

## LRQ-DE Series Datasheet



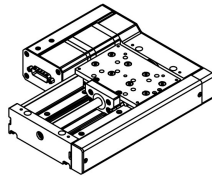
- \* 75, 150, 300, 450, 600 mm travel
- \* Up to 13  $\mu\text{m}$  accuracy over 600 mm travel
- \* 100 kg load capacity
- \* Up to 205 mm/s speed and up to 300 N thrust
- \* Integrated linear encoders with 50 nm resolution provide slip/stall detection and position correction
- \* Inline and parallel drive configurations
- \* Ball screw and lead screw configurations
- \* Designed for use with an X-MCB1 Series stepper motor controller or any 2-phase stepper motor controller
- \* Custom versions available

Zaber's LRQ-DE Series products are computer-controlled, motorized linear stages with high stiffness, load, and lifetime capabilities in a compact size. An integrated linear encoder combined with stage calibration provides high accuracy positioning over the full travel of the device. At only 36 mm high, these stages are excellent for applications where a low profile is required. These stages are capable of speeds up to 205 mm/s, and can bolt together into XY and XYZ systems. Some multi axis configurations may require additional accessories, please contact Zaber Technical Support to ensure the correct ones are selected. Each

device is available in either an inline or parallel drive configuration.

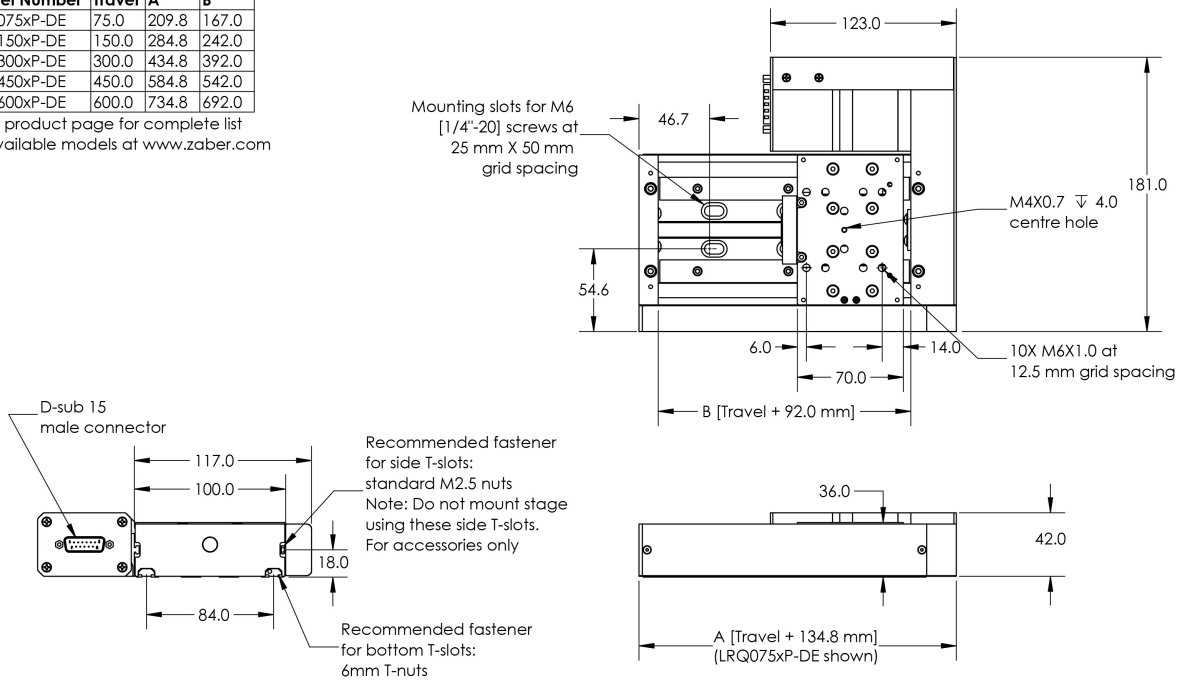
The stages are designed to connect directly to our X-MCB1 Series stepper motor controller, or they can be used with any 2-phase stepper motor controller through the panel mount DB15 connector. When connected to our X-Series controllers, the stages are designed to be 'plug and play' just like all of Zaber's other products.

## Drawings



Model Number*	Travel	A	B
LRQ075xP-DE	75.0	209.8	167.0
LRQ150xP-DE	150.0	284.8	242.0
LRQ300xP-DE	300.0	434.8	392.0
LRQ450xP-DE	450.0	584.8	542.0
LRQ600xP-DE	600.0	734.8	692.0

\*See product page for complete list of available models at [www.zaber.com](http://www.zaber.com)



DWG 1314 R01

## Specifications

Specification	Value	Alternate Unit
Built-in Controller	No	
Recommended Controller	X-MCB1 (48 V) Recommended	
Encoder Type	Linear quadrature encoder	
Encoder Resolution	50 nm	
Maximum Centered Load	1000 N	224.3 lb

