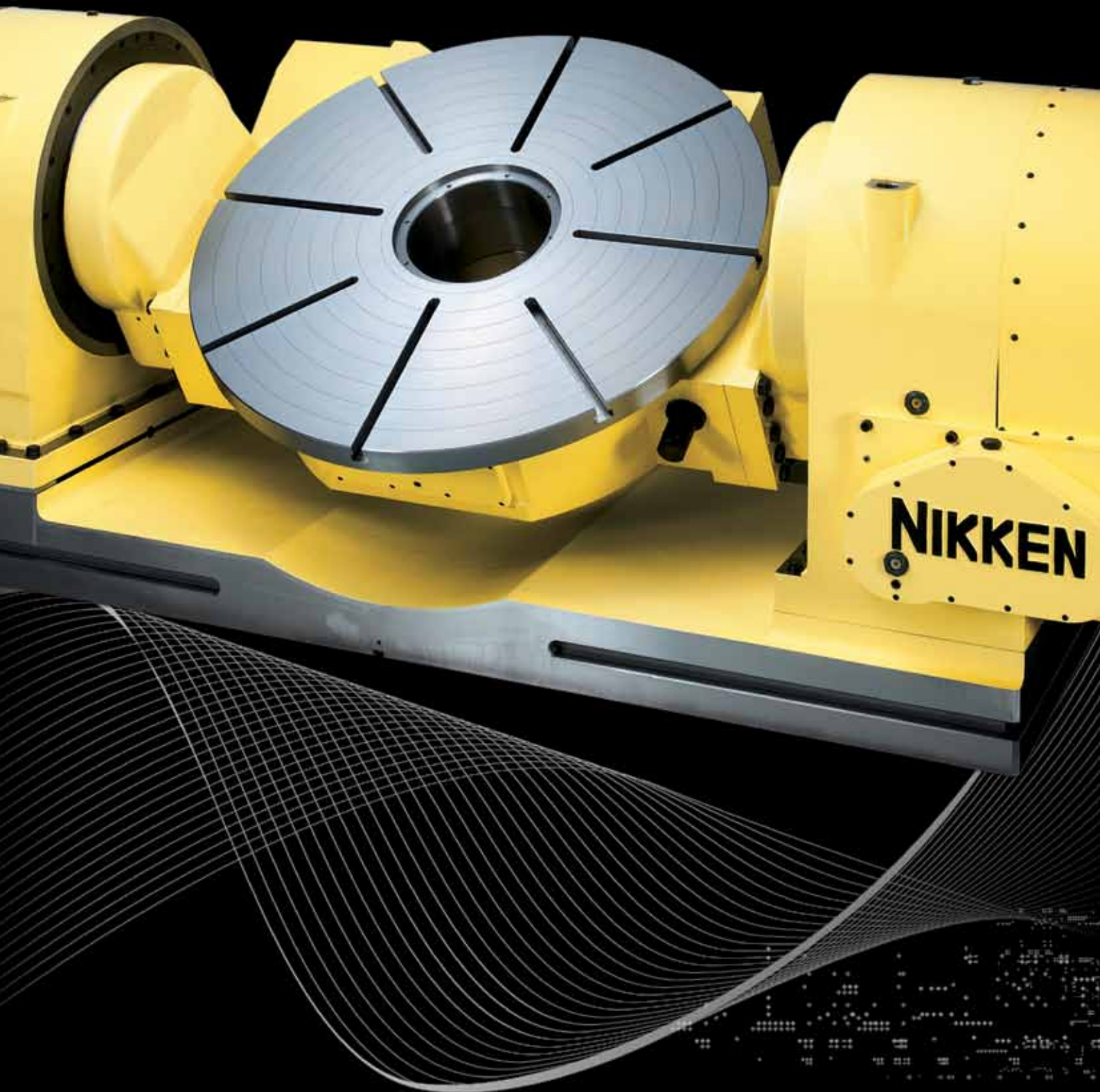


**NIKKEN**

[www.nikken-world.com](http://www.nikken-world.com)

# ROTARY TABLES

## *OVERVIEW*



## FEATURES & BENEFITS NIKKEN ROTARY TABLES



Nikken's complete line of CNC Rotary Tables is recognised worldwide for wear-resistance, rigidity and high-speed capabilities. Every component is designed & built to provide unrivalled high accuracy, increased production and a trouble-free long life. Our Rotary Table product line is continually evolving to ensure we stay ahead of the competition.

