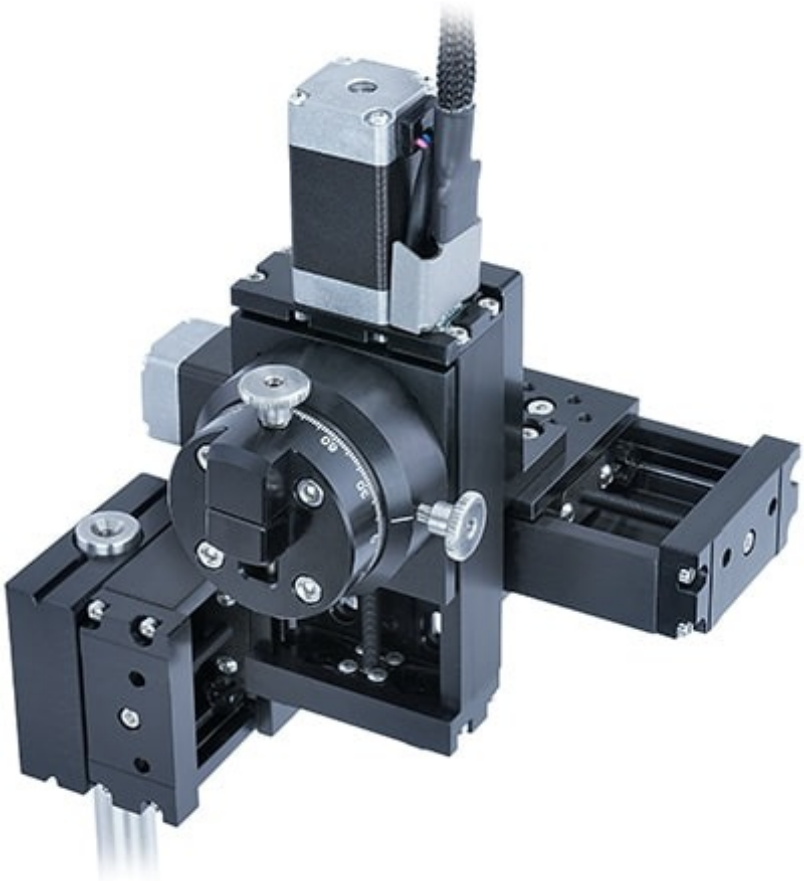
M-LSM025A025A025ARHP-T4A Datasheet



- 25 mm travel XYZ with resolution finer than 0.05 µm
- Up to 26 mm/s speed and 55 N thrust
- Adjustable probe holder
- Programmable or joystick-activated 4th virtual axis to allow approach along probe angle
- Plug and play controllers and Joystick included
- 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

M-LSM Series Overview

Zaber's motorized micromanipulator series of products are stand-alone units that are either joystick or computer controlled. They can be mounted to either metric or imperial optical breadboards, and oriented to the left or to the right.

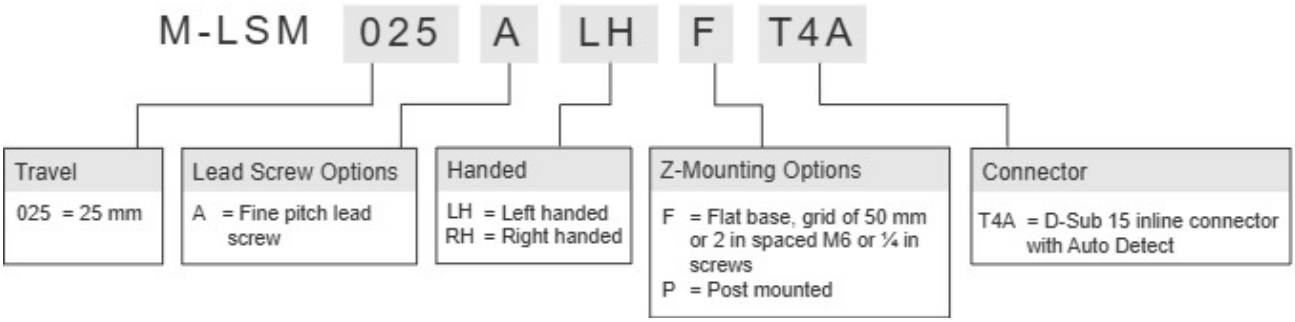
The micromanipulators' probe holders are designed to quickly and easily adjust for probe size and angle. The left thumbscrew on the holder adjusts for the size of the probe (diameters between 2 and 13 mm) and locks it into position. The front face of the holder can be rotated to adjust the angle at which a probe is held, and the top thumbscrew locks it into place.