Specification	Value	Alternate Unit
Maximum Cantilever Load	3000 N-cm	4248.4 oz-in
Guide Type	Recirculating Ball Linear Guide	
Stiffness in Pitch	640 N-m/°	27 μrad/N-m
Stiffness in Roll	1850 N-m/°	9 μrad/N-m
Stiffness in Yaw	665 N-m/°	26 μrad/N-m
Motor Steps Per Rev	200	
Motor Type	Stepper (2 phase)	
Motor Rated Current	2300 mA/phase	
Inductance	2.8 mH/phase	
Motor Connection	D-sub 15	
Limit or Home Sensing	Magnetic home sensor	
Axes of Motion	1	
Mounting Interface	M6 and M3 threaded holes	
Vacuum Compatible	No	
Operating Temperature Range	0 to 50 °C	
RoHS Compliant	Yes	
CE Compliant	Yes	

Part Number	Microstep Size (Default Resolution)	Travel Range	Accuracy (unidirectional)	Repeatability
LRQ075AL-DE51T3	0.09921875 μm	75 mm (2.953 ")	13 μm (0.000512 ")	< 2.5 μm (< 0.000098 ")
LRQ075BL-DE51T3	0.49609375 μm	75 mm (2.953 ")	15 μm (0.000591 ")	< 3.5 μm (< 0.000138 ")
LRQ075HL-DE51T3	0.1953125 μm	75 mm (2.953 ")	15 μm (0.000591 ")	< 3 μm (< 0.000118 ")
LRQ075AP-DE51T3	0.09921875 μm	75 mm (2.953 ")	13 μm (0.000512 ")	< 2.5 μm (< 0.000098 ")
LRQ075BP-DE51T3	0.49609375 μm	75 mm (2.953 ")	15 μm (0.000591 ")	< 3.5 μm (< 0.000138 ")
LRQ075HP-DE51T3	0.1953125 μm	75 mm (2.953 ")	15 μm (0.000591 ")	< 3 μm (< 0.000118 ")
LRQ150AL-DE51T3	0.09921875 μm	150 mm (5.905 ")	13 μm (0.000512 ")	< 2.5 μm (< 0.000098 ")
LRQ150AP-DE51T3	0.09921875 μm	150 mm (5.905 ")	13 μm	< 2.5 μm

Part Number	Microstep Size (Default Resolution)	Travel Range	Accuracy (unidirectional)	Repeatability
			(0.000512 ")	(< 0.000098 ")
LRQ150BL-DE51T3	0.49609375 µm	150 mm (5.905 ")	15 µm (0.000591 ")	< 3.5 µm (< 0.000138 ")
LRQ150HL-DE51T3	0.1953125 µm	150 mm (5.905 ")	15 µm (0.000591 ")	< 3 µm (< 0.000118 ")
LRQ150BP-DE51T3	0.49609375 µm	150 mm (5.905 ")	15 µm (0.000591 ")	< 3.5 µm (< 0.000138 ")
LRQ150HP-DE51T3	0.1953125 µm	150 mm (5.905 ")	15 µm (0.000591 ")	< 3 µm (< 0.000118 ")
LRQ300AL-DE51T3	0.09921875 µm	300 mm (11.811 ")	13 µm (0.000512 ")	< 2.5 µm (< 0.000098 ")
LRQ300BL-DE51T3	0.49609375 µm	300 mm (11.811 ")	15 µm (0.000591 ")	< 3.5 µm (< 0.000138 ")
LRQ300HL-DE51T3	0.1953125 µm	300 mm (11.811 ")	15 µm (0.000591 ")	< 3 µm (< 0.000118 ")
LRQ300AP-DE51T3	0.09921875 µm	300 mm (11.811 ")	13 µm (0.000512 ")	< 2.5 µm (< 0.000098 ")
LRQ300BP-DE51T3	0.49609375 µm	300 mm (11.811 ")	15 µm (0.000591 ")	< 3.5 µm (< 0.000138 ")
LRQ300HP-DE51T3	0.1953125 µm	300 mm (11.811 ")	15 µm (0.000591 ")	< 3 µm (< 0.000118 ")
LRQ450AL-DE51T3	0.09921875 µm	450 mm (17.716 ")	13 µm (0.000512 ")	< 2.5 µm (< 0.000098 ")
LRQ450BL-DE51T3	0.49609375 µm	450 mm (17.716 ")	15 µm (0.000591 ")	< 3.5 µm (< 0.000138 ")
LRQ450HL-DE51T3	0.1953125 µm	450 mm (17.716 ")	15 µm (0.000591 ")	< 3 µm (< 0.000118 ")
LRQ450AP-DE51T3	0.09921875 µm	450 mm (17.716 ")	13 µm (0.000512 ")	< 2.5 µm (< 0.000098 ")
LRQ450BP-DE51T3	0.49609375 µm	450 mm (17.716 ")	15 µm (0.000591 ")	< 3.5 µm (< 0.000138 ")
LRQ450HP-DE51T3	0.1953125 µm	450 mm (17.716 ")	15 µm (0.000591 ")	< 3 µm (< 0.000118 ")
LRQ600AL-DE51T3	0.09921875 µm	600 mm (23.622 ")	13 µm (0.000512 ")	< 2.5 µm (< 0.000098 ")
LRQ600BL-DE51T3	0.49609375 µm	600 mm (23.622 ")	15 µm (0.000591 ")	< 3.5 µm (< 0.000138 ")
LRQ600HL-DE51T3	0.1953125 µm	600 mm (23.622 ")	15 µm (0.000591 ")	< 3 µm (< 0.000118 ")
LRQ600AP-DE51T3	0.09921875 µm	600 mm	13 µm	< 2.5 µm