### NIKKEN PATENTED CARBIDE WORM SYSTEM

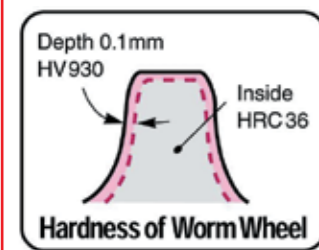
#### PATENTS

France 8407554  
Germany DE3417860C2  
Japan 1856406  
UK 2158546  
USA 4576058



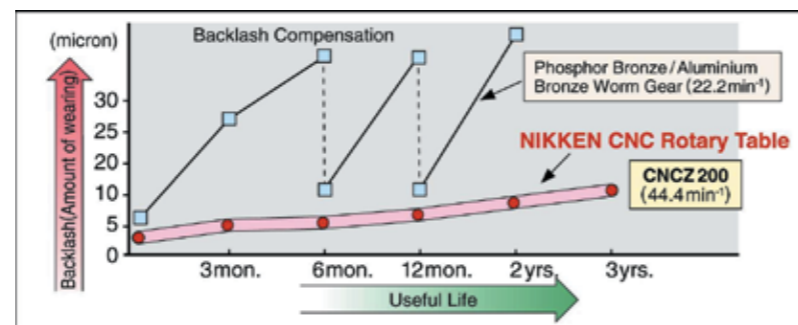
### CARBIDE WORM SCREW

The V Grade Carbide Worm Screw ensures maximum rigidity and virtually eliminates wear. Compared with traditional worm system combinations which are frequently made of phosphorus bronze and aluminium bronze, wear is reduced by up to 8 times, and overall accuracy is substantially increased.



### WORM WHEEL

Specially hardened ion-nitrided treated teeth eliminate sliding friction.



### EXCEPTIONAL BRAKE TORQUE (up to 5,000Nm)

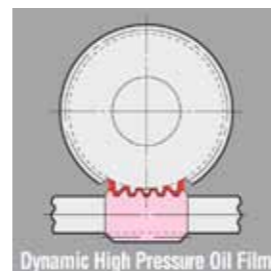
The proven tightening power of our Ultra-Lock™ Milling Chuck is applied to the brake of the tilting axis of our 5AX-tilting rotary table.

- Virtually eliminates vibration at any tilting angle.
- Provides necessary rigidity for heavy-duty operations, including heavy drilling and face milling.

### DYNAMIC HIGH PRESSURE OIL FILM EFFECT FOR HIGH SPEED CNC ROTARY TABLE Z SERIES

Our experience in gear cutting and study of the pressure angle of the worm screw result in the table's higher rotation speeds.

The rotational speed of the screw creates the pressure to force the oil between the gears, preventing any metal-to-metal contact and eliminating gear wear, as well as producing high rigidity and durability.



## SINGLE AXIS COMPACT



- Table size range (diameter):  $\varnothing 105\text{mm}$  to  $\varnothing 200\text{mm}$
- Suitable for a wide range of applications from a small drilling machine with simple indexing to full CNC positioning on machining centers in high production
- Designed for indexing and rotational milling on a wide variety of workpieces
- Various options are available to meet all work-holding, fixturing & chucking requirements
- Available in Standard and High-Speed (Z) Models.

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	Max Vert. Workload (Kg)	Max Horiz. Workload (Kg)	Net Weight (Kg)
CNC(Z)105	$\varnothing 105$	22.2 (44.4)	205	30	60	32
CNC(Z)180	$\varnothing 180$	22.2 (44.4)	303	100	200	45
CNC(Z)202	$\varnothing 200$	22.2 (44.4)	303	100	200	55



CNC 105



CNC180



CNC202

## SINGLE AXIS STANDARD



- Table size range (diameter):  $\varnothing 260\text{mm}$  to  $\varnothing 2000\text{mm}$
- Vertical and horizontal use depending upon application
- Suitable for indexing and rotational milling on a wide variety of workpieces
- Various options are available to meet all workholding, fixturing and chucking requirements
- Available in Standard and High-Speed (Z) Models (up to 600mm).

