

Rotary and Lift Positioning

Delivering precise positioning for rotary or vertical motion, products in this section have been designed for high performance and flexibility of use. They are designed to function independently or in conjunction with linear stages. Accurate and robust, these components integrate with other Parker motion control elements, streamlining the machine design process.

mPR Miniature Precision Rotary Stage



Self-contained stage includes direct drive motor, high resolution feedback, and high precision rotary bearing. Easily mounted to existing Parker product lines.
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PMDD Powerful Direct Drive Motors



Ideal for applications that require attaching a load directly to the motor, the PMDD offers robust power and smooth motion with no backlash.
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R Series Worm Drive Rotary Tables



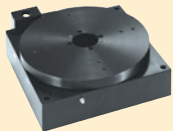
The R Series offers an unparalleled combination of smooth operation plus high accuracy and high-load capacity.
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ZP200 Vertical Lift “Wedge” Stages



Support platform providing precise vertical translation and positioning while maintaining X-Y integrity.
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200RT Series Rotary Tables



Low profile and light weight make these ideal indexing units for multi-axis combinations with high-precision linear tables.
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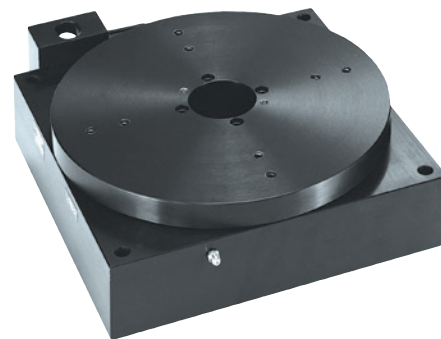
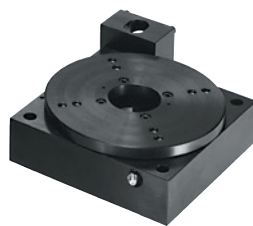
200RT Series Rotary Tables

Features

- Highly repeatable indexing (12 arc-sec)
- Load capacities to 200 lbs
- 360 degrees continuous travel
- Performance tested worm gear drive
- Selectable table sizes and drive ratio
- Dual race angular contact support bearing
- Quality design and construction

The 200RT Series Rotary Tables are designed for precise motor-driven rotary positioning and indexing. These tables are designed to function independently or in conjunction with linear tables used in the high-precision and precision automation applications.

Their low profile design minimizes stack height in multi-axis configurations and enables them



to fit in many places where other motorized rotary devices cannot.

Models are available in 5, 6, 8, 10, or 12 inch diameters and are offered with four gear ratios making it convenient to match size, speed, and load requirements. They can be selected in either English or metric mounting.

They are found in virtually all industries where intermittent part indexing, part scanning, skew adjustment, or precise angular alignment is required.

At the heart of these tables is a rugged main support bearing which is comprised of two preloaded angular contact bearing races. It is designed for high load capacity and smooth, flat rotary motion. The drive is a precision worm gear assembly which is preloaded to remove backlash. The top and base are constructed of high quality aluminum with an attractive black anodized finish. The top and bottom mounting surfaces are precision ground to assure flatness.

Options and Accessories

Motor Couplings

A wide range of coupling styles and bores are available to match motor requirements. Bellows-style couplings, offering the lowest windup are required for all precision grade

tables, while the aluminum and stainless steel helix couplers offer good windup characteristics and high durability at a lower cost.

Motor Mounts

The motor mount is designed for an industry standard NEMA 23 motor flange and a maximum shaft length of 0.85".

Home Sensor

The Home sensor provides a fixed reference point to which the table can always return. This is a mechanical reed switch which is mounted the body of the rotary table and is activated by a magnet imbedded on the table top.

Rotary Encoders

High resolution, high accuracy rotary encoders can be added for direct positional feedback of the table top position.

Rotary encoders can be mounted directly to the base of the rotary table. The encoder input shaft is then coupled directly to the rotary table top, supplying positional feedback of the table top, with no drive train errors. They can be supplied with or without a base housing which encloses and protects the encoder.