Part Number	Microstep Size (Default Resolution)	Travel Range	Accuracy (unidirectional)	Repeatability
		(23.622 ")	(0.000512 ")	(< 0.000098 ")
LRQ600BP-DE51T3	0.49609375 µm	600 mm (23.622 ")	15 µm (0.000591 ")	< 3.5 µm (< 0.000138 ")
LRQ600HP-DE51T3	0.1953125 µm	600 mm (23.622 ")	15 µm (0.000591 ")	< 3 µm (< 0.000118 ")

Part Number	Backlash	Maximum Speed	Minimum Speed	Speed Resolution
LRQ075AL-DE51T3	< 8 µm (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)
LRQ075BL-DE51T3	< 11 µm (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ075HL-DE51T3	< 11 µm (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)
LRQ075AP-DE51T3	< 8 µm (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)
LRQ075BP-DE51T3	< 11 µm (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ075HP-DE51T3	< 11 µm (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)
LRQ150AL-DE51T3	< 8 µm (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)
LRQ150AP-DE51T3	< 8 µm (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)
LRQ150BL-DE51T3	< 11 µm (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ150HL-DE51T3	< 11 µm (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)
LRQ150BP-DE51T3	< 11 µm (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ150HP-DE51T3	< 11 µm (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)
LRQ300AL-DE51T3	< 8 µm (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)
LRQ300BL-DE51T3	< 11 µm (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ300HL-DE51T3	< 11 µm (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)
LRQ300AP-DE51T3	< 8 µm (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)

Part Number	Backlash	Maximum Speed	Minimum Speed	Speed Resolution
LRQ300BP-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ300HP-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)
LRQ450AL-DE51T3	< 8 $\mu\text{m}$ (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)
LRQ450BL-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ450HL-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)
LRQ450AP-DE51T3	< 8 $\mu\text{m}$ (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)
LRQ450BP-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ450HP-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)
LRQ600AL-DE51T3	< 8 $\mu\text{m}$ (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)
LRQ600BL-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ600HL-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)
LRQ600AP-DE51T3	< 8 $\mu\text{m}$ (< 0.000315 ")	40 mm/s (1.575 "/s)	0.000061 mm/s (0.000002 "/s)	0.000061 mm/s (0.000002 "/s)
LRQ600BP-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	205 mm/s (8.071 "/s)	0.000303 mm/s (0.000012 "/s)	0.000303 mm/s (0.000012 "/s)
LRQ600HP-DE51T3	< 11 $\mu\text{m}$ (< 0.000433 ")	100 mm/s (3.937 "/s)	0.000119 mm/s (0.000005 "/s)	0.000119 mm/s (0.000005 "/s)

Part Number	Peak Thrust	Maximum Continuous Thrust	Vertical Runout	Horizontal Runout
LRQ075AL-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 20 $\mu\text{m}$ (< 0.000787 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ075BL-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 20 $\mu\text{m}$ (< 0.000787 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ075HL-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 20 $\mu\text{m}$ (< 0.000787 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ075AP-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 20 $\mu\text{m}$ (< 0.000787 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ075BP-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 20 $\mu\text{m}$ (< 0.000787 ")	< 20 $\mu\text{m}$ (< 0.000787 ")

