

Rotary Series Worm Drive Precision Stages

The Rotary Stage Series offers an unparalleled combination of high accuracy and high load capacity. These rotary stages utilize a precision worm gear with the worm “flexed” against the gear to ensure a proper mesh. This feature provides high repeatability with very smooth operation. Additionally, the rotary stages incorporate an oversized preloaded cross roller bearing, offering exceptional stiffness and load capacity.

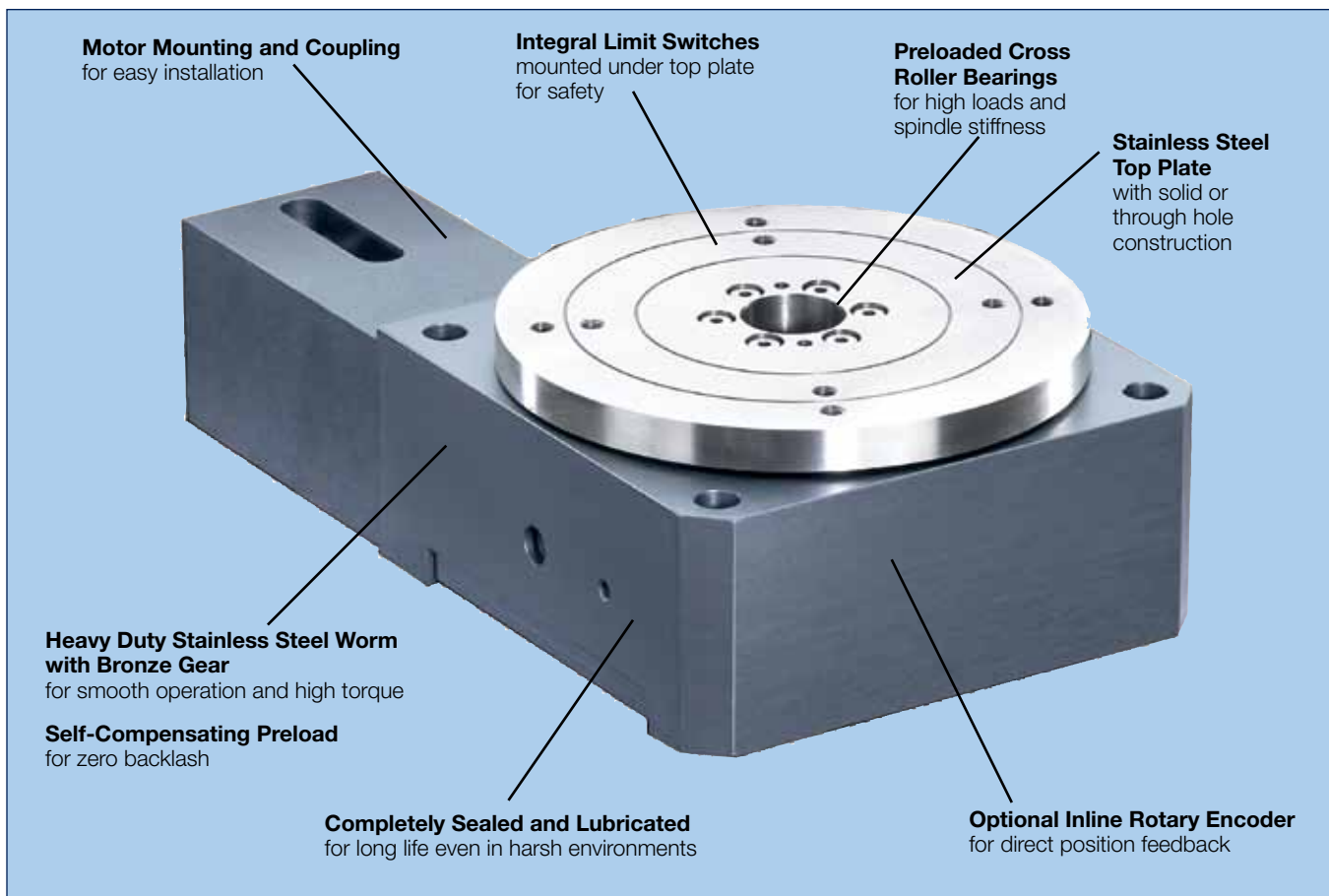
- Unique self-compensating preload to limit backlash
- Solid or thru bore construction
- Robust bearing design for high-load capacity
- Built-in limit switches
- Aluminum construction with stainless steel top plate

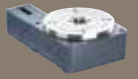
When to Use

- High accuracy
- High loads
- Compact
- High stiffness

Applications

- Electronic assembly
- Fiber optics
- Medical
- Packaging
- Pharmaceutical
- Robotics
- Semiconductor





