

RSR Series Direct Drive Rotary Stages



Shown with optional laser engraved degree indicator

The RSR is a low profile, high precision rotary stage driven directly by an integrated brushless motor in place of a mechanical worm gear or belt drive. Benefits include no backlash, better positioning sensitivity, higher speeds, smaller envelope, and no drive wear and maintenance. This makes the RSR's well suited for applications that require high rotational accuracy, excellent positioning sensitivity and repeatability, and fast move and settle times.

Position feedback is provided by a high resolution, hysteresis free, non-contact encoder mounted directly to the rotary stage hub. Multiple interpolation options are available with resolutions down to 0.021 arc-sec. For very high resolution feedback without sacrificing speed an encoder with an analog 1 volt p-p output is available for interpolation by the controller. For ultra precision accuracy, the RSR series is designed to accept an optional dual readhead encoder.

A preloaded, circular crossed roller bearing gives the RSR good stiffness and load capacity within a low profile. This precision bearing also gives the RSR its low axial radial runout errors, and low wobble errors.

To accommodate routing of wires or vacuum lines, or an optical pathway, the RSR has a large open aperture.

Available sizes: 50mm | 100mm | 150mm | 200mm | 300mm

Specifications - Low Torque option					
	RSR50LT	RSR100LT	RSR150LT	RSR200LT	RSR300LT
Size	50mm	100mm	150mm	200mm	300mm
Rotational Accuracy	±20 arcsec	±15 arcsec			
Repeatability	±2 arcsec				
Wobble	±5 arcsec				
Continuous Torque	0.36 Nm	1.4 Nm	2.6 Nm	9.7 Nm	9.7 Nm
Peak Torque	3.9 Nm	2.2 Nm	4.3 Nm	14.2 Nm	72 Nm
Max Speed	1333 rpm	924 rpm	693 rpm	462 rpm	331 rpm

Specifications - High Torque option					
	RSR50HT	RSR100HT	RSR150HT	RSR200HT	RSR300HT
Size	50mm	100mm	150mm	200mm	300mm
Rotational Accuracy	±20 arcsec	±15 arcsec			
Repeatability	±2 arcsec				
Wobble	±5 arcsec				
Continuous Torque	0.61 Nm	5.2 Nm	10 Nm	15.7 Nm	25 Nm
Peak Torque	6.4 Nm	6.6 Nm	13.1 Nm	21.7 Nm	194 Nm
Max Speed	1333 rpm	924 rpm	693 rpm	462 rpm	331 rpm