Seals

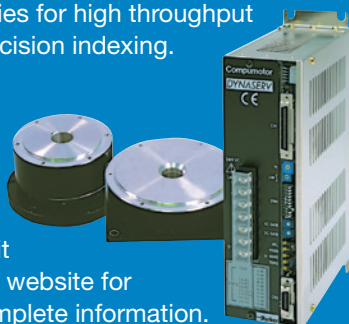
Custom designed sealed units are offered to prevent excessive wear or internal damage resulting from dust and contaminates.

Motors, Drives & Controls

Micro-step motors with drives are available for direct mounting to the rotary tables. Motion controllers can also be added to provide systems with seamless connectivity.

High Performance Direct Drive Rotary Tables

Parker's DM1004 direct drive brushless servo motor tables offer an alternative to the 200RT series for high throughput precision indexing.



Visit our website for complete information.

SPECIFICATIONS

200RT Rotary Tables

200RT Common Characteristics

	Units	Precision	Standard
Positional Repeatability (unidirectional)	arc-min	0.2	0.5
Duty Cycle	%	50	50
Table Runout (Max.) *	in (µm)	±0.001 (±25)	±0.003 (±75)
Concentricity **	in (µm)	±0.001 (±25)	±0.005 (±127)
Wobble	arc-sec	30	60
Input Velocity (Max.)	revs./sec.	15	15

* Runout refers to the vertical deviation of the table top while rotating.

** Concentricity refers to the horizontal deviation of the table top while rotating.

Travel Dependent Characteristics

Table Diameter inches	Drive Ratio	Axial Load Capacity lbs (kgf)*	Accuracy arc-min		Radial Load Capacity in-lb (N-m)	Inertia 10 ⁻³ -oz.-in-sec ² (10 ⁻⁶ kg-m-sec ²)	Input Breakaway Torque (max.) oz.-in (N-m)	Running Torque (max) oz-in (N-m)	Weight lb (kgf)	
			Precision	Standard					Standard Top	Total
5.0	180:1	25 (11)	3	10	25 (2.8)	0.14 (0.102)	22 (0.16)	20 (0.13)	0.67 (0.3)	6.0 (2.7)
5.0	90:1	25 (11)	3	10	25 (2.8)	0.15 (0.112)	22 (0.16)	20 (0.13)	0.67 (0.3)	6.0 (2.7)
5.0	36:1	25 (11)	5	12	25 (2.8)	0.24 (0.173)	22 (0.16)	20 (0.13)	0.67 (0.3)	6.0 (3.6)
6.0	180:1	450 (204)	3	10	120 (13.6)	0.16 (0.112)	22 (0.16)	20 (0.13)	0.91 (0.42)	8.0 (2.7)
6.0	90:1	450 (204)	3	10	120 (13.6)	0.20 (0.132)	22 (0.16)	20 (0.13)	0.91 (0.42)	8.0 (3.6)
6.0	45:1	450 (204)	5	12	120 (13.6)	0.29 (0.204)	22 (0.16)	20 (0.13)	0.91 (0.42)	8.0 (3.6)
8.0	180:1	450 (204)	3	10	120 (13.6)	0.24 (0.163)	28 (0.19)	25 (0.18)	2.23 (1.01)	15.0 (6.8)
8.0	90:1	450 (204)	3	10	120 (13.6)	0.66 (0.459)	28 (0.19)	25 (0.18)	2.23 (1.01)	15.0 (6.8)
8.0	36:1	450 (204)	5	12	120 (13.6)	0.90 (0.642)	28 (0.19)	25 (0.18)	2.30 (1.05)	15.0 (6.8)
10.0	180:1	700 (317)	3	10	190 (21.5)	0.74 (0.530)	33 (0.22)	30 (0.21)	5.26 (2.30)	29.0 (13.1)
10.0	90:1	700 (317)	3	10	190 (21.5)	1.02 (0.734)	33 (0.22)	30 (0.21)	5.26 (2.30)	29.0 (13.1)
10.0	45:1	700 (317)	5	12	190 (21.5)	2.13 (1.53)	33 (0.22)	30 (0.21)	5.26 (2.30)	29.0 (13.1)
12.0	180:1	700 (317)	3	10	190 (21.5)	0.99 (0.713)	33 (0.22)	30 (0.21)	7.67 (3.49)	32.0 (14.5)
12.0	90:1	700 (317)	3	10	190 (21.5)	1.59 (1.12)	33 (0.22)	30 (0.21)	7.67 (3.49)	32.0 (14.5)
12.0	45:1	700 (317)	5	12	190 (21.5)	3.83 (2.75)	33 (0.22)	30 (0.21)	7.67 (3.49)	32 (14.5)

