

X-BLQ-E Series Datasheet



- 70 to 3000 mm travel
- Up to 2.0 m/s speed, 55 N thrust, and 20 kg load capacity
- Encoder position feedback with slip/stall detection and automatic recovery
- Built-in controller; daisy-chains with any other Zaber products

X-BLQ-E Series Overview

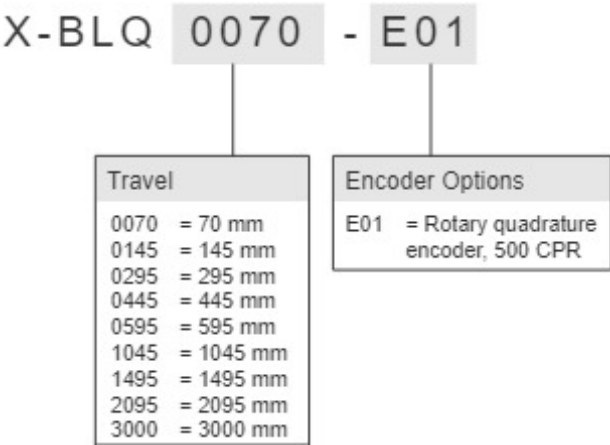
Zaber's X-BLQ-E Series products are computer controlled, belt-driven linear stages with integrated stepper motors and controllers. A built-in motor encoder allows closed-loop operation with slip/stall recovery features. They are stand-alone devices requiring only a standard 48 V power supply for operation.

An indexed knob provides convenient manual control for versatile operation even without a computer. These stages connect to the RS-232 port or USB port of any computer, and they can be daisy-chained with any other Zaber products. The daisy-chain also shares power, making it possible for multiple X-Series products to share a single power supply. Convenient locking, 4-pin, M8 connectors on the unit allow for secure connection between devices.

With travel lengths up to 3 m, 20 μ m repeatability, and a maximum speed of 2.0 m/s, X-BLQ-E stages are perfect for rapid positioning over large distances. Like all of Zaber's products, the X-BLQ-E Series is designed to be 'plug and play' and very easy to set up and operate.

For more information visit: <https://www.zaber.com/products/linear-stages/X-BLQ-E>

