

X-BLQ2095-E01 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

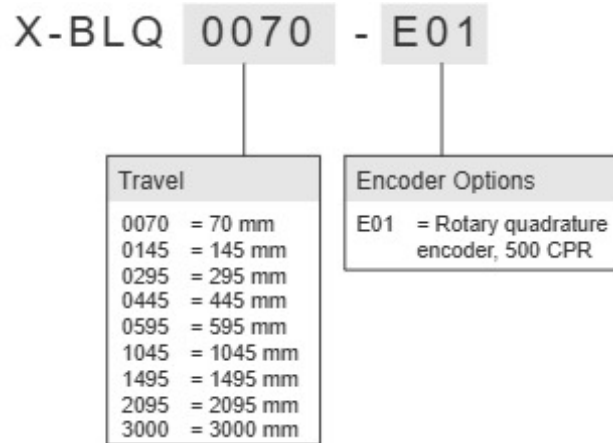
Zaber's X-BLQ-E Series products are computer controlled, belt-driven linear stages with integrated stepper motors and controllers. A built-in motor encoder allows closed-loop operation with slip/stall recovery features. They are stand-alone devices requiring only a standard 48 V power supply for operation.

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-BLQ2095-E01 Drawings

- [X-BLQ-E.png \(Drawing for the X-BLQ-E\)](#)

