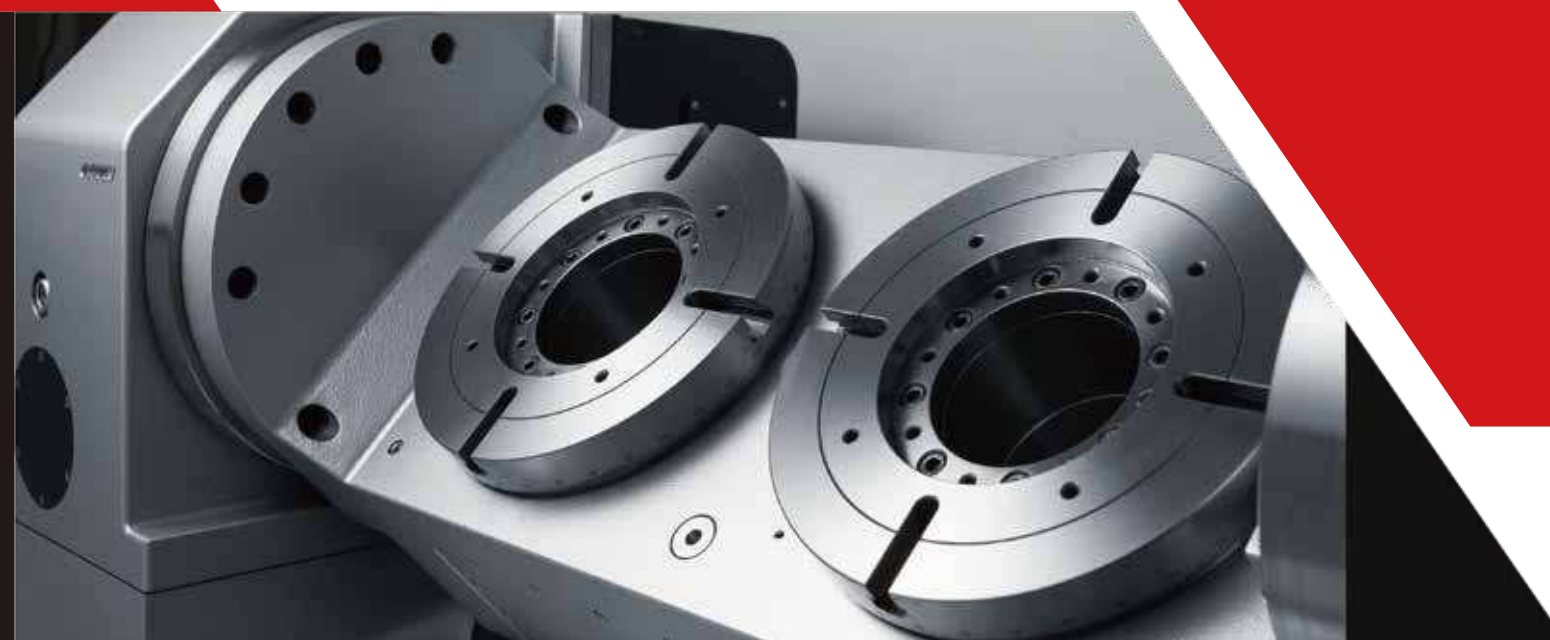


PRODUCT LINE UP

Quality and Cost Effect



detron Machine Co., Ltd.

No. 47-5, Zuncian Road., Shengang District 42952,
Taichung City, Taiwan

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

<http://www.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_JUL_2026,EN



The Largest Professional Rotary Table Manufacturer

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

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

detron 2nd Factory



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

Authorized Agent in Taiwan



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

detron Global Factory Outlet

Factory Outlet in Shanghai



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

Factory Outlet in Turkey



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

Factory Outlet in India



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

Factory Outlet in USA



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

Factory Outlet in Brazil



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

Factory Outlet in Korea



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

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for VMC_Worm Wheel Transmission

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25	4th Axis_ø255-ø400mm hydr. clamp_GXA-H series
27	4th Axis_ø500-ø800mm hydr. clamp_GXA-H series
29	4th Axis_ø170-ø255mm motor at left_GXA-L series
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for VERTICAL

Machining Center Series



STANDARD 4th axis 5th axis APC

4th axis

GXA-S series

multiple pneumatic power clamp



GXA-125S
GXA-170S/H
GXA-210S/H
GXA-250ES/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-500HII
GXA-500HIII
GXA-630H
GXA-630HL
GX-800H
Page 25-28

GXA-L series

motor at left



GXA-170SL/HL
GXA-210SL/HL
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/GTFAE-2W series

5th axis in multi spindle



GFA-125S-2W-240
GFA-170S-2W-300
GTFAE-210S-2W-320
Page 49

GTFAE-2W series

trunnion 5th axis in multi spindle



GTFAE-255H-2W-400
GTFAE-320H-2W-450
Page 51

GTFAE series

trunnion 5th axis



GTFAE-125S
GTFAE-210S
GTFAE-320XB/H
GTFAE-410XB
Page 41

GTFAE-L(S) series

trunnion 5th axis
with enlarged swing



GTFAE-170SL
GTFAE-255SBL(S)
GTFAE-320XBL(S)
GTFAE-410XBL(S)/HL(S)
GTFAE-500XBL
Page 45-48

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

trunnion 5th axis



GTFAE-500XB
GTFA-650EHB
GTFAI-650EHB
GTFAI-720EHB
Page 43

RCX / RCF

RCX-S/H series

roller gear cam 4th axis



RCX-170S/H
RCX-210S/H
RCX-250ES/H
RCX-255H
RCX-320H
RCX-400H
RCX-500H
RCX-500HL

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RCF-S/H series

roller gear cam 5th axis



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

Page 61

RCTFE

RCTFE系列

roller gear cam 5th axis



RCTFE-260HL
RCTFE-350H
RCTFE-500HL

Page 63

DDM

DV series

high speed 4th axis by DDM built-in



DV-170P
DV-255PII

Page 69

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

Page 71-74

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-125TP
ST-170TP/H
ST-210TP/H
ST-255TH
ST-320TH
ST-400TH

Page 35

SR-P/H series

rotary type tailstock



SR-125P
SR-170P/H
SR-210P/H
SR-255H
SR-320H
SR-400H
SR-500H

Page 36

CUSTOMIZATION

5th axis

APC

Customized Product with DDM

Pallet changeable



With sub support



Page 74

Low gravity and dual drive at tilting axis



Page 74

Built in machine table



Auto Pallet Change

For VMC with fixed column



CVR-660
CVR-850
CVR-10D

Page 53

For VMC with movable column



SVC-7050 II
SVC-10065 II

Page 54



Product Assembly

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

Calibration & Inspection

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



Professional Training

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



Technical Center and Laboratory

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



Dynamic 5 axis Location Alignment

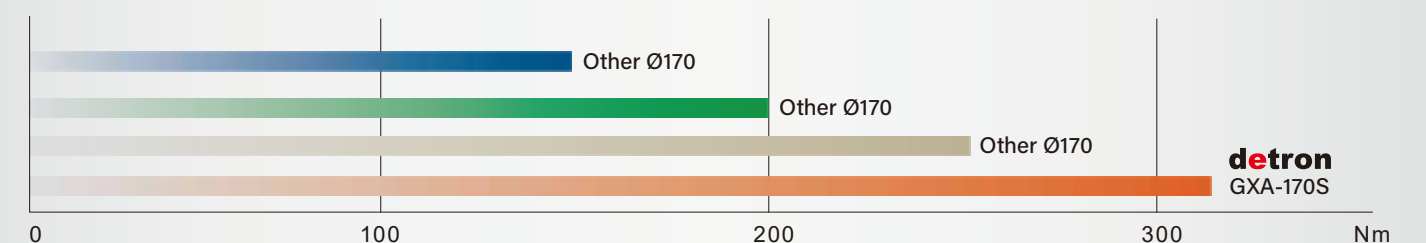
detron own measurement facility with European IBS rotary inspector and software. To provide sufficient efficiency of 5 axis machine manufacturing and processing.



CNC Dynamic 5 axis Machining Application Center

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

Practical Clamping Force Approved



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

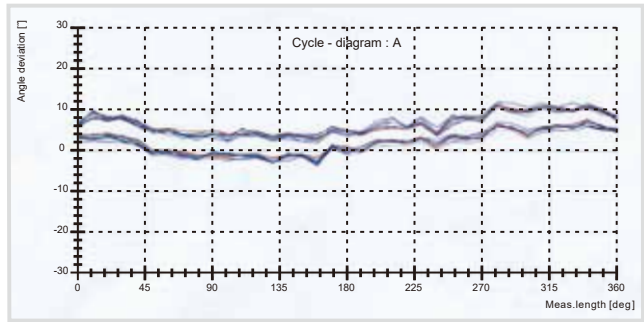
Scan these QR codes to see video:



Accuracy Inspection Norm

detron

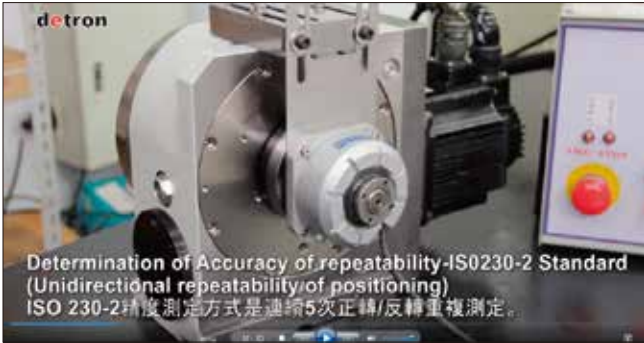
ISO 230-2 Norm (equal to JIS B 6192)



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

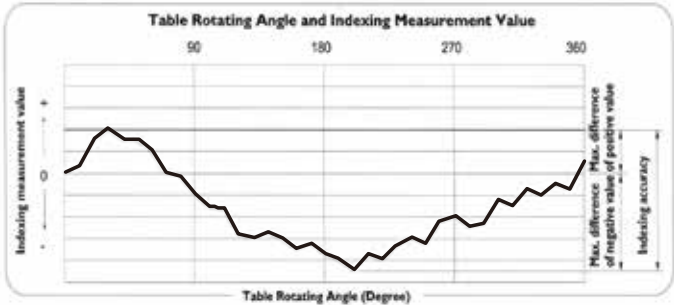
Facility of Inspection

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

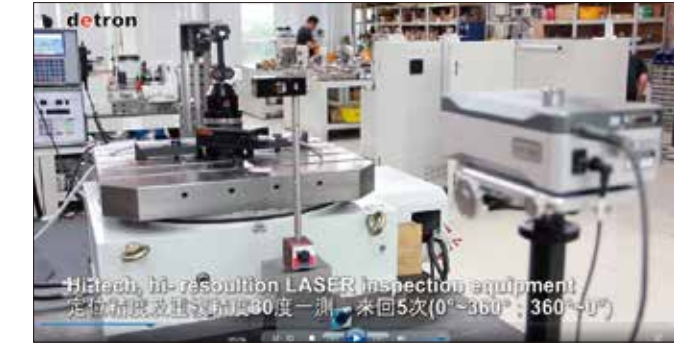


others

JIS B 6330 Norm in Single cycle



Simplified inspection norm without number of laps indicated.



Update Accuracy Identification

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

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

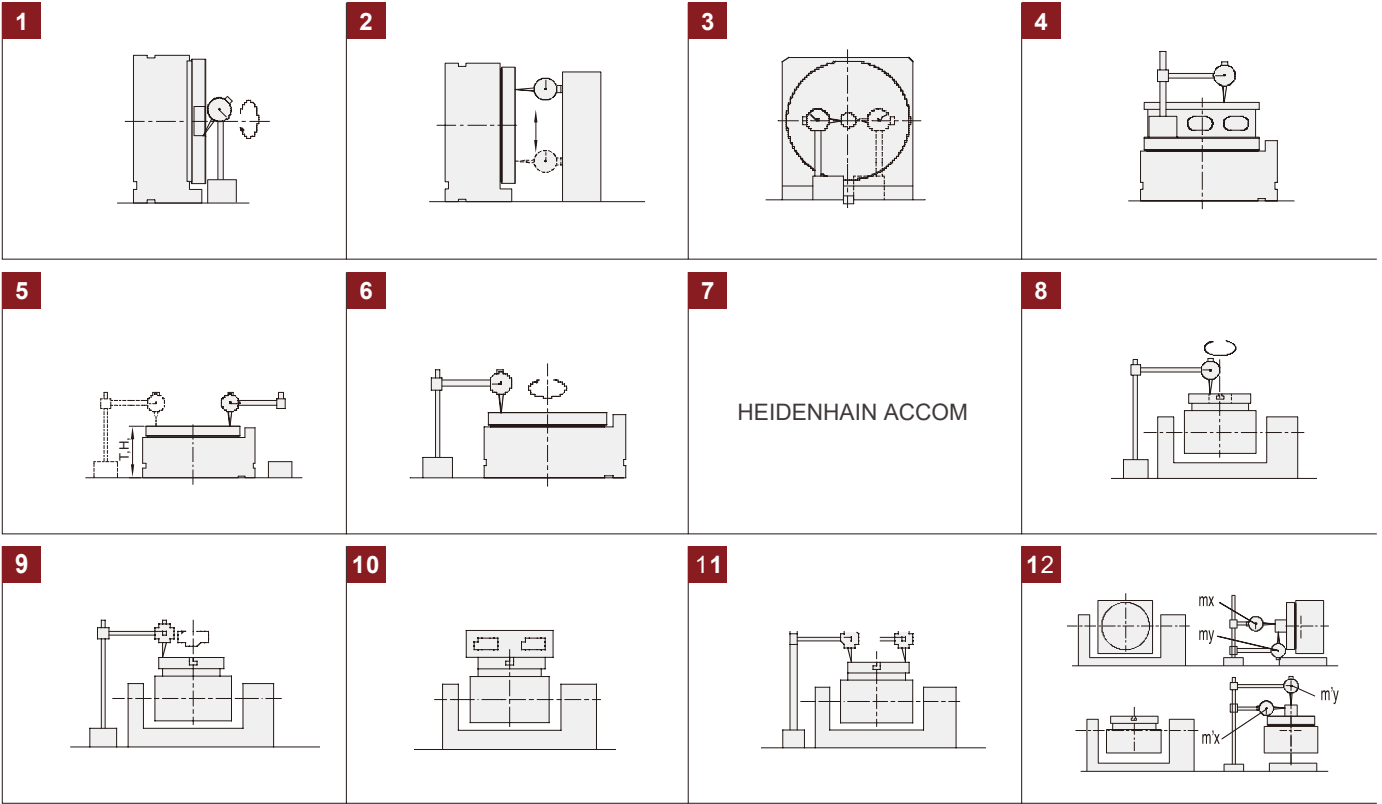
Remark: Due to environmental influences during the measurement, the recorded measuring error may exceed the catalog limit value by up to 10%.

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

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

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

Accuracy Tolerance Chart



Description of Inspection

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

Core Components — Facilities and Precise Process

German Lieberr Hobbing Machines



Vertical Hobbing Machine



Vertical grinding machine with hydrostatic bearing technology



Finishing grinding for casting ID



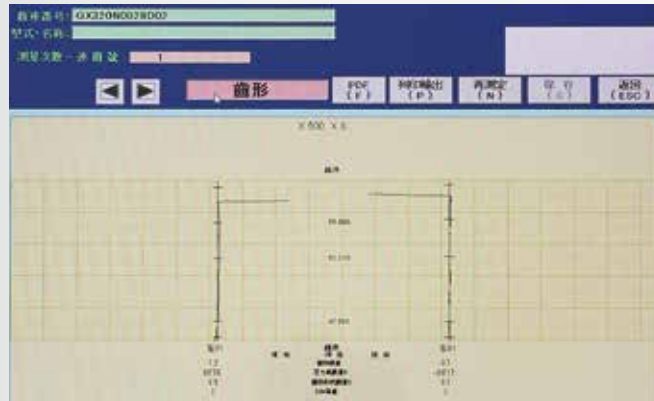
Finishing grinding for gear face



Finishing grinding for brake drum face+ID+OD

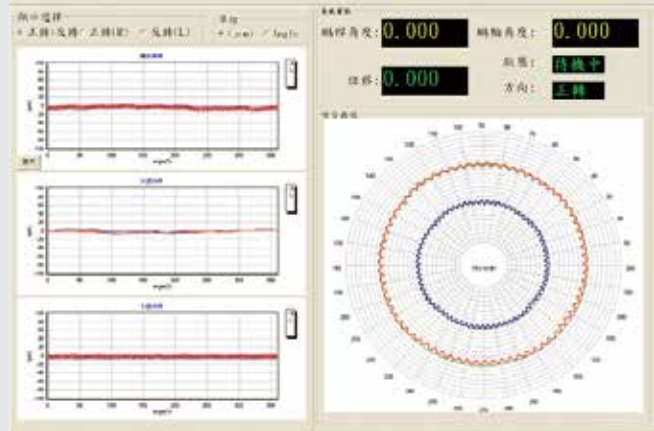
Gear Measuring Machine

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



Gear Teeth Occlusion Inspection

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



Automation for Burr Removing



Main Spindle Preload





Prepare for Industry 4.0

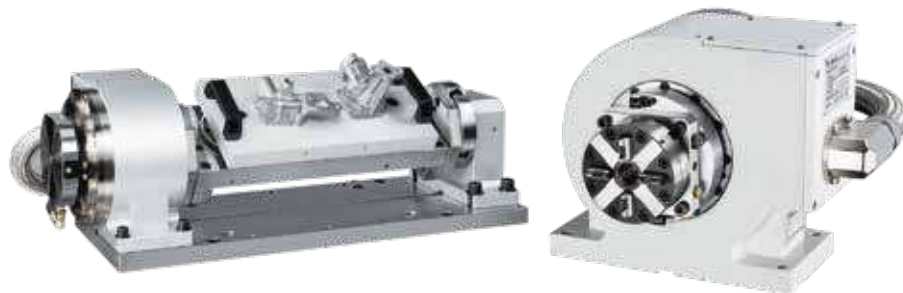


Recommended hardware corroboration in Industrial 4.0 chain.

Integration with High Efficient Mold Change



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



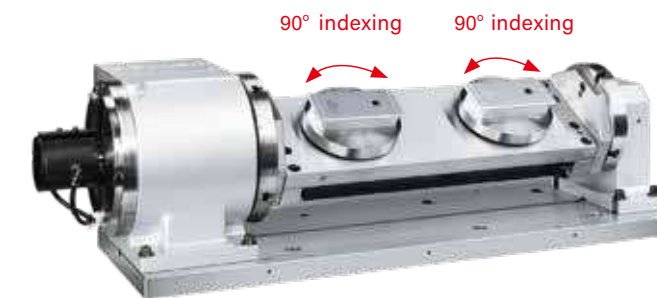
- ▲ To ease the modulation of parts- holding system in mass production and high end automation, **detron** develops sufficient interface to adapt various **quick mold changing** device, such as EROWA and SCHUNK.

Magnifying the Machining Value

Solutions by Smart Attachments



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



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

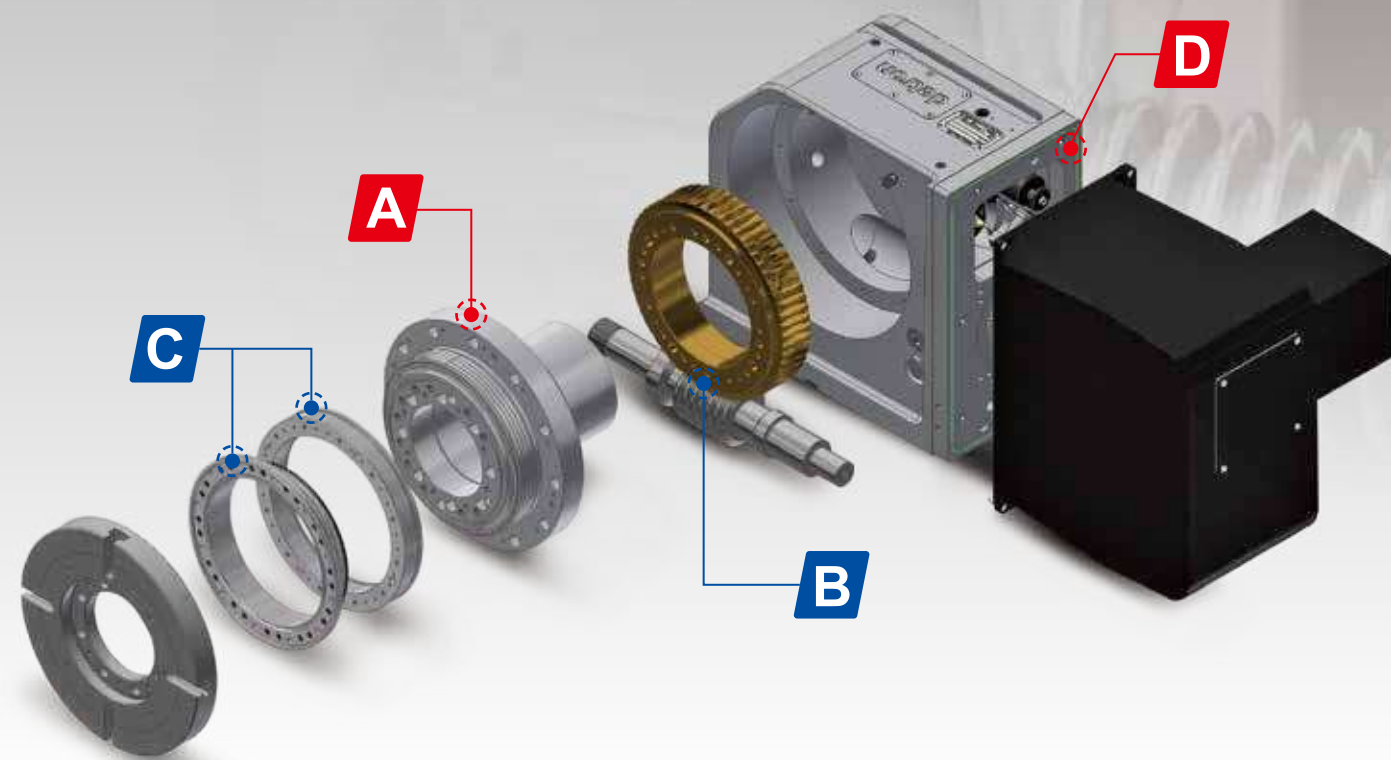
Detron On-Line Service



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



Core Technology – High Rigidity Consolidated Spindle



for VMC_Worm Wheel Transmission

Comparison of Spindle and Bearing

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-

detron

others

others



Exclusive Patent
Rigidity
>

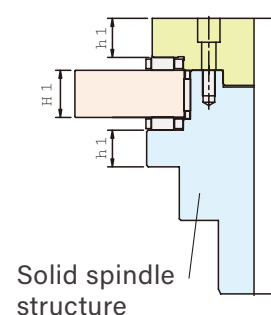


3 pieces YRT bearing



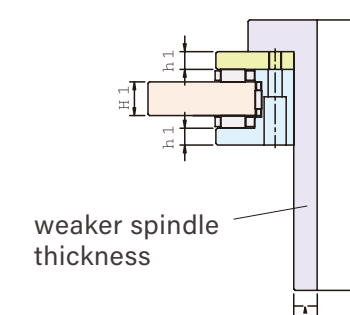
Economic taper roller bearing

YRT bearing integrated in consolidated spindle.



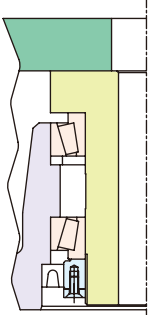
Solid spindle structure

↑ least separate elements, premium rigidity.



weaker spindle thickness

↓ more separate parts, more accumulated error, lower rigidity

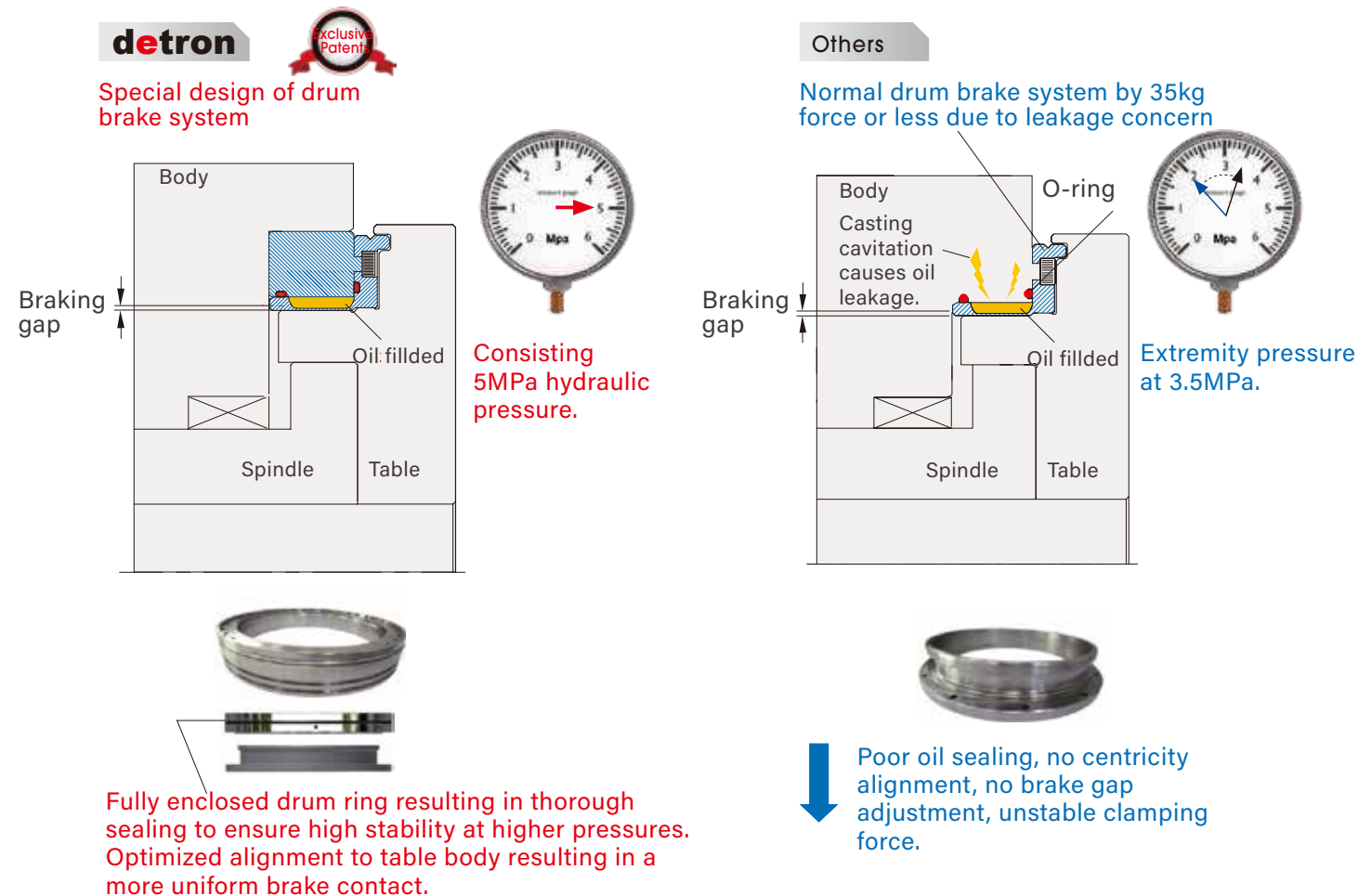


↓ not recommended for medium - big table (Ø210mm)

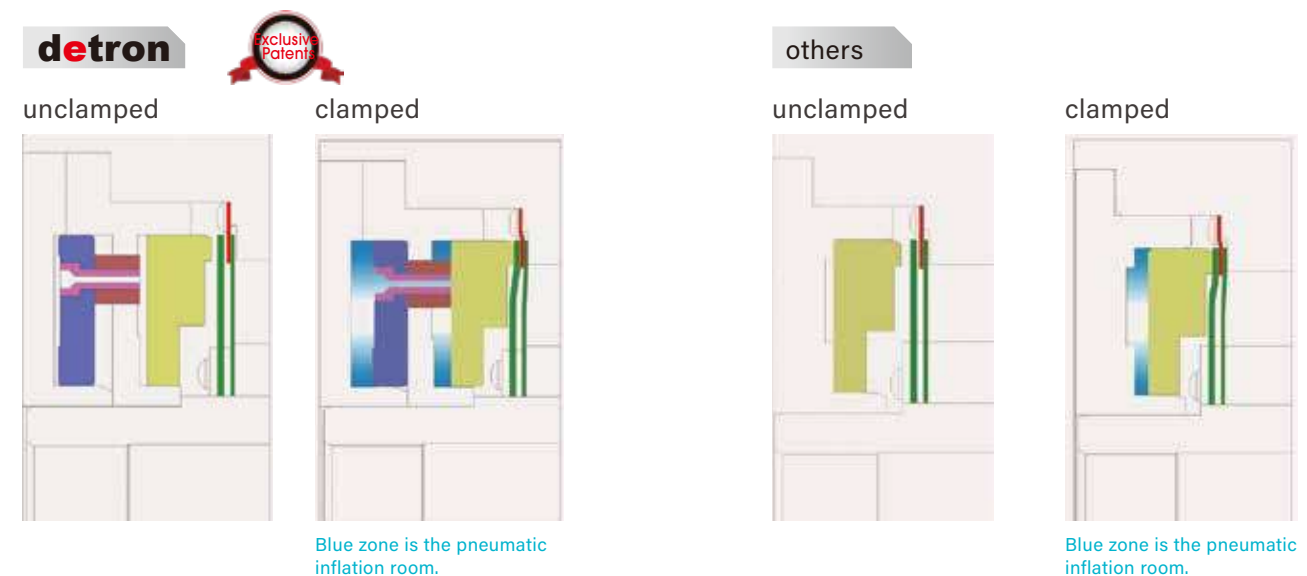
- The roller parts and steady supportive guide ways distinctly share 20-30% and 70-80% from the whole spindle rigidity.
- H1 & h1, as the supportive roller guide ways, are thicker on detron spindle and act high rigidity.
- Less separate parts, less accumulated error concern.

