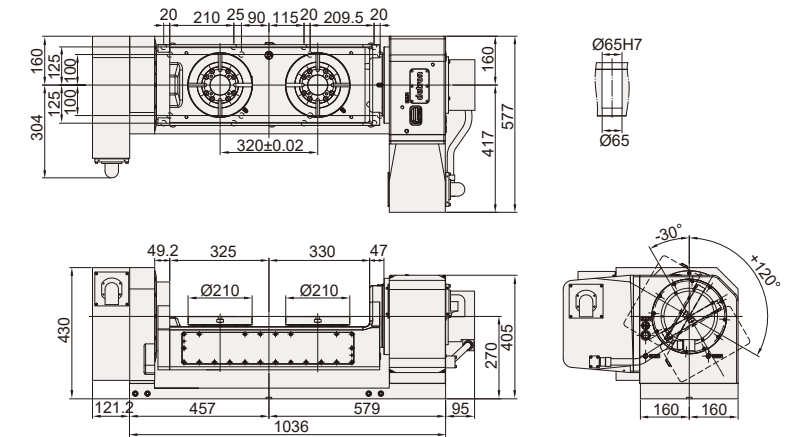
MODEL	Unit	GTFAE-210S-2W-320		GTFAE-255H-2W-400	
Worktable diameter	mm / inch	Ø210 / Ø8.27		Ø255 / Ø10.04	
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7		Ø40H7 / Ø1.57H7	
Pitch of rotary axis	mm / inch	320 / 12.60		400 / 15.75	
Max. work swing	mm / inch	310 / 12.20		390 / 15.35	
Height of table (horizontal)	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 74			
Transmission ratio		R	T	R	T
		1/90	1/120	1/90	1/120
Max. table speed / at specified servo motor speed	min ⁻¹	25 / 2250	22.2 / 2664	20 / 1800	16.2 / 2000
Clamping torque	N.m / ft. lbs.	400 / 295	900 / 663.8	900 / 663.8	2500 / 1843
Allowable loading capacity	In Horizontal	kg / lb	50 / 110	100 / 220	
	In Tilting (0~90°)	kg / lb	35 / 77	75 / 165	
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	92 / 68	130 / 95.8	
F _{xL} When table clamped	F	N / lbs	9800 / 2203	11000 / 2473	
	F _{xL}	N.m / ft. lbs.	400 / 295	900 / 663.8	
	F _{xL}	N.m / ft. lbs.	900 / 663.8	2500 / 1843	
Allowable loading inertia $(\frac{W.D^2}{8})$	kg.m ²		0.22	0.8	
Resolution	deg.		0.001	0.001	
Indexing accuracy	sec		20"	60"	20" 60"
Repeatability	sec		6"	8"	6" 8"
Tilting angle range	deg.		-30 ~ +120		-30 ~ +120
Net weight (servo motor excluded)	kg / lbs		440 / 970		856 / 1887
Allowable cutting torque	N.m / ft. lbs.		250 / 184		550 / 405

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

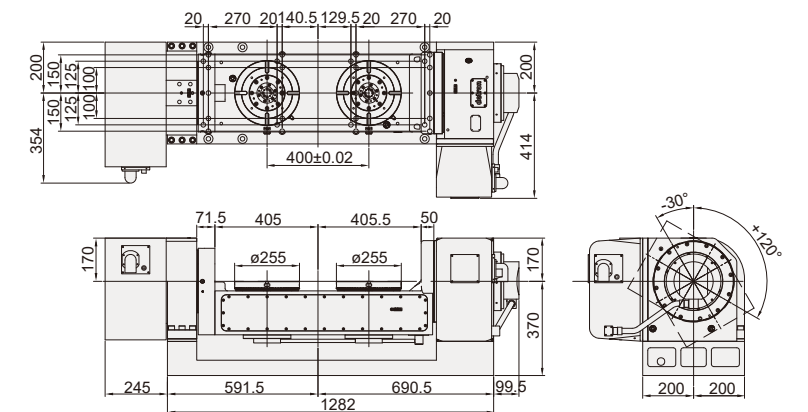
DIMENSIONAL DRAWINGS

Unit : mm

GTFAE-210S-2W-320

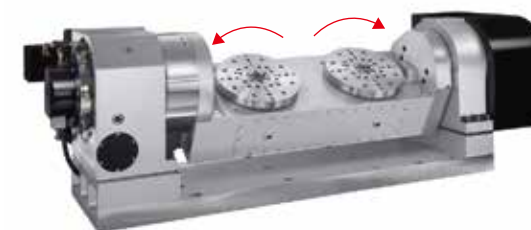


GTFAE-255H-2W-400



Hybrid Drive ▶▶▶

GTFAE-255H-2WS-400



Individual rotations on each axis.

GDTF-500HB-2W-600



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

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

Automatic Pallet Change System

CVR-660

Rack type | Pallet size
Double pallet system (C type)



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

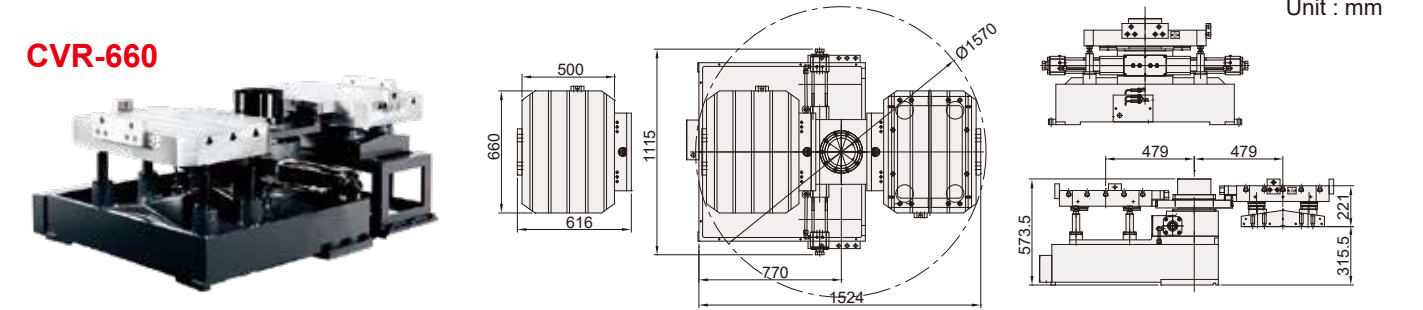
SPECIFICATIONS

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

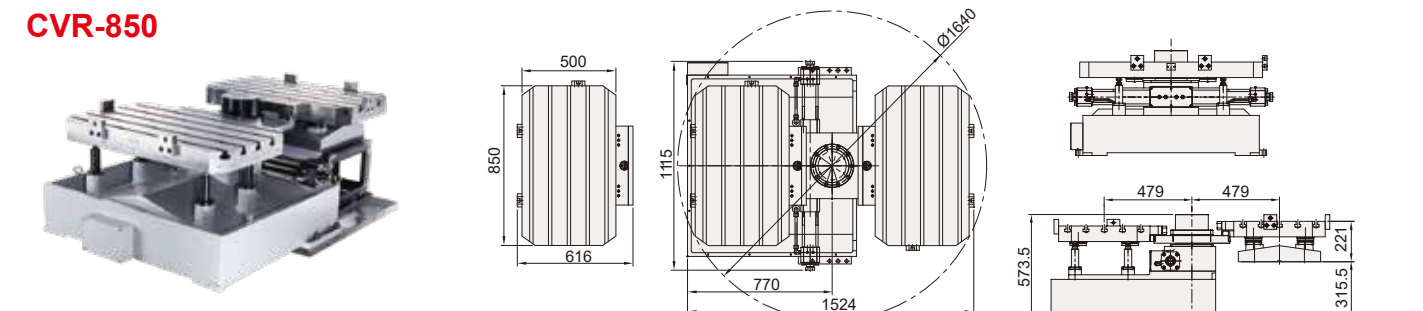
NOTE: 1. Pallet change time may varied with flow of pump, length and diameter of pipe.
2. Allowable loading inertia means the allowable value at the distance of 450mm between the loading gravity and the APC center.

DIMENSIONAL DRAWINGS

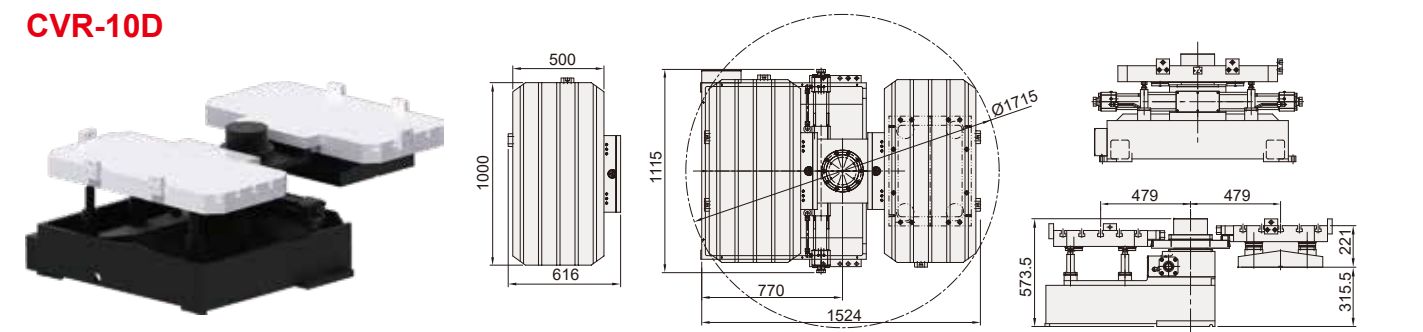
CVR-660



CVR-850



CVR-10D



SVC series

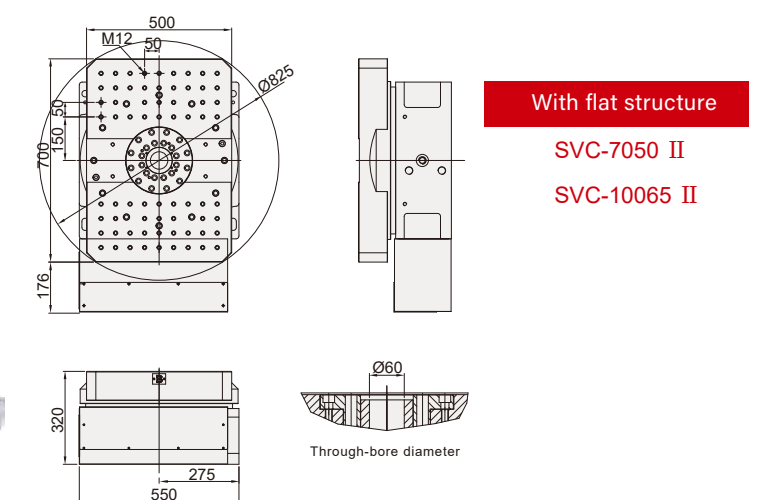
SVC-7050 II

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

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



Automatic Pallet Change System (Roller Gear Cam Type)