<b>Part Number</b>	<b>Peak Thrust</b>	<b>Maximum Continuous Thrust</b>	<b>Vertical Runout</b>	<b>Horizontal Runout</b>
LRQ075HP-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 20 $\mu\text{m}$ (< 0.000787 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ150AL-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 25 $\mu\text{m}$ (< 0.000984 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ150AP-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 25 $\mu\text{m}$ (< 0.000984 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ150BL-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 25 $\mu\text{m}$ (< 0.000984 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ150HL-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 25 $\mu\text{m}$ (< 0.000984 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ150BP-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 25 $\mu\text{m}$ (< 0.000984 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ150HP-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 25 $\mu\text{m}$ (< 0.000984 ")	< 20 $\mu\text{m}$ (< 0.000787 ")
LRQ300AL-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 35 $\mu\text{m}$ (< 0.001378 ")	< 30 $\mu\text{m}$ (< 0.001181 ")
LRQ300BL-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 35 $\mu\text{m}$ (< 0.001378 ")	< 30 $\mu\text{m}$ (< 0.001181 ")
LRQ300HL-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 35 $\mu\text{m}$ (< 0.001378 ")	< 30 $\mu\text{m}$ (< 0.001181 ")
LRQ300AP-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 35 $\mu\text{m}$ (< 0.001378 ")	< 30 $\mu\text{m}$ (< 0.001181 ")
LRQ300BP-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 35 $\mu\text{m}$ (< 0.001378 ")	< 30 $\mu\text{m}$ (< 0.001181 ")
LRQ300HP-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 35 $\mu\text{m}$ (< 0.001378 ")	< 30 $\mu\text{m}$ (< 0.001181 ")
LRQ450AL-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 45 $\mu\text{m}$ (< 0.001772 ")	< 40 $\mu\text{m}$ (< 0.001575 ")
LRQ450BL-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 45 $\mu\text{m}$ (< 0.001772 ")	< 40 $\mu\text{m}$ (< 0.001575 ")
LRQ450HL-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 45 $\mu\text{m}$ (< 0.001772 ")	< 40 $\mu\text{m}$ (< 0.001575 ")
LRQ450AP-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 45 $\mu\text{m}$ (< 0.001772 ")	< 40 $\mu\text{m}$ (< 0.001575 ")
LRQ450BP-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 45 $\mu\text{m}$ (< 0.001772 ")	< 40 $\mu\text{m}$ (< 0.001575 ")
LRQ450HP-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 45 $\mu\text{m}$ (< 0.001772 ")	< 40 $\mu\text{m}$ (< 0.001575 ")
LRQ600AL-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 75 $\mu\text{m}$ (< 0.002953 ")	< 60 $\mu\text{m}$ (< 0.002362 ")
LRQ600BL-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 75 $\mu\text{m}$	< 60 $\mu\text{m}$

Part Number	Peak Thrust	Maximum Continuous Thrust	Vertical Runout	Horizontal Runout
			(< 0.002953 ")	(< 0.002362 ")
LRQ600HL-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 75 μm (< 0.002953 ")	< 60 μm (< 0.002362 ")
LRQ600AP-DE51T3	110 N (24.7 lb)	100 N (22.4 lb)	< 75 μm (< 0.002953 ")	< 60 μm (< 0.002362 ")
LRQ600BP-DE51T3	100 N (22.4 lb)	100 N (22.4 lb)	< 75 μm (< 0.002953 ")	< 60 μm (< 0.002362 ")
LRQ600HP-DE51T3	300 N (67.3 lb)	200 N (44.9 lb)	< 75 μm (< 0.002953 ")	< 60 μm (< 0.002362 ")

Part Number	Pitch	Roll	Yaw	Linear Motion Per Motor Rev
LRQ075AL-DE51T3	0.025 ° (0.436 mrad)	0.01 ° (0.174 mrad)	0.02 ° (0.349 mrad)	1.27 mm (0.050 ")
LRQ075BL-DE51T3	0.025 ° (0.436 mrad)	0.01 ° (0.174 mrad)	0.02 ° (0.349 mrad)	6.35 mm (0.250 ")
LRQ075HL-DE51T3	0.025 ° (0.436 mrad)	0.01 ° (0.174 mrad)	0.02 ° (0.349 mrad)	2.5 mm (0.098 ")
LRQ075AP-DE51T3	0.025 ° (0.436 mrad)	0.01 ° (0.174 mrad)	0.02 ° (0.349 mrad)	1.27 mm (0.050 ")
LRQ075BP-DE51T3	0.025 ° (0.436 mrad)	0.01 ° (0.174 mrad)	0.02 ° (0.349 mrad)	6.35 mm (0.250 ")
LRQ075HP-DE51T3	0.025 ° (0.436 mrad)	0.01 ° (0.174 mrad)	0.02 ° (0.349 mrad)	2.5 mm (0.098 ")
LRQ150AL-DE51T3	0.03 ° (0.523 mrad)	0.015 ° (0.262 mrad)	0.02 ° (0.349 mrad)	1.27 mm (0.050 ")
LRQ150AP-DE51T3	0.03 ° (0.523 mrad)	0.015 ° (0.262 mrad)	0.02 ° (0.349 mrad)	1.27 mm (0.050 ")
LRQ150BL-DE51T3	0.03 ° (0.523 mrad)	0.015 ° (0.262 mrad)	0.02 ° (0.349 mrad)	6.35 mm (0.250 ")
LRQ150HL-DE51T3	0.03 ° (0.523 mrad)	0.015 ° (0.262 mrad)	0.02 ° (0.349 mrad)	2.5 mm (0.098 ")
LRQ150BP-DE51T3	0.03 ° (0.523 mrad)	0.015 ° (0.262 mrad)	0.02 ° (0.349 mrad)	6.35 mm (0.250 ")
LRQ150HP-DE51T3	0.03 ° (0.523 mrad)	0.015 ° (0.262 mrad)	0.02 ° (0.349 mrad)	2.5 mm (0.098 ")
LRQ300AL-DE51T3	0.034 ° (0.593 mrad)	0.015 ° (0.262 mrad)	0.03 ° (0.523 mrad)	1.27 mm (0.050 ")
LRQ300BL-DE51T3	0.034 ° (0.593 mrad)	0.015 ° (0.262 mrad)	0.03 ° (0.523 mrad)	6.35 mm (0.250 ")