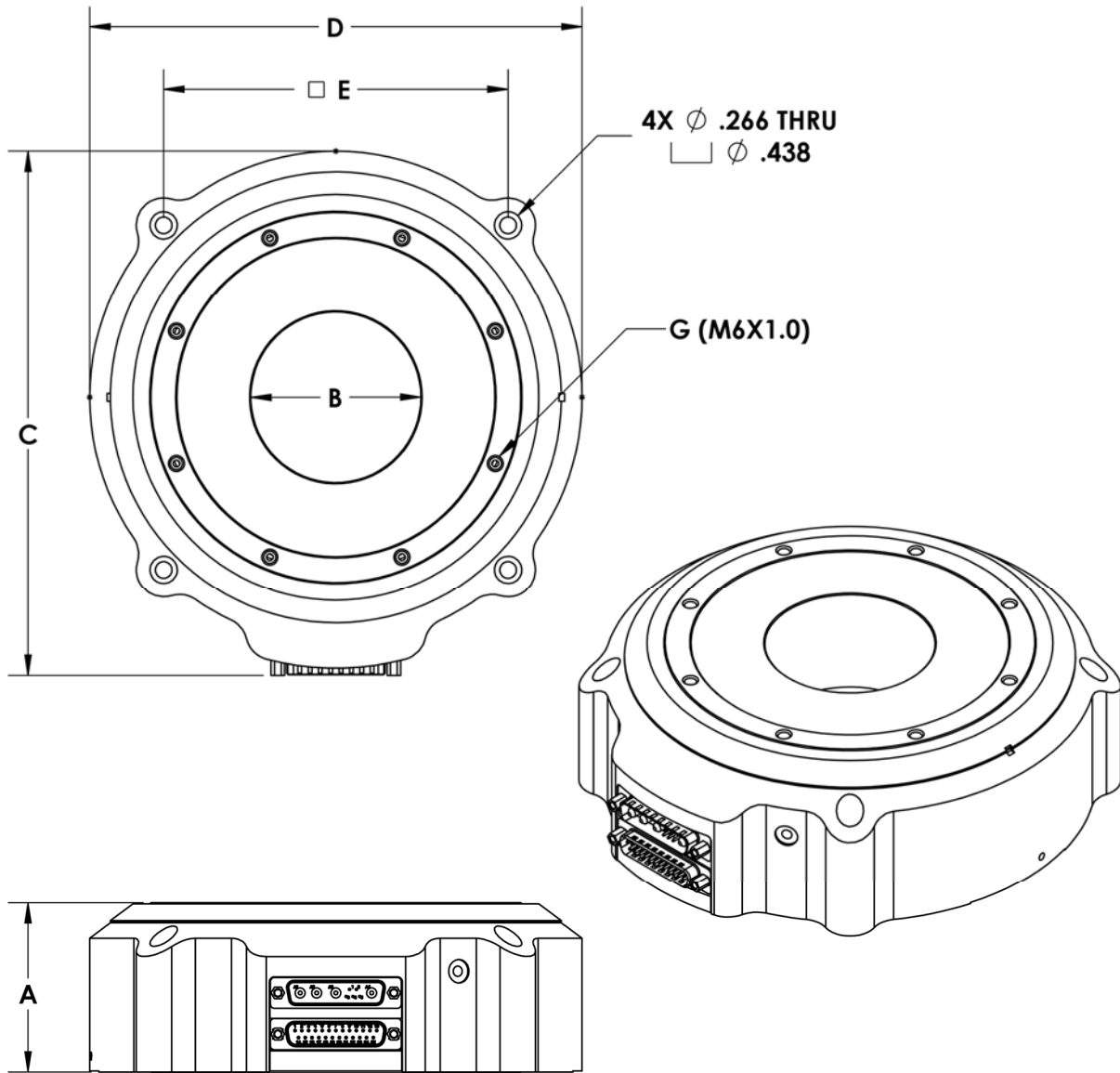
Specifications - Low Torque High Precision option					
	RSR50LTHP	RSR100LTHP	RSR150LTHP	RSR200LTHP	RSR300LTHP
Size	50mm	100mm	150mm	200mm	300mm
Rotational Accuracy	±15 arcsec	±10 arcsec			
Repeatability	±1.5 arcsec				
Wobble	±5 arcsec				
Continuous Torque	0.36 Nm	1.4 Nm	2.6 Nm	9.7 Nm	9.7 Nm
Peak Torque	3.9 Nm	2.2 Nm	4.3 Nm	14.2 Nm	72 Nm
Max Speed	1333 rpm	924 rpm	693 rpm	462 rpm	331 rpm

Specifications - Low Torque Ultra Precision option					
	RSR50LTUP	RSR100LTUP	RSR150LTUP	RSR200LTUP	RSR300LTUP
Size	50mm	100mm	150mm	200mm	300mm
Rotational Accuracy	±10 arcsec	±5 arcsec			
Repeatability	±1.5 arcsec				
Wobble	±5 arcsec				
Continuous Torque	0.36 Nm	1.4 Nm	2.6 Nm	9.7 Nm	9.7 Nm
Peak Torque	3.9 Nm	2.2 Nm	4.3 Nm	14.2 Nm	72 Nm
Max Speed	591 rpm	409 rpm	307 rpm	204 rpm	147 rpm



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MODEL	DIAMETER	A DIMN	B DIMN	C DIMN	D DIMN	E DIMN	G PATTERN	Tc (Nm)	Tp (Nm)
RSR050LT	50MM	2.70"	0.75"	4.53"	4.21"	2.63"	6X Ø 1.58" BC	0.57	0.84
RSR050HT	50MM	3.37"	0.75"	4.53"	4.21"	2.63"	6X Ø 1.58" BC	2.20	2.88
RSR100LT	100MM	2.70"	1.73"	6.40"	5.89"	4.00"	8X Ø 3.54" BC	1.40	2.20
RSR100HT	100MM	3.37"	1.73"	6.40"	5.89"	4.00"	8X Ø 3.54" BC	5.20	6.60
RSR150LT	150MM	2.70"	2.72"	8.46"	7.86"	5.50"	8X Ø 5.51" BC	2.60	4.30
RSR150HT	150MM	3.37"	2.72"	8.46"	7.86"	5.50"	8X Ø 5.51" BC	10.00	13.10
RSR200LT	200MM	2.70"	3.82"	10.52"	9.83"	7.00"	8X Ø 7.48" BC	9.70	14.20
RSR200HT	200MM	3.37"	3.82"	10.52"	9.83"	7.00"	8X Ø 7.48" BC	15.70	21.70
RSR300LT	300MM	2.70"	6.25"	14.60"	13.86"	10.00"	8X Ø 11.25" BC	9.70	72.30
RSR300HT	300MM	3.37"	6.25"	14.60"	13.86"	10.00"	8X Ø 11.25" BC	25.60	194.00

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