Core Technology – Reliable Clamping Force

Safe and Double Insured Hydraulic Brake



Patented Dual Pneumatic Piston, Braking Force Promoted



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

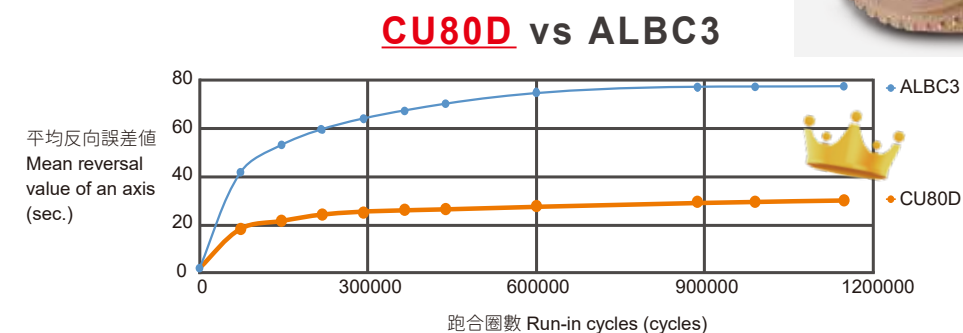
Limited effects by less pneumatic inflation zone of conventional single piston. Lower clamping force.

Core Technology – High Endurable Worm Gear Set

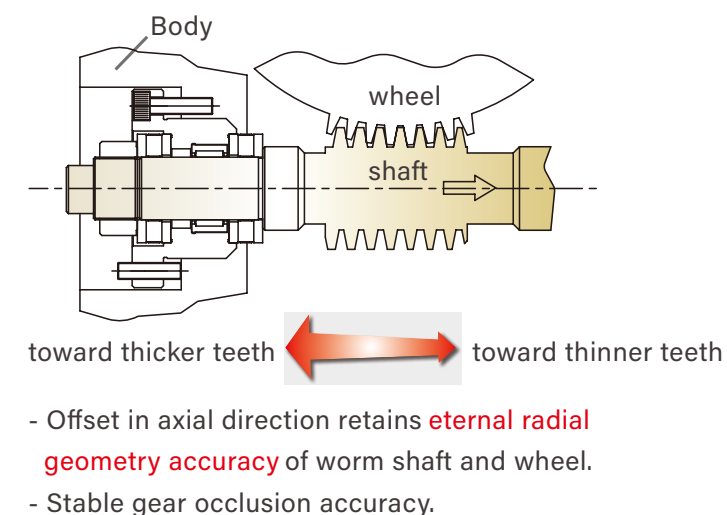
Exclusive Worm Wheel Material -CU80D

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

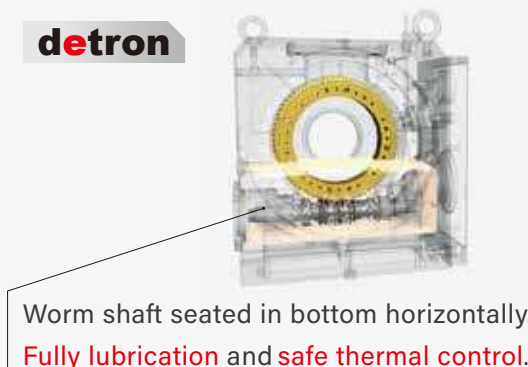
260% resistance for abrasion compared to conventional worm wheel materials by other brands.



Precise Dual Lead Worm Shaft and Gear



Lubrication and Thermal Control



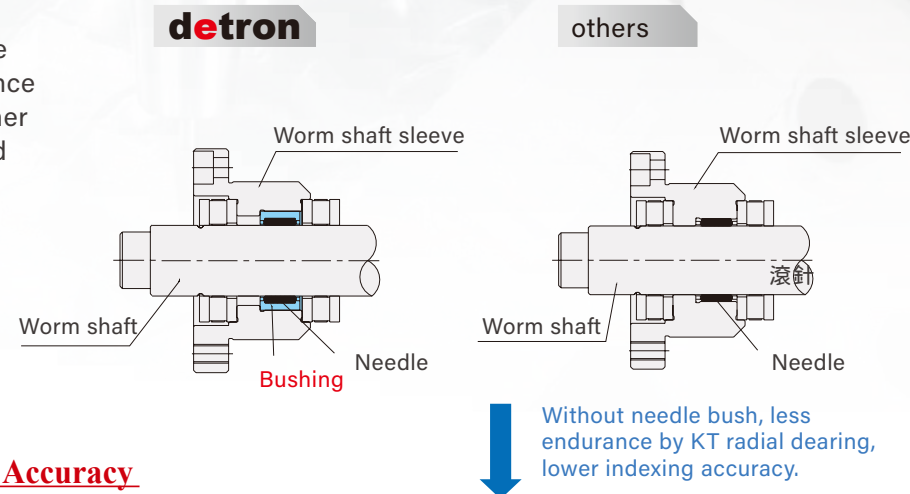
Teeth Module Promoted



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.



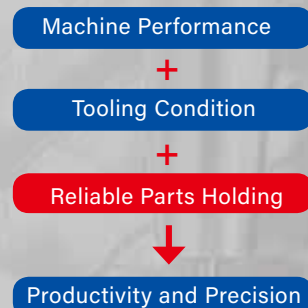
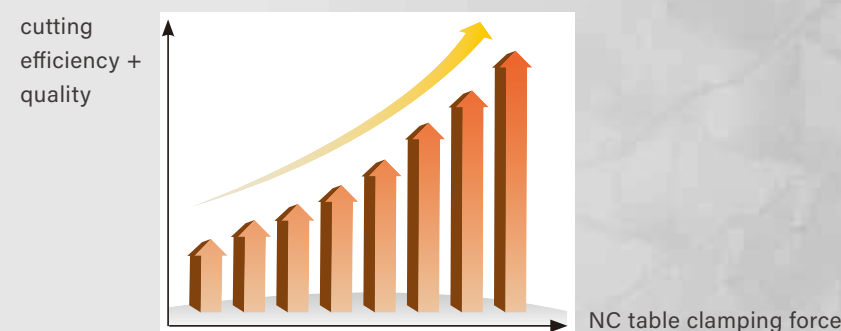
others



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



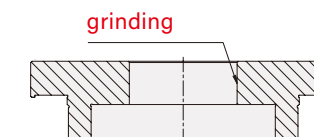
Processing Of Spindle Bore

Advantages of center positioning hole with grinding

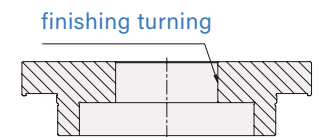
- Superior roundness and surface roughness.
- High accuracy when adjusting jig on center bore.
- **Large spindle hole diameter allows multi-port oil distributor mounted.**

Quicker Precise Mold Change. Higher Indexing Accuracy and Concentricity.

detron



others



Poor roundness and surface for fixture adjustment.

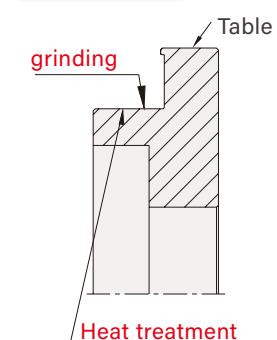
Fine Finishing Machining Of Brake Shaft

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.

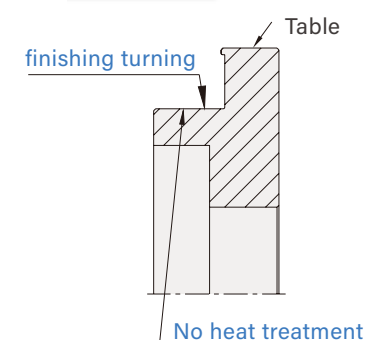
detron



Brake surface with grinding and heat treatment



others



Brake surface only with final turning but no heat treatment

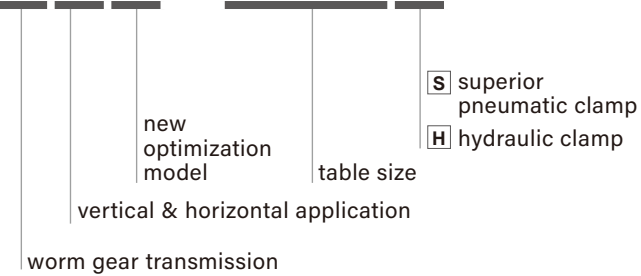


GXA-S series

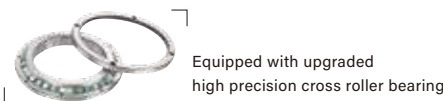
CNC Rotary Table

High Power Clamp

G X A - 1 7 0 S



- 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)



SPECIFICATIONS

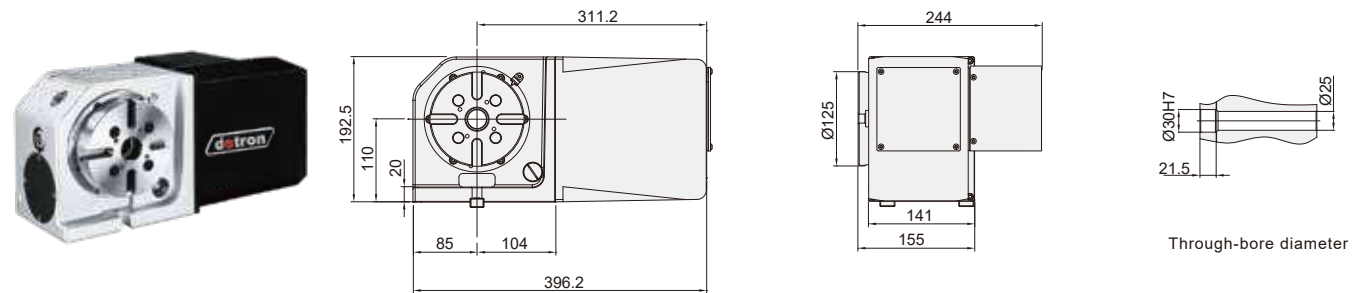
MODEL	Unit	GXA-125S	GXA-170S/H	GXA-210S/H GXA-250ES/H	GXA-170S-2W-250
Worktable diameter	mm / inch	Ø125 / Ø 4.92	Ø170 / Ø 6.69	Ø210 / Ø 8.27 Ø255 / Ø 10.04	Ø170 / Ø 6.69
Center bore diameter	mm / inch	Ø30H7 / Ø 1.18H7	Ø40H7 / Ø 1.57H7	Ø65H7 / Ø 2.56H7	Ø40H7 / Ø 1.57H7
Through-bore diameter	mm / inch	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 center (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	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	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 77			
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* ($\frac{W.D^2}{8}$)	kg.m ²	0.2	0.72	1.38	0.54
Maximum loading inertia* ($\frac{W.D^2}{8}$)	kg.m ²	1	3	5	2.5
Resolution	deg.	0.001	0.001	0.001	0.001
Indexing accuracy	sec.	40	20	20	20
Repeatability (ISO 230-2/JIS B6192)	sec.	6	6	6	6
Repeatability (JIS B6330)	sec.	4	4	4	4
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	75 / 165
	Horizontal	kg / lb	100 / 220	200 / 440	150 / 330
	Rotary Tailstock applied	kg / lb	100 / 220	200 / 440	150 / 330
FxL When table clamped	 N / lbs	9700 / 2176.68	14000 / 3141.6	17000 / 3814.8	14000 / 3141.6
	 N.m / ft. lbs.	410 / 302.17	1020 / 751.74	1265 / 932	1020 / 751.74
	 N.m / ft. lbs.	140 / 103.8	300 / 221 450 / 332	400 / 295 600 / 443	300 / 221.1
Allowable cutting torque	 N.m / ft. lbs.	85 / 62.65	200 / 147.41	260 / 191.62	200 / 147.41
Allowable Max. rotary joint quantity		-	4	4	4

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

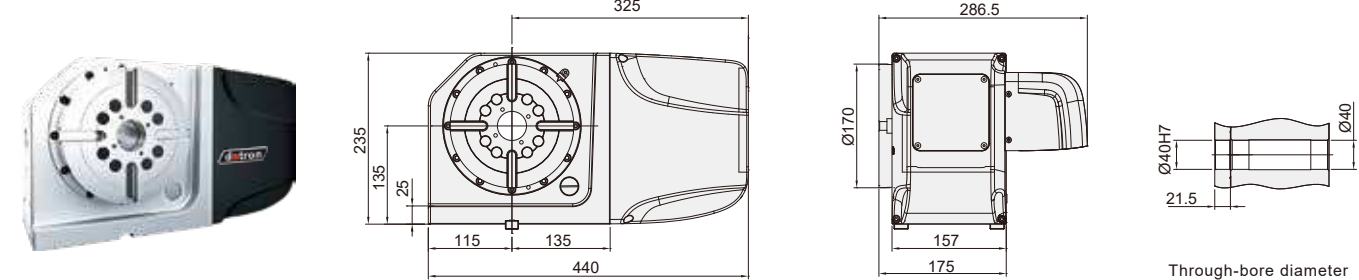
DIMENSIONAL DRAWINGS

Unit : mm

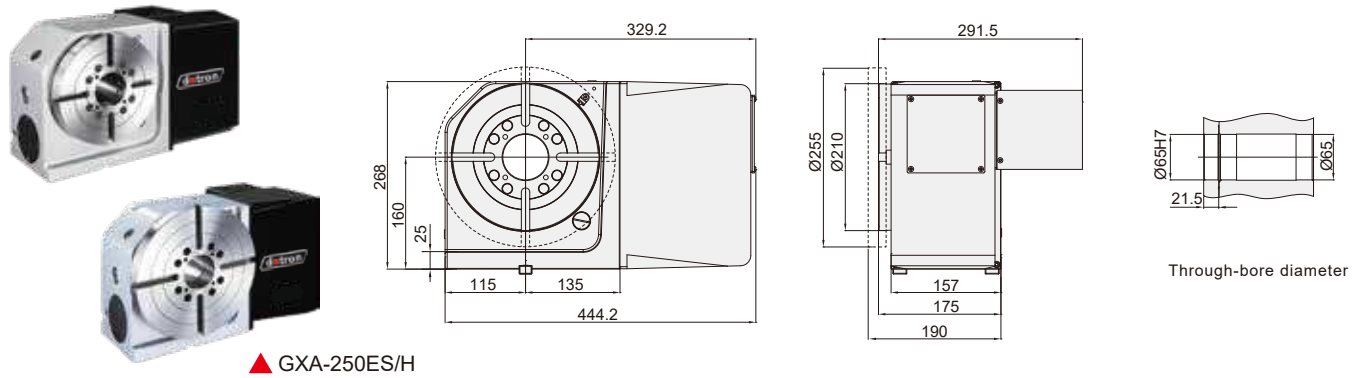
GXA-125S



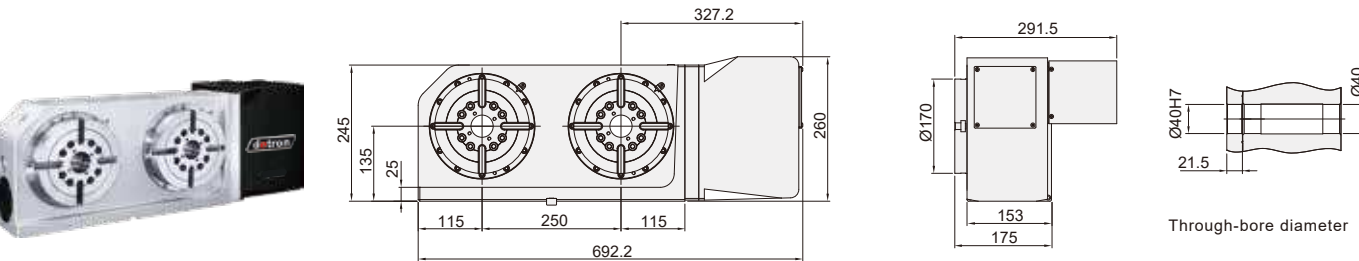
GXA-170S/H



GXA-210S/H



GXA-170S-2W-250

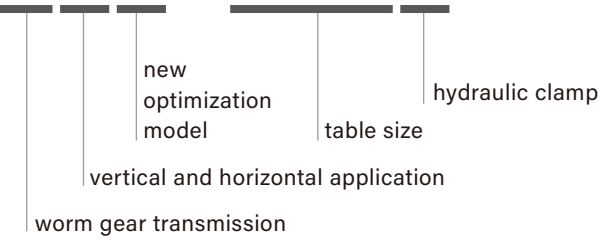


Note: The length of servo guard may vary with servo motor type.
(the metal sheet dimensions shown above are based on Fanuc motor)

CNC Rotary Table

Ultra Big Spindle Bore, High Power 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.(P19)
- Consolidated spindle with radial-Axial bearing built-in. (P18)
- Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash.(P20)



Consolidated spindle with radial-Axial bearing built-in.

SPECIFICATIONS

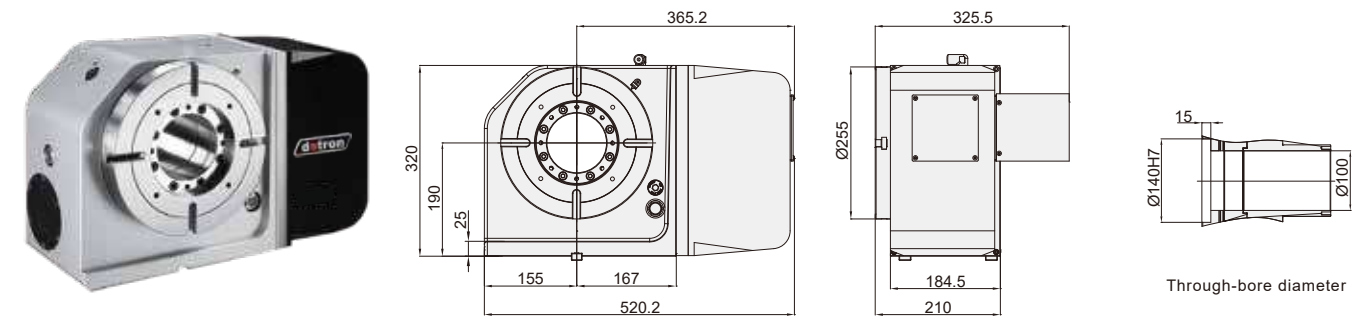
MODEL	Unit	GXA-255H	GXA-320H	GXA-400H
Worktable diameter	mm / inch	Ø255 / Ø 10.04	Ø320 / Ø 12.6	Ø400 / Ø 15.75
Center bore diameter	mm / inch	Ø140H7 / Ø 5.51H7	Ø180H7 / Ø 7.08H7	Ø220H7 / Ø 8.66H7
Through-bore diameter	mm / inch	Ø100 / Ø 3.94	Ø140 / Ø 5.51	Ø180 / Ø 7.09
Height of table (horizontal)	mm / inch	210 / 8.27	235 / 9.25	255 / 10.04
Height of center (vertical)	mm / inch	190 / 7.48	210 / 8.27	255 / 10.04
Width of T-slot	mm / inch	12H7 / 0.47H7	14H7 / 0.55H7	14H7 / 0.55H7
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71
Clamping method / pressure	MPa / psi	Hydraulic 5 / 725	Hydraulic 5 / 725	Hydraulic 5 / 725
Clamping torque	N.m / ft. lbs.	900 / 663.3	1600 / 1179.2	3000 / 2211
Servo motor spec		refer to page 77		
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*	$\frac{W.D^2}{8}$ kg.m ²	2.43	5.12	10.2
Maximum loading inertia*	$\frac{W.D^2}{8}$ kg.m ²	12	20	40
Resolution	deg.	0.001	0.001	0.001
Indexing accuracy	sec.	15	15	15
Repeatability (ISO 230-2/JIS B6192)	sec.	6	6	6
Repeatability (JIS B6330)	sec.	4	4	4
Net weight (servo motor excluded)	kg / lb	114 / 251	147 / 323.4	253 / 556.6
Allowable loading capacity	Vertical	kg / lb	150 / 330	250 / 550
	Horizontal	kg / lb	300 / 660	400 / 880
	Rotary Tailstock applied	kg / lb	300 / 660	400 / 880
FxL When table clamped		N / lbs	20000 / 4488	28000 / 6283.2
		N.m / ft. lbs.	1700 / 1252.9	3000 / 2211
		N.m / ft. lbs.	900 / 663.3	1600 / 1179.2
Allowable cutting torque		N.m / ft. lbs.	550 / 405.35	780 / 574.86
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.