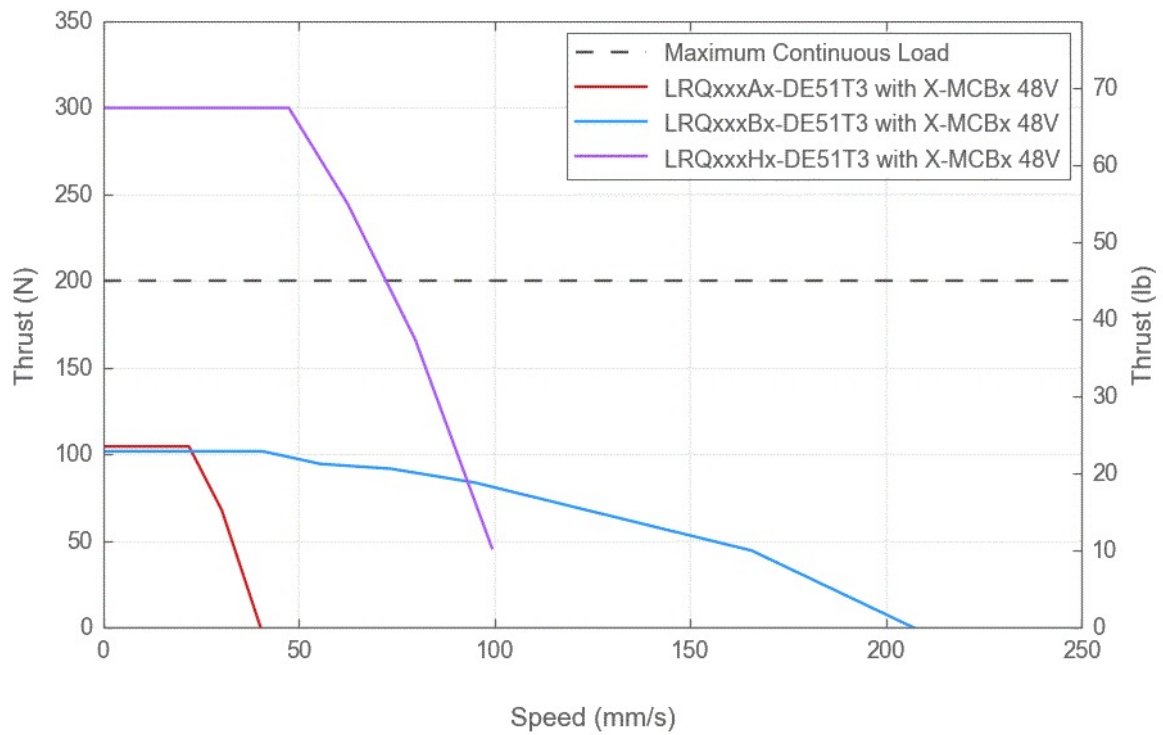
Part Number	Pitch	Roll	Yaw	Linear Motion Per Motor Rev
LRQ300HL-DE51T3	0.034 ° (0.593 mrad)	0.015 ° (0.262 mrad)	0.03 ° (0.523 mrad)	2.5 mm (0.098 ")
LRQ300AP-DE51T3	0.034 ° (0.593 mrad)	0.015 ° (0.262 mrad)	0.03 ° (0.523 mrad)	1.27 mm (0.050 ")
LRQ300BP-DE51T3	0.034 ° (0.593 mrad)	0.015 ° (0.262 mrad)	0.03 ° (0.523 mrad)	6.35 mm (0.250 ")
LRQ300HP-DE51T3	0.034 ° (0.593 mrad)	0.015 ° (0.262 mrad)	0.03 ° (0.523 mrad)	2.5 mm (0.098 ")
LRQ450AL-DE51T3	0.04 ° (0.698 mrad)	0.025 ° (0.436 mrad)	0.04 ° (0.698 mrad)	1.27 mm (0.050 ")
LRQ450BL-DE51T3	0.04 ° (0.698 mrad)	0.025 ° (0.436 mrad)	0.04 ° (0.698 mrad)	6.35 mm (0.250 ")
LRQ450HL-DE51T3	0.04 ° (0.698 mrad)	0.025 ° (0.436 mrad)	0.04 ° (0.698 mrad)	2.5 mm (0.098 ")
LRQ450AP-DE51T3	0.04 ° (0.698 mrad)	0.025 ° (0.436 mrad)	0.04 ° (0.698 mrad)	1.27 mm (0.050 ")
LRQ450BP-DE51T3	0.04 ° (0.698 mrad)	0.025 ° (0.436 mrad)	0.04 ° (0.698 mrad)	6.35 mm (0.250 ")
LRQ450HP-DE51T3	0.04 ° (0.698 mrad)	0.025 ° (0.436 mrad)	0.04 ° (0.698 mrad)	2.5 mm (0.098 ")
LRQ600AL-DE51T3	0.045 ° (0.785 mrad)	0.035 ° (0.611 mrad)	0.04 ° (0.698 mrad)	1.27 mm (0.050 ")
LRQ600BL-DE51T3	0.045 ° (0.785 mrad)	0.035 ° (0.611 mrad)	0.04 ° (0.698 mrad)	6.35 mm (0.250 ")
LRQ600HL-DE51T3	0.045 ° (0.785 mrad)	0.035 ° (0.611 mrad)	0.04 ° (0.698 mrad)	2.5 mm (0.098 ")
LRQ600AP-DE51T3	0.045 ° (0.785 mrad)	0.035 ° (0.611 mrad)	0.04 ° (0.698 mrad)	1.27 mm (0.050 ")
LRQ600BP-DE51T3	0.045 ° (0.785 mrad)	0.035 ° (0.611 mrad)	0.04 ° (0.698 mrad)	6.35 mm (0.250 ")
LRQ600HP-DE51T3	0.045 ° (0.785 mrad)	0.035 ° (0.611 mrad)	0.04 ° (0.698 mrad)	2.5 mm (0.098 ")
Part Number	Mechanical Drive System	Weight		
LRQ075AL-DE51T3	Precision lead screw	2.25 kg (4.960 lb)		
LRQ075BL-DE51T3	Precision lead screw	2.25 kg (4.960 lb)		
LRQ075HL-DE51T3	Precision ball screw	2.25 kg (4.960 lb)		