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	Max Vert. Workload (Kg)	Max Horiz. Workload (Kg)	Net Weight Kg
CNC(Z)260	$\varnothing 260$	16.6 (33.3)	1568	175	350	115
CNC(Z)302	$\varnothing 300$	16.6 (33.3)	1568	175	350	120
CNC(Z)321	$\varnothing 320$	22.2 (44.4)	1760	250	500	200
CNCB350	$\varnothing 350$	22.2	3331	250	500	245
CNC(Z)401	$\varnothing 400$	22.2 (44.4)	1760	250	500	230
CNCB450	$\varnothing 450$	25	3870	350	700	380
CNC(Z)501	$\varnothing 500$	16.6 (33.3)	4655	400	800	470
CNC(Z)601	$\varnothing 600$	11.1 (22.2)	4655	400	800	500
CNC802	$\varnothing 800$	5.5	7000	1500	3000	1100
CNC1201	$\varnothing 1200$	2.7	18000	6500	13000	3500
CNC1600	$\varnothing 1600$	2.7	35000	10000	30000	5250
CNC2000	$\varnothing 2000$	2.7	35000	-	30000	7700



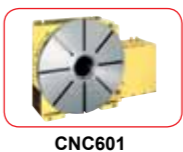
CNC260



CNC302



CNC401



CNC601



CNC802



CNC1201



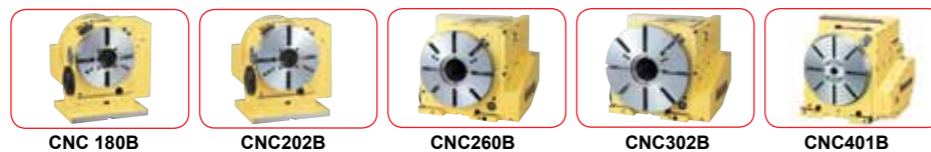
CNC1600

## SINGLE AXIS BACK SIDE MOTOR MOUNTED



- Table size range (diameter):  $\varnothing$ 180mm to  $\varnothing$ 400mm
- Designed for machine tools with limited space in the Y-axis, such as gantry type or machines with enclosed splashguards
- Suitable for indexing and rotational milling on a wide variety of workpieces
- Various options are available to meet all workholding, fixturing and chucking requirements
- Available in Standard and High-Speed (Z) Models.

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	Max Vert. Workload (Kg)	Driving Torque (N.m)	Net Weight (Kg)
CNC(Z)180B	$\varnothing$ 180	22.2 (44.4)	303	100	72 (54)	56
CNC(Z)202B	$\varnothing$ 200	22.2 (44.4)	303	100	72 (54)	60
CNC(Z)260B	$\varnothing$ 260	16.6 (33.3)	588 / 1568	175	192 (153)	145
CNC(Z)302B	$\varnothing$ 300	16.6 (33.3)	588 / 1568	175	192 (153)	150
CNC(Z)321B	$\varnothing$ 320	22.2 (44.4)	1760	250	432 (345)	240
CNC(Z)401B	$\varnothing$ 400	22.2 (44.4)	1760	250	432 (345)	270



CNC 180B    CNC202B    CNC260B    CNC302B    CNC401B

## SINGLE AXIS TOP SIDE MOTOR MOUNTED



- Table size range (diameter):  $\varnothing$ 200mm to  $\varnothing$ 600mm
- To avoid interference, the drive motor is mounted on the top side of the table for horizontal machines and special purpose applications
- Suitable for indexing & rotational milling on a wide variety of workpieces
- Various options are available to meet all workholding, fixturing and chucking requirements
- Available in Standard and High-Speed (Z) Models.

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	Max Vert. Workload (kg)	Driving Torque (N.m)	Net Weight (Kg)
CNC(Z)200T	$\varnothing$ 200	22.2 (44.4)	196	100	144 (115)	85
CNC(Z)260T	$\varnothing$ 260	16.6 (33.3)	588 / 1568	175	192 (153)	160
CNC(Z)302T	$\varnothing$ 300	16.6 (33.3)	588 / 1568	175	192 (153)	165
CNC(Z)321T	$\varnothing$ 320	16.6 (33.3)	1760	250	576	220
CNC(Z)401T	$\varnothing$ 400	16.6 (33.3)	1760	250	576	245
CNC(Z)501T	$\varnothing$ 500	16.6 (33.3)	4655	400	576	495
CNC(Z)601T	$\varnothing$ 600	11.1 (22.2)	4655	400	864	525



CNC200T    CNC260T    CNC302T    CNC321T    CNC401T    CNC501T    CNC601T

## SINGLE AXIS MULTIPLE SPINDLE



- Table size range (diameter):  $\varnothing$ 105mm to  $\varnothing$ 260mm
- Multi-Spindle (2, 3 and 4 spindle) CNC Rotary Table Series for productivity enhancement when machining small workpieces
- Differing pitch between spindles is available as an option
- Various options are available to meet all workholding, fixturing and chucking requirements.