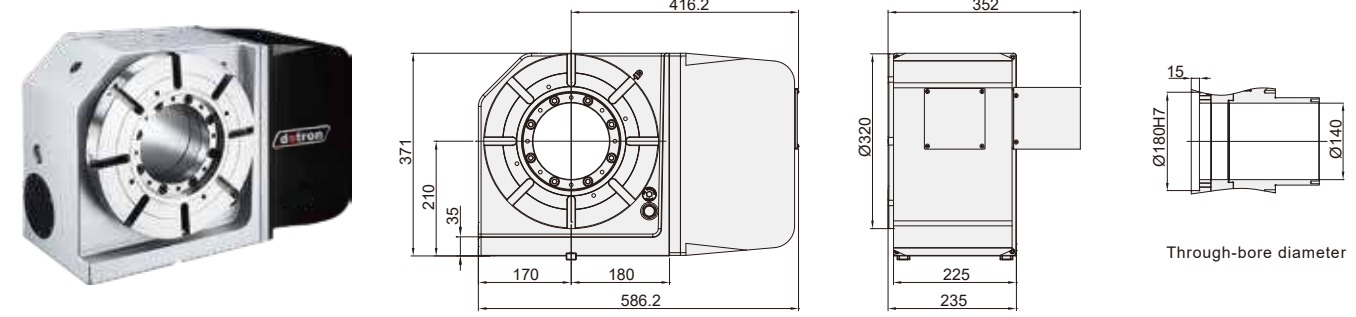
DIMENSIONAL DRAWINGS

Unit : mm

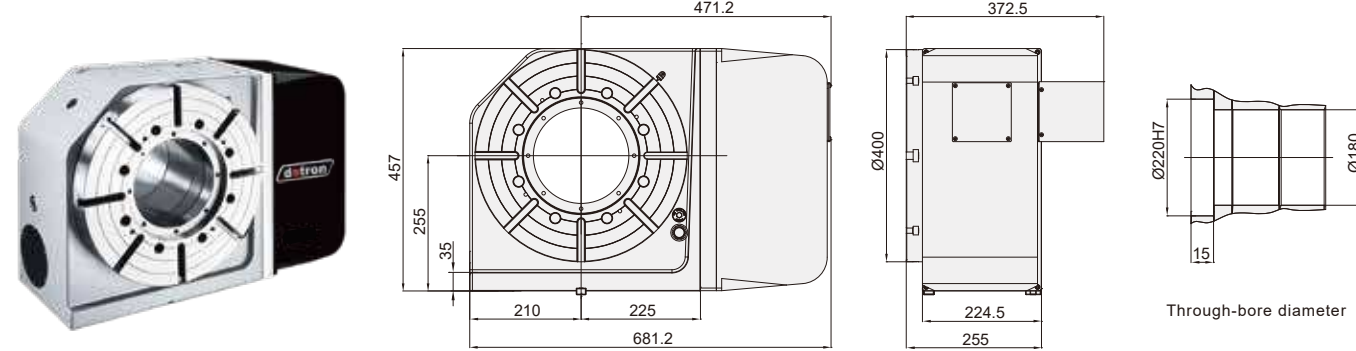
GXA-255H



GXA-320H



GXA-400H

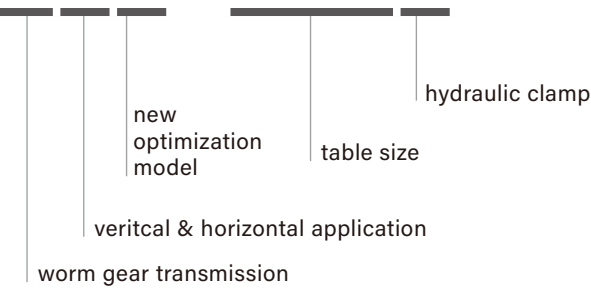


Note: The length of servo guard may vary with servo motor type.
(metal sheet dimensions shown above are based on Fanuc motor)

CNC Rotary Table

Ultra Big Spindle Bore, High Power 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-500HII GXA-500HIIL	GXA-630H GXA-630HL	GX-800H
Worktable diameter	mm / inch	Ø500 / Ø19.68	Ø630 / Ø24.80	Ø800 / Ø31.50
Center bore diameter	mm / inch	Ø260H7 / Ø10.23H7	Ø305H7 / Ø12H7	Ø285H7 / Ø11.22H7
Through-bore diameter	mm / inch	Ø220 / Ø8.66	Ø265 / Ø10.43	Ø240 / Ø9.45
Height of table (horizontal)	mm / inch	280 / 11.02	315 / 12.40	365 / 14.37
Height of center (vertical)	mm / inch	310 / 12.20	400 / 15.74	480 / 18.90
Width of T-slot	mm / inch	18H7 / 0.71H7	18H7 / 0.71H7	22H7 / 0.87H7
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.	3600 / 2655	5000 / 3687.81	5200 / 3835.32
Servo motor spec		refer to page 77		
Transmission ratio		1 / 180	1 / 180	1 / 180
Max. table speed / at specified servo motor speed	min ⁻¹	11.1 / 1998	11.1 / 1998	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 (ISO 230-2/JIS B6192)	sec.	6	6	6
Repeatability (JIS B6330)	sec.	4	4	4
Net weight (servo motor excluded)	kg / lb	404 / 891	660 / 1455	1236 / 2719.2
Allowable loading capacity	Vertical	kg / lb	400 / 881.8	800 / 1764
	Horizontal	kg / lb	800 / 1764	1500 / 3306
	Rotary Tailstock applied	kg / lb	800 / 1764	1500 / 3306
FxL When table clamped		N / lbs	40000 / 8992	50000 / 11240
		N.m / ft. lbs.	5000 / 3687.8	8300 / 6121.7
		N.m / ft. lbs.	3200 / 2360.1	5200 / 3832.4
Allowable cutting torque		N.m / ft. lbs.	2500 / 1843.9	4300 / 3171.5
			4300 / 3171.5	6860 / 5059.6

DIMENSIONAL DRAWINGS

Unit : mm

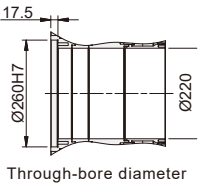
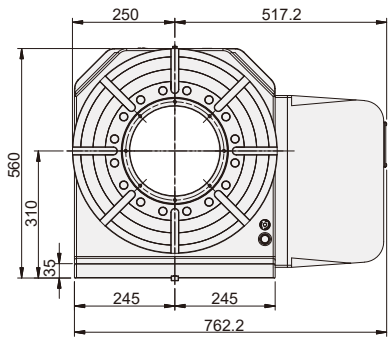
GXA-500HII/GXA-500HIIL



GXA-500HII



GXA-500HIIL



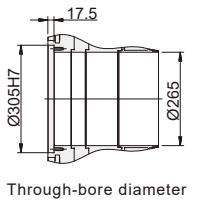
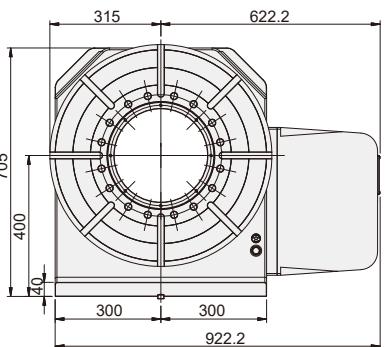
GXA-630H/GXA-630HL



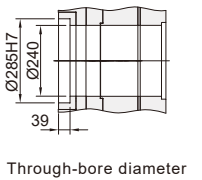
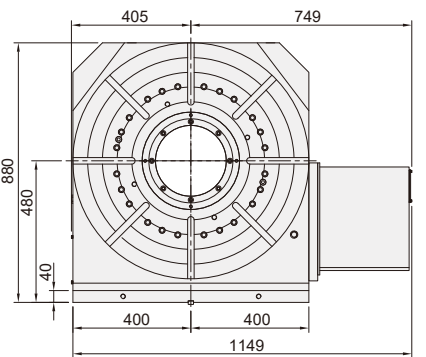
GXA-630H



GXA-630HL



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

motor mounted at left side of table
new optimization mode I
superior pneumatic clamp
hydraulic clamp
vertical & horizontal application
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/HL	GVA-210SL/HL	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 center (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	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
Clamping torque	N.m / ft. lbs.	300 / 221.1 450 / 332	300 / 221.1 450 / 332	900 / 663.3
Servo motor spec		refer to page 77		
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 (W.D ² /8)	kg.m ²	0.72	1.38	2.43
Resolution	deg.	0.001	0.001	0.001
Indexing accuracy	sec.	20	20	15
Repeatability (ISO 230-2/JIS B6192)	sec.	6	6	6
Repeatability (JIS B6330)	sec.	4	4	4
Net weight (servo motor excluded)	kg / lb	51.5 / 113.3	60 / 132	114 / 251
Allowable loading capacity	Vertical	kg / lb	100 / 220	150 / 330
	Horizontal	kg / lb	200 / 440	300 / 660
	Rotary Tailstock applied	kg / lb	200 / 440	300 / 660
FxL When table clamped		N / lbs	14000 / 3141.6	17000 / 3814.8
		N.m / ft. lbs.	1020 / 751.74	1265 / 932
		N.m / ft. lbs.	300 / 221.1	400 / 294.8
Allowable cutting torque		N.m / ft. lbs.	200 / 147.41	260 / 191.62
Allowable Max. rotary joint quantity		4	4	6

DIMENSIONAL DRAWINGS

Unit : mm

GXA-170SL/HL

Technical drawing of GXA-170SL/HL showing dimensions: 291.5, 329.2, 157, 175, 135, 115, 444.2, 235, 25, 135, 21.5, Ø40H7, Ø40. Includes a detail of the cross roller bearing.

GVA-210SL/HL

Technical drawing of GVA-210SL/HL showing dimensions: 291.5, 329.2, 191, 192, 135, 115, 444.2, 268, 25, 160, 21.5, Ø65H7, Ø65. Includes a detail of the cross roller bearing.

GXA-255HL

Technical drawing of GXA-255HL showing dimensions: 325.5, 365.2, 184.5, 210, 167, 155, 520.2, 320, 25, 190, 15, Ø140H7, Ø100. Includes a detail of the consolidated spindle with YRT bearing built-in.

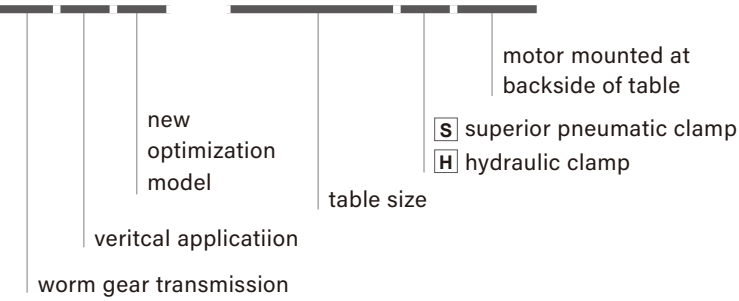
Note: The length of servo guard may vary with servo motor type. (metal sheet dimensions shown above are based on Fanuc motor)

GVA-B series

CNC Rotary Table

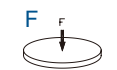
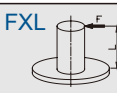
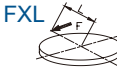
High Power Clamp, Motor at Back

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 77		
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
	Rotary Tailstock applied	kg / lb	150 / 330	250 / 550
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.

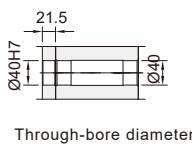
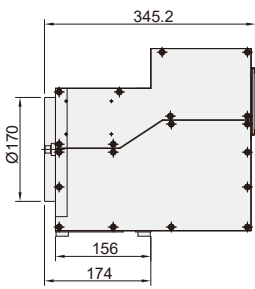
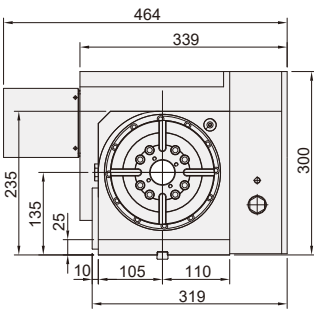
DIMENSIONAL DRAWINGS

Unit : mm

GV-170SB



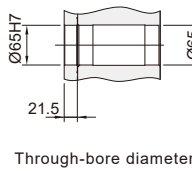
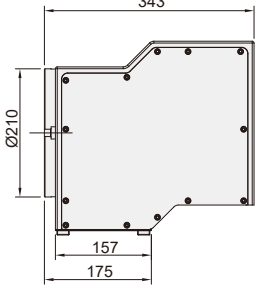
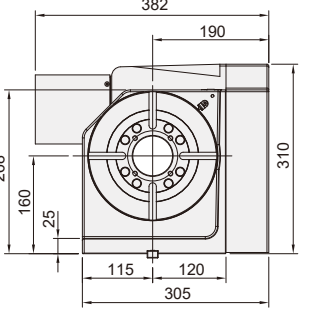
Equipped with upgraded high precision cross roller bearing.



GVA-210SB



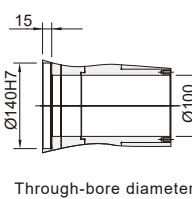
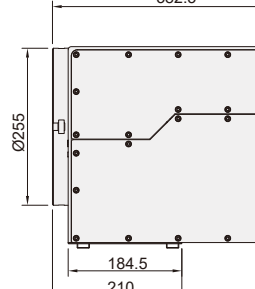
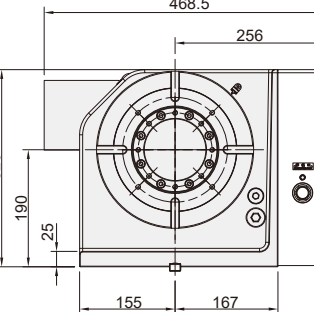
Equipped with upgraded high precision cross roller bearing.



GVA-255HBII

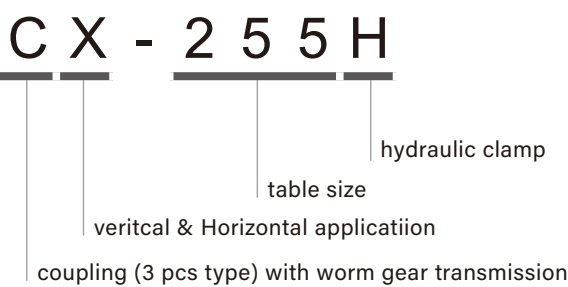


Consolidated spindle with YRT bearing built-in.

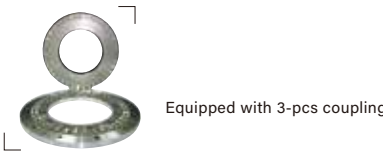


Note: The length of servo guard may vary with servo motor type.
(metal sheet dimensions shown above are based on Fanuc motor)

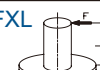
CNC Index Table



- 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

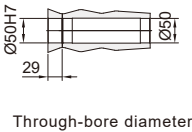
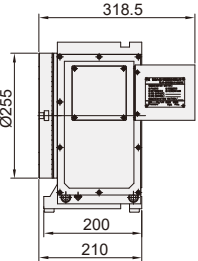
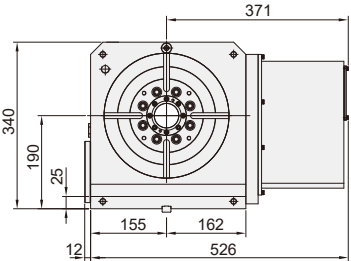
MODEL		Unit	CX-255H	CX-320H	CX-400H	CX-500H
Worktable diameter		mm / inch	Ø255 / Ø10.04	Ø320 / Ø12.60	Ø400 / Ø15.75	Ø500 / Ø19.69
Center bore diameter		mm / inch	Ø50H7 / Ø1.97H7	Ø70H7 / Ø2.76H7	Ø110H7 / Ø4.33H7	Ø130H7 / Ø5.12H7
Through-bore diameter		mm / inch	Ø50 / Ø1.97	Ø70 / Ø2.76	Ø110 / Ø4.33	Ø130 / 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 77			
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 $(\frac{W.D^2}{8})$		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.

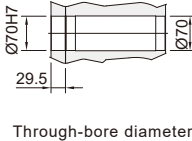
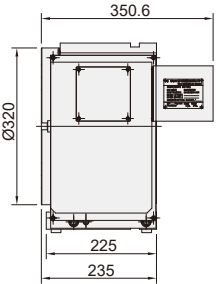
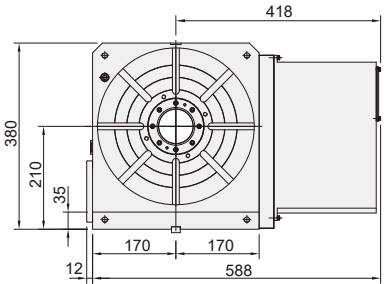
DIMENSIONAL DRAWINGS

Unit : mm

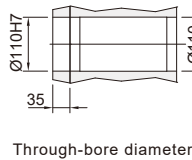
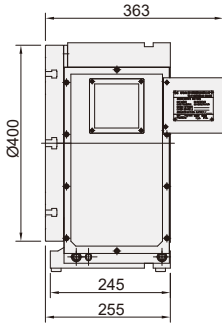
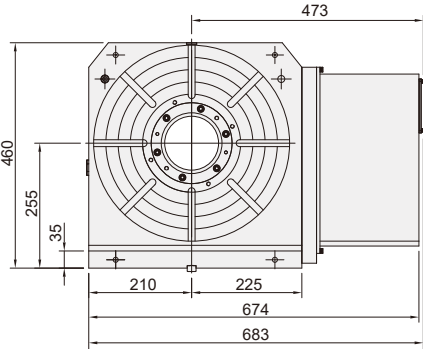
CX-255H



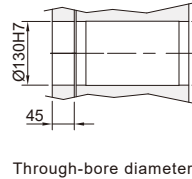
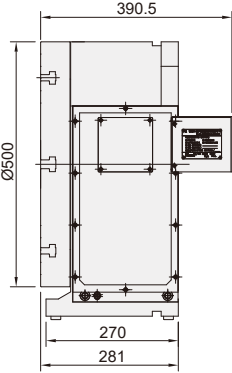
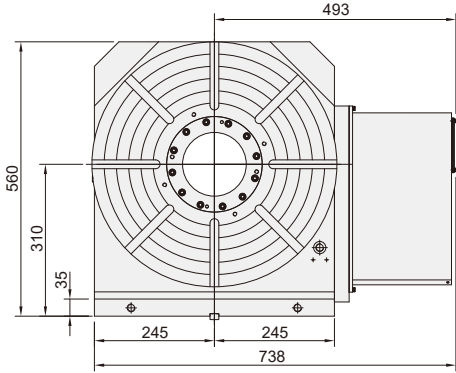
CX-320H



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)

CNC Tilting Rotary Table

G F A - 1 2 5 S

- new optimization model

five axes

worm gear transmission
- S superior pneumatic clamp

H hydraulic clamp
- table size



- 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)



Equipped with upgraded high precision cross roller bearing.

SPECIFICATIONS

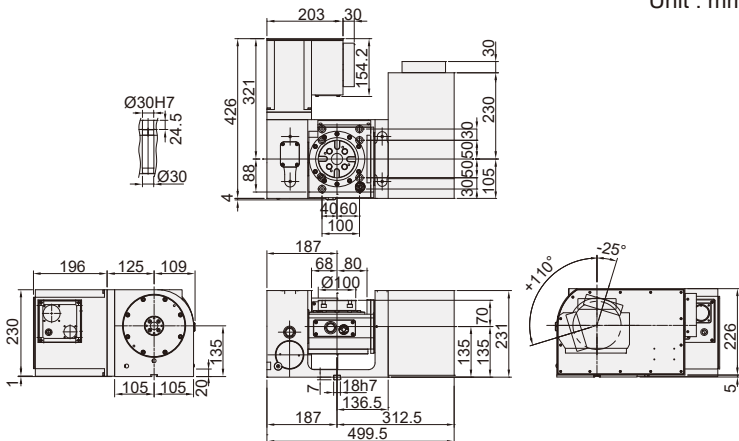
MODEL	Unit	GFA-101S	GFA-125S	GFA-170SII/HII	GFA-200ESII/HII
Worktable diameter	mm / inch	Ø100 / Ø3.94	Ø125 / Ø4.92	Ø170 / Ø6.69	Ø200 / Ø7.87
Center bore diameter	mm / inch	Ø30H7 / Ø1.18H7	Ø30H7 / Ø1.18H7	Ø40H7 / Ø1.57H7	Ø40H7 / Ø1.57H7
Height of table (horizontal)	mm / inch	205 / 8.07	224.5 / 8.84	260 / 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 78				
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
	In Tilting (0~90°)	kg / lb	20 / 44	35 / 77	50 / 110
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	24 / 17.69	24 / 17.69	40 / 29.5
FxL When table clamped	F	N / lbs.	4000 / 897.60	4000 / 897.60	7000 / 1570.8
	FxL	N.m / ft. lbs.	200 / 147.4	140 / 103.2	300 / 221 450 / 332
	FxL	N.m / ft. lbs.	250 / 184.25	300 / 221.1	400 / 295 700 / 516
Allowable loading inertia	($\frac{W.D^2}{8}$)	kg.m ²	0.044	0.1	0.28
Resolution	deg.	0.001	0.001	0.001	0.001
Indexing accuracy	sec	40	60	40	60
Repeatability (ISO 230-2/JIS B6192)	sec	6	8	6	8
Repeatability (JIS B6330)	sec	4	4	4	4
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.

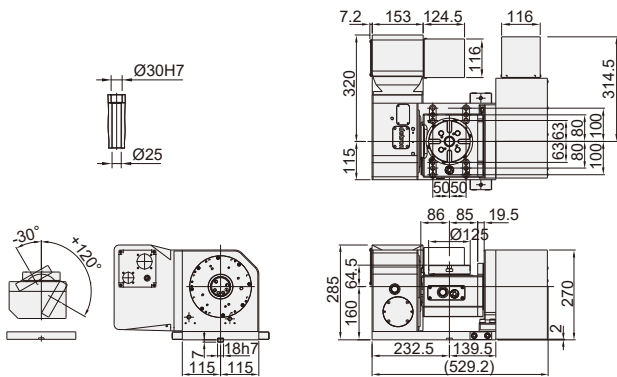
DIMENSIONAL DRAWINGS

Unit : mm

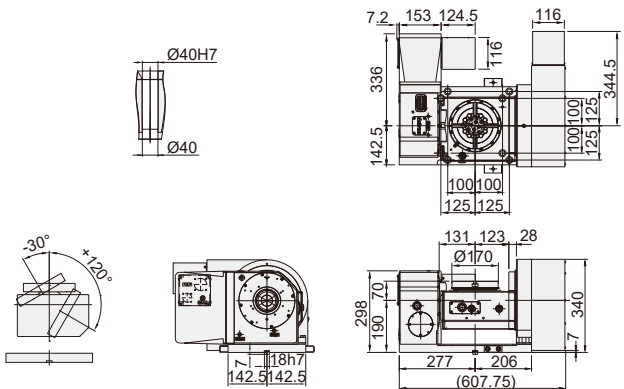
GFA-101S



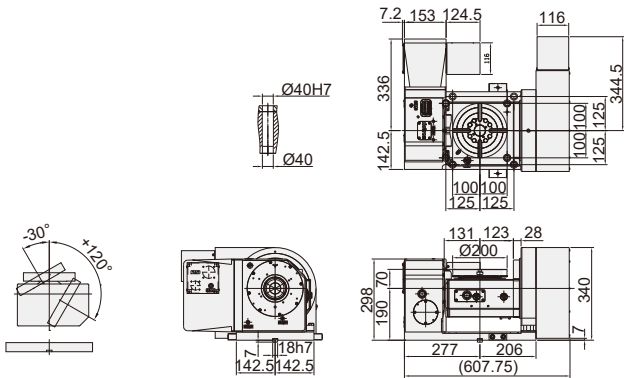
GFA-125S



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

G F A - 2 5 5 H(B)

new optimization model
five axes
worm gear transmission
tilting motor mounted at the back of table
S superior pneumatic clamp
H hydraulic clamp



- 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)

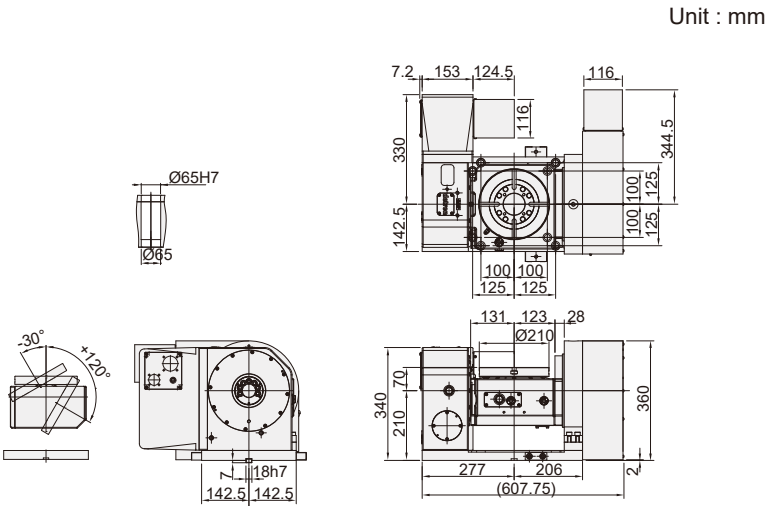
SPECIFICATIONS

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	P:0.55~0.7 / 79.7~101 H:2.5 / 362.5		Hydraulic 5 / 725		Hydraulic 5 / 725	
Servo motor spec			refer to page 78					
Transmission ratio			R	T	R	T	R	T
			1:90	1:90	1:90	1:120	1:120	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	$(\frac{W.D^2}{8})$ 	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 (ISO 230-2/JIS B6192)		sec	6	8	6	8	6	8
Repeatability (JIS B6330)		sec	4	4	4	4	4	4
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	

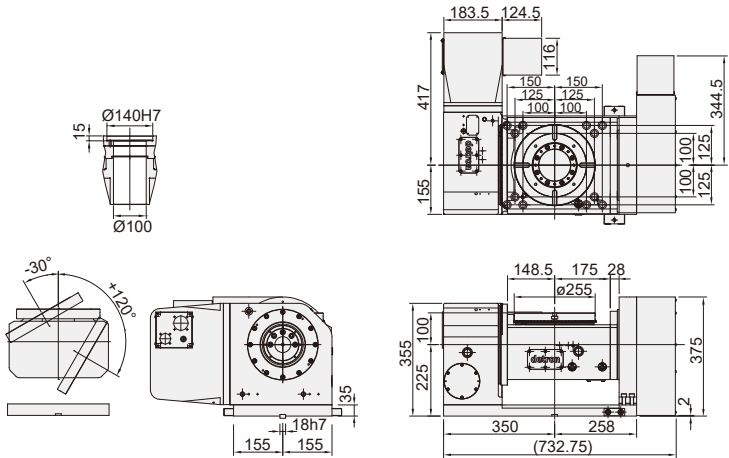
Note: 1. R: Rotary Axis T: Tilt Axis
2. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

DIMENSIONAL DRAWINGS

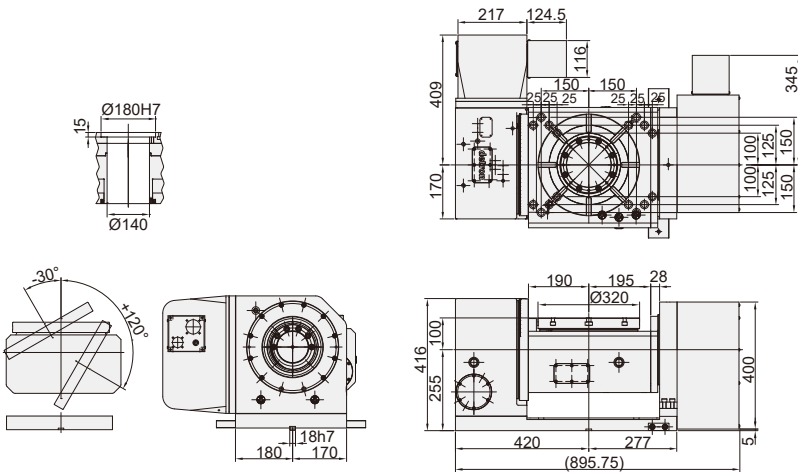
GFA-210S/H



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



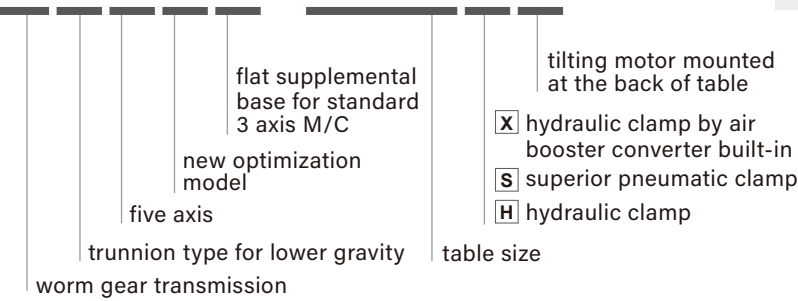
GFA-320H



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



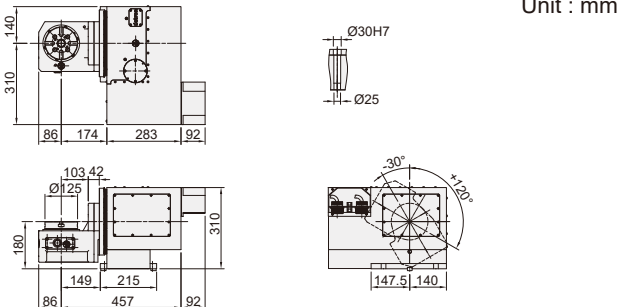
Worktable diameter Ø125, Ø210, Ø320, Ø410.
The hydraulic brake equipped with radial and axial bearings.(P.18)
Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash.(P.20)
Built-in air-booster for appointed models.