Part Number	Mechanical Drive System	Weight
LRQ075AP-DE51T3	Precision lead screw	2.41 kg (5.313 lb)
LRQ075BP-DE51T3	Precision lead screw	2.41 kg (5.313 lb)
LRQ075HP-DE51T3	Precision ball screw	2.41 kg (5.313 lb)
LRQ150AL-DE51T3	Precision lead screw	2.64 kg (5.820 lb)
LRQ150AP-DE51T3	Precision lead screw	2.80 kg (6.173 lb)
LRQ150BL-DE51T3	Precision lead screw	2.64 kg (5.820 lb)
LRQ150HL-DE51T3	Precision ball screw	2.64 kg (5.820 lb)
LRQ150BP-DE51T3	Precision lead screw	2.80 kg (6.173 lb)
LRQ150HP-DE51T3	Precision ball screw	2.80 kg (6.173 lb)
LRQ300AL-DE51T3	Precision lead screw	3.44 kg (7.584 lb)
LRQ300BL-DE51T3	Precision lead screw	3.44 kg (7.584 lb)
LRQ300HL-DE51T3	Precision ball screw	3.44 kg (7.584 lb)
LRQ300AP-DE51T3	Precision lead screw	3.60 kg (7.937 lb)
LRQ300BP-DE51T3	Precision lead screw	3.60 kg (7.937 lb)
LRQ300HP-DE51T3	Precision ball screw	3.60 kg (7.937 lb)
LRQ450AL-DE51T3	Precision lead screw	4.23 kg (9.326 lb)
LRQ450BL-DE51T3	Precision lead screw	4.23 kg (9.326 lb)
LRQ450HL-DE51T3	Precision ball screw	4.23 kg (9.326 lb)
LRQ450AP-DE51T3	Precision lead screw	4.39 kg (9.678 lb)
LRQ450BP-DE51T3	Precision lead screw	4.39 kg (9.678 lb)
LRQ450HP-DE51T3	Precision ball screw	4.39 kg (9.678 lb)
LRQ600AL-DE51T3	Precision lead screw	4.98 kg (10.979 lb)
LRQ600BL-DE51T3	Precision lead screw	4.98 kg (10.979 lb)