X-BLQ-E Series Part Numbering & Options

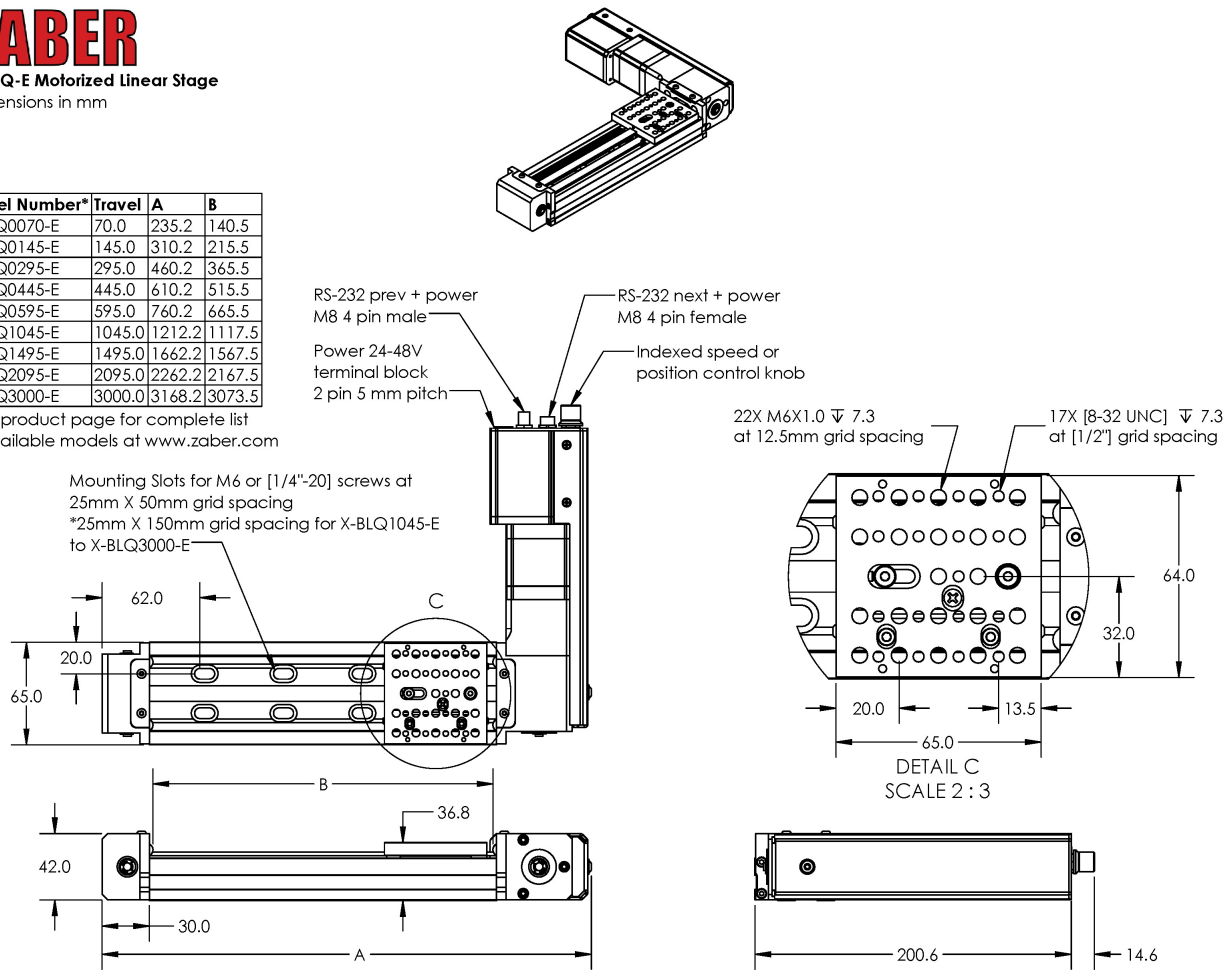


X-BLQ-E Series Drawings

ZABER
X-BLQ-E Motorized Linear Stage
dimensions in mm

Model Number*	Travel	A	B
X-BLQ0070-E	70.0	235.2	140.5
X-BLQ0145-E	145.0	310.2	215.5
X-BLQ0295-E	295.0	460.2	365.5
X-BLQ0445-E	445.0	610.2	515.5
X-BLQ0595-E	595.0	760.2	665.5
X-BLQ1045-E	1045.0	1212.2	1117.5
X-BLQ1495-E	1495.0	1662.2	1567.5
X-BLQ2095-E	2095.0	2262.2	2167.5
X-BLQ3000-E	3000.0	3168.2	3073.5

*See product page for complete list of available models at www.zaber.com



DWG 3793 801

X-BLQ-E Series Specifications

Microstep Size (Default Resolution)	4.21875 μm
Built-in Controller	Yes
Repeatability	< 20 μm (< 0.000787")
Backlash	< 75 μm (< 0.002953")
Minimum Speed	0.002576 mm/s (0.000101"/s)
Speed Resolution	0.002576 mm/s (0.000101"/s)
Encoder Resolution	500 CPR (2000 states/rev)
Encoder Type	Rotary quadrature encoder
Peak Thrust	55 N (12.3 lb)
Maximum Continuous Thrust	20 N (4.5 lb)
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Locking 4-pin M8
Maximum Centered Load	200 N (44.9 lb)
Maximum Cantilever Load	1500 N-cm (2124.2 oz-in)
Guide Type	Recirculating Ball Linear Guide
Vertical Runout	< 30 μm (< 0.001181")
Power Supply	24-48 VDC
Maximum Current Draw	1800 mA
Linear Motion Per Motor Rev	54 mm (2.126")
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	2300 mA/phase
Inductance	2.2 mH/phase
Default Resolution	1/64 of a step
Mechanical Drive System	Synchronous belt
Limit or Home Sensing	Magnetic home sensor
Manual Control	Indexed knob with push switch
Axes of Motion	1
Mounting Interface	M6 threaded holes and 8-32 threaded holes
Stage Parallelism	< 100 μm (< 0.003937")

