

BLQ0595-E01T3A Datasheet



- 70 to 3000 mm travel
- Up to 2.0 m/s speed, 55 N thrust, and 20 kg load capacity
- Integrated recirculating ball bearing guide provides exceptional lifetime
- Integrated, 500 CPR, motor mounted encoder provides slip/stall detection and recovery
- Designed for use with an X-MCC Series stepper motor controller or any 2-phase stepper motor controller
- With AutoDetect, the X-MCC controller configures its settings automatically for the connected peripheral

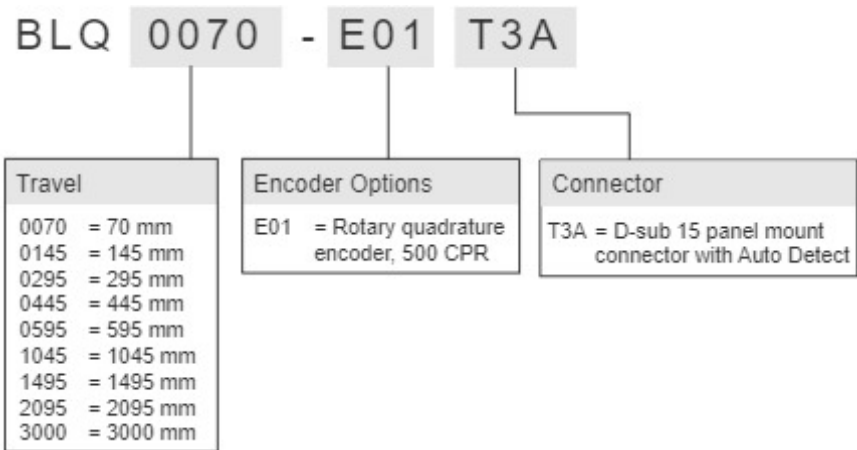
BLQ-E Series Overview

Zaber's BLQ-E Series products are computer-controlled, motorized linear stages with integrated stepper motors and motor encoders. These stages are capable of speeds up to 2.0 m/s and can easily be mounted in XY configuration without additional hardware. Some multi-axis configurations may require additional accessories; please contact Zaber Technical Support to ensure the correct ones are selected.

The built-in motor encoder allows for closed-loop operation and slip/stall recovery features. The stages are designed to connect directly to our X-MCC Series universal motor controllers, or they can be used with any 2-phase stepper motor controller through the panel mount DB15 connector. Set up is easy with AutoDetect. Once connected, the X-MCC controller will automatically detect and configure the BLQ-E.

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

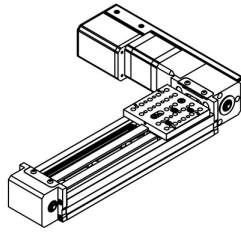
BLQ-E Series Part Numbering



BLQ0595-E01T3A Drawings

ZABER

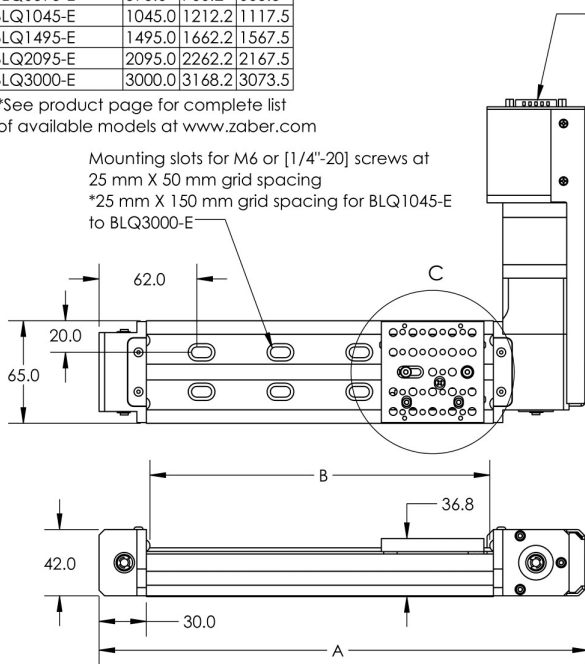
BLQ-E Motorized Linear Stage
dimensions in mm