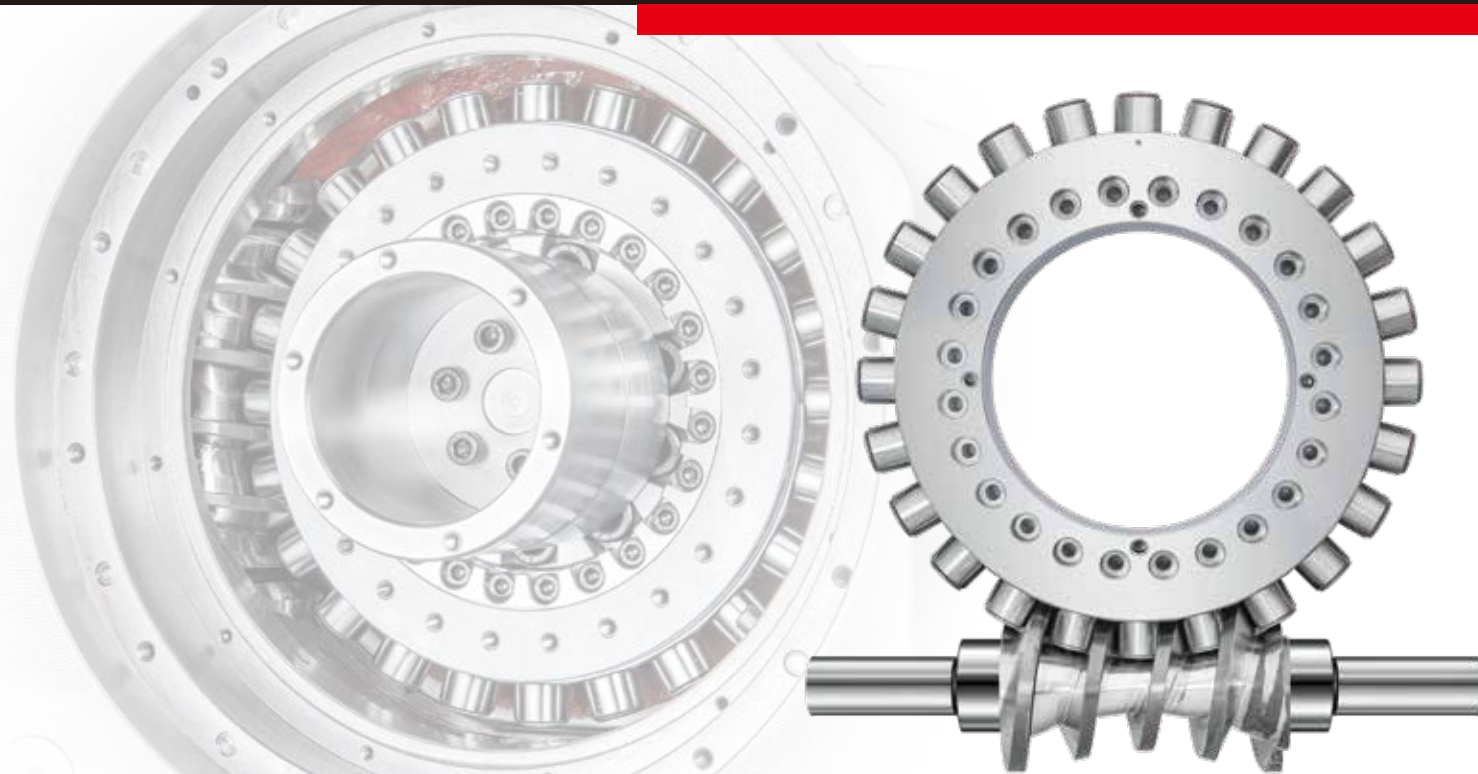


With flat structure

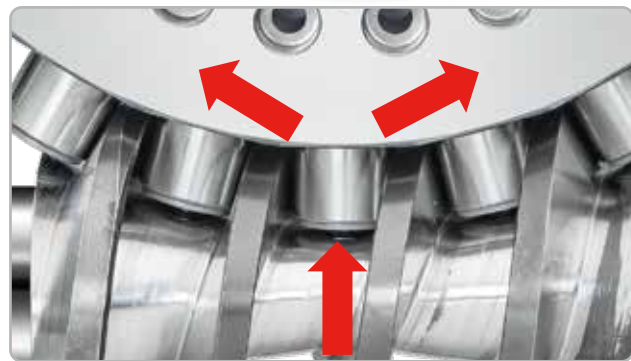
SVC-7050 II
SVC-10065 II

Zero-Backlash Roller Gear Cam Drive

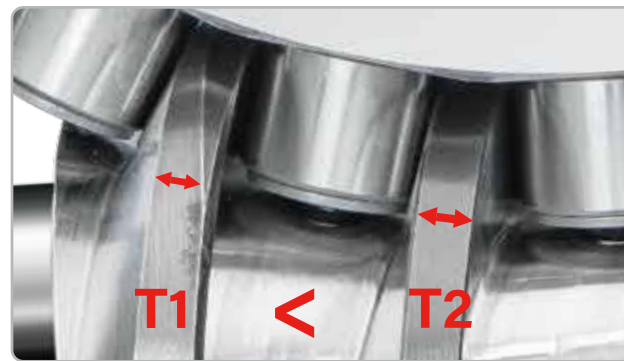
Core Technology



Dual Lead Cam Shaft Mechanism



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



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

Reliable Clamping Force



Hydraulic Model:

Special design of drum brake system.



Pneumatic Model:

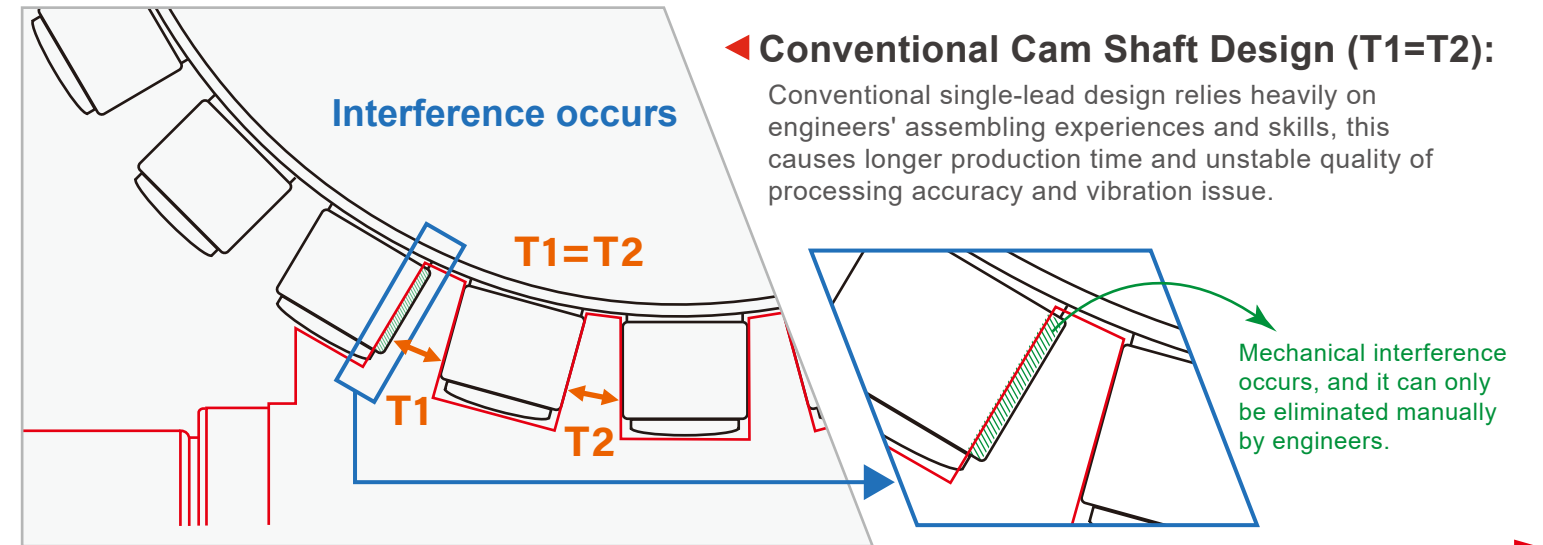
exclusive patented dual pistons design.



High Rigidity Consolidated Spindle

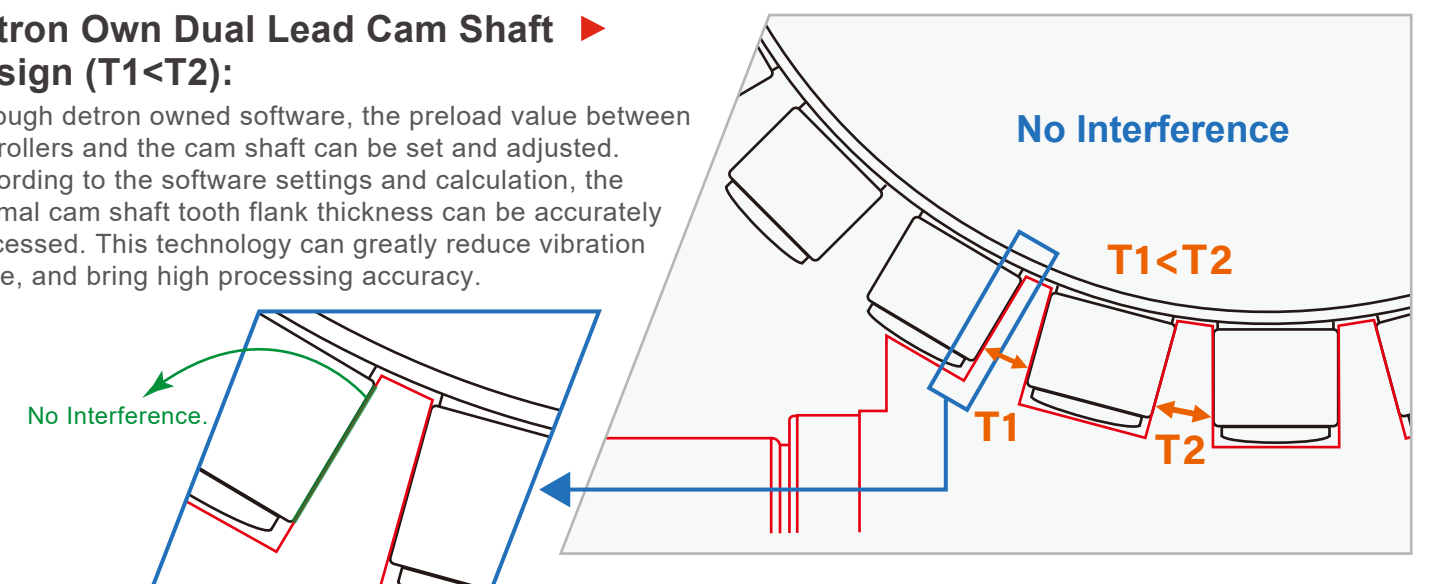
YRT bearing integrated in consolidated spindle with **least separate elements & premium rigidity.**

Dual Lead Cam Shaft Mechanism



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

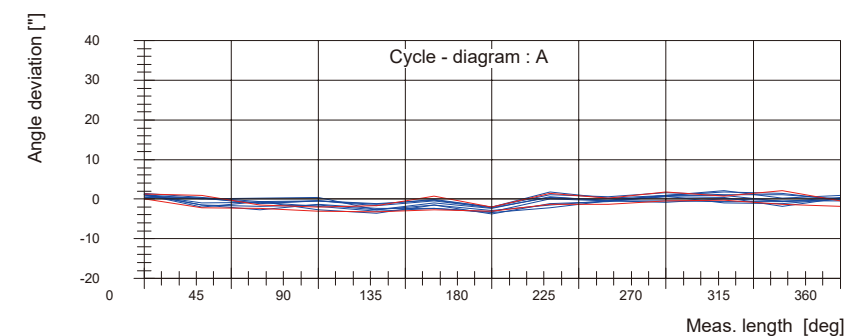
Through detron owned software, the preload value between the rollers and the cam shaft can be set and adjusted. According to the software settings and calculation, the optimal cam shaft tooth flank thickness can be accurately processed. This technology can greatly reduce vibration issue, and bring high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



Strict Inspection Norm



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



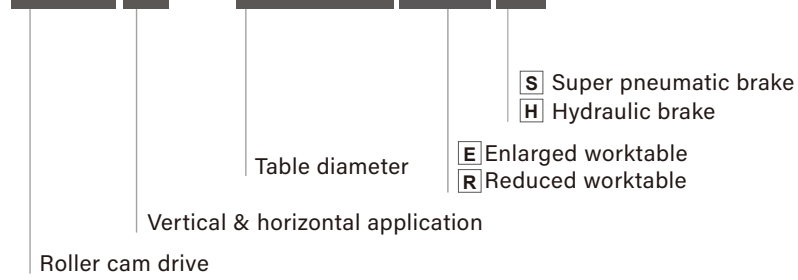
Accuracy Inspection upon ISO 230-2 international norm is operated with 5 continuous runs in clockwise and counterclockwise test.

Roller Gear Cam Drive Rotary Table

RCX-210S/H RCX-250ES/H
RCX-255H RCX-320H RCX-400H



RCX - 250 (E) S



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

SPECIFICATIONS

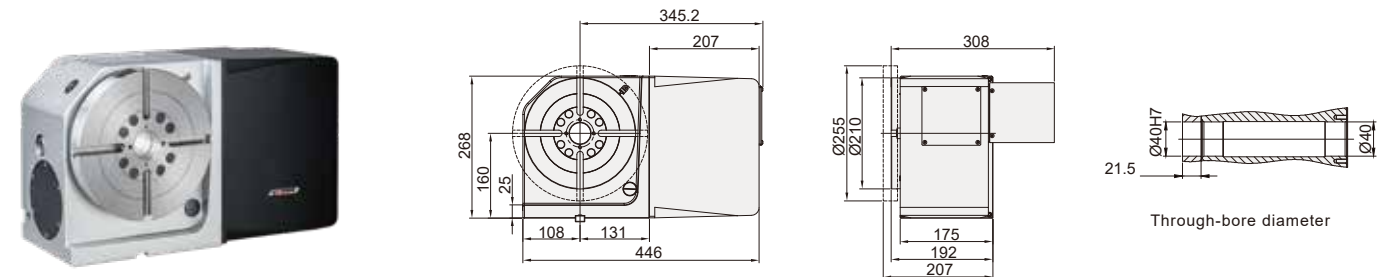
MODEL	Unit	RCX-210S/H RCX-250ES/H	RCX-255H	RCX-320H	RCX-400H	
Worktable diameter	mm / inch	Ø210 / Ø8.27 Ø250 / Ø9.84	Ø255 / Ø10.04	Ø320 / Ø12.59	Ø400 / Ø15.75	
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7	Ø140H7 / Ø5.51H7	Ø180H7 / Ø7.08H7	Ø220H7 / Ø8.66H7	
Through-bore diameter	mm / inch	Ø40 / Ø1.57	Ø100 / Ø3.9	Ø140 / Ø5.5	Ø180 / Ø7.09	
Height of table (horizontal)	mm / inch	192 / 7.6 207 / 8.15	216.5 / 8.5	235 / 9.25	255 / 10.04	
Height of center (vertical)	mm / inch	160 / 6.30	190 / 7.49	210 / 8.26	255 / 10.04	
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	14H7 / 0.55H7	14H7 / 0.55H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71	
Clamping method /pressure	MPa / psi	P:0.55~0.7/79.8~101.5 H:2.5/363	Hydraulic 5 / 725	Hydraulic 5 / 725	Hydraulic 5 / 725	
Clamping torque	N.m / ft. lbs.	400 / 295 600 / 443	1270 / 937	1600 / 1180	3000 / 2211	
Servo motor spec		refer to page 73				
Transmission ratio		1 / 24	1 / 48	1 / 48	1 / 60	
Max. table speed / at specified servo motor speed	min ⁻¹	83.3 / 2000	50 / 2400	50 / 2400	40 / 2400	
Standard loading inertia ($\frac{W \cdot D^2}{8}$)	Kg.m ²	0.72	2.43	5.12	15	
Resolution	deg.	0.001	0.001	0.001	0.001	
Indexing accuracy	sec.	20	20	15	15	
Repeatability	sec.	6	6	6	4	
Net weight (servo motor excluded)	kg / lb	70 / 154 78 / 172	126 / 278	193 / 425	262 / 577	
Allowable loading capacity	Vertical	kg / lb	100 / 220	150 / 331	200 / 440	250 / 550
	Horizontal	kg / lb	200 / 441	300 / 661	400 / 881	500 / 1100
	Tailstock applied	kg / lb	200 / 441	300 / 661	400 / 881	500 / 1100
	N / lbs	14000 / 3147	20000 / 4496	28000 / 6294	38000 / 8527.20	
FxL When table clamped		N.m / ft. lbs.	1020 / 752	1700 / 1254	3000 / 2212	5400 / 3983
		N.m / ft. lbs.	400 / 295 600 / 443	1270 / 937	1600 / 1180	3000 / 2212
Cam allowable torque	N.m / ft. lbs.	280 / 207	800 / 590	1098 / 809	1772 / 1307	
Allowable Max. rotary joint quantity	Port	4	6	6	6	