SPECIFICATIONS

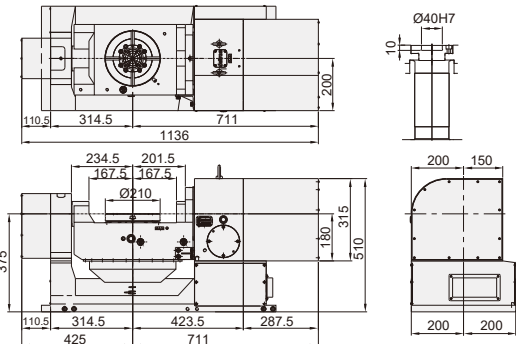
Note: 1. P: Pneumatic H:Hydraulic R: Rotary Axis T: Tilt Axis
2. For the motor model selection of GTFAS125S, please contact us.
3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

DIMENSIONAL DRAWINGS

GTFAS-125S



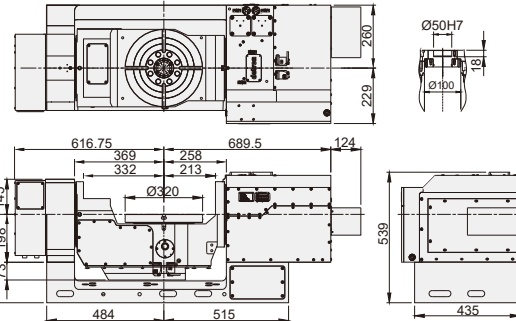
GTFAE-210S



GTFAE-320XB/H



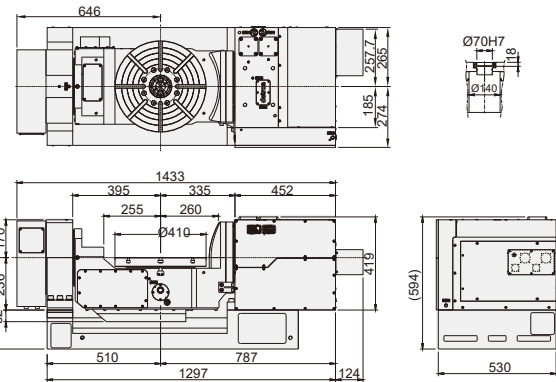
air-oil converter built-in



GTFAE-410XB



air-oil converter built-in



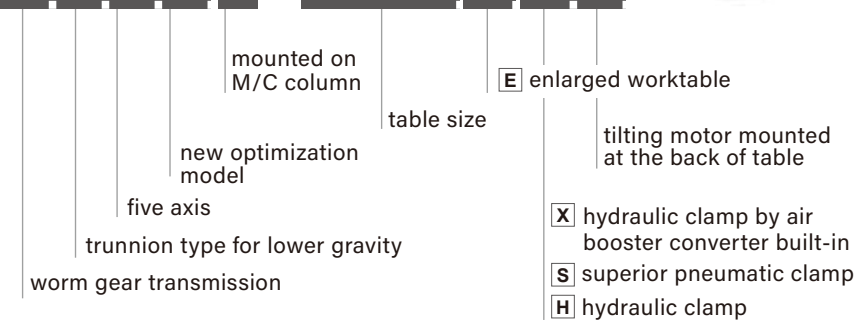
▲ Optional: Motor Cover At Front (GTFA350H)

▲ GTFAE-410HBLS 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

GTFA(I)-650EHB



- Worktable diameter Ø500, Ø650, Ø720.
- 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 78			
Transmission ratio			R	T	R	T	R	T
			1:120	1:180	1:72	1:120	1:72	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	2000/1475	3400/2508	2000/1475	3400/2508
Allowable loading capacity	In Horizontal 	kg / lb	500 / 1102		300 / 660		300 / 660	
	In Tilting (0~90°) 	kg / lb	500 / 1102		300 / 660		300 / 660	
Allowable unbalancing work moment	WxL 	N.m / ft. lbs.	300 / 221.0		300 / 221		300 / 221	
FxL When table clamped	F 	N / lbs	30000 / 6744		30000 / 6744		30000 / 6744	
	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	($\frac{W.D^2}{8}$) 	kg.m ²	9.6		9.4		9.4	
Resolution		deg.	0.001		0.001		0.001	
Indexing accuracy		sec	15	60	15	60	15	60
Repeatability		sec	6	8	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.

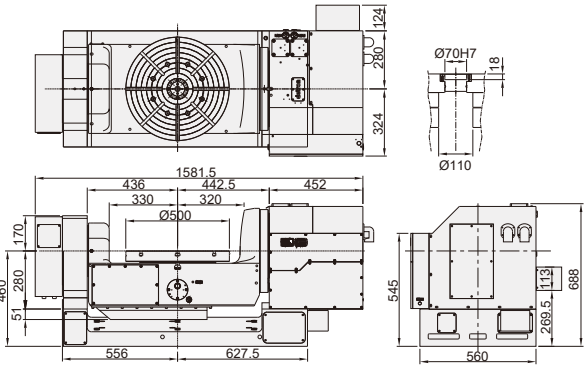
DIMENSIONAL DRAWINGS

Unit : mm

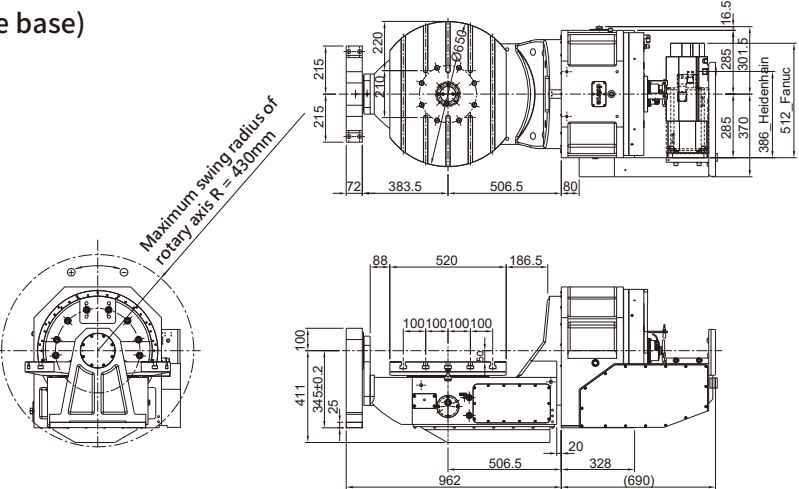
GTFAE-500XB



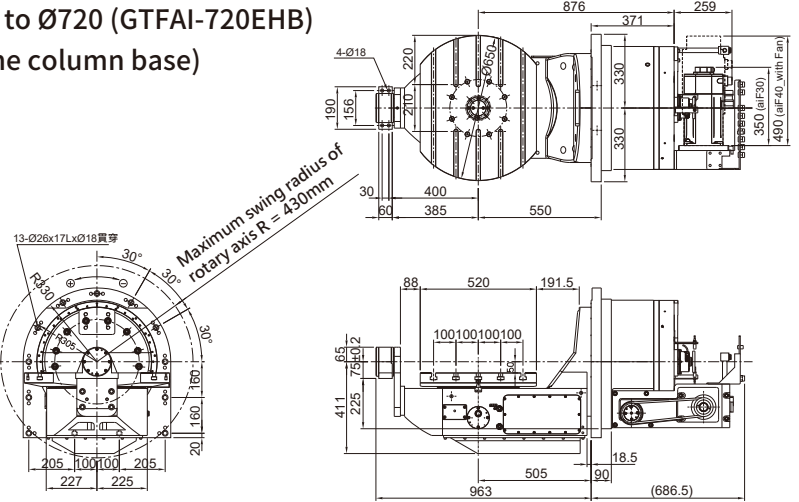
With 2 sets of built-in air-booster



GTFA-650EHB (Tilting axis fixed on machine base)



GTFAI-650EHB Worktable can be enlarged to Ø720 (GTFAI-720EHB)
(Tilting axis fixed on machine column 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.

GTFAE-L(S) series

CNC Trunnion Tilting Rotary Table

GTFAE-320XBL(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 clamp

table size



- Worktable diameter Ø170, Ø255, Ø320.
- The hydraulic brake equipped with radial and axial bearings.(P.18)
- Full gear depth transmitted by dual lead worm drive, resulting in higher efficiency and lower backlash.(P.20)
- Enlarged swing to allow more working envelope.
- Sub- table available as "S" model.

SPECIFICATIONS

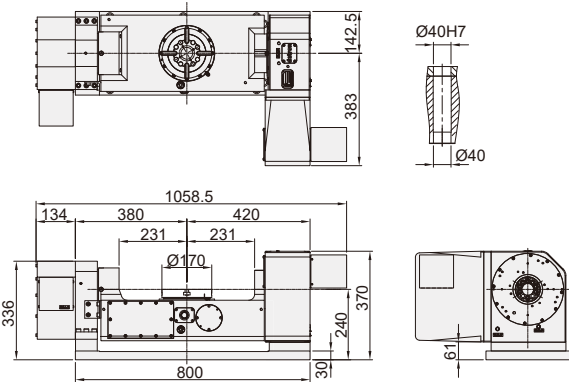
MODEL		Unit	GTFAE-170SL		GTFAE-255SBL(S)		GTFAE-320XBL(S)	
Worktable diameter		mm / inch	Ø170 / Ø6.69		Ø255 / Ø10.455		Ø320 / Ø12.60	
Center bore diameter		mm / inch	Ø40H7 / Ø1.57H7		Ø40H7 / Ø1.57H7		Ø50H7 / Ø1.97H7	
Height of table (horizontal)		mm / inch	240 / 9.45		360 / 14.17		365 / 14.37	
Height of center (vertical)		mm / inch	240 / 9.45		360 / 14.17		365 / 14.37	
Width of T-slot		mm / inch	12H7 / 0.47H7		12H7 / 0.47H7		12H7 / 0.47H7	
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	
Servo motor spec					refer to page 78			
Transmission ratio			R	T	R	T	R	T
			1 : 90	1 : 90	1 : 90	1 : 120	1 : 100	1 : 120
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
Clamping torque		N.m / ft. lbs.	300/221	400/294.7	400/295	600/442.48	750/553.17	1500/1106.25
Allowable loading capacity	In Horizontal 	kg / lb	75 / 165		100 / 220		200 / 440	
	In Tilting (0~90°) 	kg / lb	50 / 110		75 / 165		100 / 220	
Allowable unbalancing work moment	WxL 	N.m / ft. lbs.	40 / 29.5		53 / 39.06		100 / 73.7	
FxL When table clamped	F 	N / lbs	7000 / 1570.8		20000 / 4488		20000 / 4488	
	FxL 	N.m / ft. lbs.	300 / 221		400 / 295		750 / 553.17	
	FxL 	N.m / ft. lbs.	400 / 294.7		600 / 442.48		1500 / 1106.25	
Allowable loading inertia	$(\frac{W.D^2}{8})$ 	kg.m ²	0.28		0.55		2.6	
Resolution		deg.	0.001		0.001		0.001	
Indexing accuracy		sec	20	60	20	60	20	60
Repeatability		sec	6	8	6	8	6	8
Tilting angle range		deg.	-120 ~ +30		-120 ~ +30		-120 ~ +30	
Net weight (servo motor excluded)		kg / lb	275 / 606.3		560 / 1235		750 / 1653	
Allowable cutting torque		N.m / ft. lbs.	200 / 147.4		250 / 182.5		550 / 401.5	
Allowable Max. rotary joint quantity		Port	-		4		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

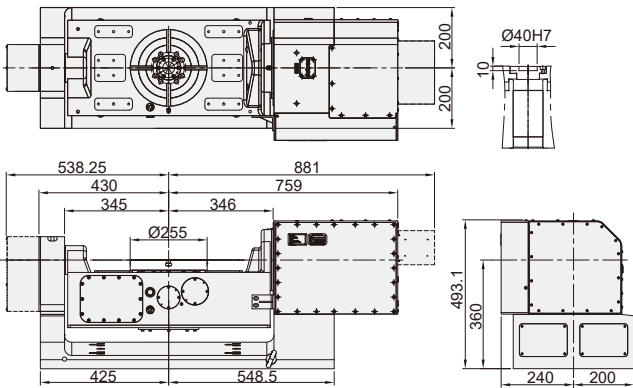
GTFAE-170SL



GTFAE-255SBL(S)



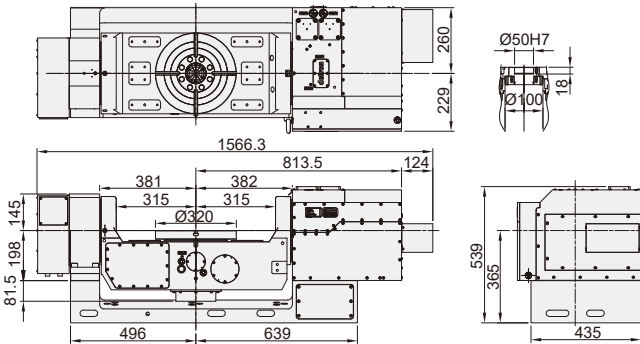
▲ sub table as available option



GTFAE-320XBL(S)



▲ sub table as available option



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

GTFAE-410XBL 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 clamp

table size



- Worktable diameter 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.

SPECIFICATIONS

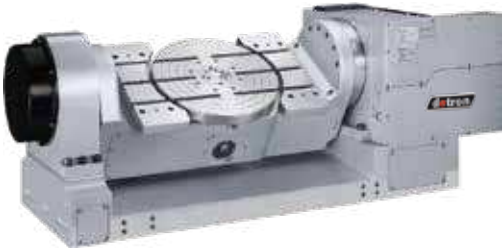
MODEL		Unit	GTFAE-410XBL(S)		GTFAE-410HL(S)		GTFAE-500XBL	
Worktable diameter		mm / inch	Ø410 / Ø16.14		Ø410 / Ø16.14		Ø500 / Ø19.69	
Center bore diameter		mm / inch	Ø70H7 / Ø2.76H7		Ø70H7 / Ø2.76H7		Ø70H7 / Ø2.76H7	
Height of table (horizontal)		mm / inch	411 / 16.18		370 / 14.57		460 / 18.11	
Height of center (vertical)		mm / inch	411 / 16.18		370 / 14.57		460 / 18.11	
Width of T-slot		mm / inch	14H7 / 0.55H7		14H7 / 0.55H7		14H7 / 0.55H7	
Clamping method /pressure		MPa / psi	*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 78			
Transmission ratio			R	T	R	T	R	T
			1 : 120	1 : 150	1 : 120	1 : 120	1 : 120	1 : 180
Max. table speed / at specified servo motor speed		min ⁻¹	16.6 / 2000	11.1 / 1665	16.6 / 2000	11.1 / 1332	16.6 / 2000	11.1 / 2000
Clamping torque		N.m / ft. lbs.	1600/1180	2000/1475	1600/1180	2000/1475	2500/1843.75	3000/2212.5
Allowable loading capacity	In Horizontal	kg / lb	200 / 440		200 / 440		300 / 660	
	In Tilting (0~90°)	kg / lb	150 / 330		150 / 330		250 / 550	
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	200 / 147.40		200 / 147.40		300 / 221.0	
FxL When table clamped	F	N / lbs	20000 / 4488		20000 / 4488		30000 / 6732.0	
	FxL	N.m / ft. lbs.	1600 / 1180		1600 / 1180		2500 / 1843.75	
	FxL	N.m / ft. lbs.	2000 / 1475		2000 / 1475		3000 / 2212.5	
Allowable loading inertia	($\frac{W.D^2}{8}$)	kg.m ²	4.3		4.3		9.6	
Resolution		deg.	0.001		0.001		0.001	
Indexing accuracy		sec	15	60	15	60	15	60
Repeatability		sec	6	8	6	8	6	8
Tilting angle range		deg.	-120 ~ +30		-120 ~ +30		-120 ~ +30	
Net weight (servo motor excluded)		kg / lb	1020 / 2175		850 / 1860		1270 / 2800	
Allowable cutting torque		N.m / ft. lbs.	780 / 569.4		780 / 569.4		1700 / 1241	
Allowable Max. rotary joint quantity		Port	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.

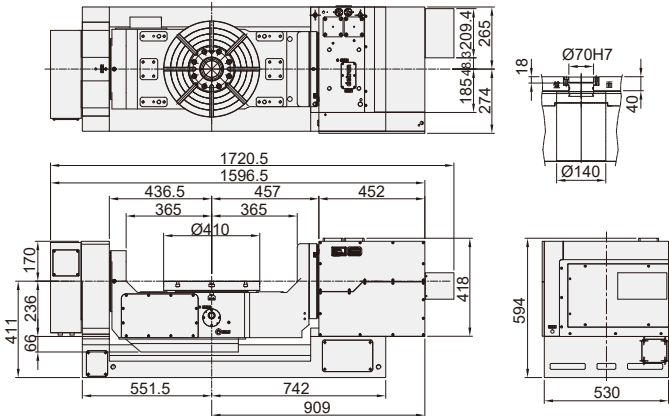
DIMENSIONAL DRAWINGS

Unit : mm

GTFAE-410XBL(S)



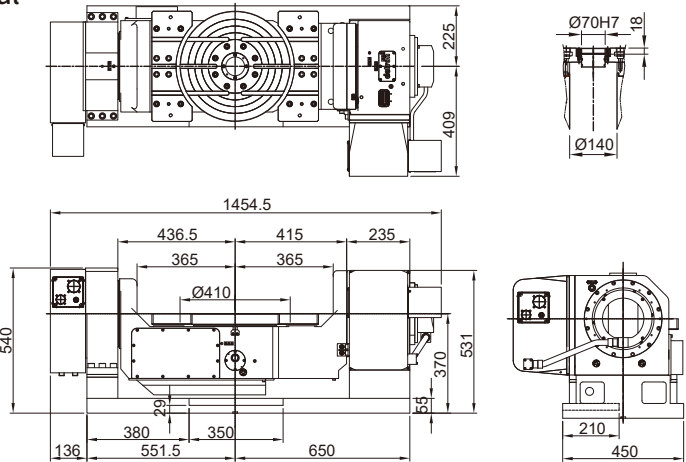
▲ sub table as available option



GTFAE-410HL(S) Swing up to 820mm is optional



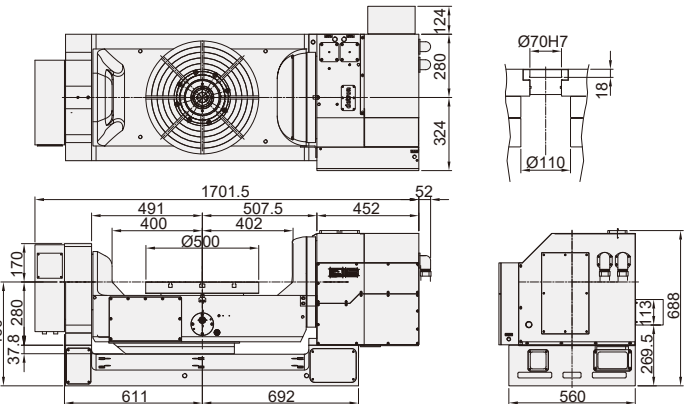
▲ sub table as available option



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.

GFA/GTFAE-2W 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 axis
trunnion type for
lower gravity
worm gear transmission

rotary axis
pitch

number of rotary axis

superior pneumatic clamp

table size



Worktable diameter Ø125, Ø170, Ø210.
Multiple rotary axis allow high volume
production and automation integration.

SPECIFICATIONS

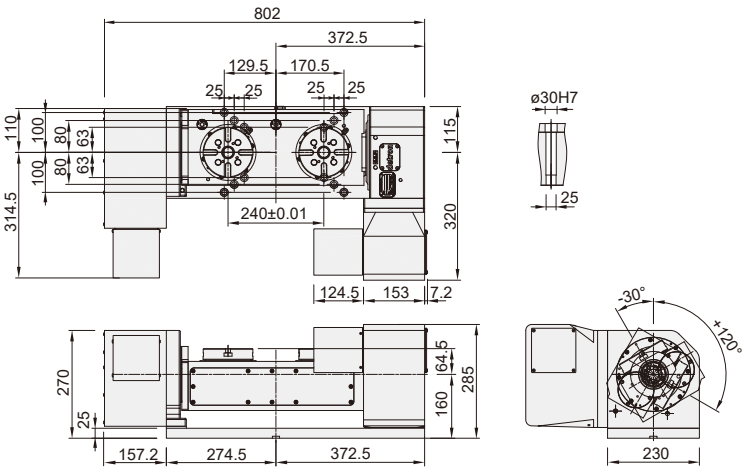
MODEL		Unit	GFA-125S-2W-240		GFA-170S-2W-300		GTFAE-210S-2W-320	
Worktable diameter		mm / inch	Ø125 / Ø4.92		Ø170 / Ø6.69		Ø210 / Ø8.27	
Center bore diameter		mm / inch	Ø30H7 / Ø1.18H7		Ø40H7 / Ø1.57H7		Ø65H7 / Ø1.57H7	
Pitch of rotary axis		mm / inch	240 / 9.45		300 / 11.81		320 / 12.60	
Max. work swing		mm / inch	195 / 7.68		285 / 11.22		310 / 12.20	
Height of table (horizontal)		mm / inch	224.5 / 8.84		250 / 9.84		270 / 10.63	
Height of center (vertical)		mm / inch	160 / 6.30		220 / 8.66		270 / 10.63	
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	
Drive pressure / method		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	
Servo motor spec			refer to page 78					
Transmission ratio			R	T	R	T	R	T
			1 / 90	1 / 90	1 / 90	1 / 90	1 / 90	1 / 120
Max. table speed / at specified servo motor speed		min ⁻¹	22.2 / 2000	22.2 / 2000	25 / 2250	22.2 / 2000	25 / 2250	22.2 / 2664
Clamping torque		N.m / ft. lbs.	140 / 103.26	300 / 221	300 / 221.26	600 / 442.5	400 / 295	900 / 663.8
Allowable loading capacity	In Horizontal 	kg / lb	35 / 77		40 / 88		50 / 110	
	In Tilting (0~90°) 	kg / lb	20 / 44		30 / 66		40 / 88	
Allowable unbalancing work moment	WxL 	N.m / ft. lbs.	24 / 17.688		62 / 45.728		92 / 68	
FxL When table clamped	F 	N / lbs	2800 / 629.5		4900 / 1102		9800 / 2203	
	FxL 	N.m / ft. lbs.	140 / 103.26		300 / 221.26		400 / 295	
	FxL 	N.m / ft. lbs.	300 / 221		600 / 442.5		900 / 663.8	
Allowable loading inertia	($\frac{W.D^2}{8}$) 	kg.m ²	0.1		0.15		0.22	
Resolution		deg.	0.001		0.001		0.001	
Indexing accuracy		sec	40	60	20	60	20	60
Repeatability		sec	6	8	6	8	6	8
Tilting angle range		deg.	-30 ~ +120		-30 ~ +120		-30 ~ +120	
Net weight (servo motor excluded)		kg / lbs	172 / 379		355 / 783		469 / 1034	
Allowable cutting torque		N.m / ft. lbs.	85 / 62.645		200 / 147.512		250 / 184	

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.

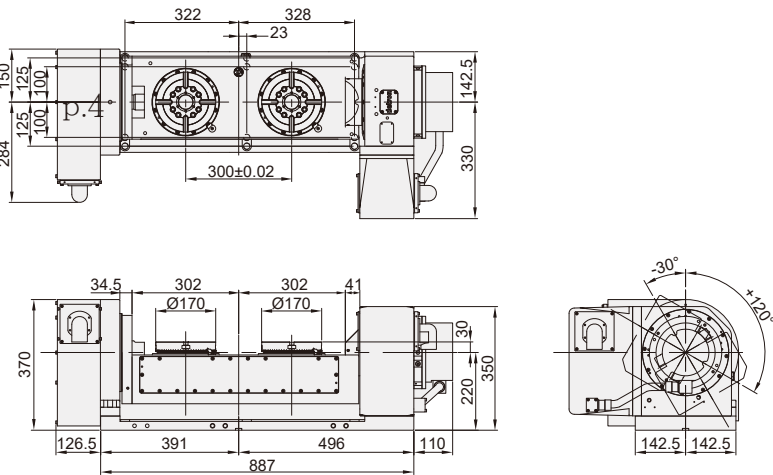
DIMENSIONAL DRAWINGS

Unit : mm

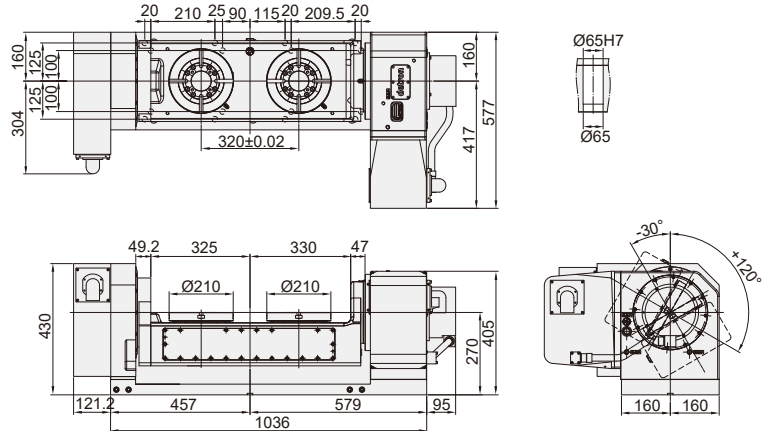
GFA-125S-2W-240



GFA-170S-2W-300



GTFAE-210S-2W-320



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.

for VMC_Worm Wheel Transmission

GTFAE-2W series

Multi Spindle
Tilting Rotary Table

GTFAE-255H-2W-400

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

hydraulic clamp

table size

Worktable diameter Ø255, Ø320.

Multiple rotary axis allow high volume
production and automation integration.