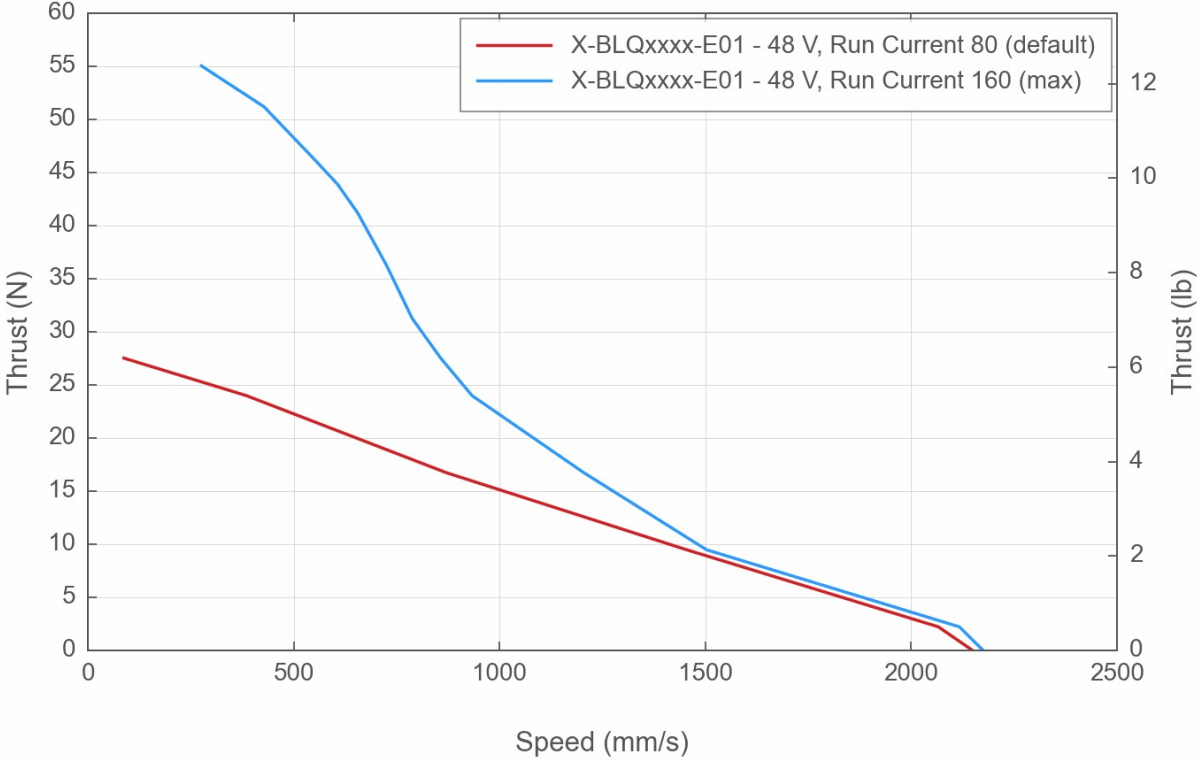
X-BLQ2095-E01 Specifications

Microstep Size (Default Resolution)	4.21875 μm
Built-in Controller	Yes
Travel Range	2095 mm (82.480")
Accuracy (unidirectional)	1500 μm (0.059055")
Repeatability	< 20 μm (< 0.000787")
Backlash	< 75 μm (< 0.002953")
Maximum Speed	2000 mm/s (78.740"/s)
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 Moment (Pitch)	5 N-m (3.7 ft-lb)
Maximum Moment (Roll)	15 N-m (11.1 ft-lb)
Maximum Moment (Yaw)	5 N-m (3.7 ft-lb)
Vertical Runout	< 30 μm (< 0.001181")
Stiffness in Pitch	115 N-m/ $^{\circ}$ (152 $\mu\text{rad/N-m}$)
Stiffness in Roll	145 N-m/ $^{\circ}$ (120 $\mu\text{rad/N-m}$)
Stiffness in Yaw	110 N-m/ $^{\circ}$ (159 $\mu\text{rad/N-m}$)
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

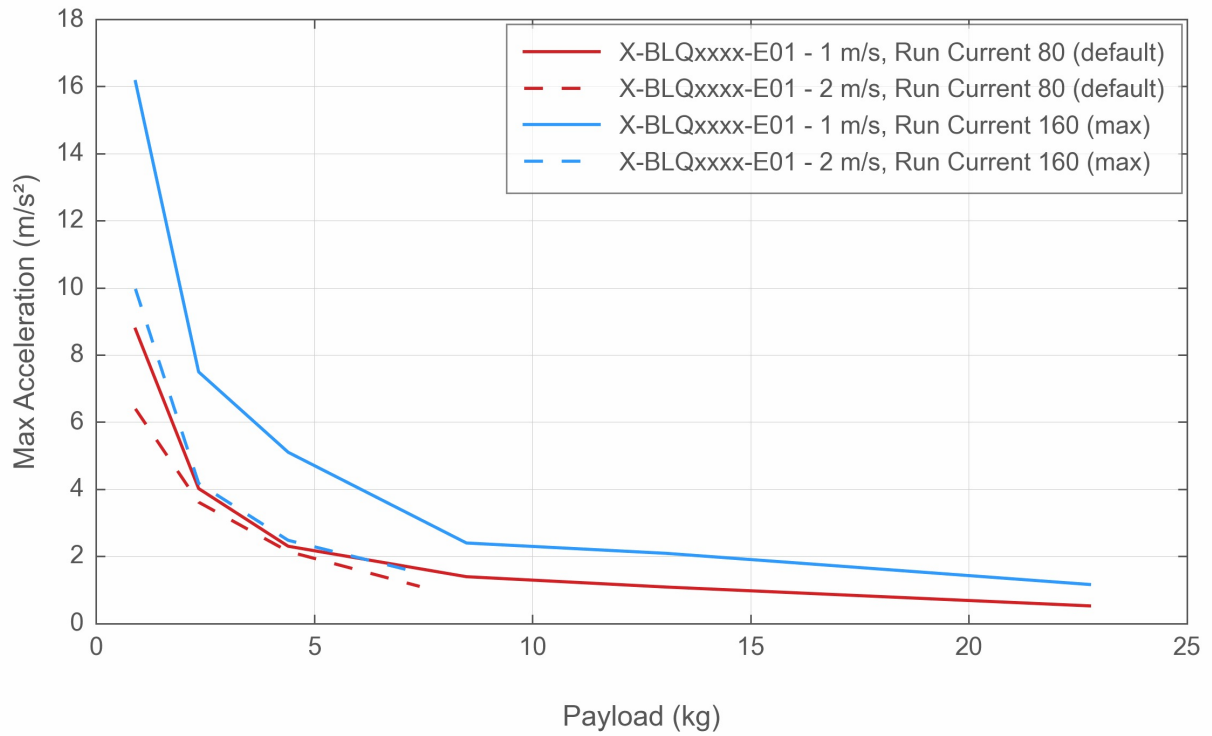
Microstep Size (Default Resolution)	4.21875 μm
Default Resolution	1/64 of a step
Guide Type	Recirculating Ball Linear Guide
Mechanical Drive System	Synchronous belt
Limit or Home Sensing	Magnetic home sensor
Manual Control	Indexed knob with push switch
Axes of Motion	1
Mounting Interface	M6 threaded holes and 8-32 threaded holes
Stage Parallelism	< 100 μm (< 0.003937")
Operating Temperature Range	0 to 50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	6 kg (13.228 lb)