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

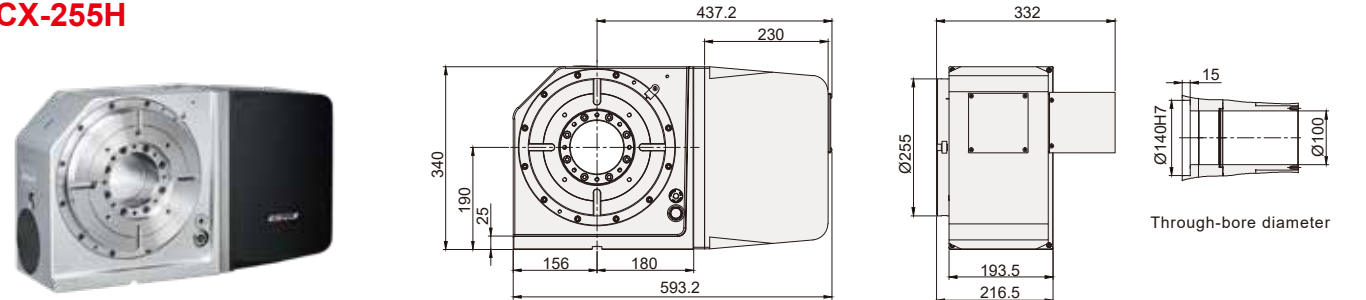
DIMENSIONAL DRAWINGS

Unit : mm

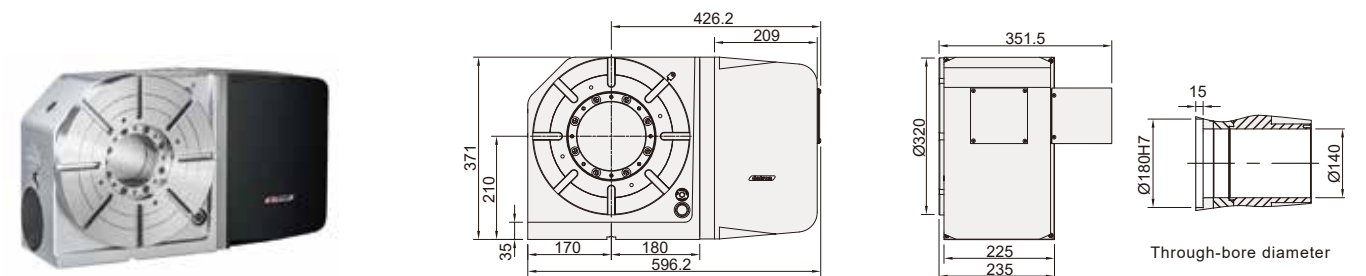
RCX-210S/H Worktable can be enlarged to Ø250 (RCX250ES/H)



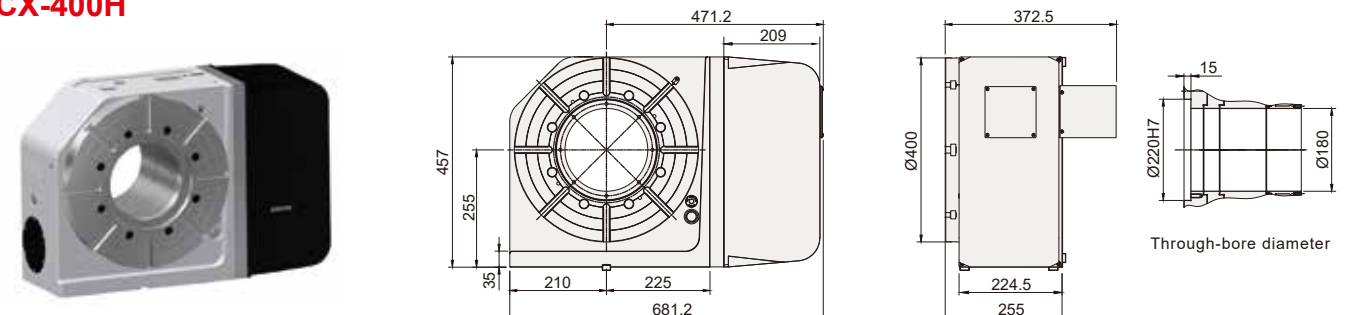
RCX-255H



RCX-320H



RCX-400H



Roller Gear Cam Drive Tilting Rotary Table



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

RCF - 3 2 0 H

S Super pneumatic brake
H Hydraulic brake

Five axis
Roller cam drive
Table diameter

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

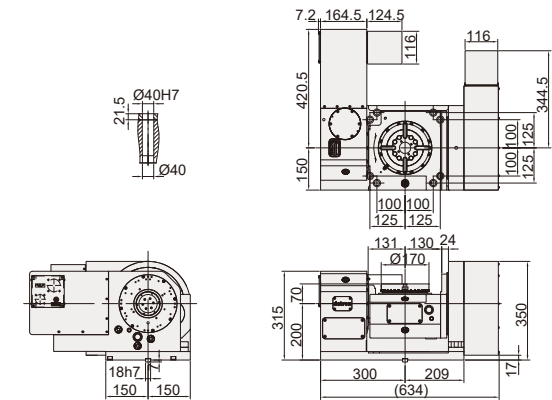
SPECIFICATIONS

MODEL	Unit	RCF-170S/H		RCF-210S/H		RCF-255H		RCF-320H	
Worktable diameter	mm / inch	Ø170 / Ø6.69		Ø210 / Ø8.27		Ø255 / Ø10.04		Ø320 / Ø12.59	
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7		Ø65H7 / Ø2.56H7		Ø140H7x15L/Ø5.51H7x15L		Ø140H7x15L/Ø5.51H7x15L	
Height of table (horizontal)	mm / inch	270 / 10.6		286 / 11.26		335 / 13.18		355 / 13.97	
Height of center (vertical)	mm / inch	200 / 7.87		210 / 8.27		235 / 9.25		255 / 10.03	
Width of T-slot	mm / inch	12H7 / 0.47H7		12H7 / 0.47H7		12H7 / 0.47H7		14H7 / 0.55H7	
Width of guide block	mm / inch	18 / 0.71		18 / 0.71		18 / 0.71		18 / 0.71	
Clamping method / pressure	MPa / psi	P:0.55~0.7/79.8~101.5 H:2.5/363		P:0.55~0.7/79.8~101.5 H:2.5/363		Hydraulic 5 / 725		Hydraulic 5 / 725	
Servo motor spec		refer to page 74							
Transmission ratio		R	T	R	T	R	T	R	T
		1:60	1:90	1:60	1:90	1:60	1:90	1:60	1:48
Max. table speed / at specified servo motor speed	min ⁻¹	50 / 3000	33.3 / 3000	50 / 3000	33.3 / 3000	44.4 / 3000	33.3 / 3000	44.4 / 2664	33.3 / 1600
Clamping torque	N.m / ft. lbs.	300 / 221 600 / 443	400 / 295 700 / 516	400 / 295 600 / 443	600 / 443 800 / 590	1270 / 937	1270 / 937	1270 / 937	1270 / 937
Allowable loading capacity	In Horizontal	kg / lb	75 / 165	100 / 220	120 / 265	200 / 440			
	In Tilting (0~90°)	kg / lb	50 / 110	70 / 154	90 / 198	150 / 330			
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	40 / 29.5	62 / 45.7	92 / 67.8	130 / 95.8			
FxL When table clamped	F	N / lbs	7000 / 1571	14000 / 3142	20000 / 4488	20000 / 4488			
	FxL	N.m / ft. lbs.	300 / 221 600 / 443	400 / 295 600 / 443	1270 / 937	1270 / 937			
	FxL	N.m / ft. lbs.	400 / 295 700 / 516	600 / 443 800 / 590	1270 / 937	1600 / 1180			
Standard loading inertia ($\frac{W.D^2}{8}$)	kg.m ²		0.2	0.4	0.94	2.6			
Resolution	deg.		0.001	0.001	0.001	0.001			
Indexing accuracy	sec		20" 60"	20" 60"	20" 50"	20" 50"			
Repeatability	sec		6" 8"	6" 8"	6" 8"	6" 8"			
Tilting angle range	deg.		-30 ~ +120	-30 ~ +120	-30 ~ +120	-30 ~ +120			
Net weight (servo motor excluded)	kg / lb		221 / 487	250 / 551	350 / 771	488(3D)			
Cam allowable torque	N.m / ft. lbs.		280 / 207	280 / 207	800 / 590	800 / 590			
Allowable Max. rotary joint quantity	Port		4	4	6	6			

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

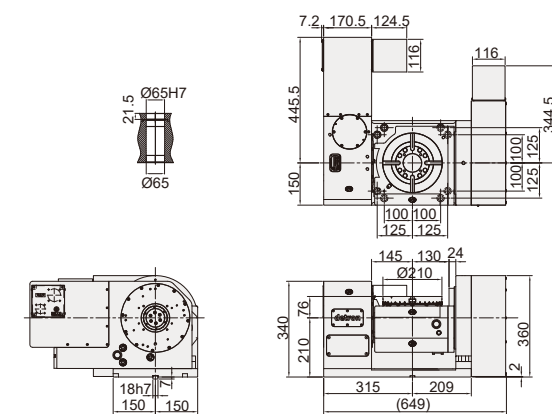
DIMENSIONAL DRAWINGS

RCF-170S/H

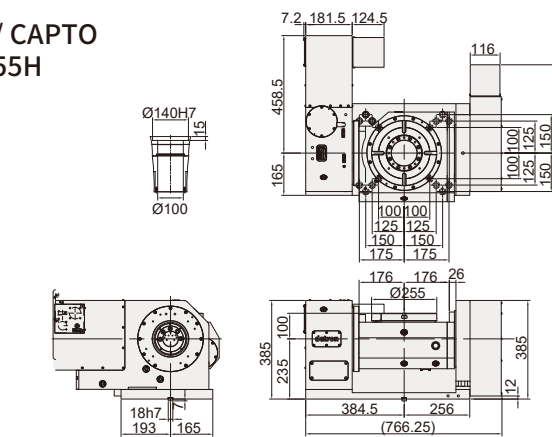


Unit : mm

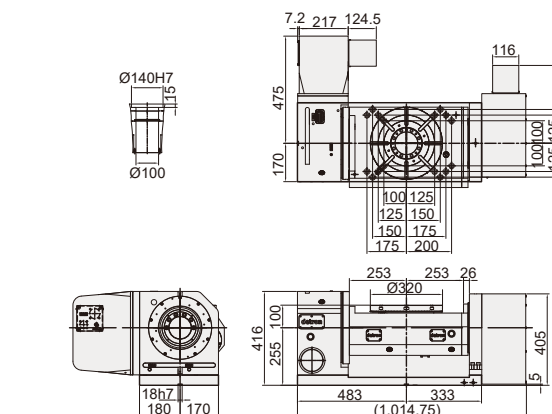
RCF-210S/H



RCF-255H Optional Interface For BT / HSK / CAPTO Tool Holder Available For RCF-255H



RCF-320H



Core Technology – Built-in Torque Motor for Direct Drive

Core Technology – High Speed and Precision



Speed

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



Precision

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



Rigidity

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



Protection

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



Environmental

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

Higher Speed and Torque Performance

Table Ø 170mm model as example

detron

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

others

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

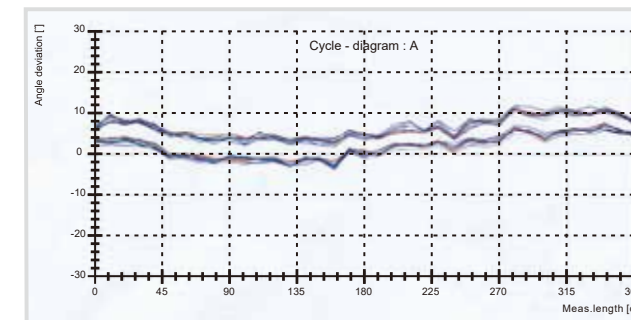
Strict Inspection Norm

detron

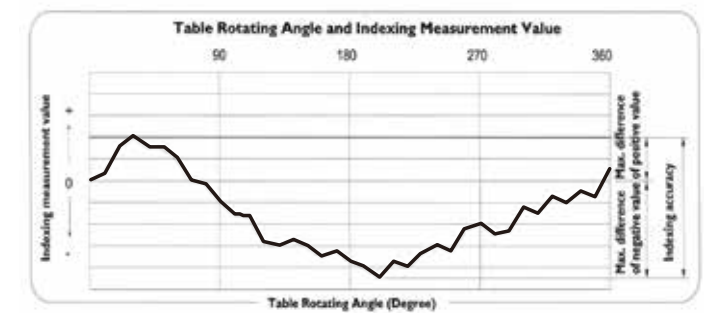
ISO 230-2 (JIS B6192)

others

JIS B6330



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



Simplified inspection norm without number of laps indicated.