* Load centered on table. If offset, see charts for moment capacity.

DIMENSIONS

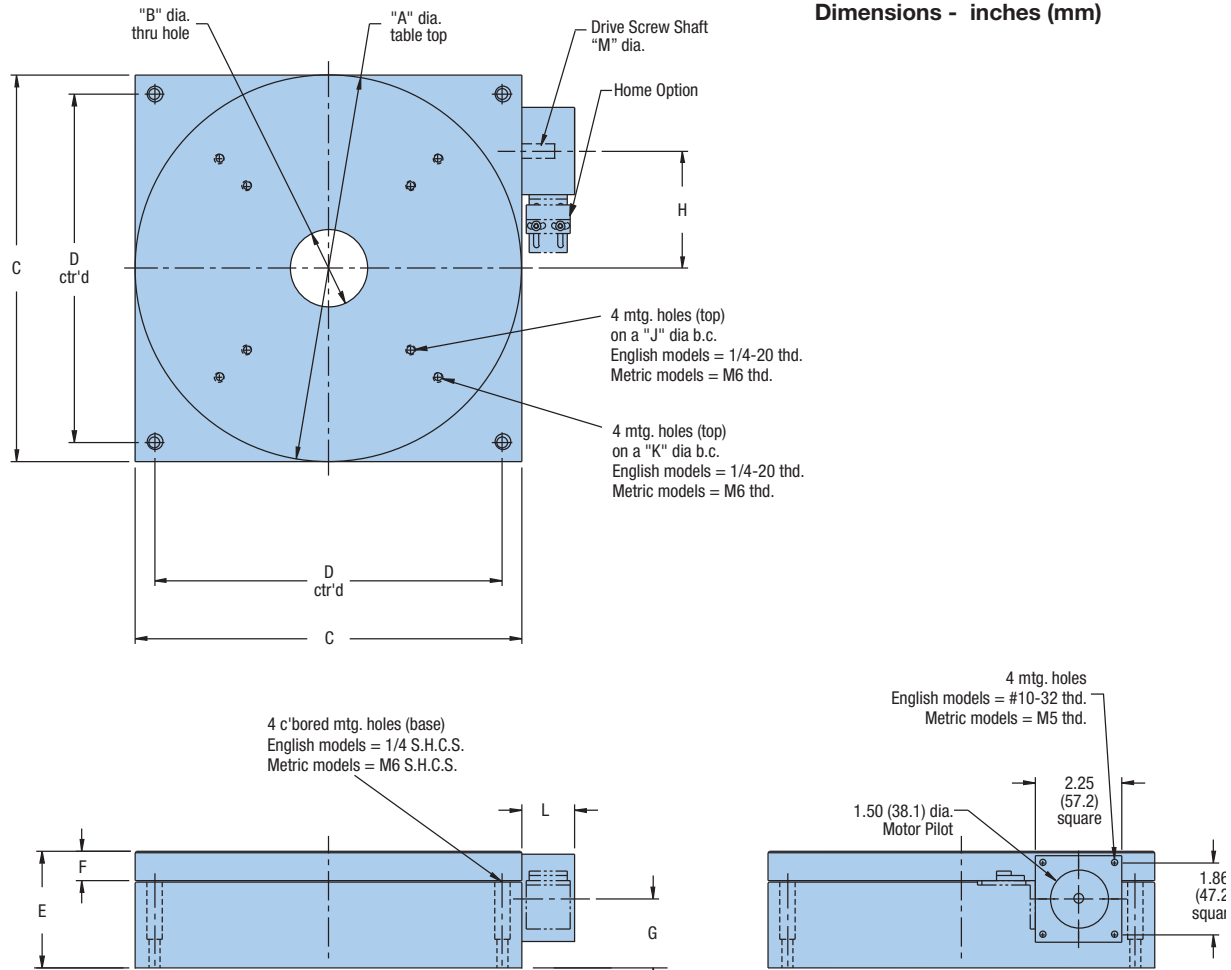
200RT Series Dimensions

Download 2D & 3D files from
www.parker.com/emn/RTSeries



DIMENSIONS

Dimensions - inches (mm)