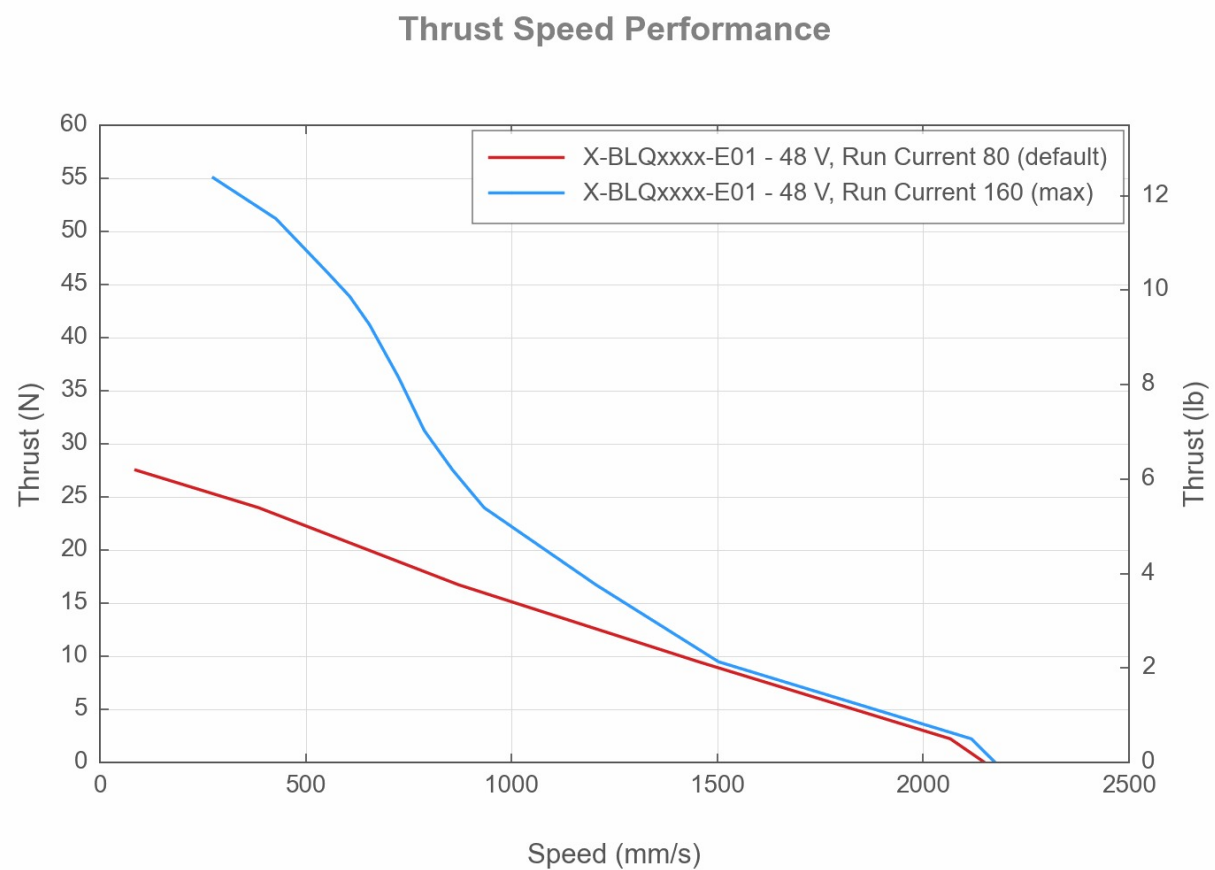
Microstep Size (Default Resolution)	4.21875 µm
Operating Temperature Range	0 to 50 °C
RoHS Compliant	Yes
CE Compliant	Yes
Vacuum Compatible	No