Rotary Series Specifications



Screw Driven Tables

Performance Specifications

Model No.	Axial Capacity		Perpendicular Capacity			
	(kg)	(lb)	@ 25 mm		@150 mm	
	(kgf)	(lbf)	(kgf)	(lbf)	(kgf)	(lbf)
R100M	100	220	22	48	7	15
R150M	400	880	88	194	33	73
R200M	600	1320	200	440	85	187
R300M	1000	2220	325	715	160	352

Model No.	Worm Gear Ratio	Unidirectional Repeatability ⁽¹⁾ (arc-min)	Peak Output Torque @100 RPM Input		Peak Output Speed (RPM)	Weight		Inertia	
			(Nm)	(in-lb)		(kgf)	(lbf)	gm-cm sec ²	oz-in sec ²
R100M	60:1	0.2	8	70.8	30	2.3	5.0	0.0057	0.0000784
R150M	72:1	0.2	25	221	30	6.0	13.0	0.055	0.00076
R200M	72:1	0.2	55	487	30	15.0	33.0	0.148	0.00210
R300M	90:1	0.2	75	664	30	35.0	77.0	0.368	0.00516

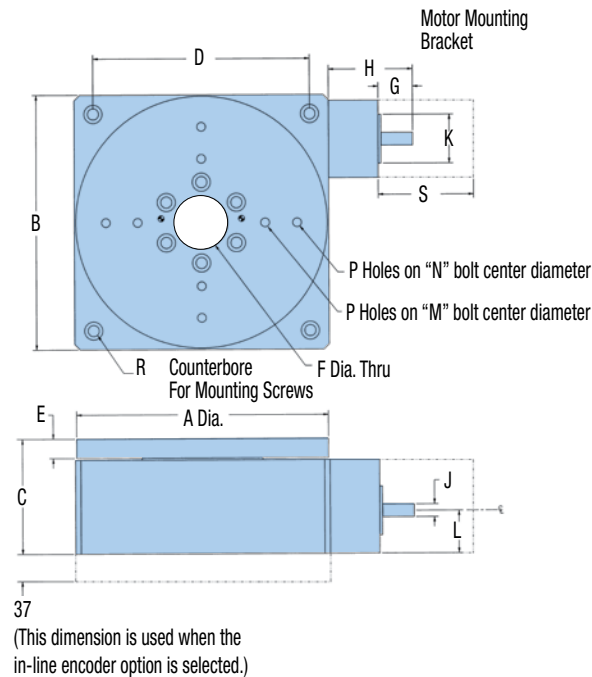
Accuracy Specifications⁽¹⁾

Model No.	Main Bearing Runout (microns)	Wobble (arc-min)	Positional Accuracy ⁽¹⁾ (arc-min)	Bidirectional Repeatability ⁽¹⁾ (arc-min)	Maximum Running Torque (Unloaded at 2 rps)	
	(microns)				(Nm)	(oz-in)
R100M	±15	±0.5	5	0.5	0.141	20
R150M	±20	±0.5	3	0.5	0.177	25
R200M	±25	±0.5	3	0.5	0.212	30
R300M	±30	±0.5	3	0.5	0.247	35

(1) Accuracy and repeatability are based on stage mounted to a flat granite surface and measured at 25 mm above the center of the stage.

Rotary Series Dimensions

Dimensions (mm)



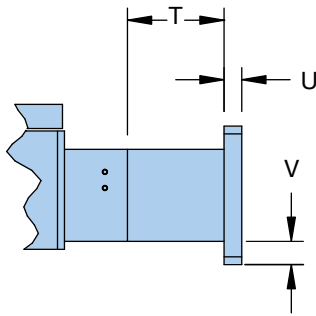
Model No.	A		B		C		D		E	
	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
R100M	98.5	3.88	100	3.94	55	2.16	85	3.35	8	0.32
R150M	147.6	5.81	150	5.90	75	2.95	125	4.92	11	0.43
R200M	197.7	7.78	200	7.87	90	3.54	170	6.70	15	0.59
R300M	297.7	11.72	300	11.81	108	4.25	270	10.63	16	0.63

Model No.	F		G		H		J		K	
	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
R100M	12	0.47	15	0.59	45	1.77	5	0.197	18	0.709
R150M	25.5	1.00	27	1.06	66	2.60	10	0.394	38.1	1.50
R200M	38	1.50	27	1.06	66	2.60	10	0.394	38.1	1.50
R300M	51	2.00	39	1.53	113	4.45	12	0.472	73	2.875