European High End Optical Encoder Applied

detron

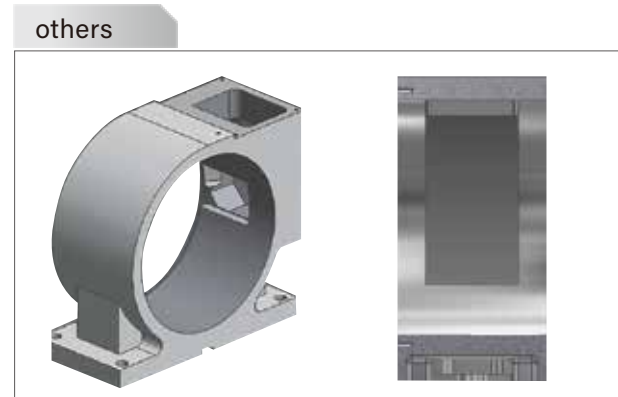
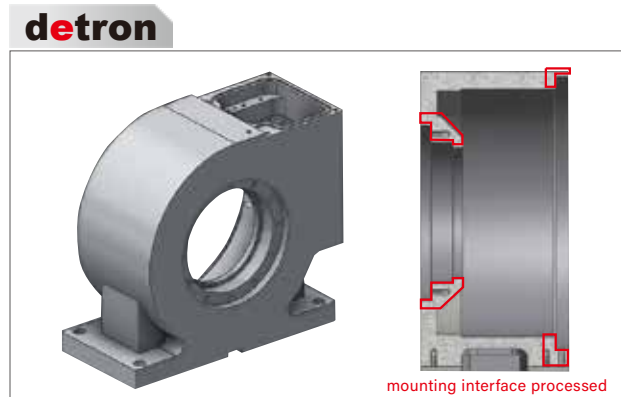


others

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.

Main Cartridge Structure



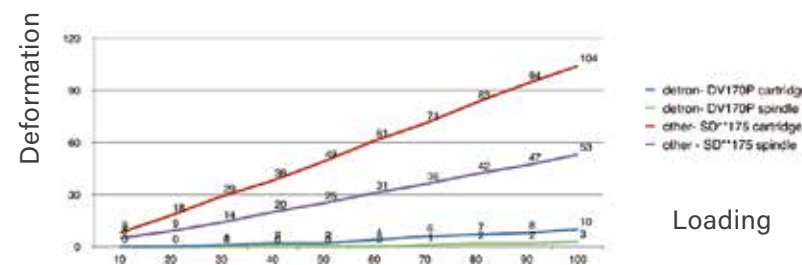
- Consolidated main cartridge with spindle mounting interface reserved.
- Least isolated components, accumulated error reduced.
- Excellent rigidity dynamic balance while high speed operation, low inertia and run-out concern.
- Closer distance between optical encoder and bearing for higher positioning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

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

practical test



Rigidity Experiment Analysis



Spindle Bearing



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

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

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.

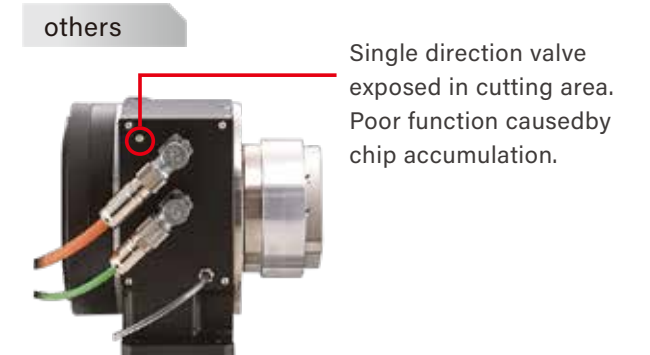
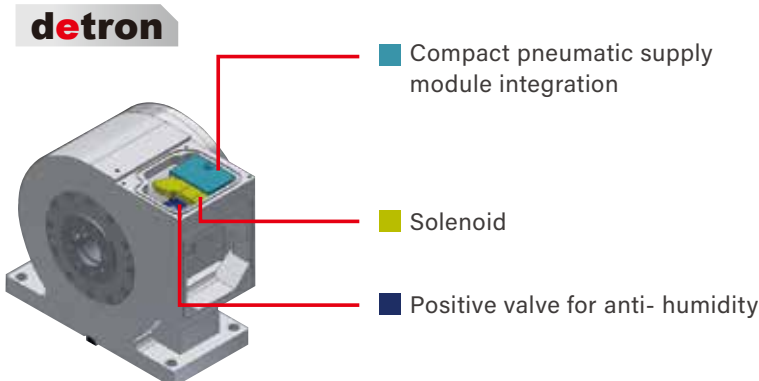
Guarantee for Thorough Protection

Chip and Water Proof

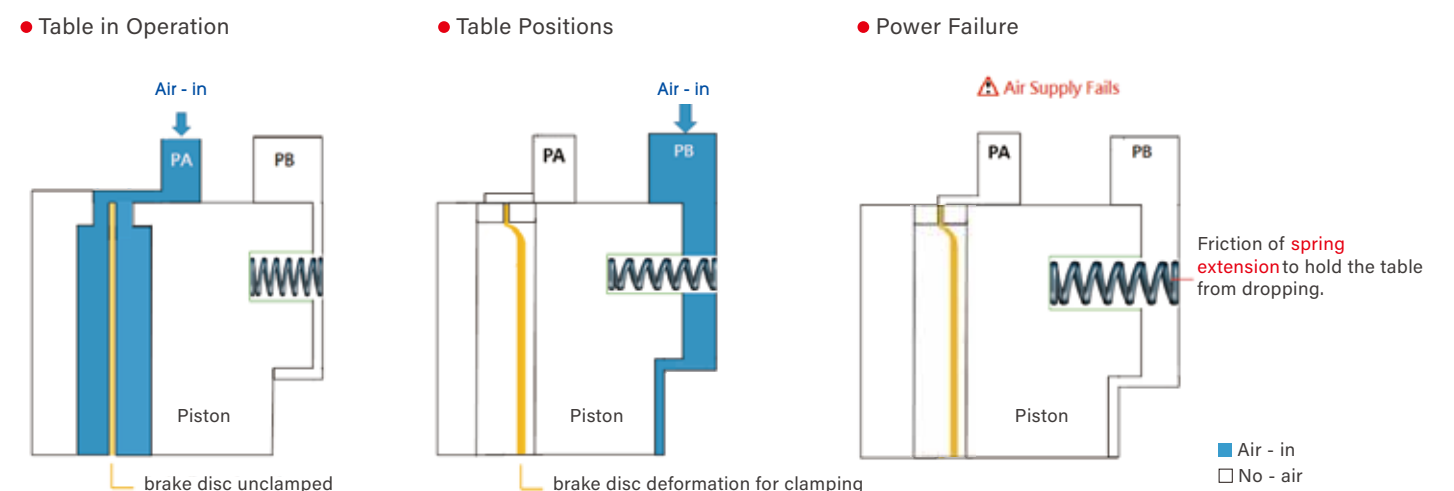


- European adherent connector guarantees safe water proof, signal/ power cable/ pneumatic tube are all integrated in 1 compact pipeline.
- All cables are shielded by anti-erosion pipe and the outer lattice prevents breakage by cutting chips.

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

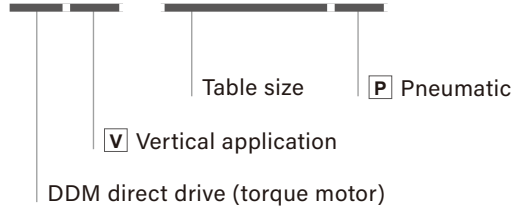


Brake in Various Condition



DDM Rotary Table

D V - 1 7 0 P



equipped with optional table with T-slot

- Rotation speed exceeds 250 min⁻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

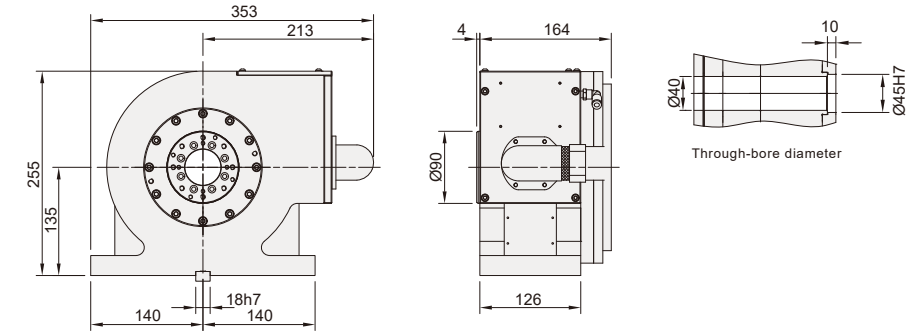
MODEL	Unit	DV-170P	DV-255P II	
Worktable diameter	mm / inch	STD : No table OPT : Ø170 / Ø6.69	STD : No table OPT : Ø255 / Ø10.04	
Center bore diameter (worktable)	mm / inch	OPT : Ø40H7 / Ø1.57H7	OPT : Ø50H7 / Ø1.96H7	
Through-bore diameter	mm / inch	Ø40 / Ø1.57	Ø40 / Ø1.57	
Height of center (vertical)	mm / inch	135 / 5.31	160 / 6.3	
Width of T-slot	mm / inch	12H7 / 0.47H7	12H7 / 0.47H7	
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	
Clamping method and pressure	MPa / psi	Pneumatic 0.6 ~ 0.7 / 87 ~ 101.5	Pneumatic 0.5 ~ 0.7 / 72.5 ~ 101.5	
Clamping torque	N.m / ft. lbs.	230 / 169.51	400 / 294.8	
Transmission Method		Direct Drive	Direct Drive	
Max. table speed	min ⁻¹	250	250	
Allowable loading capacity	Vertical	kg / lb	30 / 66	75 / 165
	Horizontal	kg / lb	-	-
	Rotary Tailstock applied	kg / lb	70 / 154	150 / 330
FxL When table clamped	F	N / lbs	12700 / 2849.88	14000 / 3141.6
	FxL	N.m / ft. lbs.	740 / 540.2	1020 / 751.74
	FxL	N.m / ft. lbs.	230 / 169.51	400 / 294.8
Allowable cutting torque	N.m / ft. lbs.	60 / 44.22	70 / 51.6	
Allowable loading inertia	$\frac{W \cdot D^2}{8}$	kg.m 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.
 3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

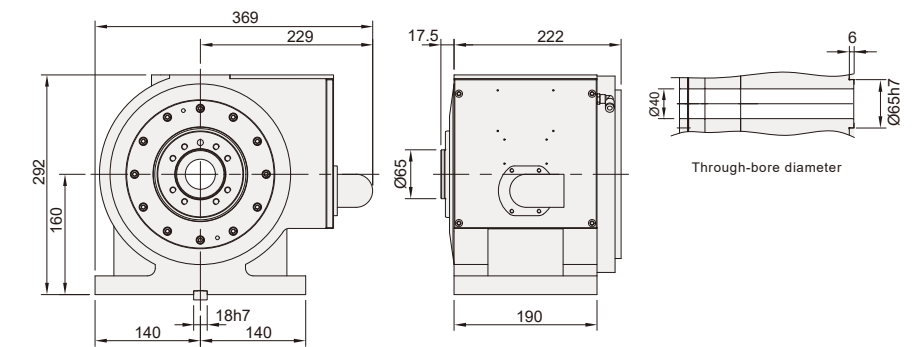
DIMENSIONAL DRAWINGS

Unit : mm

DV-170P



DV-255P II



Application Example



▲ 90° degree dividers



▲ Customized interface of quick change mold , EROWA as example

DDM Trunnion Tilting Rotary Table



DTFS - 170P

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

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

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

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

SPECIFICATIONS

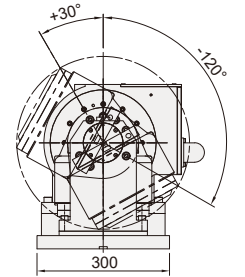
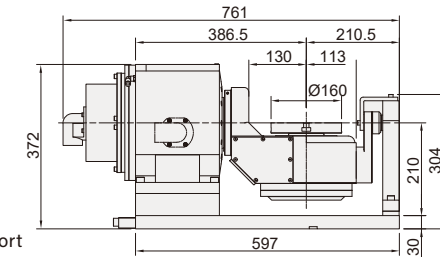
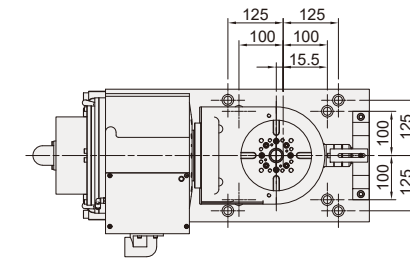
MODEL	Unit	DTFS-125P / DTFE-125P		DTFS-170P / DTFE-170P / DTFE-171P		
Worktable diameter	mm / inch	Ø160 / Ø6.29		Ø170 / Ø6.69		
Center bore diameter	mm / inch	Ø30H7 / Ø1.18H7		Ø40H7 / Ø1.57H7		
Height of table (horizontal)	mm / inch	210 / 8 240 / 9		280 / 11 310 / 12		
Height of center (vertical)	mm / inch	210 / 8		280 / 11		
Width of T-slot	mm / inch	12H7 / 0.47H7		12H7 / 0.47H7		
Width of guide block	mm / inch	18 / 0.71		18 / 0.71		
Clamping method / pressure	MPa / psi	pneumatic 0.6~0.7 / 87~101.5		pneumatic 0.6~0.7 / 87~101.5		
Max. table speed	min ⁻¹	R	T	R	T	
		200	50	250	100	
Clamping torque	N.m / ft. lbs.	100 / 73.76	400 / 295.02	230 / 169.64	400 / 295.02	
Allowable loading capacity	In Horizontal	kg / lb	20 / 44.10	30 / 66.14		
	In Tilting (0~90°)	kg / lb	20 / 44.10	30 / 66.14		
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	6.4 / 4.72	30 / 14.74		
FxL When table clamped	F	N / lbs	9700 / 2180.6	12700 / 2855.07		
	FxL	N.m / ft. lbs.	100 / 73.76	230 / 169.64		
	FxL	N.m / ft. lbs.	400 / 295.02	400 / 295.02		
Allowable loading inertia	$\frac{W.D^2}{8}$	kg.m 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.
 3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