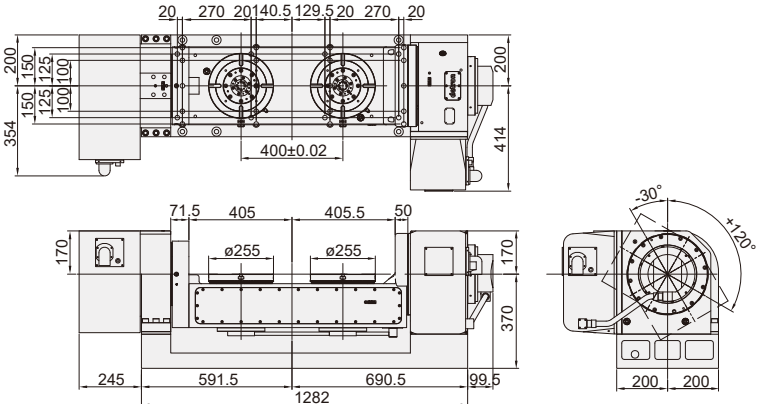
SPECIFICATIONS

MODEL		Unit	GTFAE-255H-2W-400		GTFAE-320H-2W-450	
Worktable diameter		mm / inch	Ø255 / Ø10.04		Ø320 / Ø12.6	
Center bore diameter		mm / inch	Ø50H7 / Ø1.57H7		Ø50H7 / Ø1.57H7	
Pitch of rotary axis		mm / inch	400 / 15.75		450 / 17.72	
Max. work swing		mm / inch	390 / 15.35		440 / 17.32	
Height of table (horizontal)		mm / inch	370 / 14.57		370 / 14.57	
Height of center (vertical)		mm / inch	370 / 14.57		370 / 14.57	
Width of T-slot		mm / inch	12H7 / 0.47H7		12H7 / 0.47H7	
Drive pressure / method		MPa / psi	Hydraulic 5 / 725.0		Hydraulic 5 / 725.0	
Servo motor spec			refer to page 78			
Transmission ratio			R	T	R	T
			1 / 90	1 / 120	1 / 90	1 / 120
Max. table speed / at specified servo motor speed		min ⁻¹	22.2 / 2000	20 / 2400	22.2 / 2000	20 / 2400
Clamping torque		N.m / ft. lbs.	900 / 663.8	2500 / 1843	1600 / 1180	2800 / 2065
Allowable loading capacity	In Horizontal 	kg / lb	100 / 220		120 / 265	
	In Tilting (0~90°) 	kg / lb	75 / 165		85 / 187	
Allowable unbalancing work moment	WxL 	N.m / ft. lbs.	130 / 95.8		150 / 331	
FxL When table clamped	F 	N / lbs	11000 / 2473		11000 / 2473	
	FxL 	N.m / ft. lbs.	900 / 663.8		1600 / 1180	
	FxL 	N.m / ft. lbs.	2500 / 1843		2800 / 2065	
Allowable loading inertia	$(\frac{W.D^2}{8})$ 	kg.m ²	0.8		1.0	
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	856 / 1887		824 / 1817	
Allowable cutting						

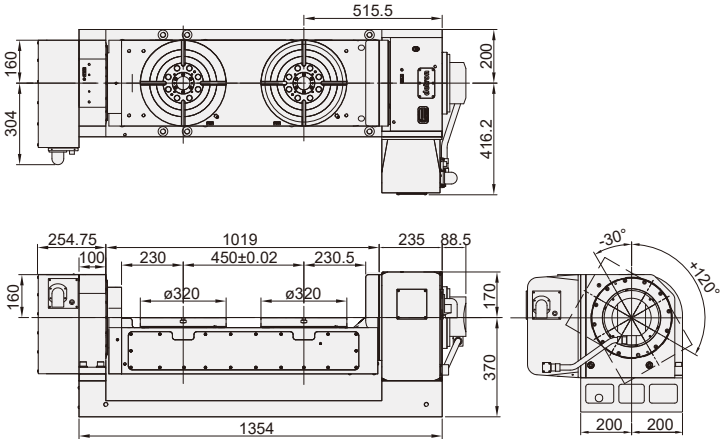
Note: 1. R: Rotary Axis T: Tilt Axis
2. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

DIMENSIONAL DRAWINGS

GTFAE-255H-2W-400

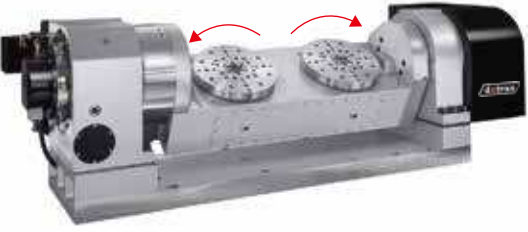


GTFAE-320H-2W-450 pitch up to 560mm is optional



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.

Unit : mm

for VMC_Worm Wheel Transmission

Automatic Pallet Change System

CVR-660

rack type
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 ± 0.005mm.

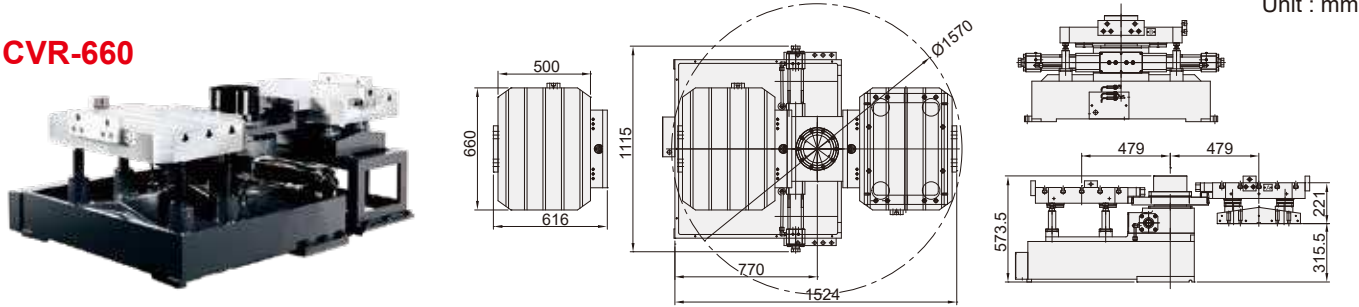
SPECIFICATIONS

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

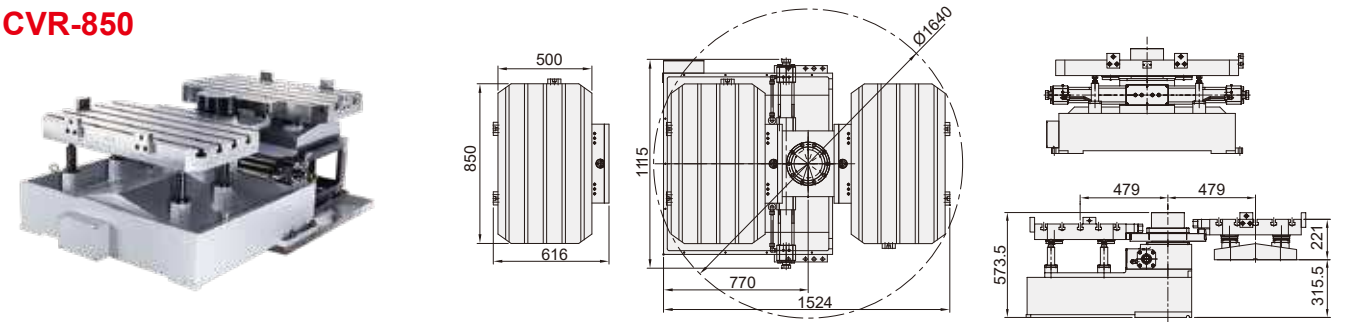
NOTE: 1. Pallet change time may varied with flow of pump, length and diameter of pipe.
2. Allowable loading inertia means the allowable value at the distance of 450mm between the loading gravity and the APC center.

DIMENSIONAL DRAWINGS

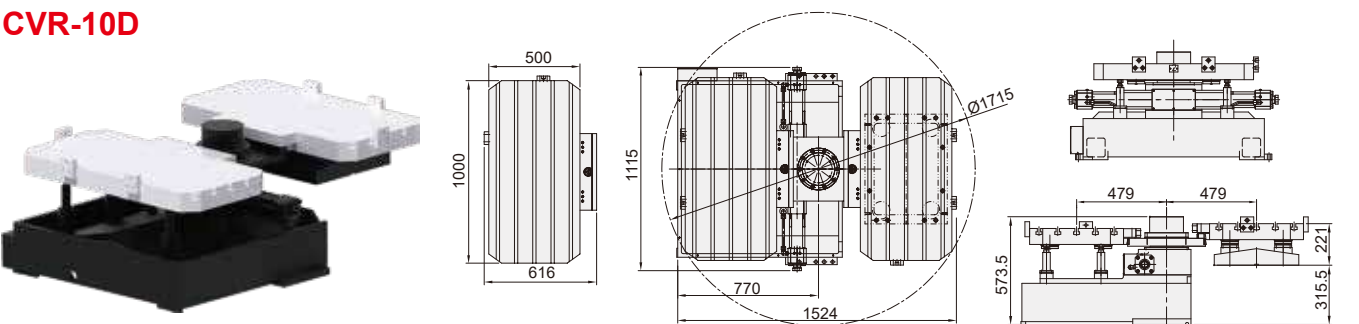
CVR-660



CVR-850



CVR-10D



SVC series

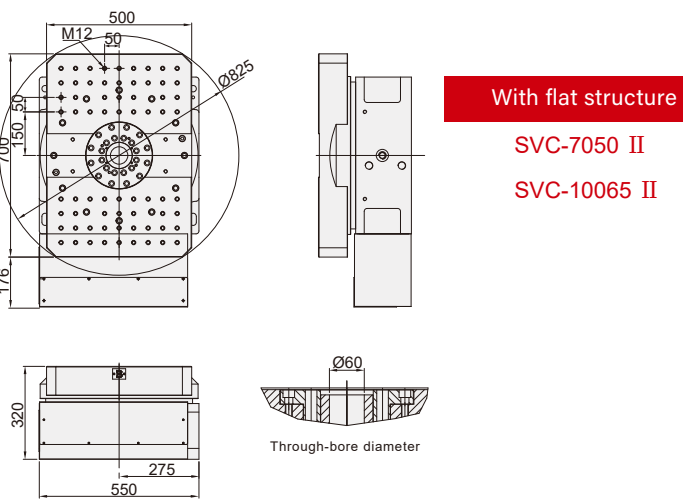
SVC-7050 II

Roller gear cam type
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.

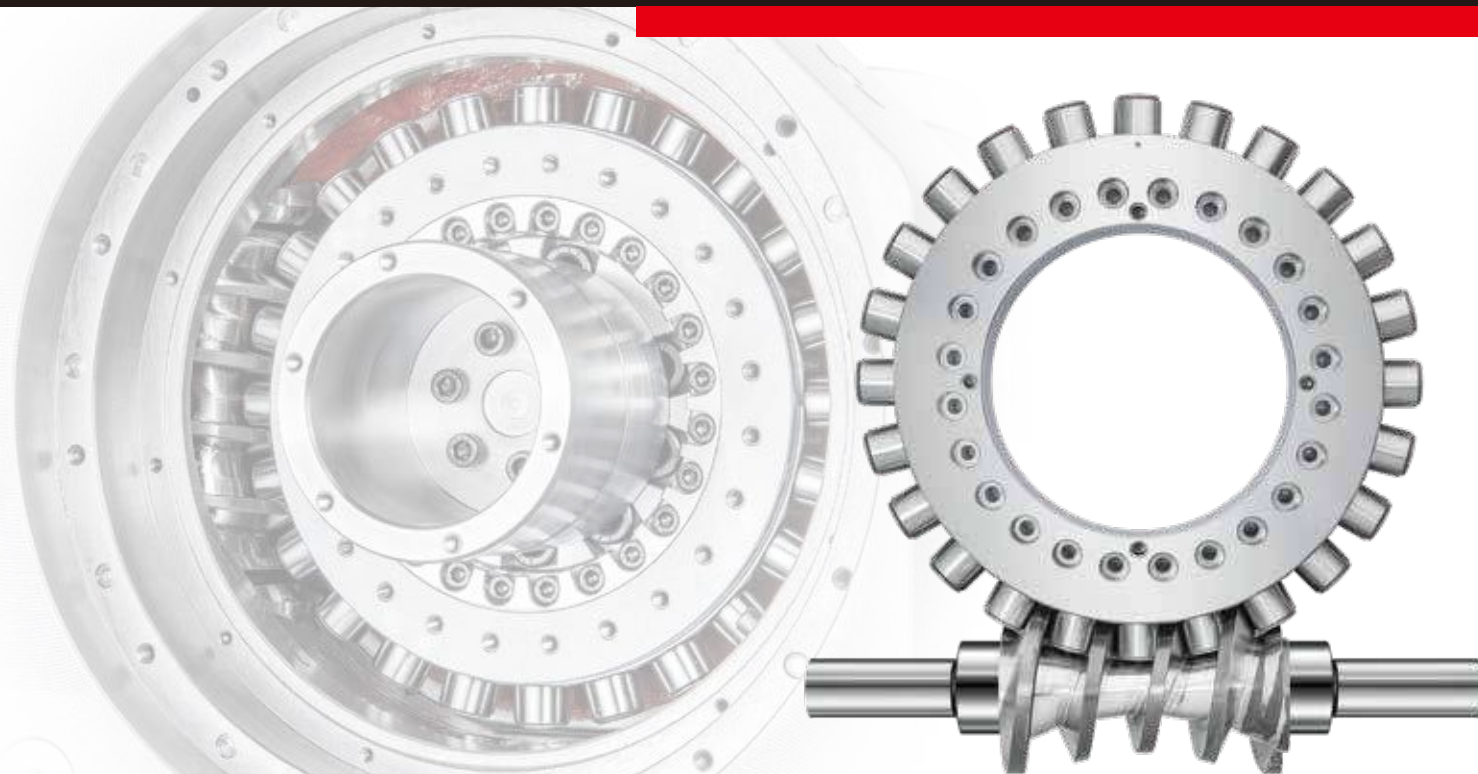


Automatic Pallet Change System (Roller Gear Cam Type)

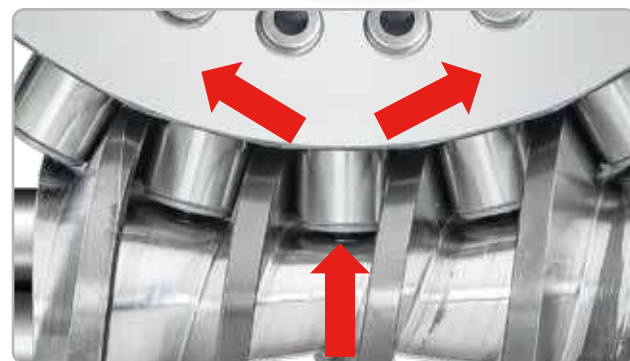


Zero-Backlash Roller Gear Cam Drive

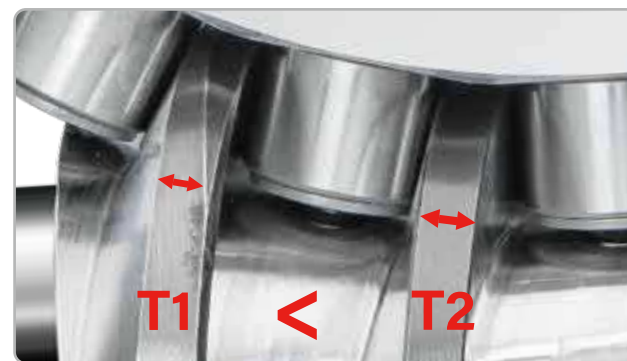
Core Technology



Dual Lead Cam Shaft Mechanism



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



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

Reliable Clamping Force



Hydraulic Model:

Special design of drum brake system.



Pneumatic Model:

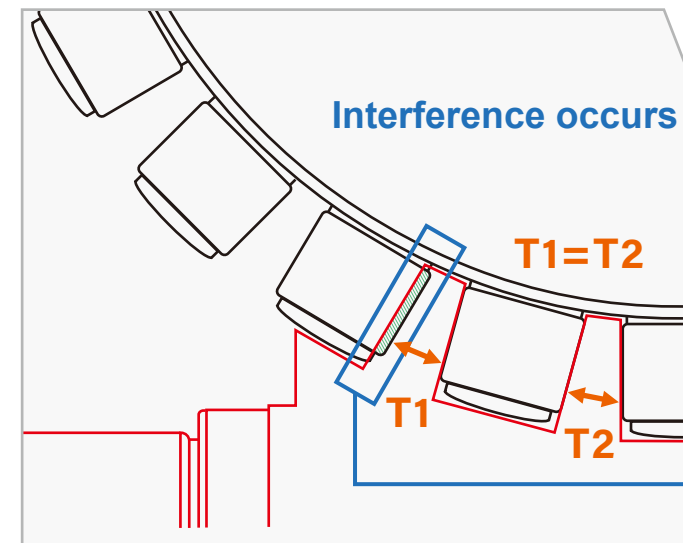
exclusive patented dual pistons design.



High Rigidity Consolidated Spindle

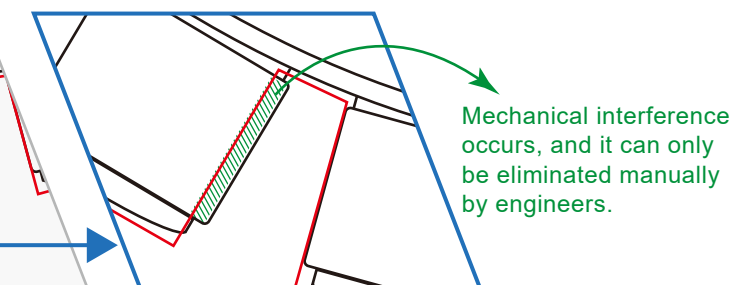
YRT bearing integrated in consolidated spindle with **least separate elements & premium rigidity.**

Dual Lead Cam Shaft Mechanism



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

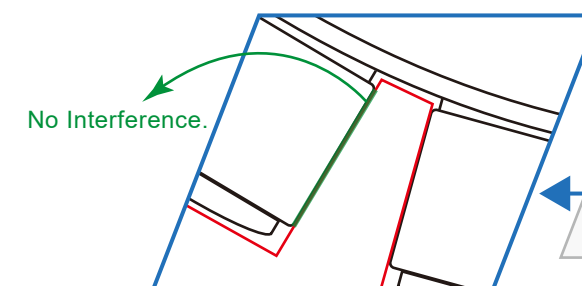
Conventional single-lead design relies heavily on engineers' assembling experiences and skills, this causes longer production time and unstable quality of processing accuracy and vibration issue.



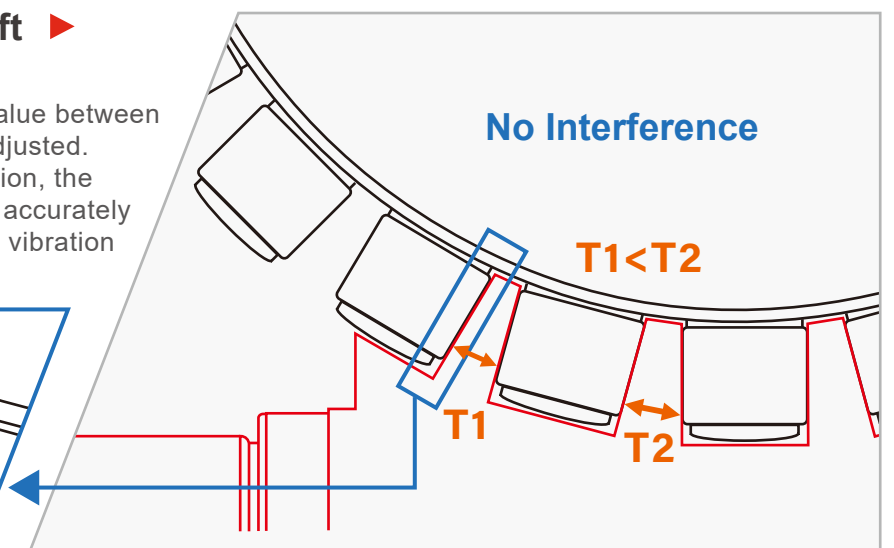
Mechanical interference occurs, and it can only be eliminated manually by engineers.

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

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



No Interference.



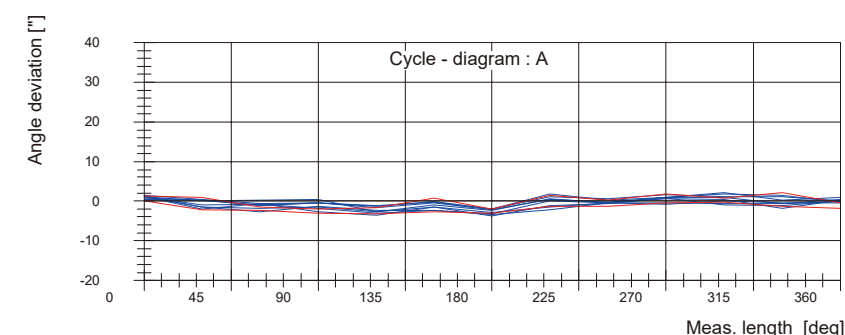
No Interference

$T1 < T2$

Strict Inspection Norm

detron

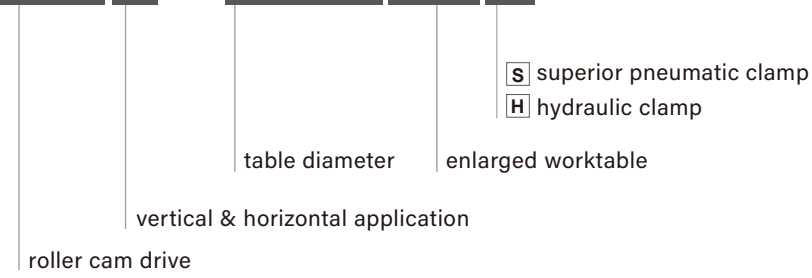
ISO 230-2 Norm (equal to JIS B 6192)



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

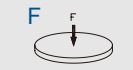
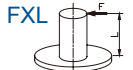
Roller Gear Cam Drive
Rotary Table

R C X - 2 5 0 (E) S



- Worktable diameter Ø170, Ø210, Ø255.
- 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.

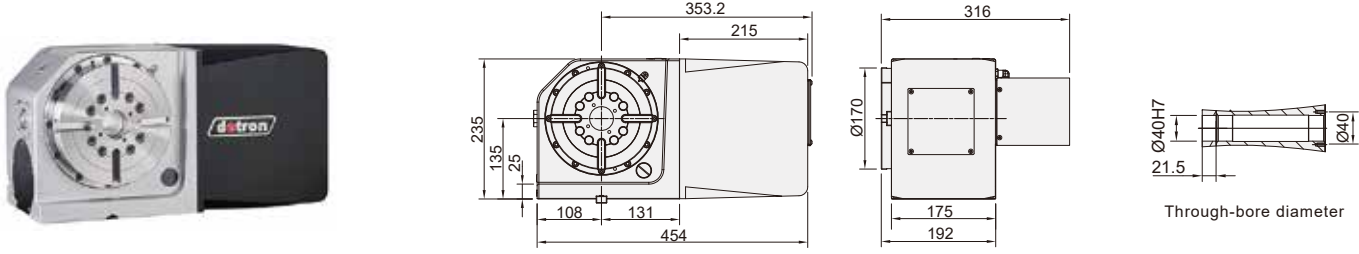
SPECIFICATIONS

MODEL	Unit	RCX-170S/H	RCX-210S/H	RCX-250ES/H
Worktable diameter	mm / inch	Ø170 / Ø6.69	Ø210 / Ø8.27	Ø255 / Ø10.04
Center bore diameter	mm / inch	Ø40H7 / Ø1.57H7	Ø40H7 / Ø1.57H7	Ø40H7 / Ø1.57H7
Through-bore diameter	mm / inch	Ø40 / Ø1.57	Ø40 / Ø1.57	Ø40 / Ø1.57
Height of table (horizontal)	mm / inch	192 / 7.6	192 / 7.6	207 / 8.15
Height of center (vertical)	mm / inch	135 / 5.31	160 / 6.30	160 / 6.30
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	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	P:0.55~0.7/79.8~101.5 H:2.5/363
Clamping torque	N.m / ft. lbs.	300 / 221 450 / 332	400 / 295 600 / 443	400 / 295 600 / 443
Servo motor spec		refer to page 77		
Transmission ratio		1 / 20	1 / 24	1 / 24
Max. table speed / at specified servo motor speed	min ⁻¹	83.3 / 2000	83.3 / 2000	83.3 / 2000
Standard loading inertia ($\frac{W.D^2}{8}$)	Kg.m ²	0.72	0.72	0.72
Resolution	deg.	0.001	0.001	0.001
Indexing accuracy	sec.	20	20	20
Repeatability	sec.	6	6	6
Net weight (servo motor excluded)	kg / lb	55 / 121	70 / 154	78 / 172
Allowable loading capacity	Vertical	kg / lb	100 / 220	100 / 220
	Horizontal	kg / lb	200 / 441	200 / 441
	Tailstock applied	kg / lb	200 / 441	200 / 441
		N / lbs	14000 / 3147	14000 / 3147
FxL When table clamped		N.m / ft. lbs.	1020 / 752	1020 / 752
		N.m / ft. lbs.	300 / 221 450 / 332	400 / 295 600 / 443
Cam allowable torque	N.m / ft. lbs.	206 / 152	280 / 207	280 / 207
Allowable Max. rotary joint quantity	Port	4	4	4

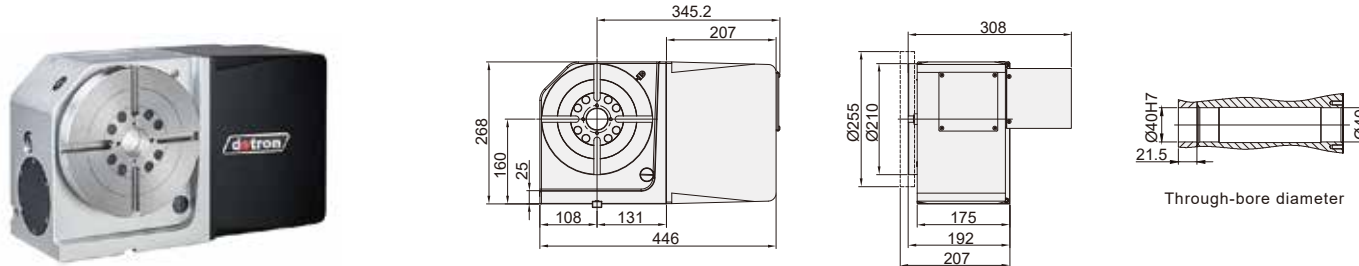
DIMENSIONAL DRAWINGS

Unit : mm

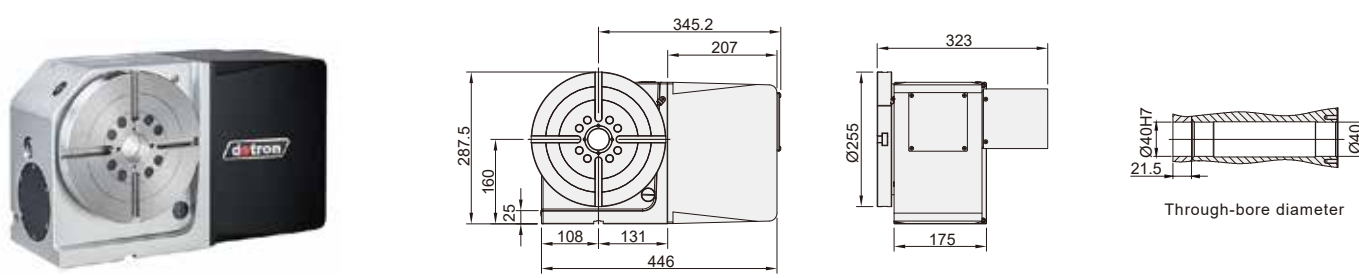
RCX-170S/H



RCX-210S/H

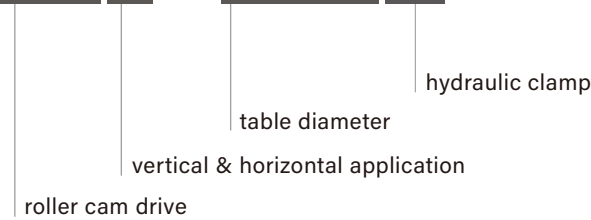


RCX-250ES/H



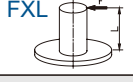
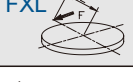
Roller Gear Cam Drive
Rotary Table

RCX - 255H



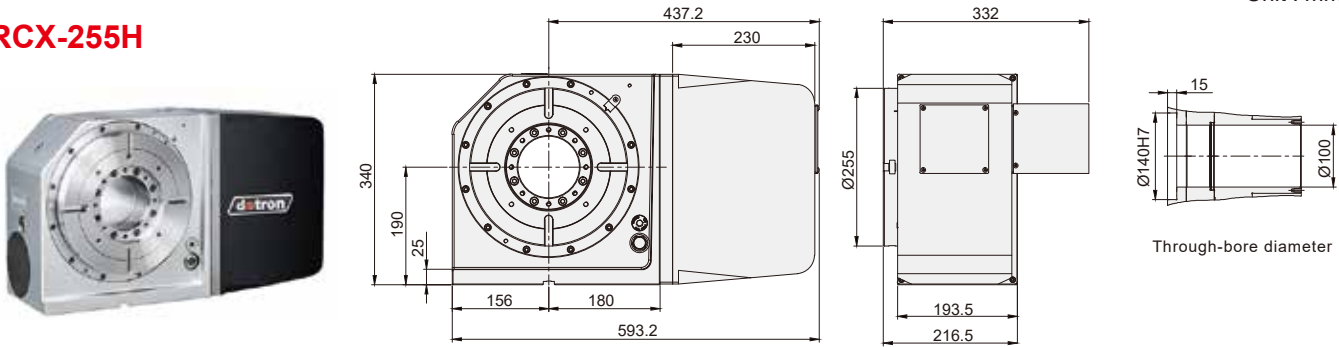
- Worktable diameter Ø255, Ø320, Ø400.
- Rolling contact reserves high rigidity, high speed and long endurance.
- Least drive energy wear-out and more than 80% transmission rate.
- Backlash-free from rolling motion achieves high accuracy.