Model No.	L		M		N		P	R	S		Stage Weight	
	(mm)	(in)	(mm)	(in)	(mm)	(in)	Tap	CBoRe	(mm)	(in)	(kg)	(lb)
R100M	21	0.83	45	1.772	75	2.953	M5 x 0.8	M5	38.1	1.50	1.8	3.97
R150M	30.1	1.18	100	3.937	125	4.921	M6 x 1	M6	60.2	2.37	5	11
R200M	33.5	1.32	100	3.937	150	5.905	M8 x 1.25	M8	60.2	2.37	13	28.66
R300M	44.2	1.74	150	5.905	250	9.843	M8 x 1.25	M8	73.1	2.88	29	63.93

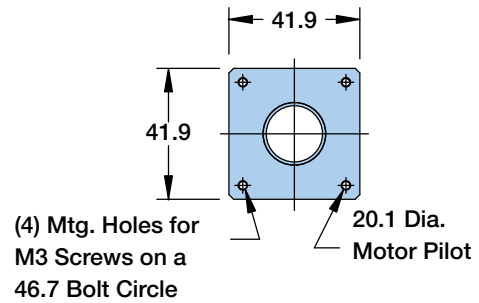
Rotary Table Motor Block Dimensions

Dimensions (mm)

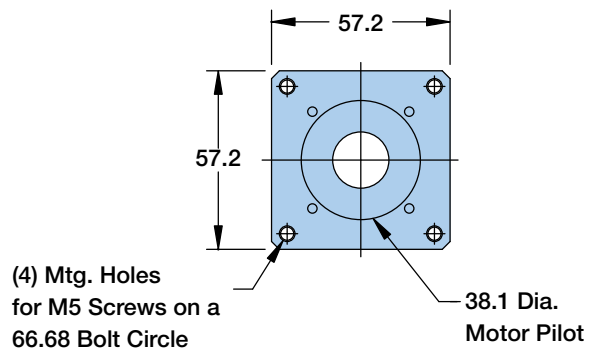


Rotary Stage Size	Motor Size	T		U		V	
		mm	in	mm	in	mm	in
R100M	BE16 M16	47	1.85	—	—	—	—
	LV/HV23 M22 BE23 M23	47	1.85	6	0.24	7.6	0.3
R150M	BE16 M16	55	2.17	—	—	—	—
	LV/HV23 M22 BE23 M23	51	2.01	—	—	—	—
R200M	LV/HV23 M22	51	2.01	—	—	—	—
	BE23 M23	62	2.44	—	—	—	—
R300M	BE23 M23	62	2.44	—	—	—	—
	BE34 M34	60	2.36	11	0.43	9.5	0.37
R300M	LV/HV23 M22	75	2.95	—	—	—	—
	BE23 M23	75	2.95	—	—	—	—
	BE34 M34	73	2.87	—	—	—	—