DIMENSIONAL DRAWINGS

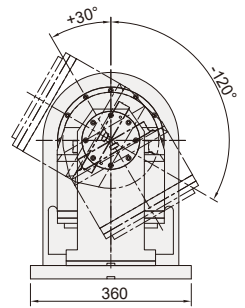
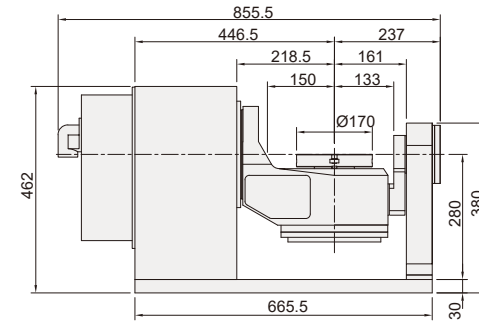
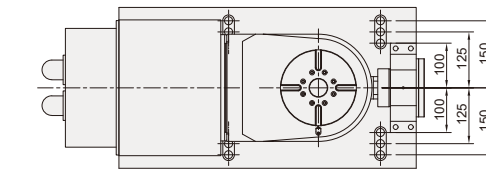
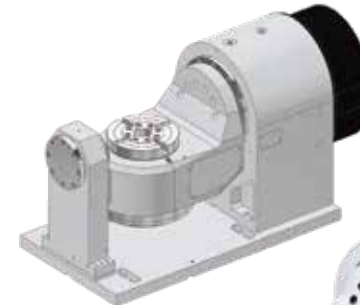
Unit : mm

DTFE-125P with base plate



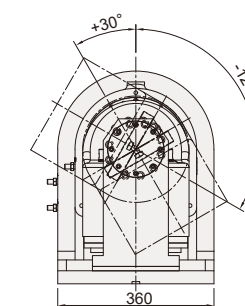
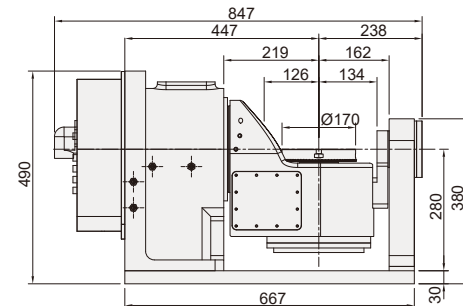
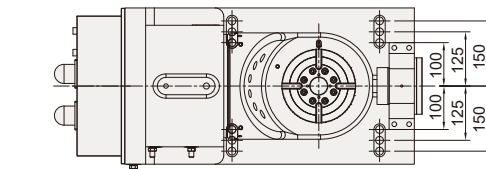
DTFS-125P with compact single support

DTFE-170P with base plate



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

DTFE-171P



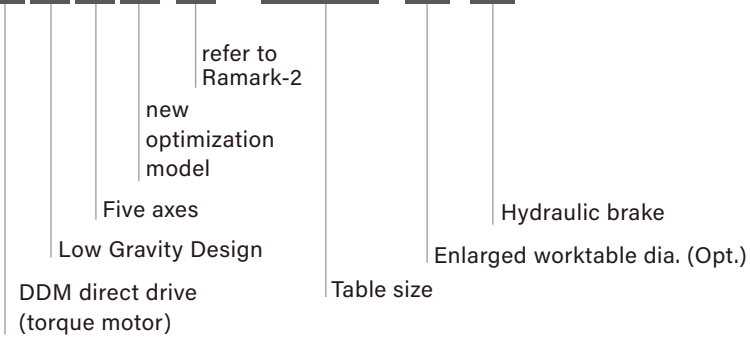
DDM Trunnion Tilting Rotary Table



▲ Machine base supplied by buyer

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

DTFA(I)-650(E)H



SPECIFICATIONS

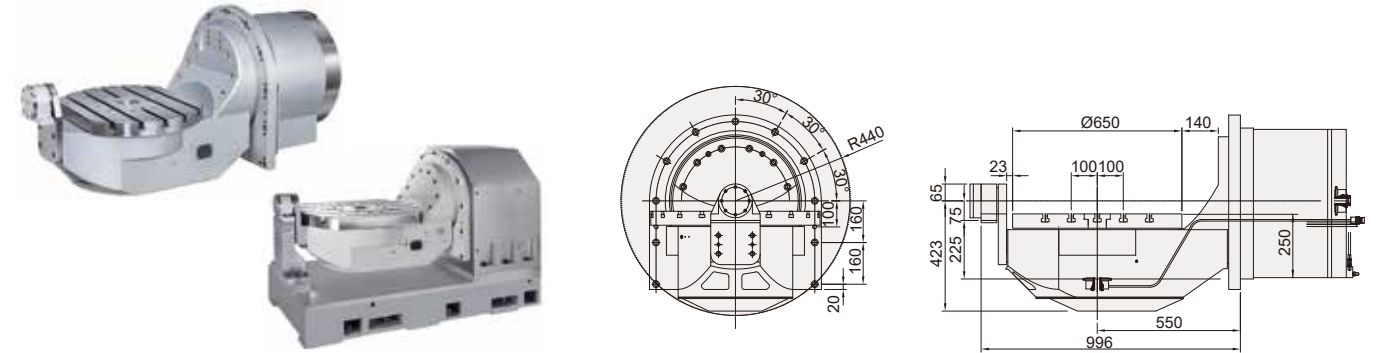
MODEL	Unit	DTFAI-650H / DTFAI-720EH		D2TF-800H	
Worktable diameter	mm / inch	Ø650 / Ø25.59 / Ø720 / Ø28.34		Ø800	
Center bore diameter	mm / inch	Ø70H7 / Ø2.76H7		Ø65H7	
Height of table	mm / inch	250 / 9.84		225	
Width of T-slot	mm / inch	18H7 / 0.71H7		14H7	
Width of guide block	mm / inch	-		-	
Clamping method / pressure	MPa / psi	hydraulic 4 / 580		hydraulic 4 / 580	
Max. table speed	min ⁻¹	R	T	R	T
		100	50	100	50
Clamping torque	N.m / ft. lbs.	2500 / 1843.91	4500 / 3319.03	3000	6000
Allowable loading capacity	In Horizontal	kg / lb		1000	
	In Tilting (0~90°)	kg / lb		1000	
Allowable unbalancing work moment	WxL	N.m / ft. lbs.		800	
	F	N / lbs		50000	
FxL When table clamped	FxL	N.m / ft. lbs.		3000	
	FxL	N.m / ft. lbs.		6000	
Allowable loading inertia	$\frac{W.D^2}{8}$	kg.m ²		20	
Resolution	deg.	0.001		0.001	
Indexing accuracy	sec	10	20	10	20
Repeatability	sec	4	4	4	4
Tilting angle range	deg.	+110 ~ -110		-120 ~ +30	
Net weight (motor incl.)	kg / lb	1450 / 3196.7 / 1500 / 3306.9		2500	
Cooling system		Oil cooling		油冷式(與機床共用冷卻)	

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

DIMENSIONAL DRAWINGS

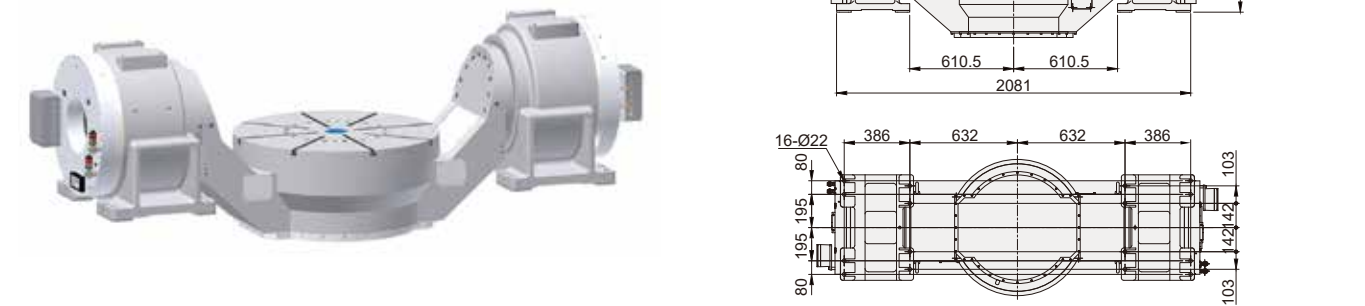
Unit : mm

DTFAI-650H



Machine base supplied by buyer ▲ DTFAI-720EH

D2TF-800H



Specified Tilting Rotary Table For Turning and Milling Machine ▶▶▶

G2DTF-630H(S)

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



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

RC2DTF-410HS



Rotary Axis - DDM (1200rpm)
Tilting Axis - Tandem drive by spur gear and worm gear

DTF-280P



Machine base supplied by buyer

Rotary Axis - DDM (1500rpm)
Tilting Axis - DDM (150rpm)

DTF-410H



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

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

DDM Trunnion Tilting Rotary Table

Compatible System & Spec.	detron DD 5th Axis Rotary Table ø125mm		
	DTFS125P / DTFE125P		
Axis	Tilting Axis	Rotary Axis	
Cooling System	Air Cooling	Air Cooling	
Optical Scale	Renishaw or Heideihain		
NC parameter	Exclusive tech of detron		
Fanuc System	Driver	α iSV80: New: A06B-6240-H125 Old : A06B-6117-H105 β iSV80: New: A06B-6160-H004 Old : A06B-6130-H004	α iSV40: New: A06B-6240-H124 Old : A06B-6117-H104 β iSV40: New: A06B-6160-H003 Old : A06B-6130-H003
	Remark	Purchase software "Pole Position Detection Function" from NC service center: Oi-MC: A02B-0310-S744 Oi-MD: A02B-0320-S744 Oi-MF: A02B-0340-S744 31i-B5: A02B-0326-S744	
Mitsubishi System	Driver	New: MDS-EJ-V1-40 Old : MDS-DJ-V1-40	New: MDS-EJ-V1-40 Old : MDS-DJ-V1-40
	Remark	N/A	
Siemens System	Driver	With Internal Cooling: 6SL3120-1TE21-0AD0 Compact Type: 6SL3420-1TE21-0AA1	With Internal Cooling: 6SL3120-1TE21-0AD0 Compact Type: 6SL3420-1TE21-0AA1
	Remark	- Purchase Siemens "SMC40" module while applying Heidenhain encoder. - Purchase Renishaw "A-977-0575" signal transferrer while applying Renishaw encoder.	
Heidenhain System	Driver	UM111D	UM111D
	Remark	- Compatible with Heideihain Optical Scale Only	

DDM Trunnion Tilting Rotary Table

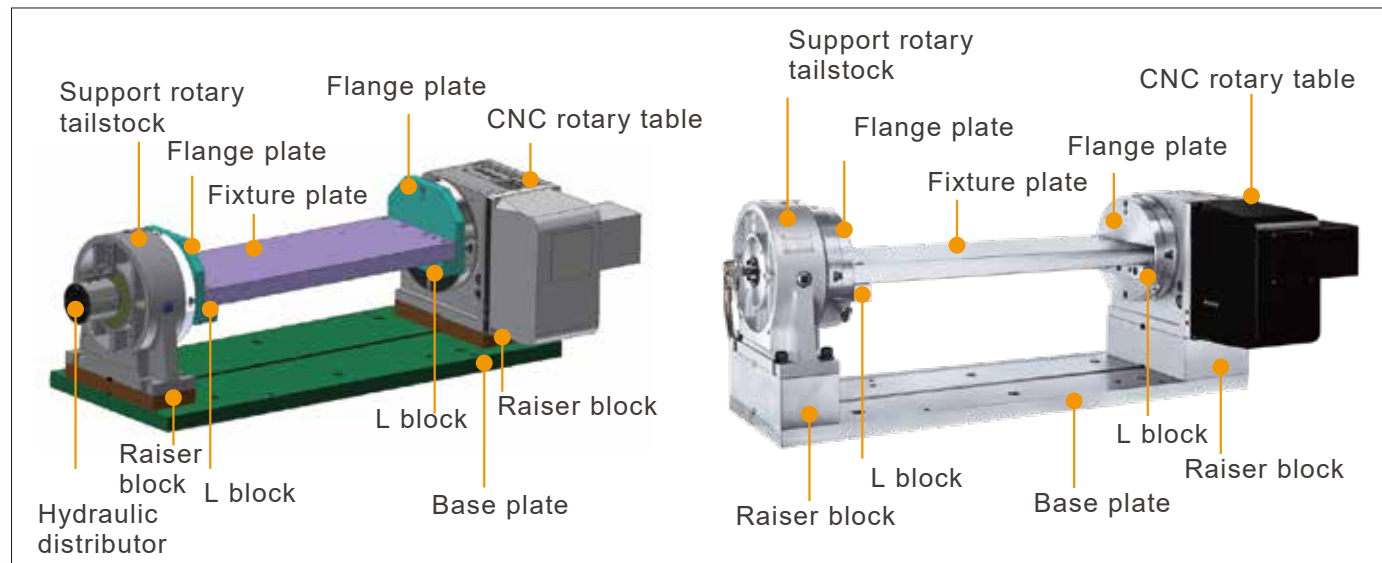
Compatible System & Spec.	detron DD 5th Axis Rotary Table ø170mm				
	DTFS170P / DTFE170P		DTFE171P		
Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	
Cooling System	Air Cooling	Air Cooling	Oil Cooling	Oil Cooling	
Optical Scale	Renishaw or Heideihain				
NC parameter	Exclusive tech of detron				
Fanuc System	Driver	α iSV40: New: A06B-6240-H124 Old : A06B-6117-H104 β iSV40: New: A06B-6160-H003 Old : A06B-6130-H003	α iSV20: New: A06B-6240-H123 Old : A06B-6117-H103 β iSV20: New: A06B-6160-H002 Old : A06B-6130-H002	α iSV80: New: A06B-6240-H125 Old : A06B-6117-H105 β iSV80: New: A06B-6160-H004 Old : A06B-6130-H004	α iSV40: New: A06B-6240-H124 Old : A06B-6117-H104 β iSV40: New: A06B-6160-H003 Old : A06B-6130-H003
	Remark	Purchase software "Pole Position Detection Function" from NC service center: Oi-MC: A02B-0310-S744 Oi-MD: A02B-0320-S744 Oi-MF: A02B-0340-S744 31i-B5: A02B-0326-S744			
Mitsubishi System	Driver	New: MDS-EJ-V1-80 Old : MDS-DJ-V1-80	New: MDS-EJ-V1-30 Old : MDS-DJ-V1-30	New: MDS-EJ-V1-80 Old : MDS-DJ-V1-80	New: MDS-EJ-V1-40 Old : MDS-DJ-V1-40
	Remark	N/A			
Siemens System	Driver	With Internal Cooling: 6SL3120-1TE21-8AD0	With Internal Cooling: 6SL3120-1TE15-0AD4	With Internal Cooling: 6SL3120-1TE23-0AD0	With Internal Cooling: 6SL3120-1TE21-0AD0
	Remark	- Purchase Siemens "SMC40" module while applying Heidenhain encoder. - Purchase Renishaw "A-977-0575" signal transferrer while applying Renishaw encoder.			
Heidenhain System	Driver	UM112D	UM111D	UM112D	UM111BD
	Remark	- Compatible with Heideihain Optical Scale Only			