Part Number	Travel Range	Accuracy (unidirectional)	Maximum Speed	Horizontal Runout
X-BLQ0070-E01	70 mm (2.756")	200 µm (0.007874")	1100 mm/s (43.307"/s)	< 20 µm (< 0.000787")
X-BLQ0145-E01	145 mm (5.709")	200 µm (0.007874")	1600 mm/s (62.992"/s)	< 30 µm (< 0.001181")
X-BLQ0295-E01	295 mm (11.614")	300 µm (0.011811")	2000 mm/s (78.740"/s)	< 35 µm (< 0.001378")
X-BLQ0445-E01	445 mm (17.520")	400 µm (0.015748")	2000 mm/s (78.740"/s)	< 40 µm (< 0.001575")
X-BLQ0595-E01	595 mm (23.425")	500 µm (0.019685")	2000 mm/s (78.740"/s)	< 60 µm (< 0.002362")
X-BLQ1045-E01	1045 mm (41.142")	700 µm (0.027559")	2000 mm/s (78.740"/s)	< 60 µm (< 0.002362")
X-BLQ1495-E01	1495 mm (58.858")	1100 µm (0.043307")	2000 mm/s (78.740"/s)	
X-BLQ2095-E01	2095 mm (82.480")	1500 µm (0.059055")	2000 mm/s (78.740"/s)	
X-BLQ3000-E01	3000 mm (118.110")	2200 µm (0.086614")	2000 mm/s (78.740"/s)	

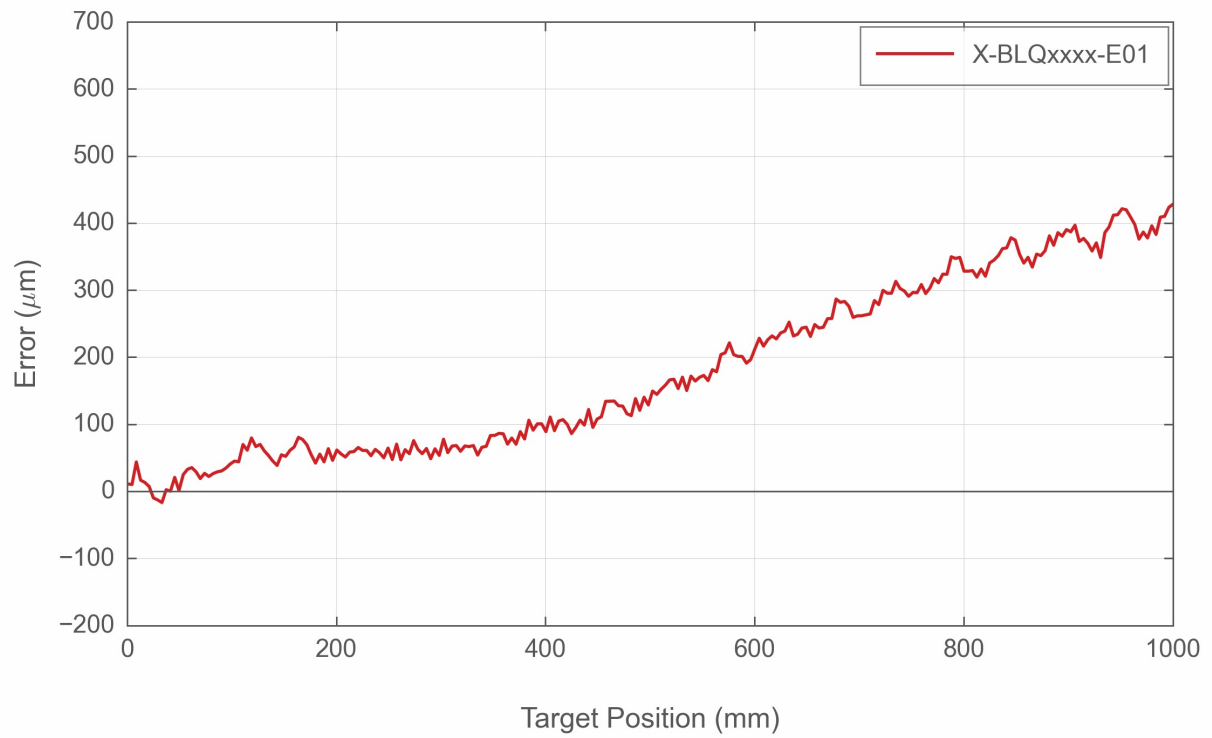
Part Number	Pitch	Roll	Yaw	Weight
X-BLQ0070-E01	0.06° (1.047 mrad)	0.03° (0.523 mrad)	0.03° (0.523 mrad)	1.7 kg (3.748 lb)
X-BLQ0145-E01	0.06° (1.047 mrad)	0.03° (0.523 mrad)	0.03° (0.523 mrad)	1.85 kg (4.079 lb)
X-BLQ0295-E01	0.06° (1.047 mrad)	0.03° (0.523 mrad)	0.03° (0.523 mrad)	2.15 kg (4.740 lb)
X-BLQ0445-E01	0.06° (1.047 mrad)	0.03° (0.523 mrad)	0.03° (0.523 mrad)	2.5 kg (5.512 lb)
X-BLQ0595-E01	0.06° (1.047 mrad)	0.03° (0.523 mrad)	0.03° (0.523 mrad)	2.75 kg (6.063 lb)
X-BLQ1045-E01	0.075° (1.309 mrad)	0.06° (1.047 mrad)	0.06° (1.047 mrad)	3.75 kg (8.267 lb)
X-BLQ1495-E01				4.7 kg

