



Linear rail actuators

The linear rail actuator consists of a stationary base and load bearing carriage that travels along a rigid extruded aluminium rail, together with a single stack size 17 stepper motor.



The carriage design is unique; it controls slide bearing play with a self-adjusting linear bearing. Integrated along the entire length rail system are “T” slots allowing mounting of limit switches and sensors.

The leadscrew is made from 303 stainless steel with a Black Ice™ TFE coating for durable and permanent lubrication.

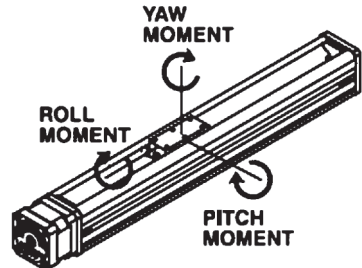
The features of the linear rail actuator include:

- “T” slots integrated into exterior rail bottom and sides that accommodate full length support and various mounting options
- Loads easily attach to the compact, moving carriage with four or six M4 x 0.7 size screws
- Load bearing carriage moves efficiently and smoothly within the internal rail geometry of this specially designed aluminum extrusion
- Rail provides end-to-end axial stability and precise motion system accuracy
- Automatic adjustments of slide bearing play with a patent pending “anti-backlash” linear bearing
- Rated life equals that of the existing leadscrews of similar size
- Leadscrew end configurations adapt to various rotary motion sources
- Black Ice™ TFE coatings on a 303 stainless steel leadscrew

For optimum performance, the system can be fitted with the Size 17 Hybrid Linear Actuator, see [page 2-24](#) available in a wide variety of resolutions - from 0.001524 mm/step to 0.048768 mm/step, delivering thrust of up to 222 N. For greater performance Size 17 Hybrid Double Stack Linear actuators provide 0.0158mm/step to 0.127 mm/step and deliver thrust of up to 337N.

Load ratings

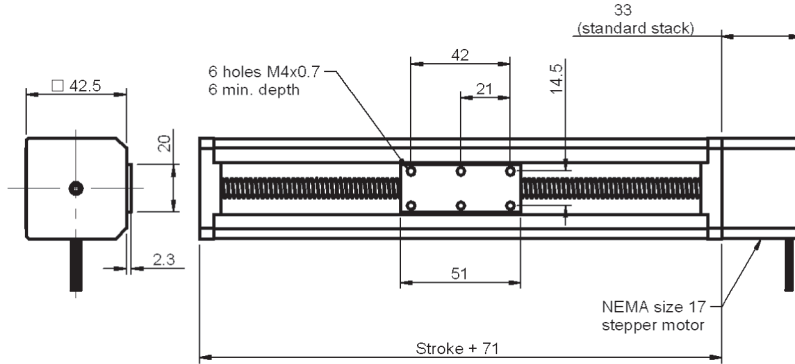
	RLRW04
Top load (Z direction)	225 N
Overhang	225 N
Moment roll	8.5 Nm
Moment yaw	8.5 Nm
Moment pitch	8.5 Nm
Twist	±0.75°/m





Associated Products
Hardware: page 13-1

All dimensions in mm
unless otherwise stated



Part number selection table

Example Part No. RLRW04 - B - R⁽²⁾ - M⁽³⁾ - 43⁽⁴⁾ - 0025 - 12								
Basic Part Number	Screw Coating ⁽¹⁾	Performance Specifications			Thread Code	Lead (mm)	Lead (inch)	Stroke ⁽⁵⁾ Rounded Up (inch)
		Max Stroke Length (mm)	Max Speed (m/sec)	Straight Line Accuracy (mm/m)				
RLRW04	B (Black Ice™) S (Uncoated) N (No screw)	1,000	0.5	±1.0	0025	0.635	0.025	07 = 7in 08 = 8in 12 = 12in
					0031	0.794	0.03125	
					0039	1.0	0.0394	
					0050	1.27	0.05	
					0063	1.588	0.0625	
					0079	2.0	0.0787	
					0100	2.54	0.1	
					0125	3.175	0.125	
					0197	5.0	0.1969	
					0250	6.35	0.25	
					0394	10.0	0.3937	
					0500	12.70	0.5	
0750	19.05	0.75						
1000	25.40	1.0						

⁽¹⁾ Alternative screw coatings available, please contact our sales team for more information

⁽²⁾ R = right handed, L = left handed, N = no screw

⁽³⁾ M = motorised

⁽⁴⁾ Size 17 stepper motor

⁽⁵⁾ Stroke length in inches and will be rounded up. Maximum length 24 inch

Intelligent Motors