DDM Trunnion Tilting Rotary Table

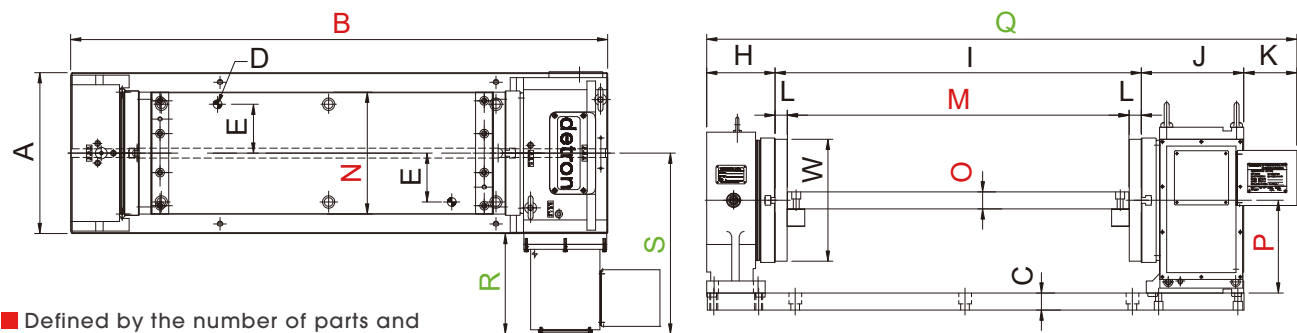
Compatible System & Spec.	detron DD 5th Axis Rotary Table ø280 mm & ø650 mm				
	DTF-280P		DTFAI-650H		
Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis	
Cooling System	Oil Cooling	Oil Cooling	Oil Cooling	Oil Cooling	
Optical Scale	Renishaw or Heideihain				
NC parameter	Exclusive tech of detron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

Note* : For detailed information, please contact detron.

Fixture Plate and Base



Suggested Dimension of Fixture and Base Plate

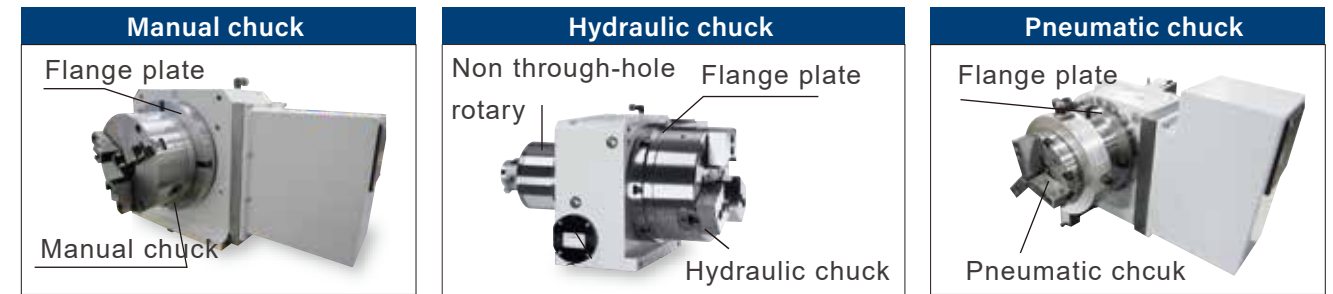


unit: mm / inch

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

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

Chuck and Other Accessories



ROTARY TABLE AND COMPATIBLE CHUCK

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

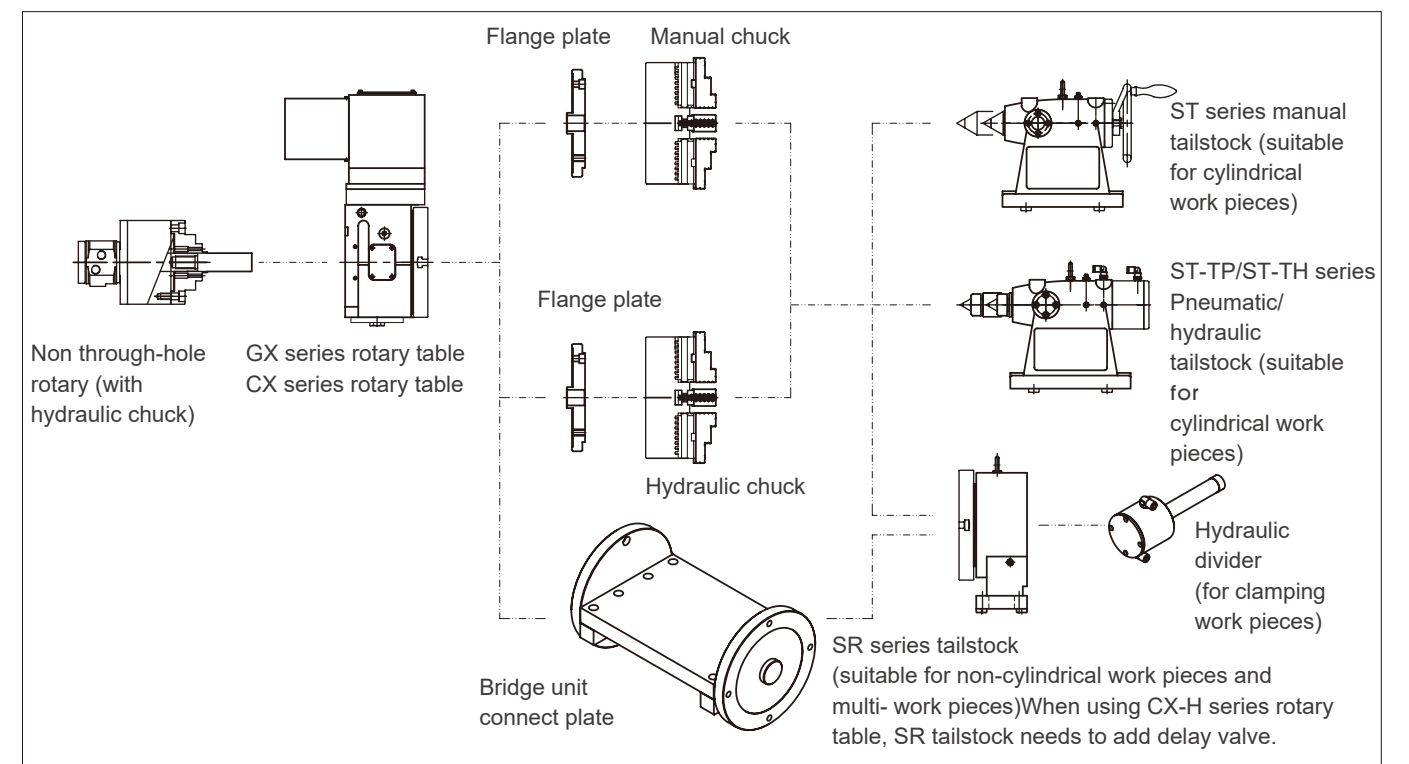
*Model in red is suggested

GRIPPING RANGE OF 3- JAW CHUCK

unit: mm / inch

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

ACCESSORIES CONNECTION DIAGRAM



Hydraulic power unit (HTK series)

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



ABR-50 air booster unit

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

4th Axis Compatible Servo Motors

5th Axis Compatible Servo Motors

Worm Gear Type Models

Model	CNC and Servo System					
	FANUC	MITSUBISHI	YASKAWA	SIEMENS	HEIDENHAIN	FAGOR
GXA-125S	aiF2 βis4	HG-75	SGM7J08A	1FK2204-6AF 1FK2205-2AF	QSY-96A	FKM22.30A
GXA-170S(L)/H GV-170SB	aiF4 βis8	HG-54	SGM7G09A	1FK2205-4AF 1FK2206-2AF	QSY-116C	FKM42.30A
GXA-170S-2W-250	aiF8 / βis8	HG-104	SGM7G09A	1FK2206-2AF	QSY-116C	FKM42.30A
GXA-210S(L)/H GVA-210SB	aiF4 βis8	HG-104	SGM7G09A	1FK2205-4AF 1FK2206-2AF	QSY-116C	FKM42.30A
GXA-250S/H	aiF4 βis8	HG-104	SGM7G09A	1FK2205-4AF 1FK2206-2AF	QSY116C	FKM42.30A
GXA-255H(L) CX-255H	aiF4 / aiF8 βis8	HG-104 HG-154	SGM7G13A	1FK2206-4AF	QSY-116E	FKM44.30A
GVA-255HBI	aiF8 βis12	HG-154	SGM7G13A	1FK2206-4AF	QSY-116E	FKM44.30A
GXA-320H CX-320H	aiF8 / aiF12 βis22	HG-204	SGM7G30A	1FK2208-3AC	QSY-155B	FKM64.30A
GXA-400H CX-400H	aiF12 βis22	HG-204	SGM7G30A	1FK2208-3AC	QSY-155B	FKM64.30A
GXA-500H CX-500H	aiF12 βis22	HG-204	SGM7G30A	1FK2208-3AC	QSY-155B	FKM64.30A
GX-630H GXA-630EH	aiF22 βis22	HG-354	SGM7G44A	1FK2208-4AC	QSY-155D	FKM66.30A
GX-800H	aiF22 βis22	HG-354	SGM7G44A	1FK2208-4AC	QSY-155D	FKM66.30A
RCX-210S/H RCX-250ES/H	aiF4 βis8	HG-104 HG-154	-	1FK2205-4AF 1FK2206-2AF	QSY116E	-
RCX-255H	aiF8 / βis12	HG-154 / 224	-	1FK2206-4AF	QSY116J	-
RCX-320H RCX-400H	aiF12 βis22	HG-204	-	1FK2208-3AC	QSY155B	-

Roller Gear Cam Type Models

Model	CNC and Servo System					
	FANUC	MITSUBISHI	YASKAWA	SIEMENS	HEIDENHAIN	FAGOR
RCX-210S/H RCX-250ES/H	aiF4 βis8	HG-104 HG-154	-	1FK2205-4AF 1FK2206-2AF	QSY116E	-
RCX-255H	aiF8 / βis12	HG-154 / 224	-	1FK2206-4AF	QSY116J	-
RCX-320H RCX-400H	aiF12 βis22	HG-204	-	1FK2208-3AC	QSY155B	-