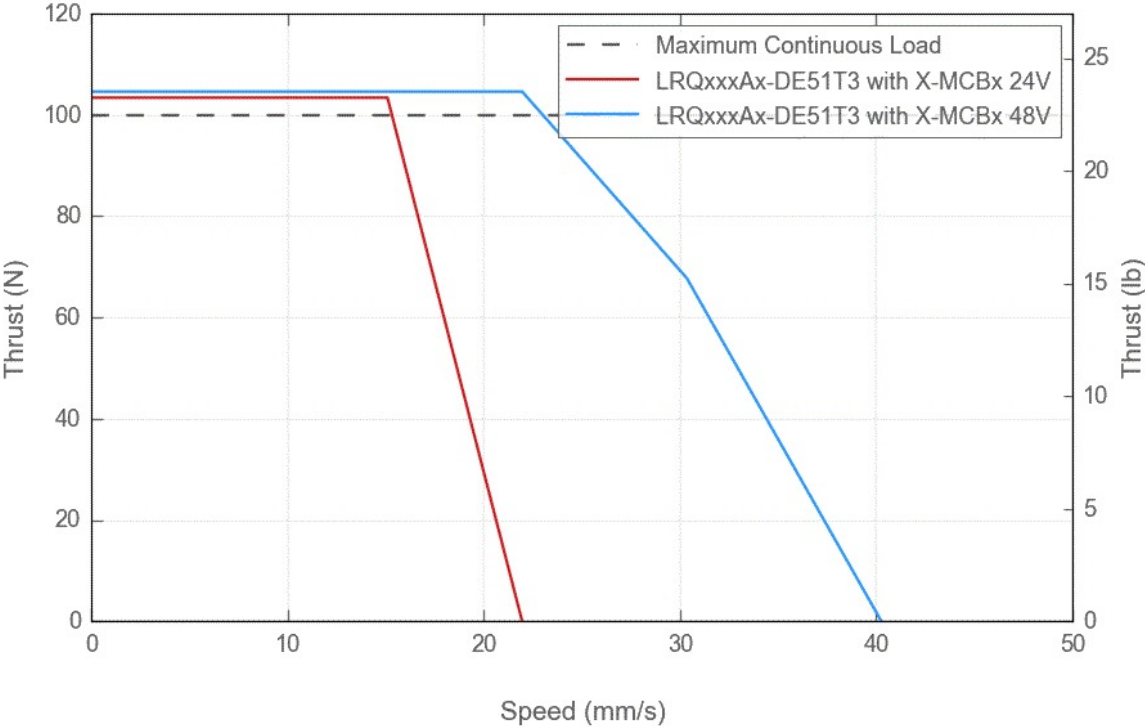
Part Number	Mechanical Drive System	Weight
LRQ600HL-DE51T3	Precision ball screw	4.98 kg (10.979 lb)
LRQ600AP-DE51T3	Precision lead screw	5.14 kg (11.332 lb)
LRQ600BP-DE51T3	Precision lead screw	5.14 kg (11.332 lb)
LRQ600HP-DE51T3	Precision ball screw	5.14 kg (11.332 lb)

