



The Moog Animatics ROT1 rotary actuator is a belt-driven rotary stage with low backlash and high positional accuracy. This family of rotary actuator products is ideal for high-speed indexing as well as precision rotation. With the Moog Animatics ROT1 series of rotary actuators, you will have a turnkey, easy-to-use solution for all rotary-table applications requiring moderate to high loads. These rotary stages are available with through holes from 16 mm to 100 mm, and with optional cleanroom-compliant grease. The ROT1 rotary actuator is shipped preassembled with the Moog Animatics SmartMotor™ of your choice.* The motor can be mounted on either side of the stage to accommodate the space requirements of your application.

**Due to inertial mismatch, SmartMotor models SM23165D and SM23165DT are not recommended for direct drive of the ROT1 rotary actuators. The addition of a gearhead may be required for any application exceeding a 10:1 load to motor mismatch.*

Key Features

- Preloaded duplex angular contact bearings
- Open through-hole
- Integrated belt reduction
- Aluminum construction

Key Benefits

- High load capacity, long service life
- Wire/material pass-through
- Low backlash, high positional accuracy
- Strong but lighter weight than cast iron tables

Technical Specifications



ROT1 Size and Data

	3:1 Belt Drive Rotary		5:1 Belt Drive Rotary	
	ROT1-0016	ROT1-0050	ROT1-0025	ROT1-0100
Type	3:1 Belt Drive Rotary		5:1 Belt Drive Rotary	
Bearing Type	Preloaded Duplex Angular Contact			
Stage Diameter/Height, mm	100/50	100/54	165/54	165/60.6
Through-Hole	16.0 mm	50.8 mm	25.4 mm	101.6 mm
Accuracy (± arc-sec)	108		65	
Kinematic Wobble (± arc-sec)	8		16	
Kinematic Radial Runout (µm TIR)	13		20	
Table Top Parallelism To Base (µm TIR)	80		80	
Bidirectional Repeatability (± arc-sec)	120		40	
Unidirectional Repeatability (± arc-sec)	30		12	
Table Resolution	12000 ct/rev		20000 ct/rev	
Speed Limit (RPM)	1300		800	
Load Capacity Axial/Radial (kN)	14.0/26.0	8.6/7.7	48.0/39.0	14.0/11.7
Max. Moment (N-m)	480	120	1150	370
Rotational Inertia (kg/m ²)	0.00048	0.00051	0.0033	0.006
Stage Weight (kg, without motor)	1.55	1.32	3.2	2.8
Recommended Payload Maximum (kg)	10		25	

For more details, see www.animatics.com/rot1

Also, see the Part Number Generator at www.animatics.com/pngenerator

Overview

Software

C5 D-Style

C5 M-Style

C6 M-Style

C6 Low-Cost

Cables, Etc.

Actuators

Gearheads

Power Supplies