X-BLQ-E Series Charts

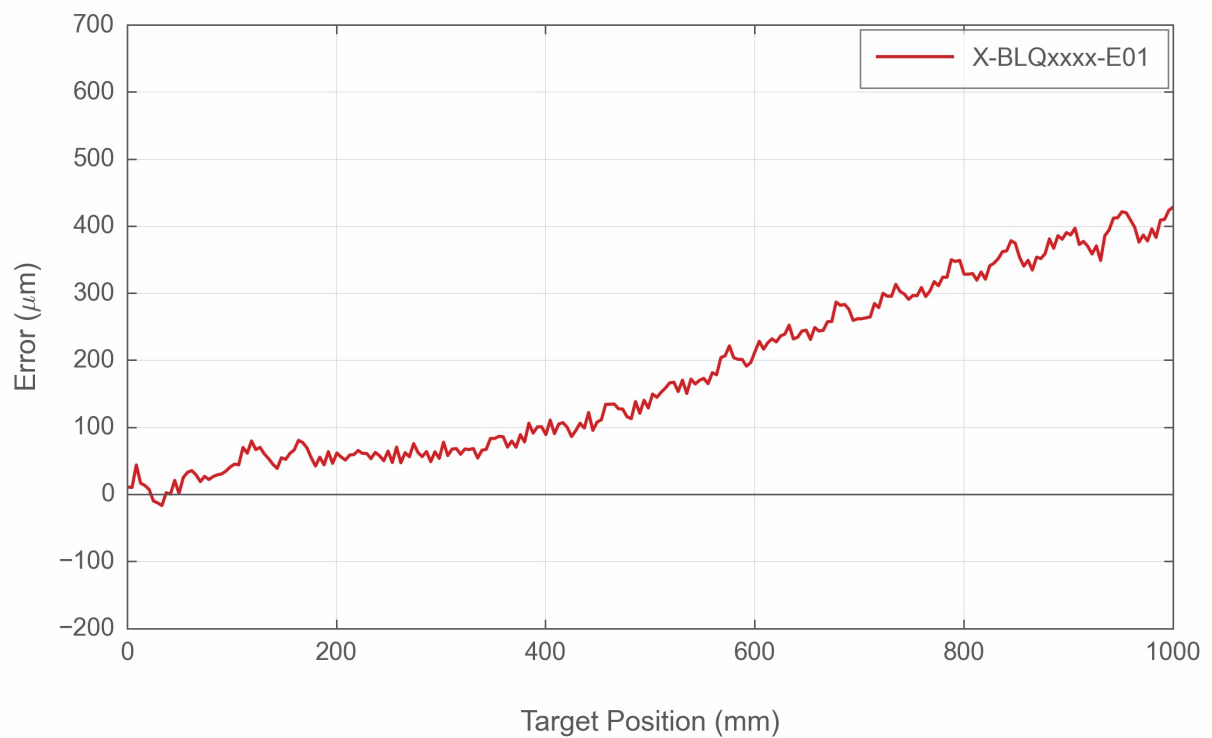
Thrust Speed Performance



Horizontal Acceleration



Typical Accuracy



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