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

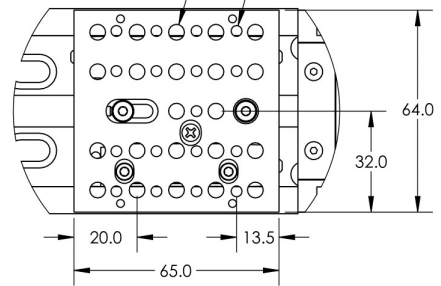
*See product page for complete list of available models at www.zaber.com

Mounting slots for M6 or [1/4"-20] screws at 25 mm X 50 mm grid spacing
*25 mm X 150 mm grid spacing for BLQ1045-E to BLQ3000-E

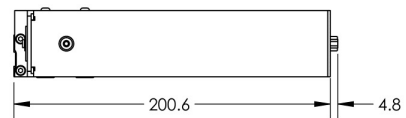


D-sub 15 male connector

22X M6X1.0 ∇ 7.3 at 12.5 mm grid spacing
17X 8-32 UNC ∇ 7.3 at [1/2"] grid spacing



DETAIL C
SCALE 2 : 3



BLQ0595-E01T3A Specifications

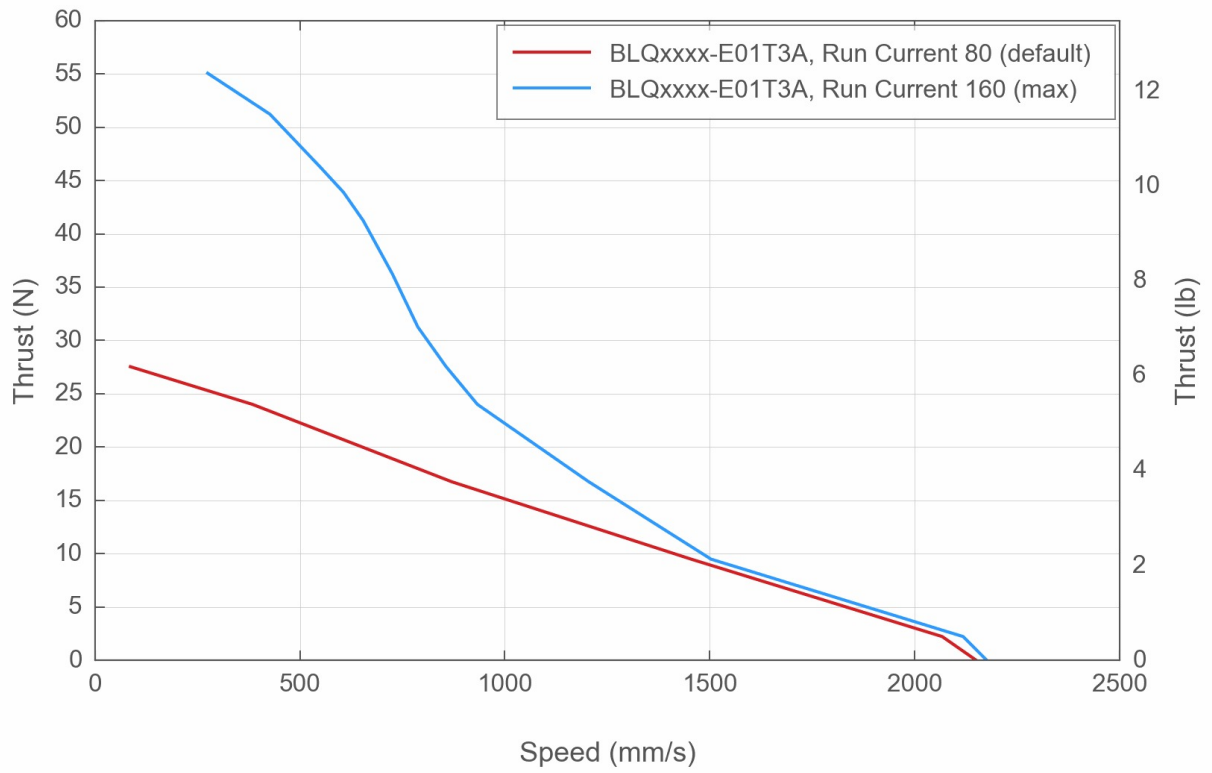
| Specification | Value | Alternate Unit |
|-------------------------------------|---------------------------------|-----------------|
| Microstep Size (Default Resolution) | 4.21875 μm | |
| Built-in Controller | No | |
| Recommended Controller | X-MCC (48 V) Recommended | |
| AutoDetect | Yes | |
| Travel Range | 595 mm | 23.425" |
| Accuracy (unidirectional) | 500 μm | 0.019685" |
| 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 |
| 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" |
| Horizontal Runout | < 60 μm | < 0.002362" |
| Pitch | 0.06° | 1.047 mrad |
| Roll | 0.03° | 0.523 mrad |
| Yaw | 0.03° | 0.523 mrad |
| 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 | |
| Motor Winding Resistance | 1 ohms/phase | |
| Inductance | 2.2 mH/phase | |
| Motor Connection | D-sub 15 | |