These micromanipulators can be valuable companion tools to motorized microscopes in applications such as intracytoplasmic injections in reproductive medical procedures e.g. IVF as well as assist in microcellular biological research.

The included X-MCC3 controller connect to the RS-232 or USB port of any computer. Set up is easy with AutoDetect. Once connected, the controllers will automatically detect and configure the micromanipulator axes.

For more information visit: https://www.zaber.com/products/micromanipulators/M-LSM

M-LSM Series Part Numbering & Options



M-LSM025A025A025ARHP-T4A Drawings

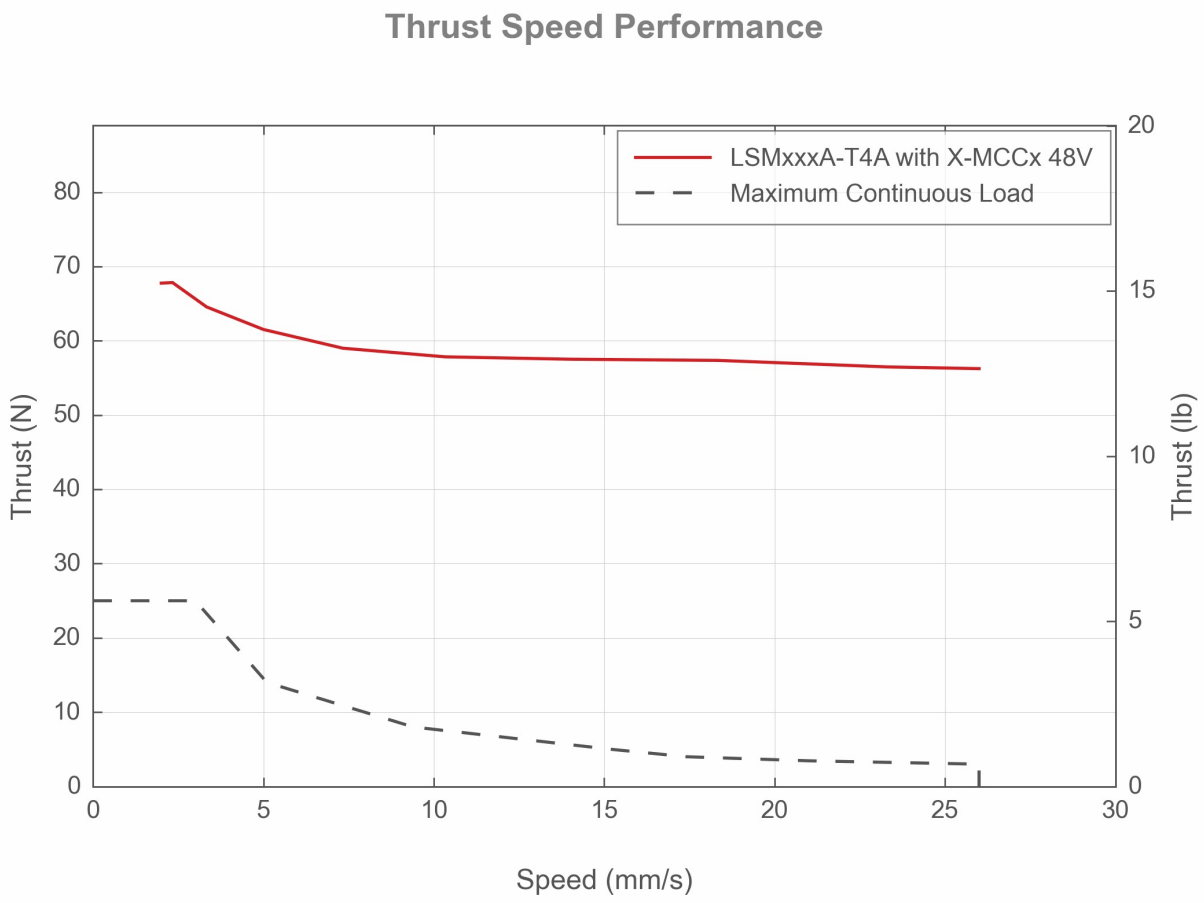
• M-LSM-RHP.png (Drawing for the M-LSM-RHP)