SPECIFICATIONS

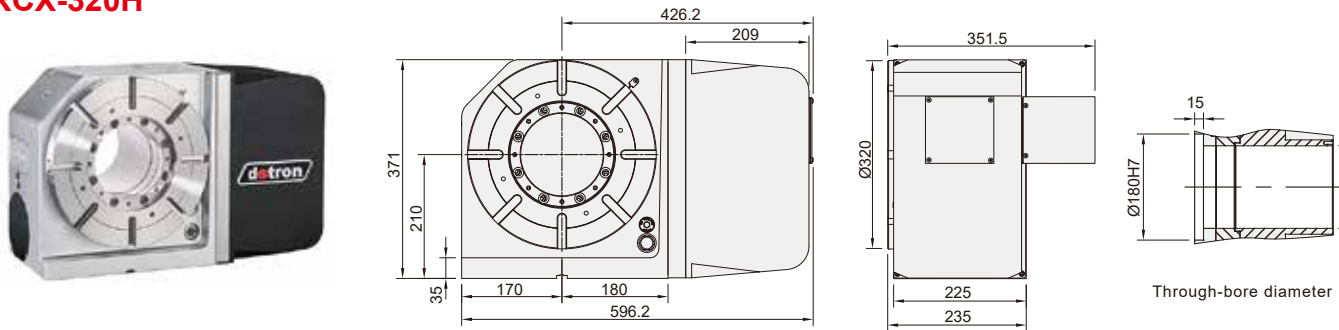
MODEL	Unit	RCX-255H	RCX-320H	RCX-400H	RCX-500H RCX-500HL
Worktable diameter	mm / inch	Ø255 / Ø10.04	Ø320 / Ø12.59	Ø400 / Ø15.75	Ø500
Center bore diameter	mm / inch	Ø140H7 / Ø5.51H7	Ø180H7 / Ø7.08H7	Ø220H7 / Ø8.66H7	Ø260H7
Through-bore diameter	mm / inch	Ø100 / Ø3.9	Ø140 / Ø5.5	Ø180 / Ø7.09	Ø220
Height of table (horizontal)	mm / inch	216.5 / 8.5	235 / 9.25	255 / 10.04	280
Height of center (vertical)	mm / inch	190 / 7.49	210 / 8.26	255 / 10.04	310
Width of T-slot	mm / inch	12H7 / 0.47H7	14H7 / 0.55H7	14H7 / 0.55H7	18H7
Width of guide block	mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18
Clamping method /pressure	MPa / psi	Hydraulic 5 / 725	Hydraulic 5 / 725	Hydraulic 5 / 725	Hydraulic 5 / 725
Clamping torque	N.m / ft. lbs.	1270 / 937	1600 / 1180	3000 / 2211	3600 / 2655
Servo motor spec		refer to page 77			
Transmission ratio		1 / 48	1 / 48	1 / 60	1 / 90
Max. table speed / at specified servo motor speed	min ⁻¹	50 / 2400	50 / 2400	40 / 2400	25 / 3750
Standard loading inertia ($\frac{W.D^2}{8}$)	Kg.m ²	2.43	5.12	15	25
Resolution	deg.	0.001	0.001	0.001	0.001
Indexing accuracy	sec.	20	20	20	15
Repeatability	sec.	6	6	6	6
Net weight (servo motor excluded)	kg / lb	126 / 278	161 / 355	243 / 536	395
Allowable loading capacity	Vertical	kg / lb	150 / 331	200 / 440	250 / 550
	Horizontal	kg / lb	300 / 661	400 / 881	500 / 1100
	Tailstock applied	kg / lb	300 / 661	400 / 881	500 / 1100
FxL When table clamped		N / lbs	20000 / 4496	28000 / 6294	38000 / 8527.20
		N.m / ft. lbs.	1700 / 1254	3000 / 2212	5400 / 3983
		N.m / ft. lbs.	1270 / 937	1600 / 1180	3000 / 2212
Cam allowable torque	N.m / ft. lbs.	800 / 590	1098 / 809	1772 / 1307	1968
Allowable Max. rotary joint quantity	Port	6	6	6	6

DIMENSIONAL DRAWINGS

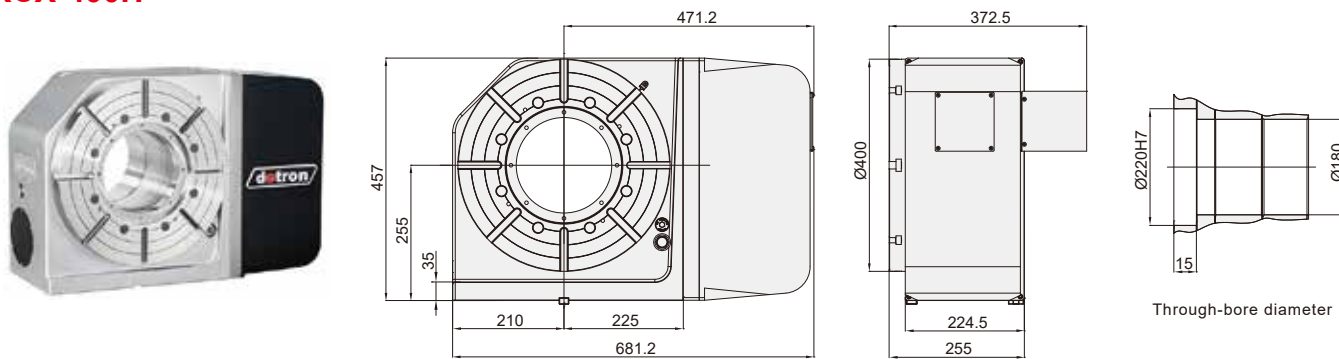
RCX-255H



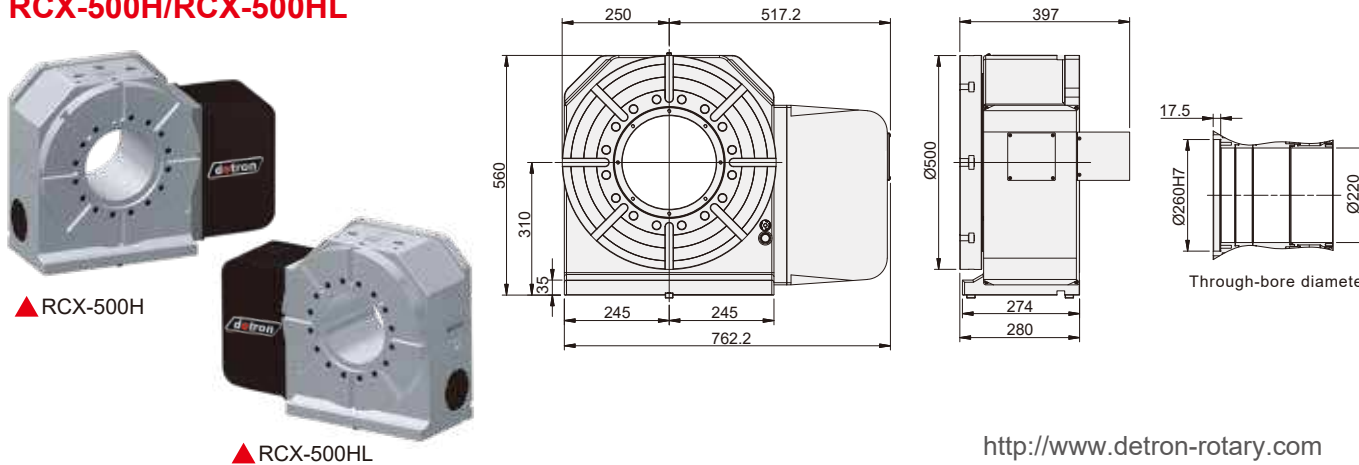
RCX-320H



RCX-400H



RCX-500H/RCX-500HL



Roller Gear Cam Drive
Tilting Rotary Table

RCF - 3 2 0 H

- roller cam drive
- five axis
- table diameter
- S

superior pneumatic clamp
- H

hydraulic clamp



- 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.

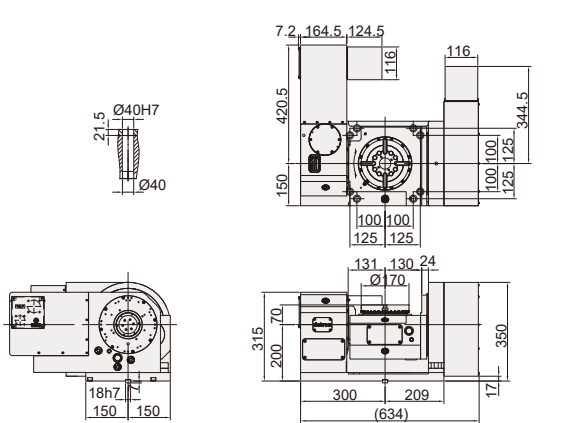
SPECIFICATIONS

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 78							
Transmission ratio			R 1:60		T 1:90		R 1:60		T 1:90	
Max. table speed / at specified servo motor speed		min ⁻¹	50 / 3000		33.3 / 3000		44.4 / 3000		33.3 / 3000	
Clamping torque		N.m / ft. lbs.	300 / 221 600 / 443		400 / 295 700 / 516		400 / 295 600 / 443		1000 / 738 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		355 / 782		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.

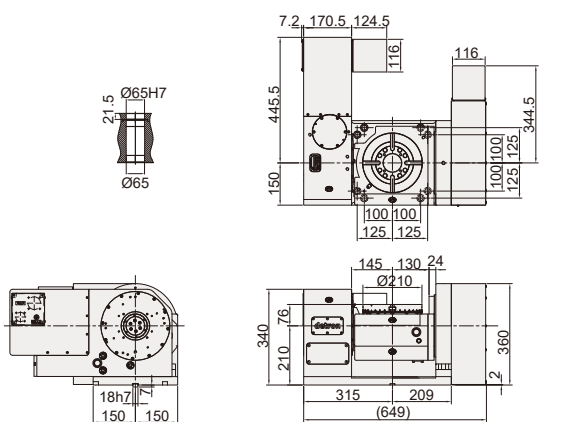
DIMENSIONAL DRAWINGS

RCF-170S/H

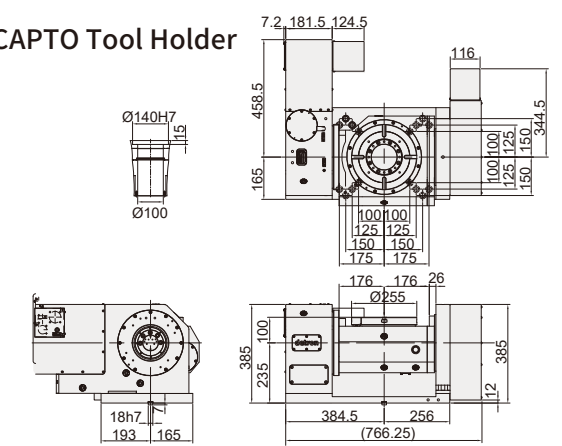


Unit : mm

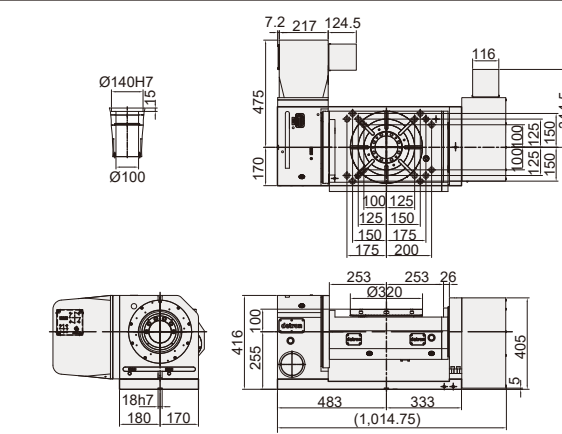
RCF-210S/H



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

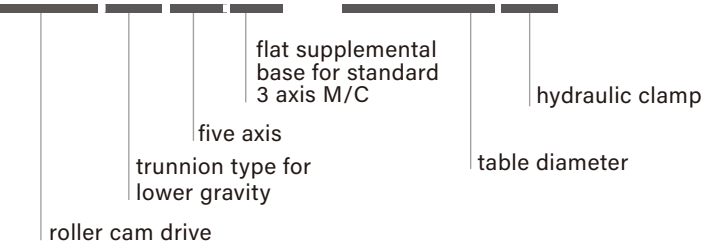


RCF-320H



Roller Gear Cam Drive
Tilting Rotary Table

R C T F E - 2 6 0 H



- Worktable diameter Ø260, Ø350.
- 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.

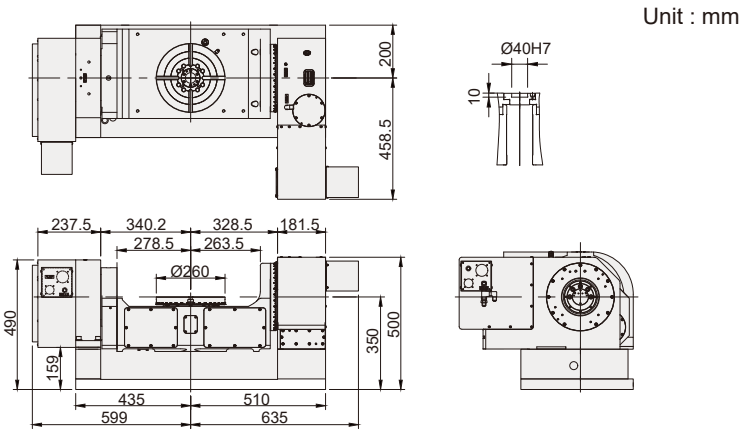
SPECIFICATIONS

MODEL		Unit	RCTFE-260HL		RCTFE-350H		RCTFE-500HL	
Worktable diameter		mm / inch	Ø260 / Ø10.23		Ø350 / Ø13.78		Ø500 / Ø19.68	
Center bore diameter		mm / inch	Ø40H7 / Ø1.57H7		Ø50H7 / Ø1.968H7		Ø70H7 / Ø2.76H7	
Height of table (horizontal)		mm / inch	350 / 13.78		312 / 12.29		400 / 15.74	
Height of center (vertical)		mm / inch	350 / 13.78		337 / 13.27		450 / 17.71	
Width of T-slot		mm / inch	12H7 / 0.47H7		12H7 / 0.47H7		14H7 / 0.55H7	
Servo motor spec					refer to page 78			
Clamping method /pressure			R	T	R	T	R	T
		MPa / psi	Hydraulic 2.5	Hydraulic 5	Hydraulic 5		Hydraulic 5	
Transmission ratio			1:48	1:90	1:60	1:72	1:90	1:150
Max. table speed / at specified servo motor speed		min ⁻¹	50 / 3000	33.3 / 3000	50 / 3000	25 / 2000	30 / 3000	20 / 3000
Clamping torque		N.m / ft. lbs.	600 / 443	1400 / 1033	700 / 516	1800 / 1328	2500/1844	3000/2213
Allowable loading capacity	In Horizontal 	kg / lb	100 / 220		200 / 441		500 / 1102	
	In Tilting (0~90°) 	kg / lb	75 / 165		100 / 220		350 / 772	
Allowable unbalancing work moment	WxL 	N.m / ft. lbs.	80 / 59		100 / 74		300 / 221	
FxL When table clamped	F 	N / lbs	14000 / 3147		20000 / 4496		38000 / 8543	
	FxL 	N.m / ft. lbs.	600 / 443		700 / 516		2500 / 1844	
	FxL 	N.m / ft. lbs.	1400 / 1033		1800 / 1328		3000 / 2213	
Standard loading inertia	$(\frac{W.D^2}{8})$ 	kg.m ²	1.6		2.6		9.6	
Resolution		deg.	0.001		0.001		0.001	

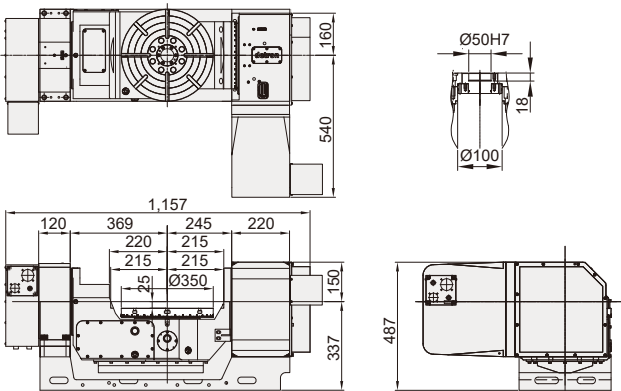
Note: 1. R: Rotary Axis T: Tilt Axis
2. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

DIMENSIONAL DRAWINGS

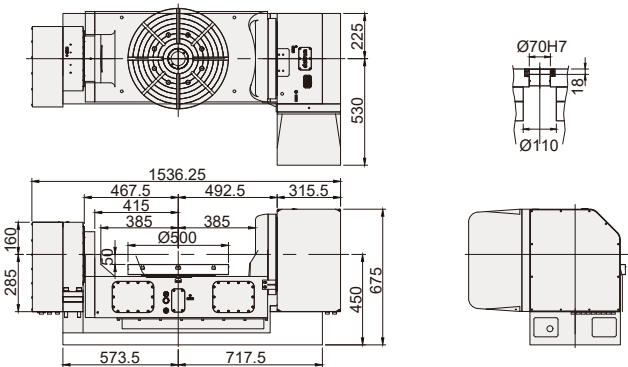
RCTFE-260HL



RCTFE-350H



RCTFE-500HL



Core Technology – Built- in Torque Motor for Direct Drive



Speed

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



Precision

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



Rigidity

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



Protection

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



Environmental

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

Core Technology – High Speed and Precision

Higher Speed and Torque Performance

Table Ø 170mm model as example

detron

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

others

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

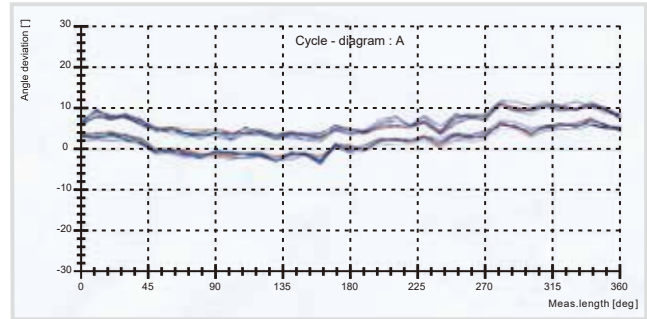
Strict Inspection Norm

detron

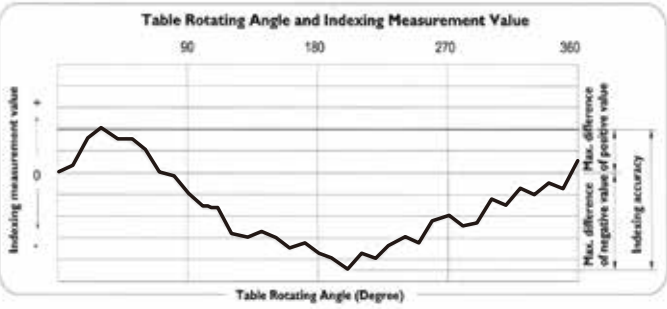
ISO 230-2 (JIS B6192)

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

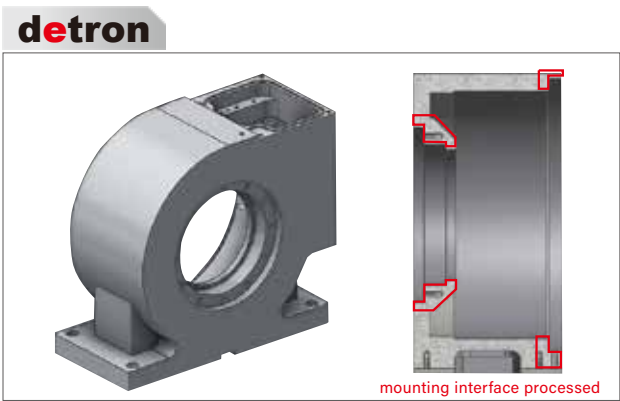


others

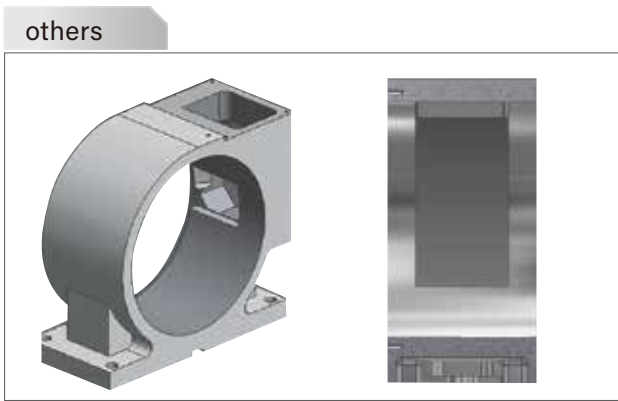
Economic encoder of ± 10 secs is applied, non- CNC purpose application.

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

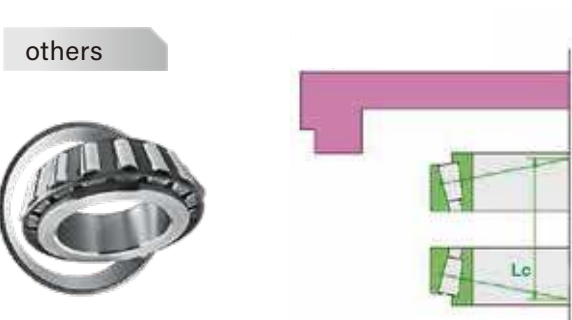


Spindle Bearing



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

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



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

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

Guarantee for Thorough Protection

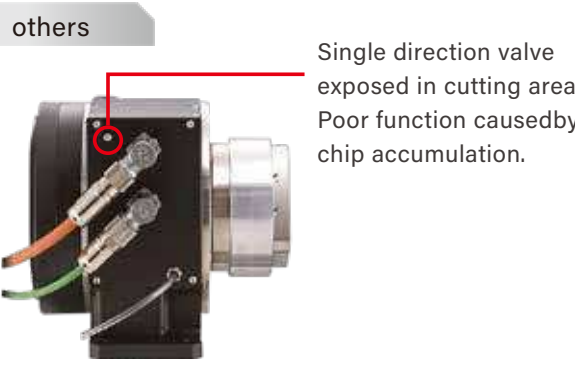
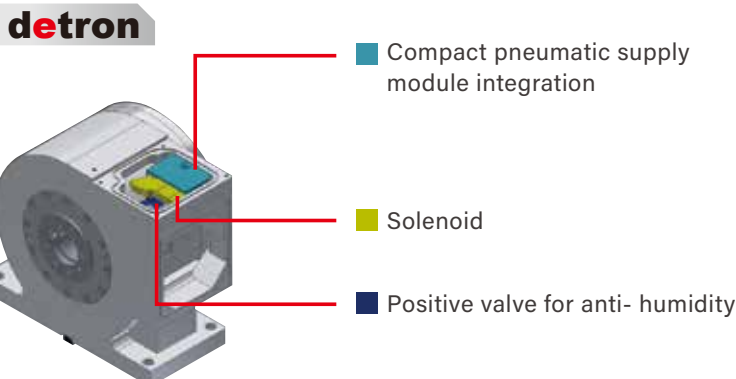
Chip and Water Proof



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

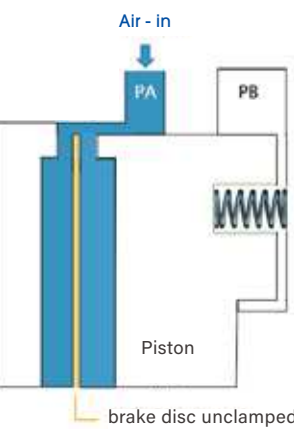


- Cables terminated in low cost plug connectors. Isolated electronic and pneumatic pipelines are randomly arranged.
- Poor pipe material. Erosion and chip cut concern on nylon pipes. High risk by frequent break-down.

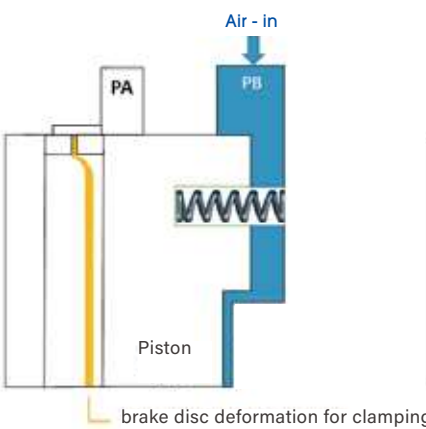


Brake in Various Condition

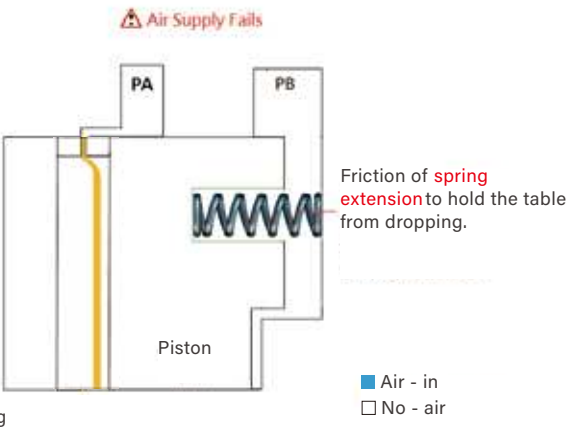
• Table in Operation



• Table Positions

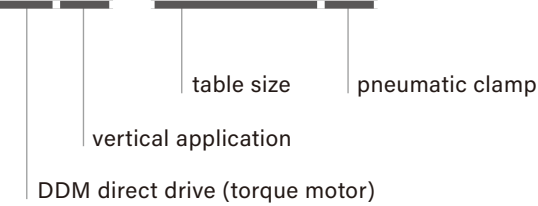


• Power Failure



DDM Rotary Table

D V - 1 7 0 P



equipped with optional table with T-slot

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

SPECIFICATIONS

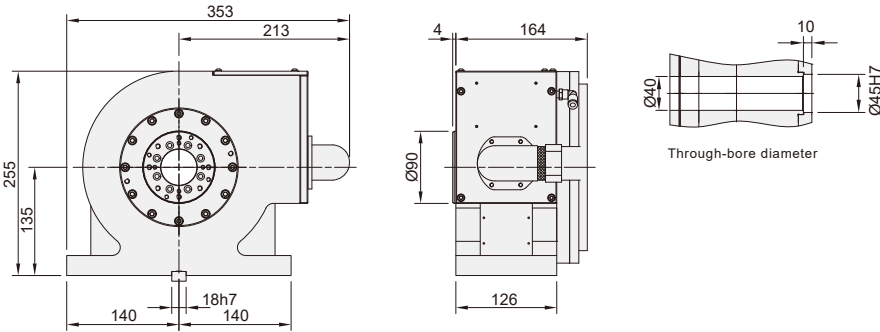
MODEL		Unit	DV-170P	DV-255P II
Worktable diameter		mm / inch	STD : No table OPT : Ø170 / Ø6.69	STD : No table OPT : Ø255 / Ø10.04
Center bore diameter (worktable)		mm / inch	OPT : Ø40H7 / Ø1.57H7	OPT : Ø50H7 / Ø1.96H7
Through-bore diameter		mm / inch	Ø40 / Ø1.57	Ø40 / Ø1.57
Height of center (vertical)		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		N / lbs	12700 / 2849.88	14000 / 3141.6
		N.m / ft. lbs.	740 / 540.2	1020 / 751.74
		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 $(\frac{W.D^2}{8})$		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.