| Specification | Value | Alternate Unit |
|-----------------------------|---|----------------|
| Default Resolution | 1/64 of a step | |
| Mechanical Drive System | Synchronous belt | |
| Limit or Home Sensing | Magnetic home sensor | |
| Axes of Motion | 1 | |
| Mounting Interface | M6 threaded holes and 8-32 threaded holes | |
| Stage Parallelism | < 100 μ m | < 0.003937" |
| Operating Temperature Range | 0 to 50 °C | |
| RoHS Compliant | Yes | |
| CE Compliant | Yes | |
| Vacuum Compatible | No | |
| Weight | 2.75 kg | 6.063 lb |

BLQ-E Series Charts

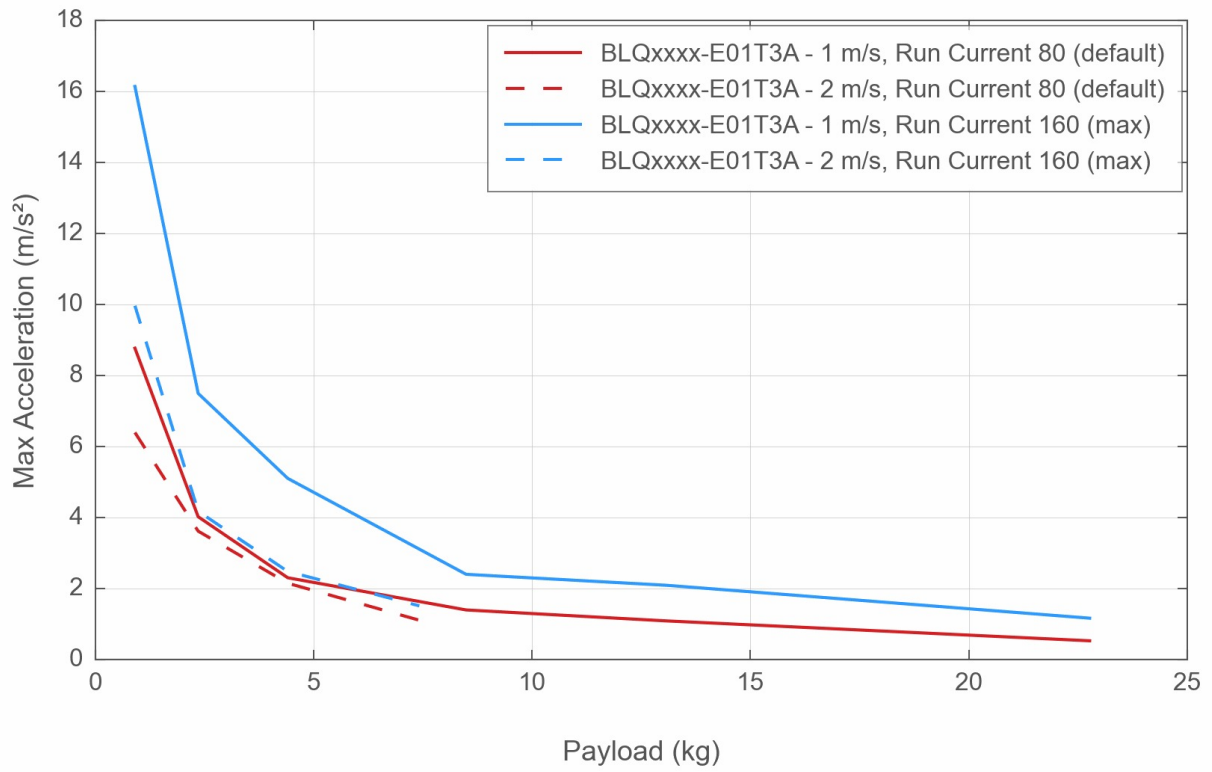
Thrust Speed Performance

with X-MCCx 48V



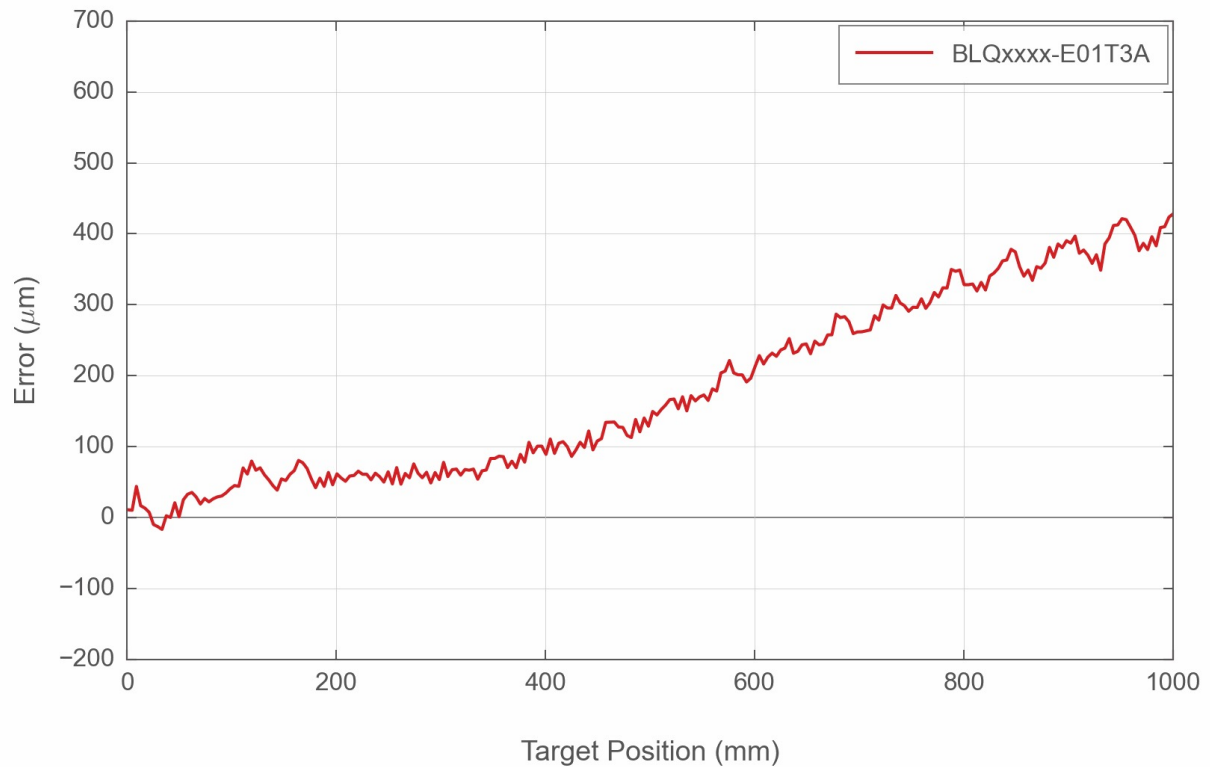
Horizontal Acceleration

with X-MCCx 48V



Typical Accuracy

with X-MCCx 48V



Contact

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