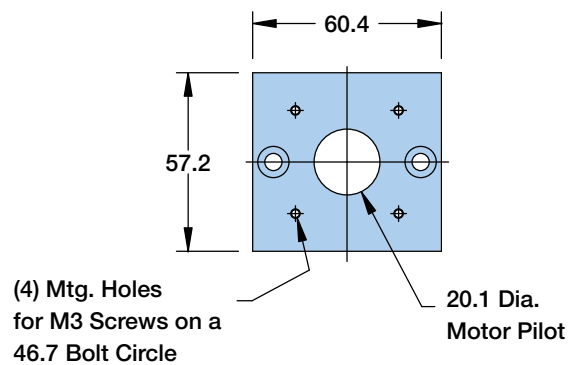
R100-BE16



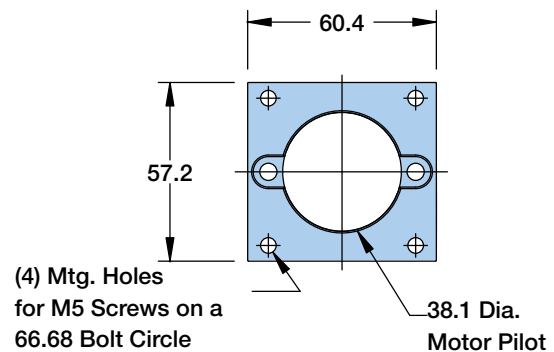
R100-LV/HV23 & BE23



R150-BE16



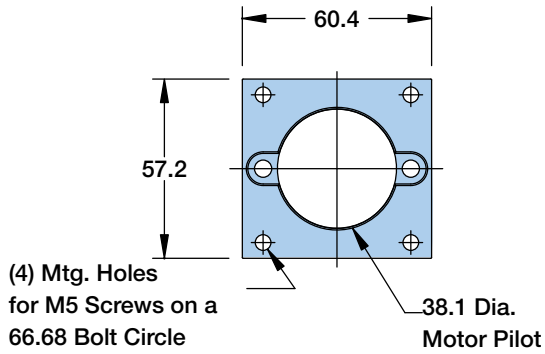
R150-LV/HV23 & BE23



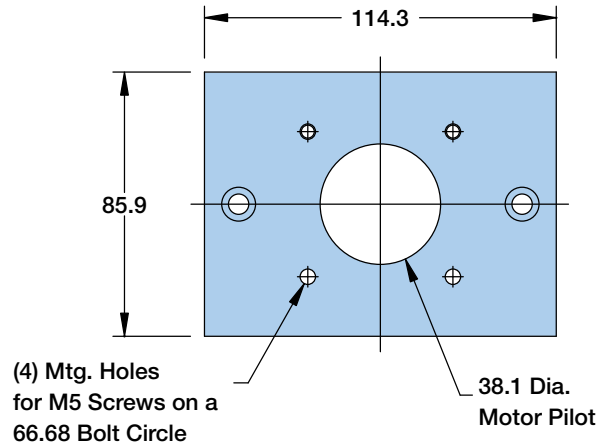
Rotary Table Motor Block Dimensions

Dimensions (mm)

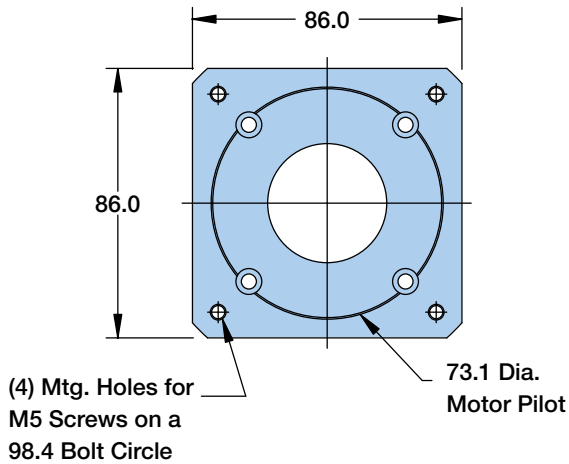
R200-LV/HV23 & BE23



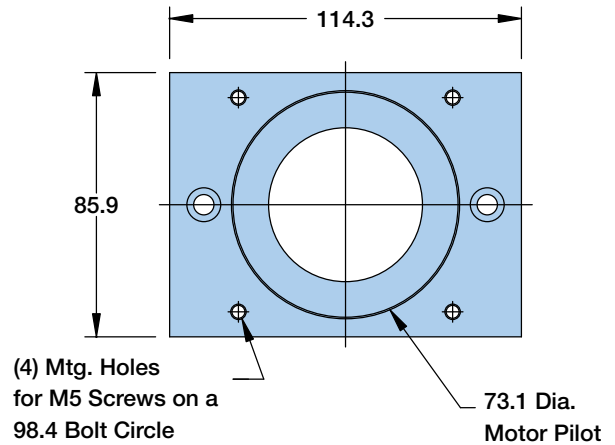
R300-LV/HV23 & BE23

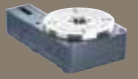


R200-BE34



R300-BE34





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

Order Example:

R 150M 7 MP2 C04 L1H1 E0 R1

① Series

R Worm Gear Rotary Series

② Metric Square Width

100M 100 mm
150M 150 mm
200M 200 mm
300M 300 mm

③ Gear Ratio

6 60:1 (R100)
7 72:1 (R150 and R200)
9 90:1 (R300)

④ Motor Mounting

M00 No motor block included
M16 Motor block for Parker BE16(1,2,3 stack)
M22 Motor block for Parker LV/HV23, SM23(1,2,3)
M23 Motor block for Parker BE23(1,2,3 stack)
M34 Motor block for Parker BE34 motors
MP1 Including motor and mount with BE163CJ-NPSN
MP2 Including motor and mount with BE233FJ-NSPN
MP3 Including motor and mount with HV233-02-10

⑤ Coupling Code

C00 No coupling included
C01 0.1875 inch coupling included
C02 5 mm coupling included
C03 0.250 inch coupling included (for BE16, LV/HV23)
C04 0.375 inch coupling included (for BE23/SM23(1,2,3))
C05 8 mm coupling included
C06 9 mm coupling included
C07 11 mm coupling included
C08 0.500 inch coupling included (for BE34 motors)
C09 14 mm coupling included
C10 16 mm coupling included

⑥ Limits Switches

L0H0 No Home or Limit Sensors included
L0H1 1 normally open NPN home sensor included
L1H0 2 normally closed NPN limit sensors included
L1H1 1 home and 2 limit sensors included

⑦ Encoder in Line with Top Plate

E0 No encoder included
E1 2000 line in-line rotary encoder included

⑧ Environment

R1 Standard environmental protection
R2 Cleanroom preparation included to class XX(TBD)

Screw Driven
Tables