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	Max Vert. Workload (Kg)	Driving Torque (N.m)	Net Weight (Kg)
CNC100-2W	$\varnothing$ 105	11.1	147	15	72	70
CNC100-3W	$\varnothing$ 105	11.1	147	15	72	90
CNC100-4W	$\varnothing$ 105	11.1	147	15	72	120
CNC180-2W	$\varnothing$ 180	22.2	303	100	72	115
CNC202-2W	$\varnothing$ 200	22.2	303	100	144	120
CNC260-2W	$\varnothing$ 260	16.6	343 / 1568	175	192	320



CNC100-2W    CNC100-3W    CNC100-4W

## TILTING AXIS MANUAL TYPE



- Table size range (diameter):  $\varnothing$ 250mm to  $\varnothing$ 500mm
- Table can be tilted from 0° - 90° manually and clamped in position
- Indexing is CNC controlled to allow adaptation to all applications
- Various options are available to meet all workholding, fixturing and chucking requirements.

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	Max Horiz. Workload (Kg)	Driving Torque (N.m)	Net Weight (Kg)
NST250	$\varnothing$ 250	16.6	147	100	144	75
NST300	$\varnothing$ 300	11.1	196	300	288	135
NST500	$\varnothing$ 500	5.5	196	500	1152	320



NST250    NST300    NST500

### TAILSTOCK

- Manual Tailstock
- Air/Hydraulic Tailstock
- Hydraulic Tailstock
- Support Table



Air / Hyd Tailstock    Manual Tailstock

### CLAMPING ATTACHMENTS & CHUCKS

- All Compact Tables have a standardised  $\varnothing$ 60mm hole, and offer many standard clamping attachments including:
  - Rotary Cylinders
  - 5C Attachments
  - OD Chucks
  - ID Chucks
- Manual Scroll Chucks: complete range of sizes (4" to 12") are available for all Nikken Rotary Tables.
- Power Chucks: complete range of Power Chucks (4" to 12") and Rotary Cylinders are available.



TAT105    C5 Collet Chuck    TAT250N

## TILTING AXIS STANDARD



- Table size range (diameter):  $\varnothing 105\text{mm}$  to  $\varnothing 1200\text{mm}$
- Rotary and tilting axes are controlled by CNC
- Powerful braking systems
- Various options are available to meet all workholding, fixturing and chucking requirements.

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	0~30°Max Workload (Kg)	30~90°Max Workload (Kg)	Net Weight (Kg)
5AX-130	$\varnothing 105$	22.2 / 11.1	205 / 303	50	25	115
5AX-201	$\varnothing 200$	22.2 / 16.6	588 / 612 (hyd)	60	40	160
5AX-230	$\varnothing 230$	11.1 / 5.5	490 / 3430	100	100	220
5AX-250	$\varnothing 250$	22.2 / 11.1	588 / 490	80	50	300
5AX-350	$\varnothing 350$	22.2 / 22.2	1568 / 1568	200	200	420
5AX-550	$\varnothing 550$	11.1 / 5.5	1760	500	300	1150
5AX-800	$\varnothing 800 \times 500$	25 / 12.5	4655 / 6125	500	500	2300
5AX-1200	$\varnothing 1200$	5.5 / 2.7	14700 / 19600	2500	1500	7300

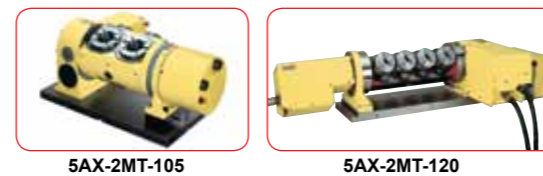


## TILTING AXIS MULTI SPINDLE



- Table size (diameter):  $\varnothing 105\text{mm}$
- Rotary and tilting axes are controlled by CNC
- Powerful braking system
- Various options are available to meet all workholding, fixturing & chucking requirements

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	0~30°Max Workload (Kg)	30~90°Max Workload (Kg)	Net Weight (Kg)
5AX-2MT-105	$\varnothing 105$	22.2 / 11.1	147 / 147	15	10	150
5AX-4MT-120	$\varnothing 105$	11.1 / 16.6	147 / 343	25	15	350