English Units

A	B	C	D	E		F		G	H	J	K	L	M
				Standard (T2)	Option (T3)	Standard (T2)	Option (T3)						
5.0	1.0	5.0	4.0	1.8	2.42	0.38	1.00	1.11	1.66	3.0	4.0	1.38	0.188
6.0	1.75	6.0	5.0	2.0	2.62	0.38	1.00	1.23	2.04	4.0	5.0	1.38	0.25
8.0	1.75*	8.0	6.0	2.5	3.12	0.50	1.00	1.57	2.04	4.0	6.0	1.38	0.25
10.0	2.0	10.0	9.0	3.0	3.62	0.75	1.00	1.81	3.03	6.0	8.0	1.38	0.25
12.0	2.0	10.0	9.0	3.0	3.62	0.75	1.00	1.81	3.03	8.0	10.0	2.38	0.25

*On the 8.0" (203,2) diameter table with 36:1 ratio, this dimension is 1.0" (25,4).

Metric Units

A	B	C	D	E		F		G	H	J	K	L	M
				Standard (T2)	Option (T3)	Standard (T2)	Option (T3)						
127.0	25.4	127.0	100	46.0	61.5	9.6	25.0	28.1	42.1	75	100	35	4.76
152.4	44.5	152.4	125	50.8	66.5	9.6	25.0	31.4	51.8	100	125	35	6.35
203.2	44.5*	203.2	175	63.5	79.2	12.7	25.0	39.8	51.8	100	150	35	6.35
254.0	50.8	254.0	225	76.2	91.9	19.0	25.0	45.9	76.9	150	200	35	6.35
304.8	50.8	254.0	225	76.2	91.9	19.0	25.0	45.9	76.9	200	250	60.4	6.35

*On the 8.0" (203,2) diameter table with 36:1 ratio, this dimension is 1.0" (25,4).

ORDERING INFORMATION

200RT Rotary Tables

Fill in an order code from each of the numbered fields to create a complete model order code.

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

Order Example:

2 08 01 RT M S H1 C1 M1 E1 T1

① Series

2

② Table Diameter

05 5 in, 125 mm
06 6 in, 150 mm
08 8 in, 200 mm
10 10 in, 250 mm
12 12 in, 300 mm

③ Gear Ratio

01 180:1, Available on all dia.
02 90:1, Available on all dia.
04 45:1, Available on 6", 10" and 12" dia. only
05 36:1, Available on 5" and 8" dia. only

④ Table Style

RT

⑤ Mounting

E English
M Metric (800CT only)

⑥ Grade

S Standard
P Precision

⑦ Home

H1 No home switches
H2 Magnetic home switches

⑧ Motor Coupling

C1 No coupling
C2 0.25 in bore, helix, aluminum
C3 0.25 in bore, helix, stainless steel
(not available on 205 model)
C4 0.25 in bore, bellows, required for precision grade
C6 0.375 in bore, helix, stainless steel
(not available on 205 model)
C7 0.375 in bore, bellows, required for precision grade

⑨ Motor Mount

M1 23 frame size

⑩ Encoder

E0 No encoder
E8 Ring encoder – 314,880 post quad. counts/rev
E9 Ring encoder – 3,148,800 post quad. counts/rev

⑪ Table Top

T1 No top
T2 Standard top
T3 Oversized top (raises height to clear NEMA 23 motor)

Rotary
Tables

Free sizing and selection support
from Virtual Engineer at
solutions.parker.com/VirtualEngineer