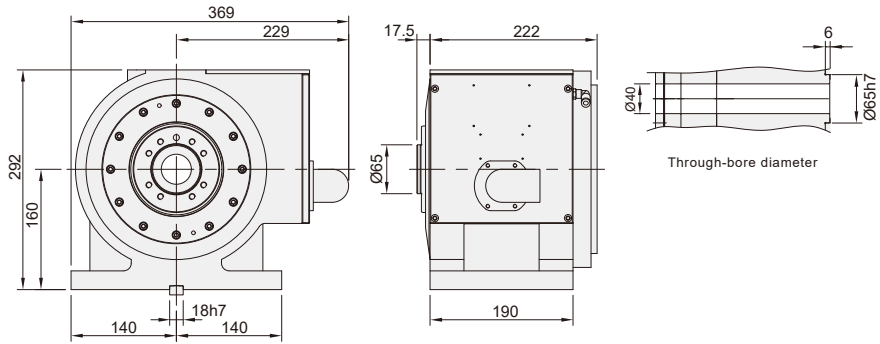
DIMENSIONAL DRAWINGS

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

E

superior pneumatic clamp
supplemental base for standard 3 axis M/C

5

axes

low gravity design

DDM direct drive (torque motor)

pneumatic clamp

table size



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

SPECIFICATIONS

MODEL		Unit	DTFS-125P / DTFE-125P		DTFS-170P / DTFE-170P / DTFE-171P	
Worktable diameter		mm / inch	Ø160 / Ø6.29		Ø170 / Ø6.69	
Center bore diameter		mm / inch	Ø30H7 / Ø1.18H7		Ø40H7 / Ø1.57H7	
Height of table (horizontal)		mm / inch	210 / 8 240 / 9		280 / 11 310 / 12	
Height of center (vertical)		mm / inch	210 / 8		280 / 11	
Width of T-slot		mm / inch	12H7 / 0.47H7		12H7 / 0.47H7	
Width of guide block		mm / inch	18 / 0.71		18 / 0.71	
Clamping method / pressure		MPa / psi	pneumatic 0.6~0.7 / 87~101.5		pneumatic 0.6~0.7 / 87~101.5	
Max. table speed		min ⁻¹	R 200	T 50	R 250	T 100
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		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	

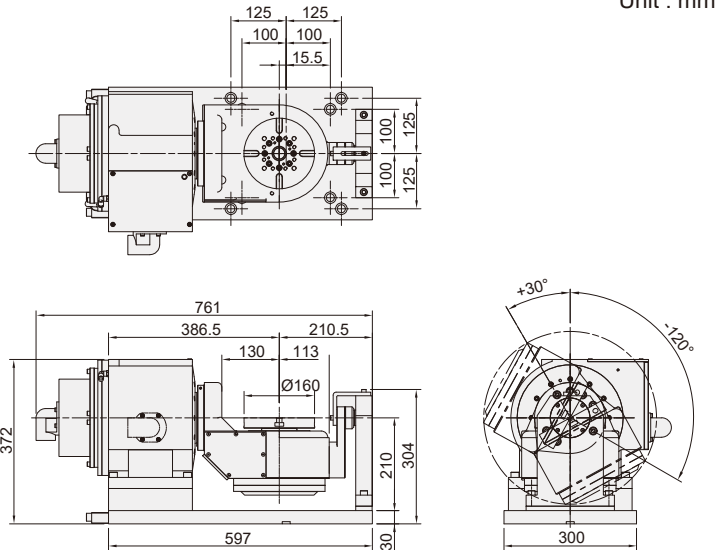
Remark* : 1. Oil cooling device shall be connected and shared from the basic 3 axis standard machine.
2. Air cooling device is not allowed for continuous cutting.
3. FxL When table clamped is a reference data, the users should consider proper safety factor or contact detron for details.

DIMENSIONAL DRAWINGS

DTFE-125P with base plate



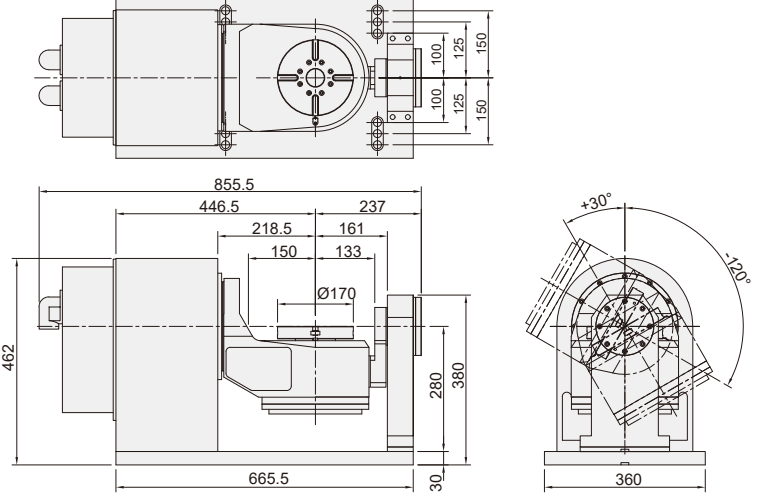
DTFS-125P with compact single support



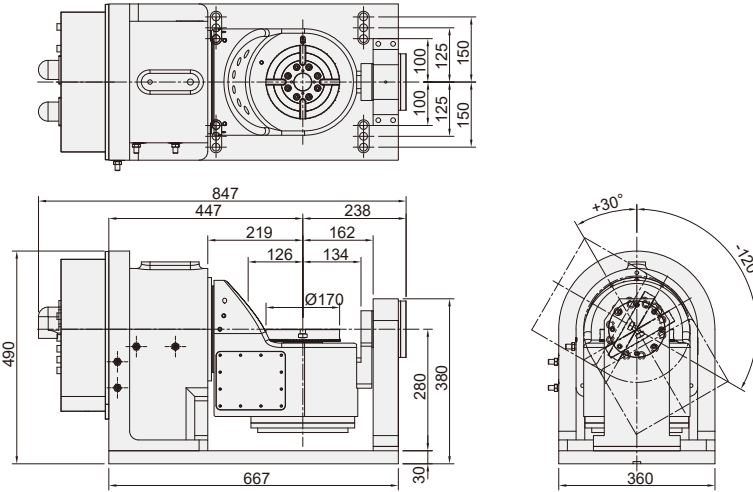
DTFE-170P with base plate



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



DTFE-171P



for VMC_DDM series

DDM Trunnion
Tilting Rotary Table

DTFA(I)-650(E)H

DDM direct drive (torque motor)
low gravity design
five axes
new optimization model
refer to remark-2
table size
hydraulic clamp
enlarged worktable dia. (Opt.)



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.

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	Ø60H7
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	300 / 661.39	1000	
	In Tilting (0~90°)	kg / lb	300 / 661.39	1000	
Allowable unbalancing work moment	WxL	N.m / ft. lbs.	300 / 221.27	800	
FxL When table clamped	F	N / lbs	40000 / 8992.36	50000	
	FxL	N.m / ft. lbs.	2500 / 1843.91	3000	
	FxL	N.m / ft. lbs.	4500 / 3319.03	6000	
Allowable loading inertia	($\frac{W.D^2}{8}$)	kg.m ²	9.4	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.

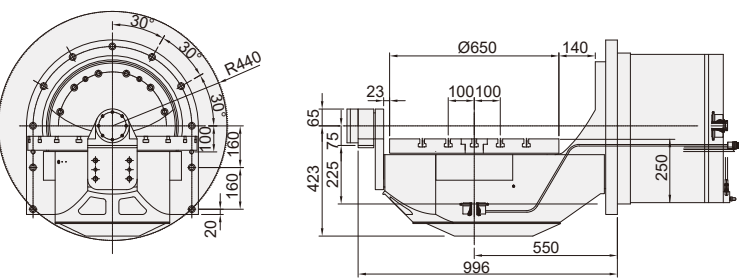
DIMENSIONAL DRAWINGS

Unit : mm

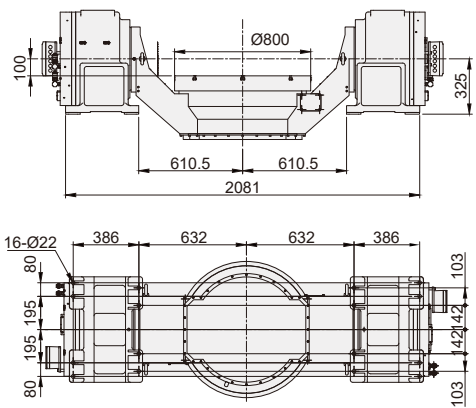
DTFAI-650H



Machine base supplied by buyer



D2TF-800H



Tilting Rotary Table For Turning and Milling Machine ▶▶▶

RC2DTF-410HS

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



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	
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
	Remark	α iSV80: New: A06B-6240-H125 Old : A06B-6117-H105 β iSV80: New: A06B-6160-H004 Old : A06B-6130-H004 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
	Remark	New: MDS-EJ-V1-40 Old : MDS-DJ-V1-40
Siemens System	Driver	With Internal Cooling: 6SL3120-1TE15-0AA4 Compact Type: 6SL3420-1TE15-0AA1
	Remark	With Internal Cooling: 6SL3120-1TE21-0AA4 Compact Type: 6SL3420-1TE21-0AA1 - Purchase Siemens "SMC40" module while applying Heidenhain encoder. - Purchase Renishaw "A-977-0575" signal transferrer while applying Renishaw encoder.
Heidenhain System	Driver	UM111D
	Remark	UM111D - Compatible with Heideihain Optical Scale Only

DDM Trunnion Tilting Rotary Table

Compatible System & Spec.	detron DD 5th Axis Rotary Table $\varnothing$ 125mm	
	DTFS125P / DTFE125P	
Axis	Tilting Axis	Rotary Axis
Cooling System	Air Cooling	
Optical Scale	Renishaw or Heideihain	
NC parameter	Exclusive tech of detron	
Fanuc System	Driver	α iSV80: New: A06B-6240-H125 Old : A06B-6117-H105 β iSV80: New: A06B-6160-H004 Old : A06B-6130-H004
	Remark	α iSV40: New: A06B-6240-H124 Old : A06B-6117-H104 β iSV40: New: A06B-6160-H003 Old : A06B-6130-H003 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
	Remark	New: MDS-EJ-V1-40 Old : MDS-DJ-V1-40
Siemens System	Driver	With Internal Cooling: 6SL3120-1TE21-0AD0 Compact Type: 6SL3420-1TE21-0AA1
	Remark	With Internal Cooling: 6SL3120-1TE21-0AD0 Compact Type: 6SL3420-1TE21-0AA1 - Purchase Siemens "SMC40" module while applying Heidenhain encoder. - Purchase Renishaw "A-977-0575" signal transferrer while applying Renishaw encoder.
Heidenhain System	Driver	UM111D
	Remark	UM111D - Compatible with Heideihain Optical Scale Only

DDM Trunnion Tilting Rotary Table

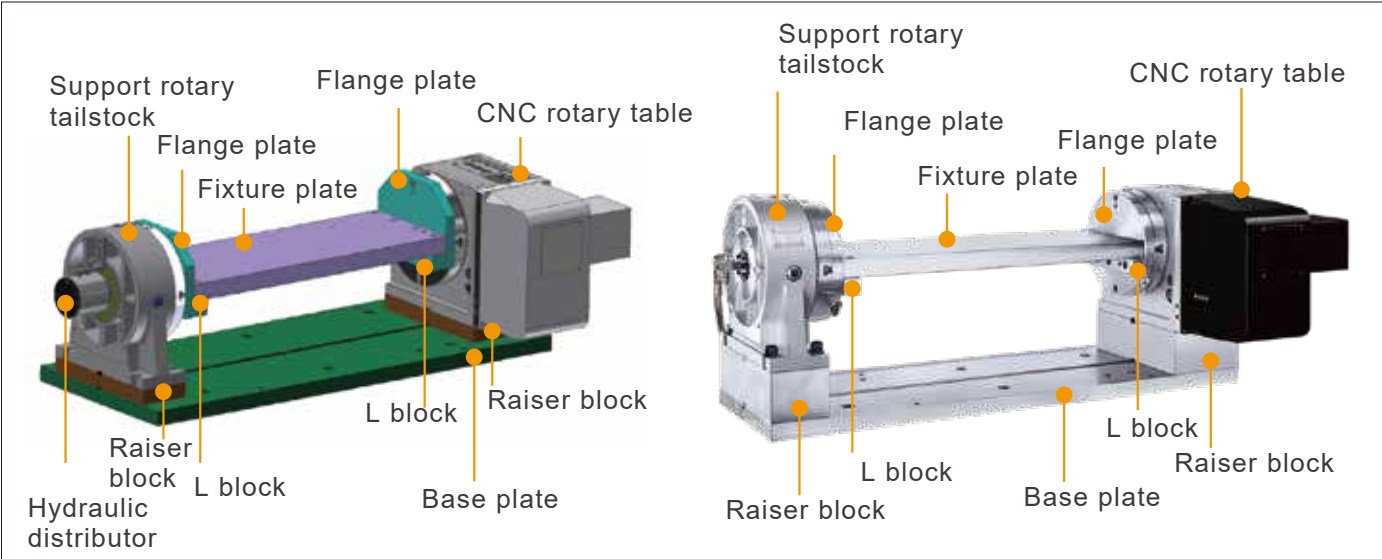
Compatible System & Spec.	detron DD 5th Axis Rotary Table $\varnothing$ 170mm					
	DTFS170P / DTFE170P		DTFE171P			
Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis		
Cooling System	Air Cooling		Oil Cooling			
Optical Scale	Renishaw or Heideihain					
NC parameter	Exclusive tech of detron					
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

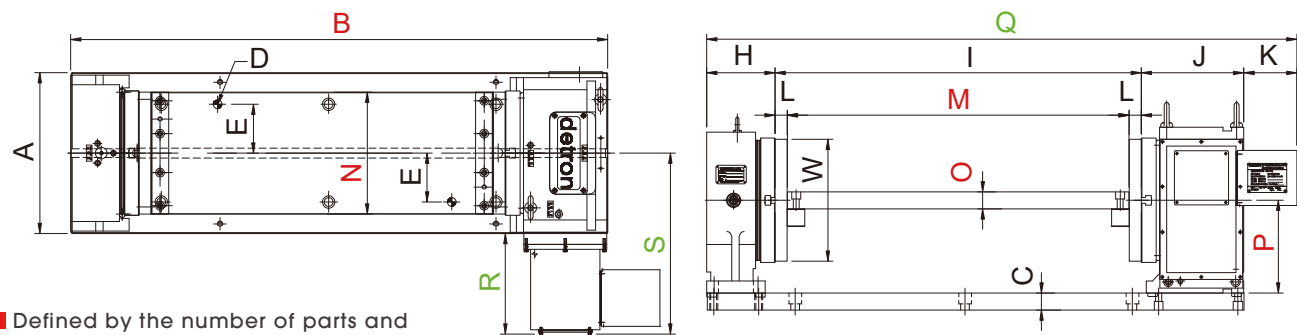
Compatible System & Spec.	detron DD 5th Axis Rotary Table $\varnothing$ 280 mm & $\varnothing$ 650 mm								
	DTF-280P		DTFAI-650H						
Axis	Tilting Axis	Rotary Axis	Tilting Axis	Rotary Axis					
Cooling System	Oil Cooling		Oil Cooling						
Optical Scale	Renishaw or Heideihain								
NC parameter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

Note* : For detailed information, please contact detron.

Fixture Plate and Base



Suggested Dimension of Fixture and Base Plate



■ Defined by the number of parts and work pieces

■ Below dimension is based on short motor cover. Depending on the motor selection, K, Q, R, and S would have difference. For other motor spec, please refer to Detron's outline drawing. Please also take into account interference with the machine tool.

Worm Gear Type Models

		unit: mm / inch					
MODEL	Unit	GXA-125S	GXA-170S/H	GXA-210S/H	GXA-255H	GXA-320H	GXA-400H
X axis stock	mm / inch	500 / 20	600 / 24	700 / 28	800 / 32	1000 / 40	1300 / 51
A	mm/inch	210 / 8.27	270 / 10.63	270 / 10.63	330 / 12.99	360 / 14.17	450 / 17.72
B	mm/inch	726 / 28.58	856 / 33.7	956 / 37.64	1101 / 43.35	1241 / 48.86	1440 / 56.69
C	mm/inch	30 / 1.18	35 / 1.38	35 / 1.38	35 / 1.38	40 / 1.57	40 / 1.57
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
E	mm/inch	80 / 3.15	100 / 3.94	100 / 3.94	100 / 3.94	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
I	mm/inch	441 / 17.36	551 / 21.69	651 / 25.63	751 / 29.57	861 / 33.90	961 / 37.83
J	mm/inch	155 / 6.10	175 / 6.9	175 / 6.9	210 / 8.27	235 / 9.25	254.5 / 10.02
K	mm/inch	89 / 3.5	111.5 / 4.4	109.5 / 4.3	102.6 / 4.04	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
M	mm/inch	400 / 15.75	500 / 19.69	600 / 23.62	700 / 27.56	800 / 31.50	900 / 35.43
N	mm/inch	120 / 4.72	170 / 6.69	200 / 7.87	250 / 9.84	300 / 11.81	400 / 15.75
O	mm/inch	30 / 1.18	30 / 1.18	30 / 1.18	40 / 1.57	40 / 1.57	40 / 1.57
P	mm/inch	110 / 4.33	135 / 5.31	160 / 6.30	190 / 7.48	210 / 8.27	255 / 10.04
Q	mm/inch	815 / 32.08	967.5 / 38.1	1072.5 / 42.2	1216 / 47.87	1357.5 / 53.4	1523 / 60
R	mm/inch	206 / 8.11	190 / 7.48	190 / 7.48	197 / 7.75	236 / 9.29	246 / 9.68
S	mm/inch	311 / 12.24	325 / 12.8	325 / 12.79	362 / 14.25	416 / 16.37	471 / 18.54
W	mm/inch	107 / 4.21	126 / 4.96	141 / 5.55	180.5 / 7.10	206.5 / 8.12	230 / 9.05

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

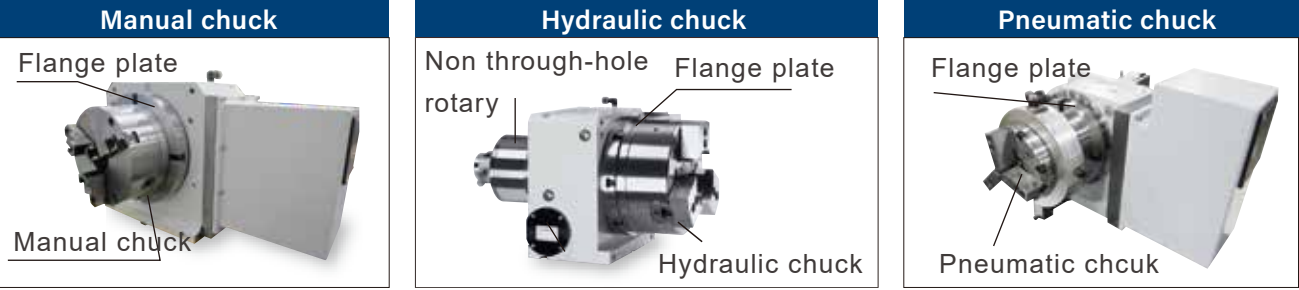
Fixture Plate and Base

Roller Gear Cam Type Models

		unit: mm / inch					
MODEL	Unit	RCX-170S/H	RCX-210S/HII	RCX-250ES/HII	RCX-255H	RCX-320H	RCX-400H
X axis stock	mm / inch	600 / 24	700 / 28	700 / 28	800 / 32	1000 / 40	1300 / 51
A	mm/inch	270 / 10.6	270 / 10.6	270 / 10.6	330 / 13	360 / 14	450 / 18
B	mm/inch	873 / 34	979 / 39	993 / 39	1107.5 / 43.6	1241 / 48.86	1406 / 55.35
C	mm/inch	35 / 1.38	35 / 1.38	35 / 1.38	35 / 1.38	40 / 1.57	40 / 1.57
D	mm/inch	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	100 / 3.94	100 / 3.94	100 / 3.94	100 / 3.94	100 / 3.94	125 / 4.92
H	mm/inch	130 / 5.12	130 / 5.12	130 / 5.12	140 / 5.51	145 / 5.70	190 / 7.48
I	mm/inch	551 / 21.70	651 / 25.6	651 / 25.6	751 / 29.56	861 / 33.90	961 / 37.83
J	mm/inch	192 / 7.56	198 / 7.80	212 / 8.35	216.5 / 8.52	235 / 9.25	255 / 10
K	mm/inch	120 / 4.72	116 / 4.57	116 / 4.57	115.5 / 4.55	116.5 / 4.59	116.5 / 4.59
L	mm/inch	25 / 0.98	25 / 0.98	25 / 0.98	25 / 0.98	30 / 1.18	30 / 1.18
M	mm/inch	500 / 19.69	600 / 23.62	600 / 23.62	700 / 27.56	800 / 31.50	900 / 35.43
N	mm/inch	170 / 6.70	200 / 7.87	200 / 7.87	250 / 9.84	300 / 11.8	400 / 15.75
O	mm/inch	30 / 1.18	30 / 1.18	30 / 1.18	40 / 1.57	40 / 1.57	40 / 1.57
P	mm/inch	135 / 5.31	160 / 6.30	160 / 6.30	190 / 7.48	210 / 8.27	255 / 10
Q	mm/inch	993 / 39	1095 / 43.11	1109 / 43.66	1223 / 48	1357.5 / 53.44	1522.5 / 59.94
R	mm/inch	218 / 8.58	210 / 8.27	210 / 8.27	272 / 10.7	246 / 9.69	246 / 9.69
S	mm/inch	353 / 13.90	345 / 13.58	345 / 13.58	437 / 17.2	426 / 16.77	471 / 18.54
W	mm/inch	126 / 4.96	141 / 5.55	141 / 5.55	180.5 / 7.11	206.5 / 8.13	230 / 9

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

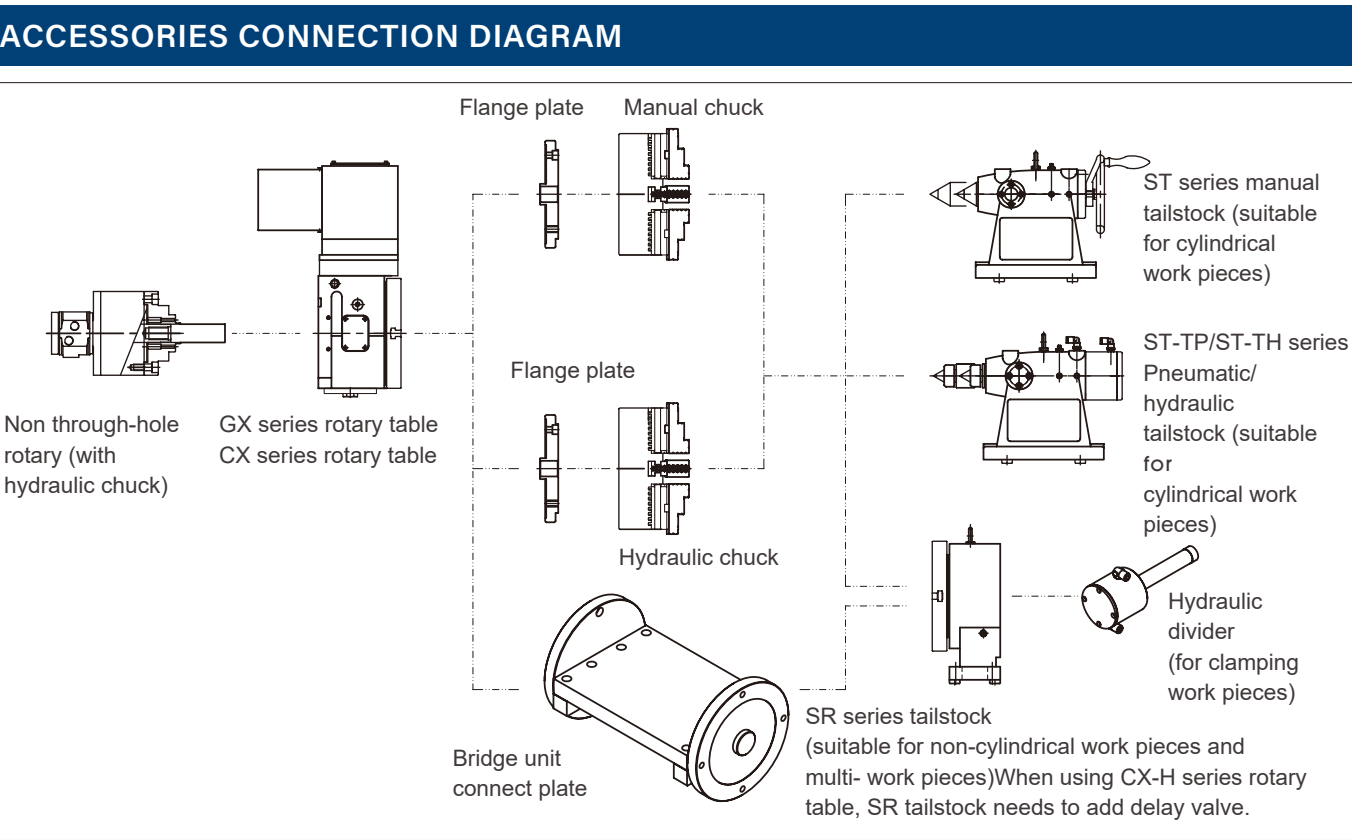
Chuck and Other Accessories



ROTARY TABLE AND COMPATIBLE CHUCK							
MODEL	GXA-125S	GXA-170S RCX-170S/H	GXA-210S RCX-210S/HII	GXA-255H RCX-255H	GXA-320H RCX-320H	GXA-400H RCX-400H	GXA-500H RCX-500H/HL
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									
MODEL	SC-4	SC-5	SK-6	SK-7	SK-8	SK-9	SK-10	SK-12	SK-16
O.D. range	Ø 3 - 90 / Ø 0.12 - 3.5	Ø3-110/ Ø0.12-4.33	Ø3-160/ Ø0.12-6.30	Ø8-180/ Ø0.31-7.09	Ø8-190/ Ø0.31-7.48	Ø11-220/ Ø0.43-8.66	Ø12-260/ Ø0.47-10.24	Ø15-300/ Ø0.59-11.81	Ø30-400/ Ø1.18-15.75
I.D range	Ø32-84/ Ø1.26-3.31	Ø35-100/ Ø1.38-3.94	Ø55-150/ Ø2.17-5.91	Ø62-170/ Ø2.44-6.69	Ø68-180/ Ø2.67-7.08	Ø70-210/ Ø2.76-8.27	Ø80-250/ Ø3.15-9.84	Ø90-290/ Ø3.54-11.42	Ø110-380/ Ø4.33-14.96