Part Number	Pitch	Roll	Yaw	Weight
				(10.362 lb)
X-BLQ2095-E01				6 kg (13.228 lb)
X-BLQ3000-E01				7.8 kg (17.196 lb)

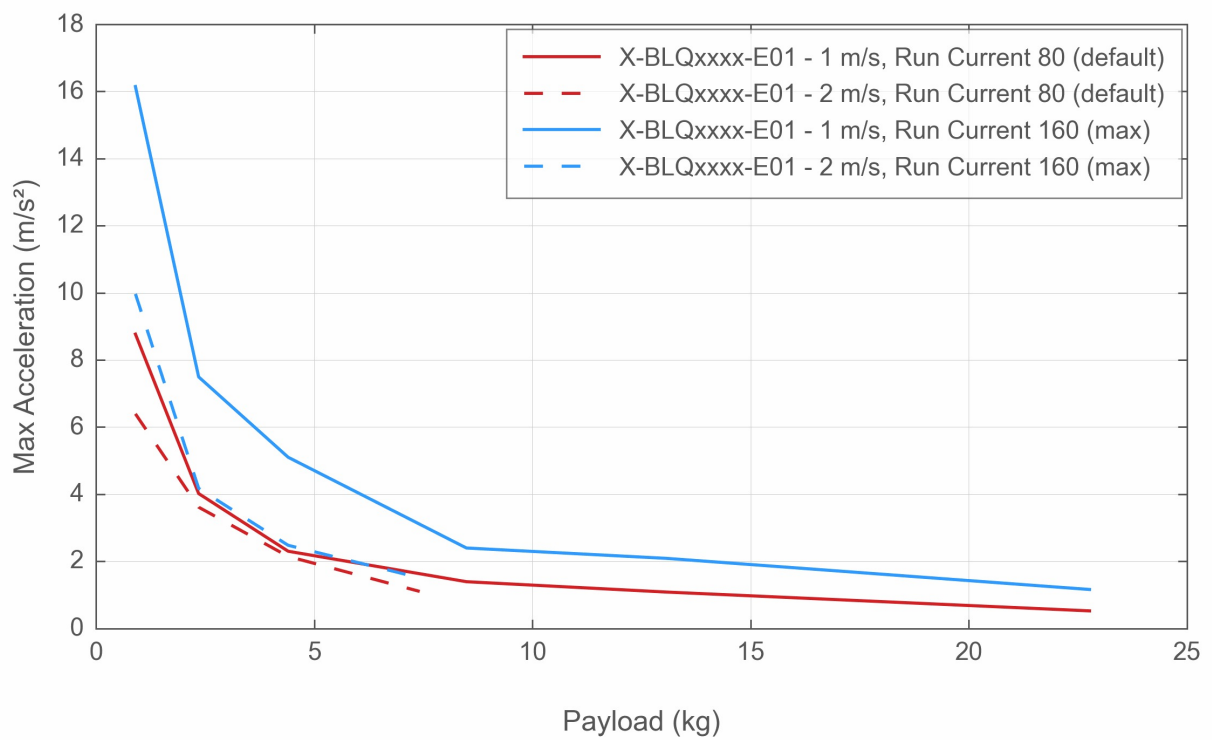
X-BLQ-E Series Charts



Typical Accuracy



Horizontal Acceleration



Contact

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