### NIKKEN $\alpha$ 21 Controller

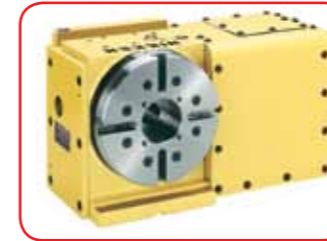


Our Alpha 21 Controller allows both indexing and feed movements for numerous applications, and saves the expense associated with specific drive motors and interface cards for direct drive control. The Alpha 21 indirectly controls the Nikken CNC Rotary Table through the use of 'M' Codes.

This controller features RS232C communication for programming via the machine controller using either block data or Macro B programming.

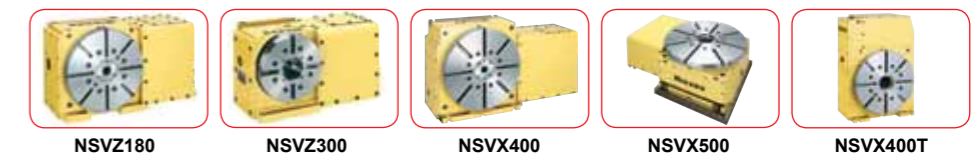
Our CNC Rotary Tables can also be controlled directly by the CNC machine controller (with appropriate compatible drives fitted).

## HIRTH COUPLING INDEXERS

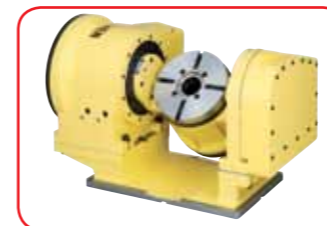


- Table size range (diameter):  $\varnothing 180\text{mm}$  to  $\varnothing 400\text{mm}$
- Precision hirth coupling: precision three-piece hirth coupling ensures smooth and fast indexing without table lifting
- Indexing accuracy:  $\pm 2''$
- High rigidity.

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	Max Vert. Workload (Kg)	Max Horiz. Workload (Kg)	Net Weight (Kg)
NSVZ180	$\varnothing 180$	11.1	910	50	100	60
NSVZ300	$\varnothing 300$	11.1	2155	150	300	150
NSVX400	$\varnothing 400$	22.2	5880	250	500	325
NSVX500	$\varnothing 500$	16.6	5880	250	500	410
NSVX400T	$\varnothing 400$	16.6	5880	250	-	350



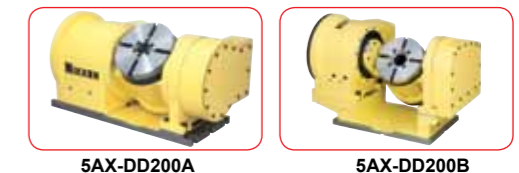
## DIRECT DRIVE TILTING AXIS ROTARY TABLES



- Compact design
- Motor is built-in to the rotary table
- High rotation speed with relatively low driving torque
- Rapid acceleration & deceleration

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Max Torque (Nm)	0~30°Max Workload (Kg)	30~90°Max Workload (Kg)	Net Weight (Kg)
5AX-DD200A	$\varnothing 250$	200 / 150	130 / 380	30	15	190
5AX-DD200B	$\varnothing 250$	200 / 150	130 / 380	30	30	185

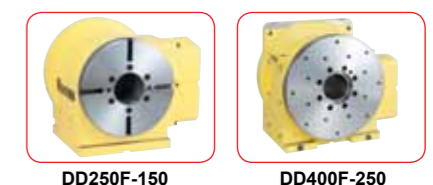
- Indexing on 90° on Rotary Axis within 0.2 seconds
- Indexing on 90° on Tilting Axis within 0.3 seconds



## DIRECT DRIVE SINGLE AXIS ROTARY TABLES

Part Number	Faceplate Dia (mm)	Av. Rotation Speed	Clamping Torque (Nm)	Max Torque (Nm)	Max Workload (Kg)	Net Weight (Kg)
DD250F-150	$\varnothing 250$	150	500	380	100	105
DD400F-250	$\varnothing 400$	125	1000	600	250	245
DD500F-1000	$\varnothing 500$	100	2000	1900	400	470

- Indexing of 90° within 0.2 seconds
- Ultra responsive "Micro Spike" clamping system
- External dimensions vary according to DD motor used





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