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

Worm Gear Type Models

Model	Motor & NC system											
	FANUC		MITSUBISHI		YASKAWA		SIEMENS		HEIDENHAIN		FAGOR	
Axis	旋轉軸	傾斜軸	旋轉軸	傾斜軸	旋轉軸	傾斜軸	旋轉軸	傾斜軸	旋轉軸	傾斜軸	旋轉軸	傾斜軸
GFA-101S	aiF2 / βis4	aiF2 / βis4	HG-105	HG-105	SGMJV08A SGM7J08A	SGMJV08A SGM7J08A	1FK2204-6AF 1FK2205-2AF	1FK2204-6AF 1FK2205-2AF	QSY-96A	QSY-96G	FKM22.30A	FKM22.30A
GFA-125S/H GFA-125S-2W-240	aiF2 / βis4	aiF4 / βis8	HG-75	HG-104	SGMJV08A SGM7J08A	SGMGV09A SGM7G09A	1FK2204-6AF 1FK2205-2AF	1FK2205-4AF 1FK2206-2AF	QSY-96A	QSY-116C	FKM22.30A	FKM42.30A
GFA-170SII/HII GFA-200ESII/HII	aiF4 / βis8	aiF4 / βis8	HG-54 HG-104	HG-54 HG-104	SGMGV09A SGM7G09A	SGMGV09A SGM7G09A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY-116C	QSY-116C	FKM22.30A	FKM42.30A
GFA-210S/H	aiF4 / βis8	aiF8 / βis12	HG-104	HG-104	SGMGV09A SGM7G09A	SGMGV09A SGM7G09A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY-116C	QSY-116C	FKM42.30A	FKM42.30A
GTFA-125S	-	-	HG-75S	HG-54S	SGM7G03A	SGM7G09A	-	-	-	-	-	-
GTFAE-210S-2W-320 GFA-255H/HB GFA-170S-2W-300	aiF4 / βis8	aiF8 / βis12	HG-104	HG-154	SGMGV09A SGM7G09A	SGMGV13A SGM7G13A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY-116C	QSY-116E	FKM42.30A	FKM42.30A
GFA-320H	aiF8 / βis12	aiF12 / βis22	HG-154	HG-204	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2206-4AF	1FK2208-3AC	QSY116E	QSY155B	FKM42.30A	FKM44.30A
GTFAE-170SL	aiF2 / βis4	aiF4 / βis8	HG96S	HG-H104S	SGMJV08A	SGMGV13A	-	-	-	-	-	-
GTFAE-210S GTFAE-255SBL(S)	aiF4 / βis8	aiF8 / βis12	HG-104	HG-224	SGMGV09A SGM7G09A	SGMGV13A SGM7G13A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY116C	QSY116J	FKM42.30A	FKM42.30A
GTFAE-320XB/H	aiF4 / βis8	aiF8 / βis12	HG-104	HG-224	SGMGV09A SGM7G09A	SGMGV13A SGM7G13A	1FK2205-4AF 1FK2206-2AF	1FK2206-4AF	QSY116E	QSY116J	FKM42.30A	FKM42.30A
GTFAE-320XBL(S)	aiF4 / βis8	aiF12 / βis22	HG-104	HG-204	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2206-4AF	1FK2208-3AC	QSY116E	QSY155B	FKM42.30A	FKM64.30A
GTFAE-410XB/ XBL(S)/HL(S) GTFAE-255H-2W-400	aiF8 / βis12	aiF12 / βis22	HG-154	HG-204 HG-354	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2206-4AF	1FK2208-3AC	QSY116J	QSY155C	FKM44.30A	FKM64.30A
GTFAE-500XB/XBL	aiF8 / βis12	aiF22	HG-154	HG-354	SGMGV13A SGM7G13A	SGMGV30A SGM7G30A	1FK2206-4AF	1FK2208-4AC	QSY-116J QSY-130E	QSY155F	FKM44.30A	FKM66.30A
GTFA-650EHB	aiF12 / 3000-B	aiF40 / 3000-B With Fan	-	-	-	-	1FK7083	1FK7103	QSY155C	QSY190D	-	-
GTFAI-650EHB GTFAI-720EHB	aiF12 / 3000-B	aiF40 / 3000-B With Fan	-	-	-	-	1FK7083	1FK7103	QSY155C	QSY190D	-	-

Roller Gear Cam Type Models

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
RCF-170S/H	aiF4 / βis8	aiF4+B / βis8+B	HG-54 HG-104	HG-104+B	-	-	1FK7060 1FK2206-2AF	1FK7063+B 1FK2206-4AF+B	QSY116C	QSY116C+B	-	-
RCF-210S/H	aiF4 / βis8	aiF4+B / βis8+B	HG-104	HG-104+B	-	-	1FK7060 1FK2206-2AF	1FK7063+B 1FK2206-4AF+B	QSY116C	QSY116C+B	-	-
RCF-255H	aiF8 / βis8	aiF8+B / βis12+B	HG-104	HG-154+B	-	-	1FK7063 1FK2206-4AF	1FK7063+B 1FK2206-4AF+B	QSY116E	QSY116E+B	-	-
RCF-320H	aiF8 / βis12	aiF22+B / βis22+B	HG-154	HG-204+B	-	-	1FK7063 1FK2206-4AF	1FK7083+B 1FK2208-3AC+B	QSY116E	QSY155C+B	-	-

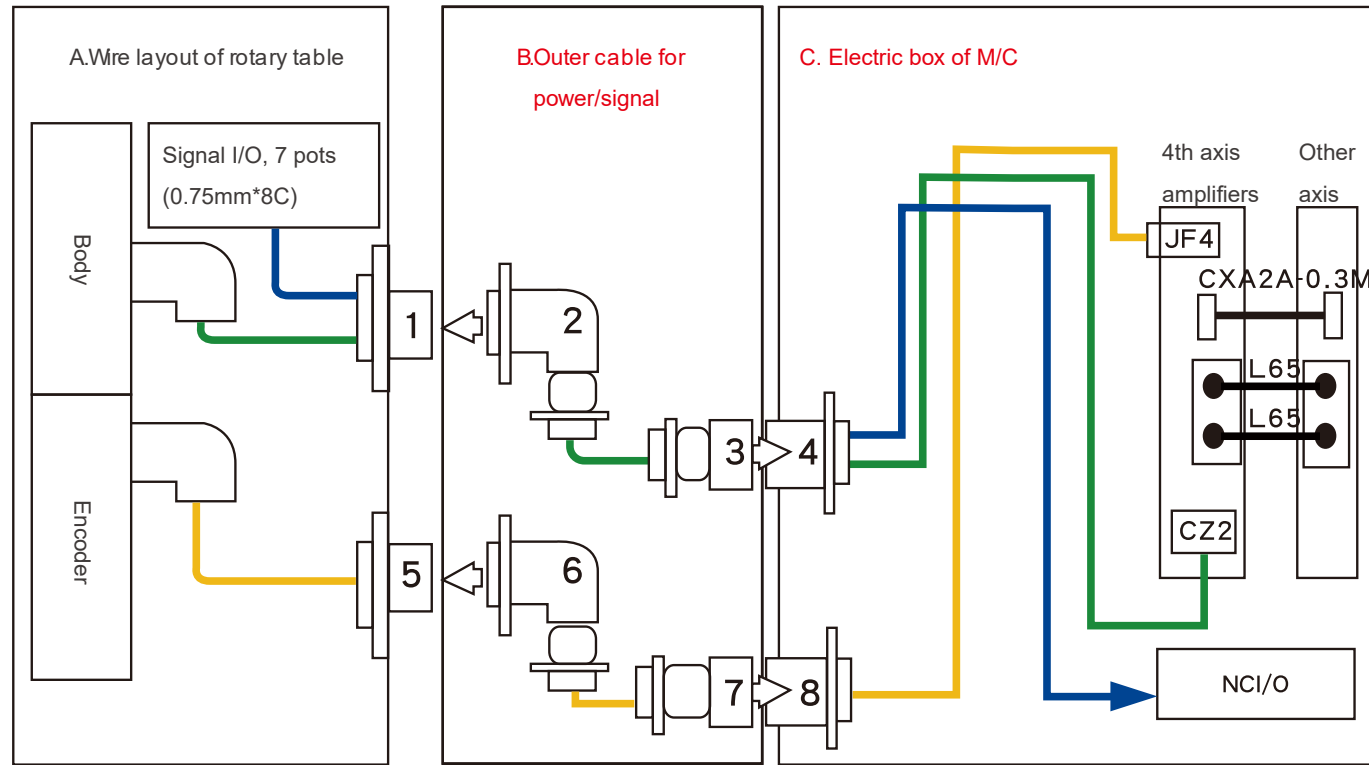
* Please refer to the basic X/Y/Z axial motor to identify compatible 4/5th motor specification.

Diagram Illustration

Diagram sample to connect Japan NC



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



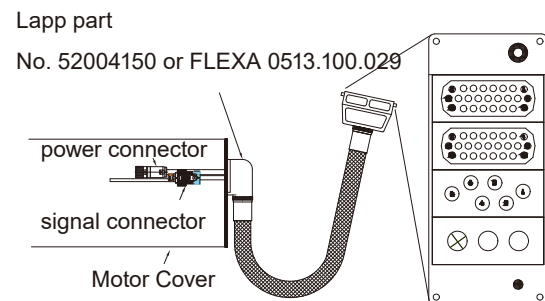
Cable spec. for JP NC

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



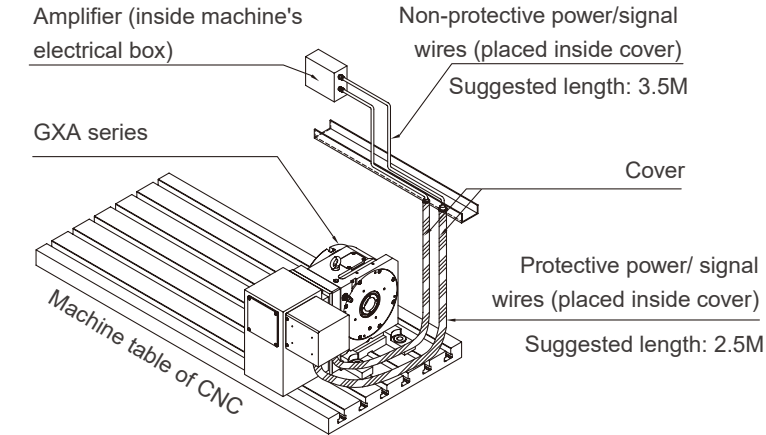
Adherent-type connector (European CNC system or with optical encoder)
One outlet-type connector is used for Siemens and Heidenhain controls.



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

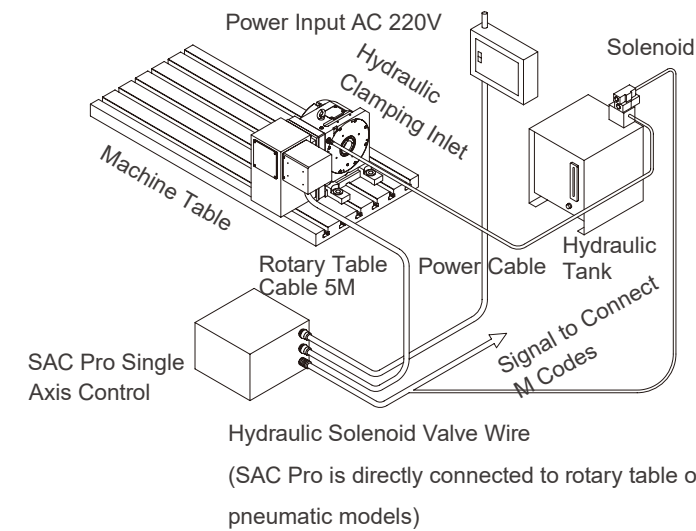
Guidance to Select Rotary Table

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 Pro Series- Single Axis Control

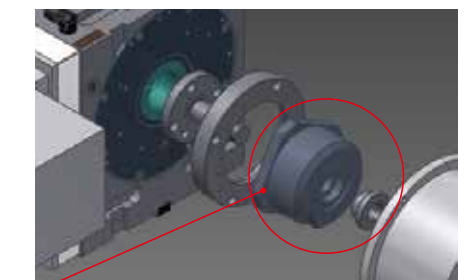


- Features:**
- For machine NC without 4th axis function, SAC Pro provide signals to allow indexing application (no simultaneous function available).
 - Programs of rotary table can be directly input through SAC Pro and allow machine NC M code command.
 - Compatible with any brand of NC control.

OPTIONAL OPTICAL SCALE



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



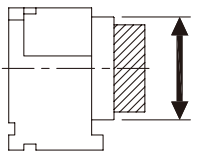
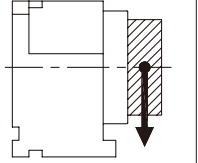
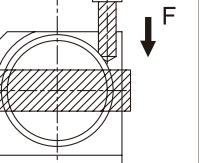
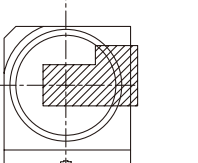
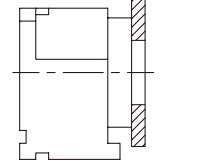
Heidenhain encoder

* Recommended option for tilting axis of 5 axis.

Guidance to Select Rotary Table

Order Sheet of 4/5th axis

SELECT A PROPER ROTARY TABLE ACCORDING TO WORKPIECE AND CUTTING CONDITIONS

<p>Workpiece diameter</p>  <p>Within rotary table diameter</p>	<p>Workpiece weight</p>  <p>Within allowable load range</p>	<p>Indexing processing</p>  <p>FXL value should be within the range of clamping torque</p>	<p>Eccentric Load</p>  <ul style="list-style-type: none"> • Movement of inertia of workpiece should be within the permissible angle • Consider interference 	<p>For workpiece with large diameter but light weight</p>  <ul style="list-style-type: none"> • 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.

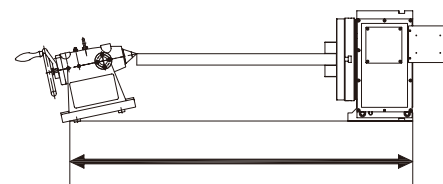


Fig 1

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.

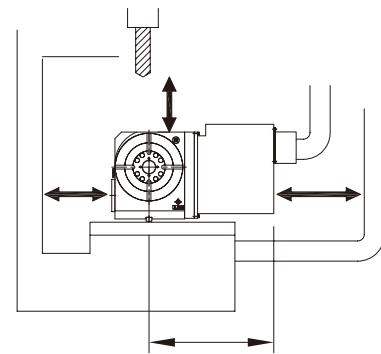


Fig 2

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.