## Charts

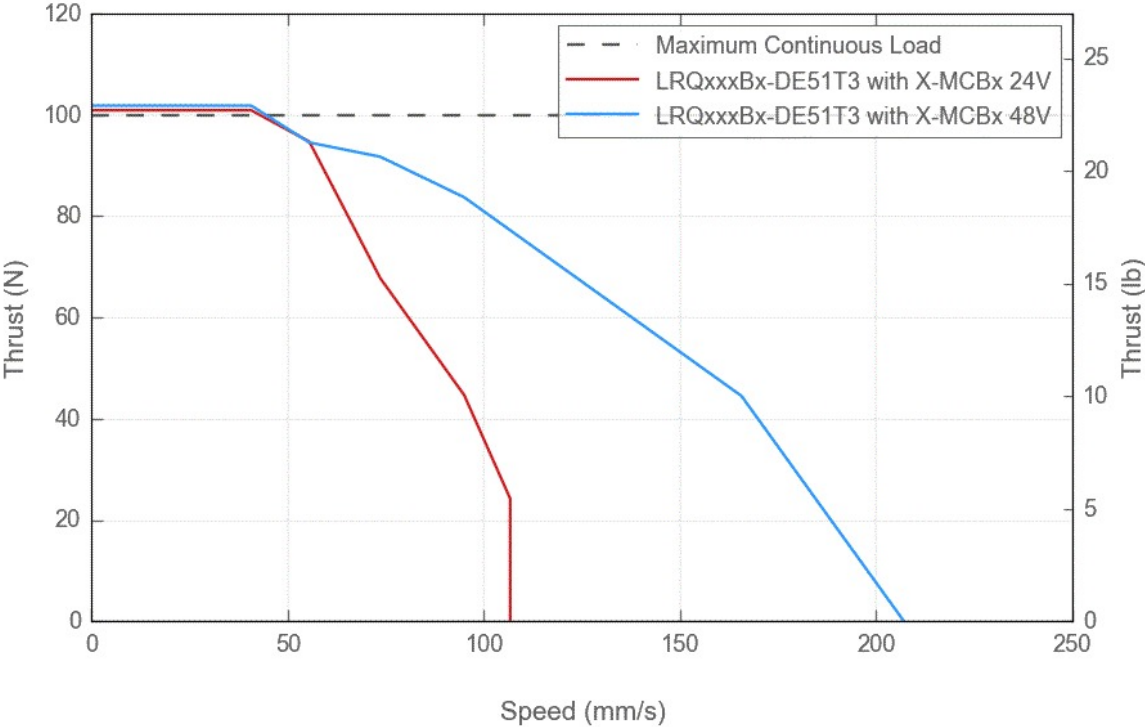
### Thrust Speed Performance



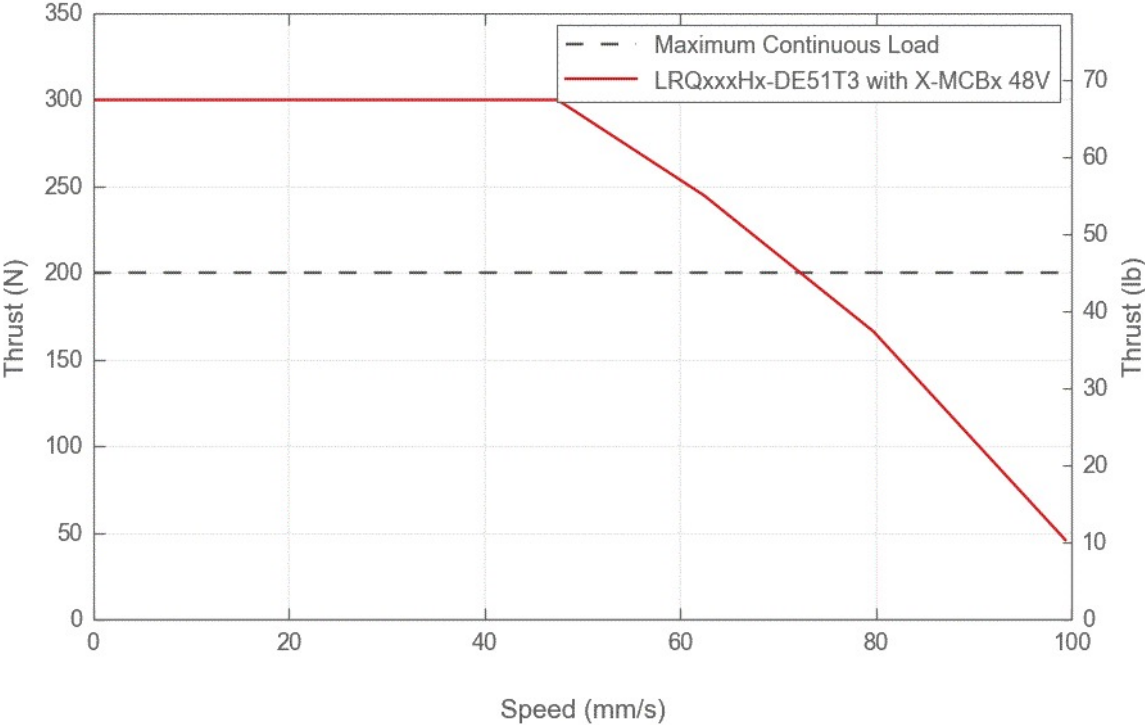
### Thrust Speed Performance



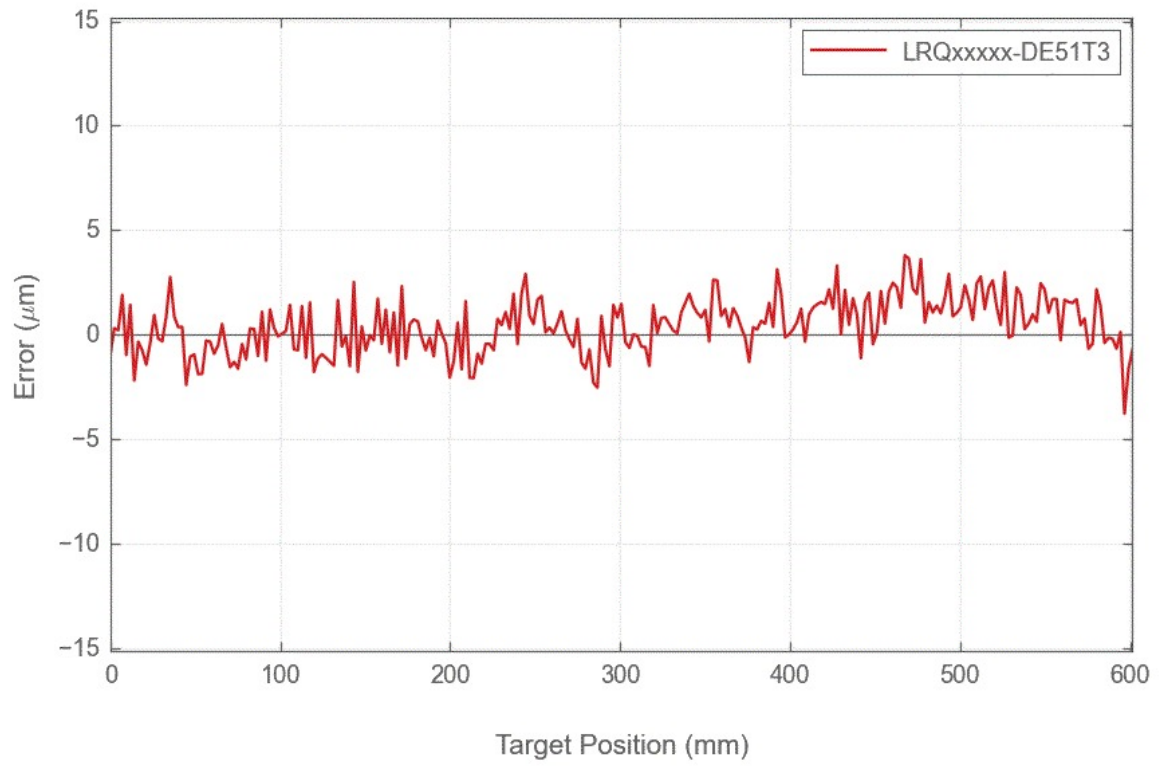
### Thrust Speed Performance



### Thrust Speed Performance



## Typical Accuracy



### LRQ Linear Bearing Lifetime