Hydraulic power unit (HTK series)
Applied for GXA-H & CX-H, series rotary tables.
Recommended for application with **hydraulic chuck or hydraulic fixture.**



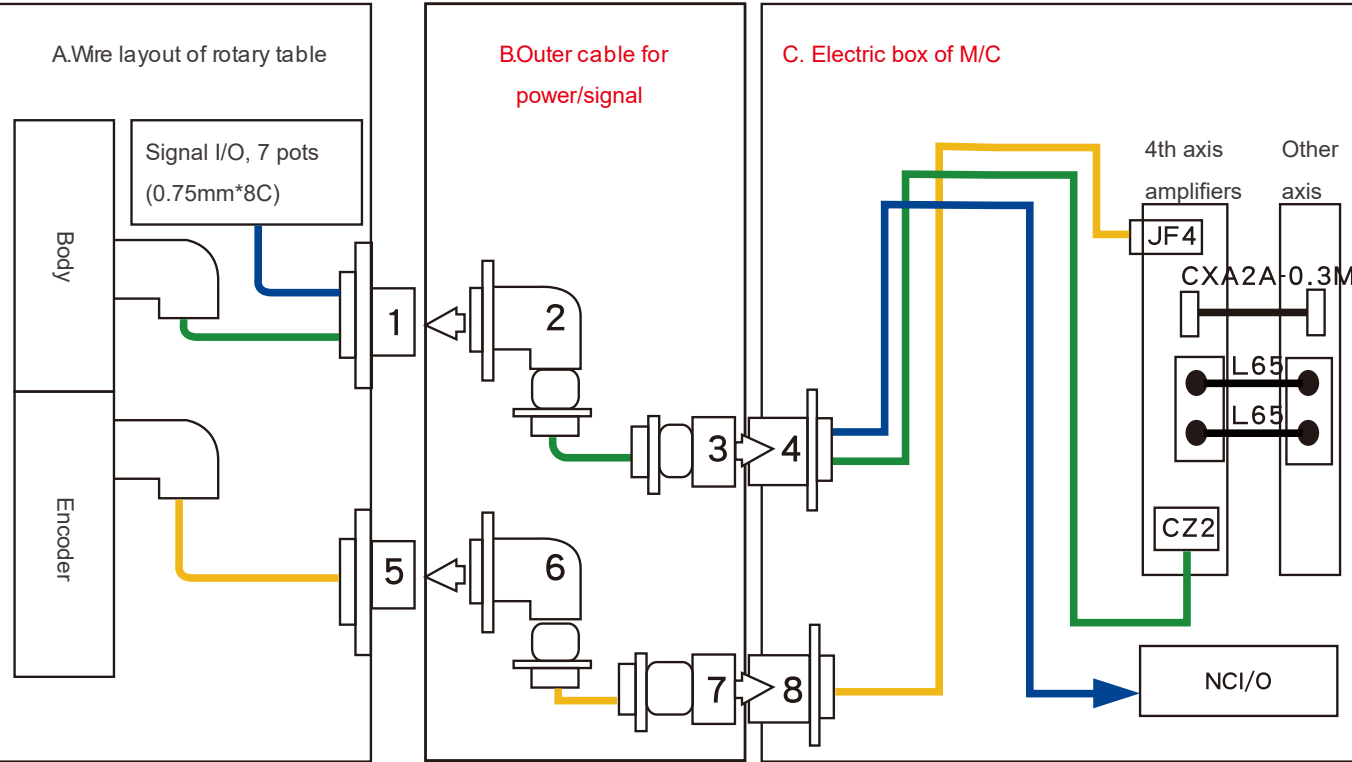
ABR-50 air booster unit
Use for GXA-H series
Recommended for application in NC table only or with SR-H hydraulic tailstock. Additional hydraulic unit is suggested for peripheral hydraulic part- holding device.

Diagram Illustration

Diagram sample to connect Japan NC



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



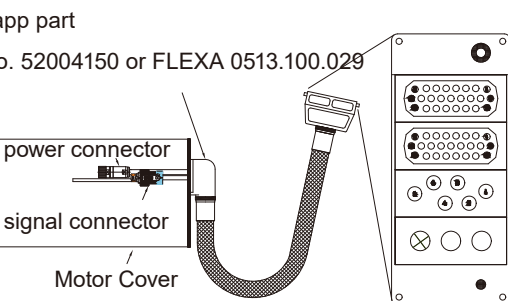
Cable spec. for JP NC

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

Diagram sample to connect EU NC



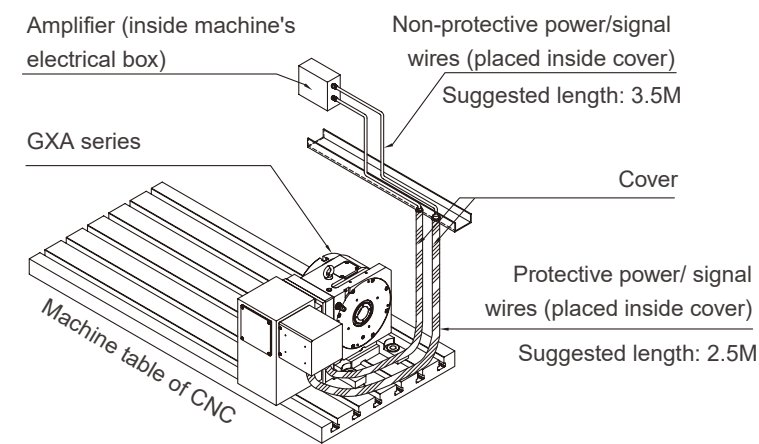
Adherent-type connector (European CNC system or with optical encoder)
One outlet-type connector is used for Siemens and Heidenhain controls.



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

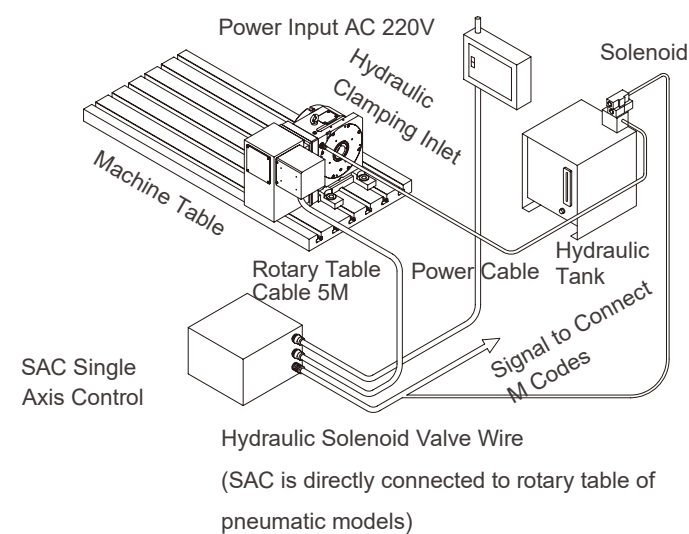
Guidance to Select Rotary Table

SCHEMATIC DIAGRAM OF ROTARY TABLE AND CNC MACHINE



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

SCHEMATIC DIAGRAM OF ROTARY TABLE AND SINGLE AXIS CONTROLLER



SAC Series- Single Axis Control

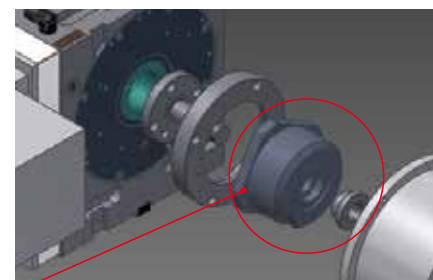
- Features:**
- For machine NC without 4th axis function, SAC provide signals to allow indexing application (no simultaneous function available).
 - Programs of rotary table can be directly input through SAC and allow machine NC M code command.
 - Compatible with any brand of NC control.



OPTIONAL OPTICAL SCALE

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

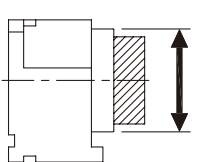
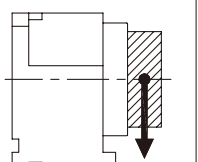
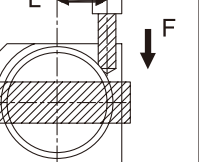
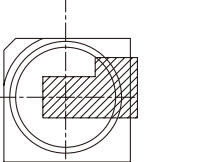
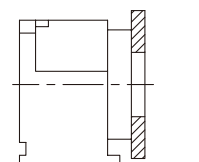
* Recommended option for tilting axis of 5 axis.



Heidenhain encoder

Guidance to Select Rotary Table

SELECT A PROPER ROTARY TABLE ACCORDING TO WORKPIECE AND CUTTING CONDITIONS

Workpiece diameter  Within rotary table diameter	Workpiece weight  Within allowable load range	Indexing processing  FXL value should be within the range of clamping torque	Eccentric Load  • Movement of inertia of workpiece should be within the permissible angle • Consider interference	For workpiece with large diameter but light weight  • Movement of inertia of workpiece should be within the permissible range • Consider interference
---	--	---	---	---

Interference Reminders

Please refer to right illustration:

X axis (Fig 1)

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

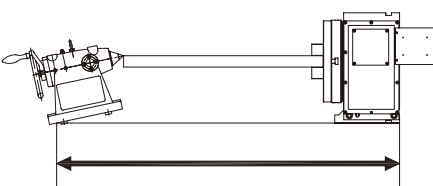


Fig 1

Y axis (Fig 2)

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

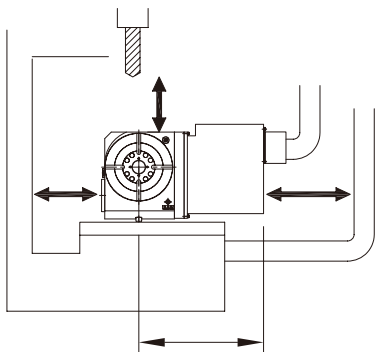


Fig 2

Z axis (Fig 2 and Fig 3)

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

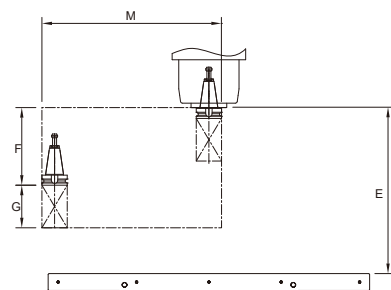


Fig 3

Order Sheet of 4/5th axis

STEP 1 _ Machine Info

Q1	Machine Information	Machine Brand _____ Machine Model _____	
Q2	Control System	☐ Fanuc ☐ Mitsubishi ☐ Siemens ☐ Heidenhain ☐ Others _____	
Q3	Working Table Info	Size: L _____ *W _____ T-slot size: ☐ 14mm ☐ 16mm ☐ 18mm ☐ 22mm T-slot Pitch: ☐ 80mm ☐ 100mm ☐ 125mm ☐ 150mm ☐ Others _____ Number of T-slot: ☐ 3 ☐ 4 ☐ 5 ☐ 6	Catalog P86_Fig. 4

STEP 2 _ NC Table Selection

Q4	Rotary Table	☐ 4th Axis Rotary Table, Model No. _____, Q'ty _____ ☐ 5th Axis Tilting Rotary Table, Model No. _____, Q'ty _____	
Q5	Connector Cover Location	4th Axis cable connector located at ☐ rear (vertical application) ☐ side (horizontal application) 5th Axis cable connector located at ☐ rear (AC axis application) ☐ front (BC axis application)	Catalog P86_Fig. 5 Catalog P86_Fig. 6
	Connector Interface	☐ Interface of MS connector, ☐ Interface of PG29 connector ☐ Inner cable prepared by buyer, motor cover attached with connector plate without holes	
	Inner and Outer Cable Type	☐ Section A (Inside the motor cover), 0.5M, standard attachment for Fanuc and Mitsubishi System ☐ Section A+B ☐ separated type ☐ integrated type Section A: 0.5M, Section B: _____ M ☐ Section A+B+C ☐ separated type ☐ integrated type Section A: 0.5M, Section B: _____ M, Section C: _____ M Connector Type ☐ 17 pin ☐ 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 P86_Fig. 7 Remark: detron standard cable length: 2.5M for section B & 3.5M for section C
Q6	Tailstock	☐ Rotary tailstock, model SR- _____ ☐ Quill tailstock, model ST- _____, ☐ standard quill taper MT3 ☐ optional quill taper MT4 ☐ Manual Switch Valve required for pneumatic or hydraulic quill tailstock (optional)	
Q7	M/C Control System & Servo Motor	☐ Fanuc system ☐ alpha ☐ beta; ☐ 4th axis _____ ☐ 5th axis _____ ☐ straight shaft ☐ taper shaft ☐ Mitsubishi system ☐ 4th axis _____ ☐ 5th axis _____ ☐ straight shaft ☐ taper shaft ☐ Siemens system ☐ 4th axis _____ ☐ 5th axis _____ ☐ Heidenhain system ☐ 4th axis _____ ☐ 5th axis _____ ☐ Other system _____ ☐ 4th axis _____ ☐ 5th axis _____ Motor supplied by ☐ buyer or ☐ detron ☐ special request _____ Amplifier supplied by ☐ buyer or ☐ detron, model _____ ☐ Amplifier wirings required Independent Controller ☐ Single Axis ☐ Dual Axis	
Q8	Limit switch (5th axis only)	☐ Standard tilting axis limit setting as catalogue diagram, ☐ Others _____ ☐ Standard 2 wires NC, ☐ Others _____	
Q9	Solenoid	☐ DC24V, ☐ AC110V, ☐ AC220V	

STEP 3 _ Peripheral Accessories

Q10	Optical scale	☐ Heidenhain ☐ Renishaw ☐ Fagor ☐ ± 5" ☐ ± 10" ☐ ± 13" ☐ Optical scale cable required, ☐ 10M ☐ 12M as a recommended option for tilting axis upon 5th axis application	
Q11	Chuck	☐ 3-Jaw Manual scroll chuck, SC- _____, ☐ 3-Jaw Powerful chuck, SK- _____ ☐ Pneumatic chuck, _____; ☐ Hydraulic chuck, _____; ☐ Others _____ ☐ Chuck interface flanged required only. (Chuck equipped by buyer)	Catalog P81
Q12	Air / Hydraulic System accesorries	☐ Air booster (air-oil converter) ABR-35, for hydraulic table (+tailstock) only ☐ Hydraulic Unit, please describe the detailed application below: _____ ☐ Pneumatic Connector & Tube Kit, _____ M ☐ Hydraulic Connector & Tube Kit _____ M	Catalog P81
Q13	Rotary Joint	☐ 4 port ☐ 6 port ☐ 8 port ☐ 10 port ☐ _____ port, please refer to spec sheet for suitable port q'ty. ☐ _____ port with air tube, _____ port with hydarulic tube Tube Size ☐ 1/4" ☐ 1/8", tube size will be determined by the center bore size (please refer to the final layout)	
Q14	Others	☐ Please describe the detailed application below: _____	

Order Sheet of 4/5th axis

M/C table

Connector Location

Fig 4

Fig 5

Fig 6

Illustration of Tilting Angle Range

1. AC axis application

2. BC axis application

Sections of Cables

Fig 7

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

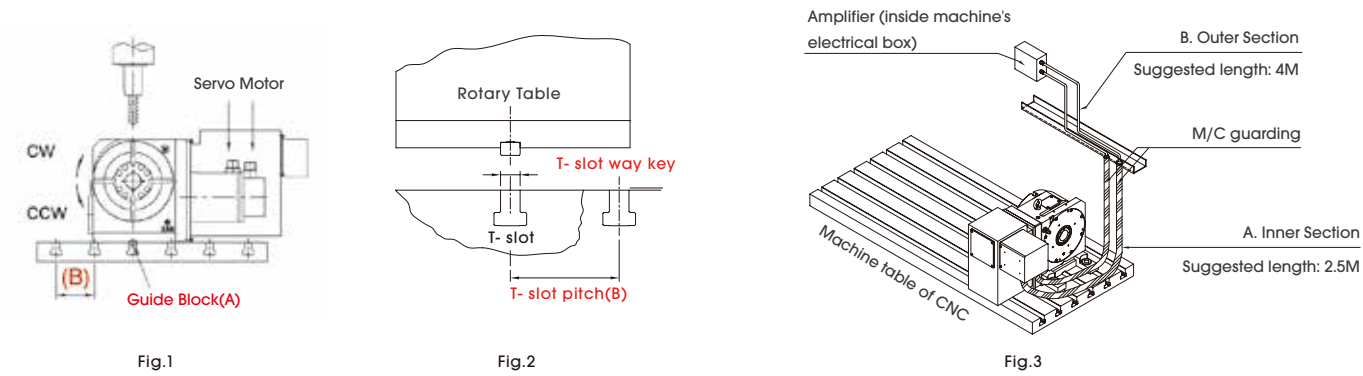
Order Sheet of DDM Rotary Table

STEP 1_ Machine Info

Machine Spec	Machine information	Machine brand _____ Machine model _____	
	Control System	☐ FANUC ☐ MITSUBISHI ☐ SIEMENS ☐ HEIDENHAIN ☐ Others _____	
	Original 3 axis Driver Information	☐ model _____	
Working Table Info	Table size	L _____ *W _____ (Please provide relating drawing)	
	T-slot width (A)	☐ 14mm ☐ 16mm ☐ 18mm ☐ 22mm ☐ Others _____	Catalog P88_Fig.1
	T-slot pitch (B)	☐ 100mm ☐ 125mm ☐ 150mm ☐ Others _____	Catalog P88_Fig.2
	Number of T-slot	☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ Others _____	
STEP 2_Rotary Table Spec			
DDM Rotary Table	detron Model	☐ DV-170P ☐ DV-255PII ☐ DTFS-125P ☐ DTFE-125P ☐ DTFS-170P ☐ DTFE-170P ☐ DTFE-171P ☐ DTF-280P ☐ DTFA-650H ☐ DTFAI-650H	
	Solenoid for Pneumatic model	☐ AC110V ☐ AC220V ☐ DC24V	
	Limit switch (5 axis only)	☐ standard tilting axis limit setting (refer to each model ' s specification list on catalogue) ☐ Others _____ ☐ 2 wires NC(detron standard) ☐ Others _____	
Parameter	Exclusive Tech of detron		
Operation Manual	☐ English ☐ Japanese		
STEP 3_for 4th axis DDM Model choose only			
NC Control	Torque motor	☐ detron ☐ Others, Model _____	
	Driver	Supplied by ☐ buyer ☐ detron FANUC system ☐ α i system, Model _____ ☐ β i system, Model _____ Mitsubishi system ☐ MDS-EJ- _____ ☐ MDS-DJ- _____ Siemens ☐ 6SL3120-1TE _____ ☐ 6SL3420-1TE _____ Heidenhain ☐ 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 P75
		Faceplate	☐ Without(detron standard) ☐ incl. faceplate ☐ Others _____
Peripheral Accessories	Tailstock	☐ Rotary tailstock, model SR- _____ ☐ Quill tailstock, model ST- _____, quill taper MT3 ☐ optional quill taper MT4 ☐ live center ☐ Manual Switch Valve required for pneumatic or hydraulic quill tailstock (optional)	
	Chuck	☐ 3-Jaw Powerful chuck, SK- _____ ☐ Pneumatic chuck, _____; ☐ Hydraulic chuck, _____; ☐ Others _____ ☐ Only flange plate (Chuck supplied by buyer), Chuck brand _____, Model _____ (Please provide relating drawing)	Catalog P81
	Fixture plate and Accessories	☐ Required (Please discuss more details with detron)	Catalog P79 & P80
STEP 4_for 5th axis DDM model choose only			
NC Control for rotary axis	Torque	☐ detron ☐ Others, Model _____	
	Driver	Supplied by ☐ buyer ☐ detron FANUC system ☐ α i system, Model _____ ☐ β i system, Model _____ Mitsubishi system ☐ MDS-EJ- _____ ☐ MDS-DJ- _____ Siemens ☐ 6SL3120-1TE _____ Heidenhain ☐ 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 P75 & P76

Order Sheet of DDM Rotary Table

NC Control for tilting axis	Torque	☐ detron ☐ Others, Model _____	
	Driver	Supplied by ☐ buyer ☐ detron FANUC system ☐ α i system, Model _____ ☐ β i system, Model _____ Mitsubishi system ☐ MDS-EJ- _____ ☐ MDS-DJ- _____ Siemens ☐ 6SL3120-1TE _____ Heidenhain ☐ 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 P75 & P76
STEP 5_Accessories required info			
Accessories	Optical scale	detron standard-Renishaw optical scale ☐ R+F (suitable for Fanuc control) ☐ R+M (suitable for Mitsubishi control) ☐ R+S (suitable for Siemens control) ☐ R+B (suitable for PC-based control) optional Heidenhain optical scale ☐ H+F (suitable for Fanuc control) ☐ H+M (suitable for Mitsubishi control) ☐ H+S (suitable for Siemens/Heidenhain control)	
	Sensor Module (while applying Siemens control)	☐ Heidenhain optical scale shall be equipped with Siemens "SMC40" module, supplied by buyer ☐ Renishaw optical scale shall be equipped with Renishaw "A-977-0575" module, supplied by detron	
	Temperature Control	☐ Supplied by detron TM-K2(3pcs for each axis) ☐ Supplied by buyer	
	Cable set	Supplied by ☐ buyer ☐ detron (If supplied by detron, please choose below items) ☐ Standard: Integrated cable with adherent connector. Inner Section: 2.5M, Outer Section: 4.0M ☐ 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 P88_Fig.3
	Rotary Joint	☐ Pneumatic _____ port ☐ Hydraulic _____ port ☐ Pressure required _____ Mpa	
STEP 6_Others			
Others	☐ Please describe the detailed application below: _____		



Comparison Summary between and Others

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 (Bigger bearing, rigidity upgraded)	RB5013	RB10020 (Bigger bearing, rigidity upgraded)	RB9016	RB12025 (Bigger bearing, rigidity upgraded)	RB9016
Dynamic load	kN	19.4 (16% up)	16.7	33.1 (5% up)	31.4	33.1 (5% up)	31.4
Momentum	kN-m	0.82 (54% up)	0.53	2 (19% up)	1.7	5 (19% up)	1.7
Worm Gear module	mm	M2 (14% up)	M1.75	M2 (14% up)	M1.75	M2 (14% up)	M1.75
Clamping Force	N-m	140 (75% up)	80	300 (275% up)	80	400 (150% up)	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 (33% up)	150	260 (73% up)	150

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

Description of Nomenclature

For technical clarification, you will find below the individual descriptions relating to rotary table elements referred to in this catalogue.

Clamping Torque

The clamping torque means the efficacy of the clamping mechanism, the clamping force of the worm gear is excluded. The clamping torque shown on this catalogue is measured at 5(3.5) Mpa hydraulic pressure and 0.55~0.7 Mpa air pressure.

Allowable Loading

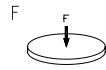
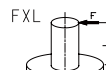
The allowable utmost mass loaded on table surface, for which the part shall be a cylindrical casting located in equal center and diameter of rotary table.

Allowable Worm Wheel Torque

This allowable worm wheel torque is equal to the allowable torque for the worm wheel when the table rotation speeds is 1 min⁻¹, which is subject to the standard stipulated by the Japan Gear Manufacturers Association.

Allowable Cutting Force (while braking)

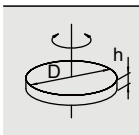
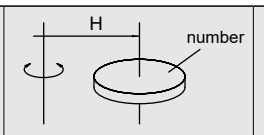
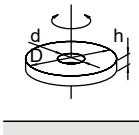
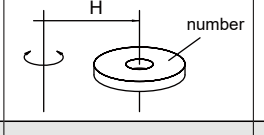
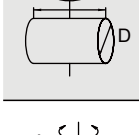
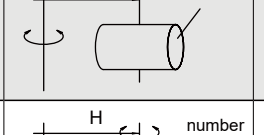
Three individual descriptions relating to rotary table elements referred to in this catalogue

- axial loading :

cutting force toward table by perpendicular direction
- Momentum loading :

cutting force toward table by parallel direction with certain moment
- circumference loading :

cutting force feeding around the periphery of the faceplate

Allowable Work Inertia

The formula to calculate the moment of inertia

	$W = \frac{S \pi D^2 h}{4000000}$ $J = \frac{W D^2}{2} / 40000$		$W = \frac{S \pi D^2 h}{4000000}$ $J = W \left(\frac{D^2}{2} + 4H^2 \right) / 40000$	unit: J.(GD ²) :kg-m ² W :kg A.B.D.d.H.h.L :cm I :kg.m.s ² Densities (S, kg/m ³): Iron : 7.85 * 10 ³ Iron casting :7.5 * 10 ³ Aluminum : 2.7 * 10 ³ Copper : 8.94 * 10 ³ Brass : 8.5 * 10 ³ $I = \frac{J}{9.8}$
	$W = \frac{S \pi (D^2 - d^2) h}{4000000}$ $J = \frac{W (D^2 + d^2)}{2} / 40000$		$W = \frac{S \pi (D^2 - d^2) h}{4000000}$ $J = W \left(\frac{(D^2 + d^2)}{2} + 4H^2 \right) / 40000$	
	$W = \frac{S \pi D^2 L}{4000000}$ $J = \left(\frac{L^2}{3} + \frac{D^2}{4} \right) / 40000$		$W = \frac{S \pi D^2 L}{4000000}$ $J = W \left(\frac{L^2}{3} + \frac{D^2}{4} + 4H^2 \right) / 40000$	
	$W = \frac{SABh}{1000000}$ $J = \frac{W(A^2 + B^2)}{3} / 40000$		$W = \frac{SABh}{1000000}$ $J = W \left(\frac{A^2 + B^2}{3} + 4H^2 \right) / 40000$	