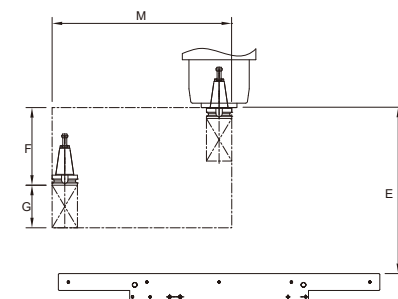
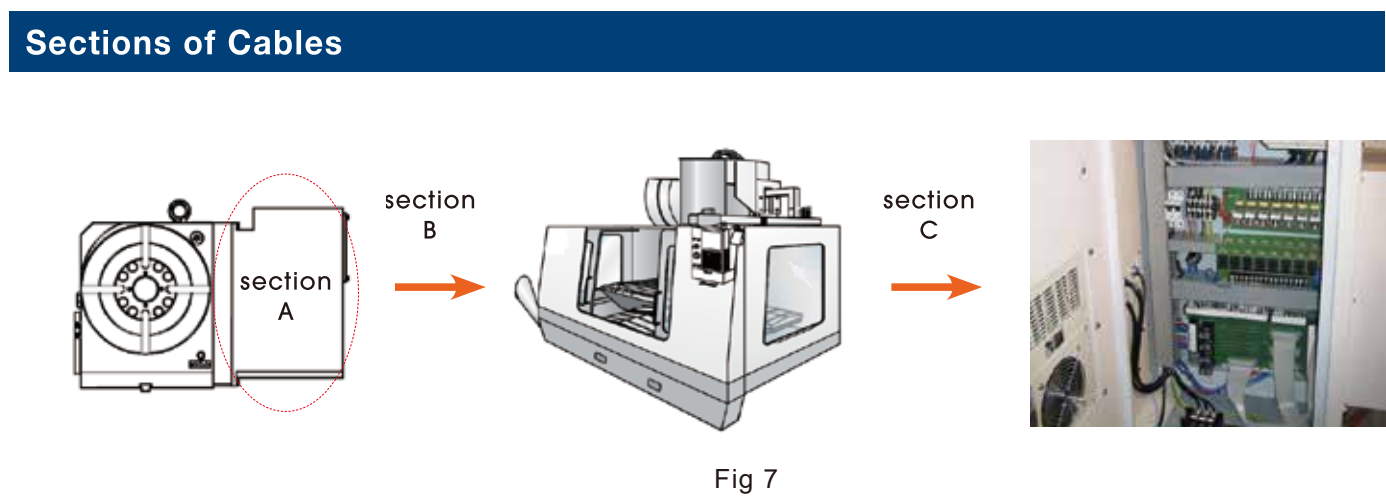
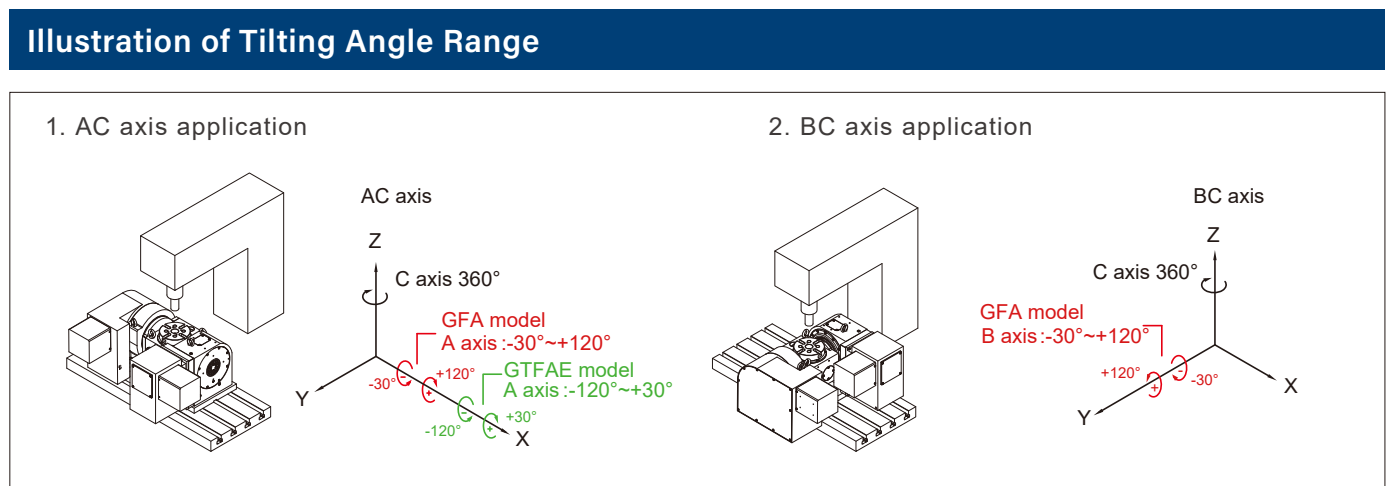
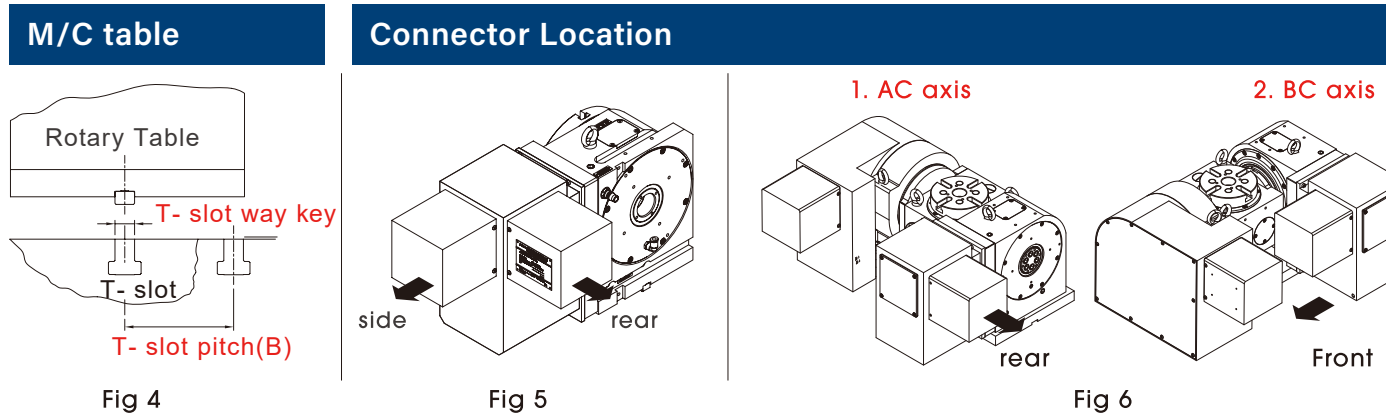


Fig 3

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 P79_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 P79_Fig. 5 Catalog P79_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 P79_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 P72
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 P72
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: _____	

Order Sheet of 4/5th axis



	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 P81_Fig.1
	T-slot pitch (B)	<input type="checkbox"/> 100mm <input type="checkbox"/> 125mm <input type="checkbox"/> 150mm <input type="checkbox"/> Others _____	Catalog P81_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"/> DTFA-650H <input type="checkbox"/> DTFAI-650H	
	Solenoid for Pneumatic model	<input type="checkbox"/> AC110V <input type="checkbox"/> AC220V <input type="checkbox"/> DC24V	
Parameter	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 _____	
	Exclusive Tech of detron	<input type="checkbox"/> 2 wires NC(detron standard) <input type="checkbox"/> Others _____	
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 P69
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 P72
	Fixture plate and Accessories	<input type="checkbox"/> Required (Please discuss more details with detron)	Catalog P71
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 P69 & P70

Order Sheet of DDM Rotary Table

Comparison Summary between and Others

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: 0i-MC: A02B-0310-S744 0i-MD: A02B-0320-S744 0i-MF: A02B-0340-S744 31i-B5: A02B-0326-S744	Catalog P69 & P70

STEP 5_Accessories required info

Accessories	Optical scale	<input type="checkbox"/> 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) <input type="checkbox"/> optional Heidenhain optical scale <input type="checkbox"/> H+F (suitable for Fanuc control) <input type="checkbox"/> H+M (suitable for Mitsubishi control) <input type="checkbox"/> H+S (suitable for Siemens/Heidenhain control)	
	Sensor Module (while applying Siemens control)	<input type="checkbox"/> Heidenhain optical scale shall be equipped with Siemens "SMC40" module, supplied by buyer <input type="checkbox"/> Renishaw optical scale shall be equipped with Renishaw "A-977-0575" module, supplied by detron	
	Temperature Control	<input type="checkbox"/> Supplied by detron TM-K2(3pcs for each axis) <input type="checkbox"/> Supplied by buyer	
	Cable set	Supplied by <input type="checkbox"/> buyer <input type="checkbox"/> detron (If supplied by detron, please choose below items) <input type="checkbox"/> Standard: Integrated cable with adherent connector. Inner Section: 2.5M, Outer Section: 4.0M <input type="checkbox"/> Special length required: Integrated cable with adherent connector. Inner Section: _____M, Outer Section: _____M Inner Section: from table to M/C guarding Outer Section: detron M/C guarding to amplifier	Catalog P81_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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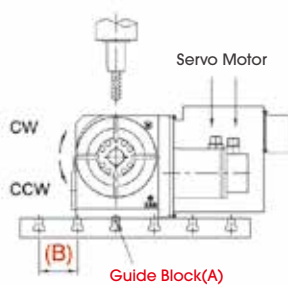


Fig.1

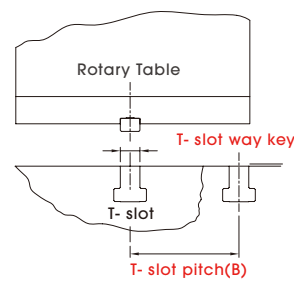


Fig.2

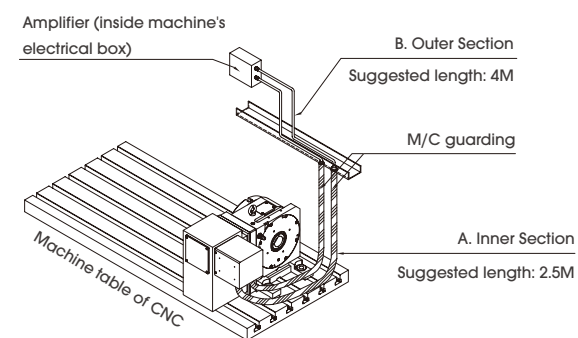


Fig.3

Brand		detron	others	detron	others	detron	others
NC table spec	mm	Ø125		Ø170		Ø210	
Height of center	mm	110	110	135	135	160	160
Center bore diameter	mm	30	25	40	35	65	45
Bearing	-	RB7013 <i>(Bigger bearing, rigidity upgraded)</i>	RB5013	RB10020 <i>(Bigger bearing, rigidity upgraded)</i>	RB9016	RB12025 <i>(Bigger bearing, rigidity upgraded)</i>	RB9016
Dynamic load	kN	19.4 <i>(16% up)</i>	16.7	33.1 <i>(5% up)</i>	31.4	33.1 <i>(5% up)</i>	31.4
Momentum	kN-m	0.82 <i>(54% up)</i>	0.53	2 <i>(19% up)</i>	1.7	5 <i>(19% up)</i>	1.7
Worm Gear module	mm	M2 <i>(14% up)</i>	M1.75	M2 <i>(14% up)</i>	M1.75	M2 <i>(14% up)</i>	M1.75
Clamping Force	N-m	140 <i>(75% up)</i>	80	300 <i>(275% up)</i>	80	400 <i>(150% up)</i>	160
Waterproof	-	O-ring sealed, initial barotropic, IP65	Caulking with silicon	O-ring sealed, initial barotropic, IP65	Caulking with silicon	O-ring sealed, initial barotropic, IP65	Caulking with silicon
Allowable cutting torque	N-m	85	85	200 <i>(33% up)</i>	150	260 <i>(73% up)</i>	150

Brand		detron	others	detron	others	detron	others
NC table spec	mm	Ø255		Ø320		Ø400	
Height of center	mm	190 <i>(Large)</i>	160	210	210	255	255
Center bore diameter	mm	140	40	180	40	220	40
Bearing	-	Integrated spindle with radial-axial bearing built-in <i>Rigidity upgraded</i>	Taper roller bearing	Integrated spindle with radial-axial bearing built-in <i>Rigidity upgraded</i>	Taper roller bearing	Integrated spindle with radial-axial bearing built-in <i>Rigidity upgraded</i>	Taper roller bearing
Dynamic load	kN	156.8 <i>(45% up)</i>	108	196 <i>(31% up)</i>	150	300 <i>(62% up)</i>	185
Momentum	kN-m	11 <i>(89% up)</i>	5.8	17.5 <i>(50% up)</i>	11.7	39.2 <i>(82% up)</i>	21.5
Worm Gear module	mm	M3 <i>(20% up)</i>	M2.5	M3	M3	M4	M4
Clamping Force	N-m	900 <i>(80% up)</i>	500	1600 <i>(88% up)</i>	850	3000 <i>(66% up)</i>	1800
Brake structure	-	Exclusive double-ring drum brake. <i>Safe seal.</i>	Disk brake or brake drum in single ring	Exclusive double-ring drum brake. <i>Safe seal.</i>	Disk brake or brake drum in single ring	Exclusive double-ring drum brake. <i>Safe seal.</i>	Disk brake or brake drum in single ring
Waterproof	-	O-ring sealed, initial barotropic, IP65	Caulking with silicon	O-ring sealed, initial barotropic, IP65	Caulking with silicon	O-ring sealed, initial barotropic, IP65	Caulking with silicon
Allowable cutting torque	N-m	550 <i>(15% up)</i>	480	780	780	1700 <i>(70% up)</i>	998