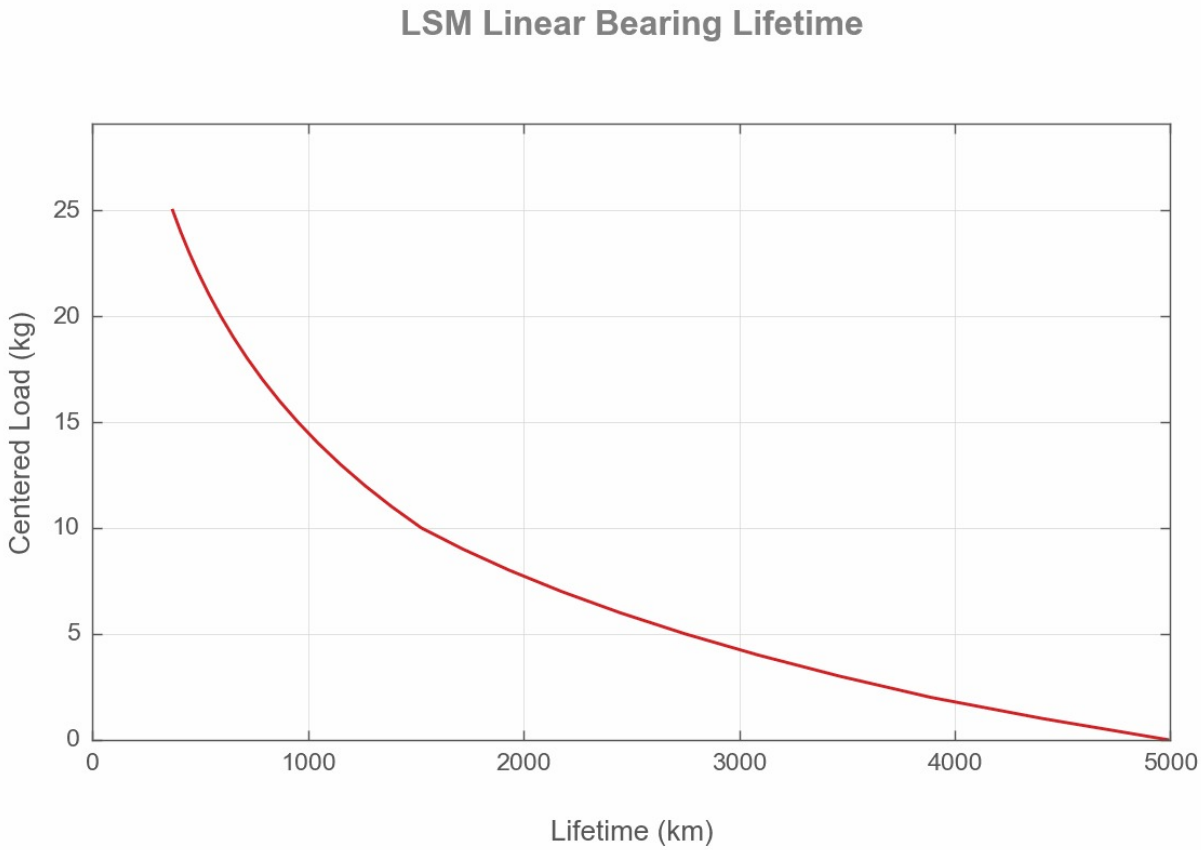
M-LSM025A025A025ARHP-T4A Specifications

Microstep Size (Default Resolution)	**0.047625 µm**
Recommended Controller	MCC (48 V) Recommended
AutoDetect	Yes
Travel Range	25.4 mm (1.000")
Accuracy (unidirectional)	15 µm (0.000591")
Repeatability	< 3 µm (< 0.000118")
Backlash	< 12 µm (< 0.000472")
Maximum Speed	26 mm/s (1.024"/s)
Minimum Speed	0.000029 mm/s (0.000001"/s)
Speed Resolution	0.000029 mm/s (0.000001"/s)
Encoder Type	No
Peak Thrust	55 N (12.3 lb)
Communication Interface	RS-232, USB 2.0
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Vertical Runout	< 8 µm (< 0.000315")
Horizontal Runout	< 12 µm (< 0.000472")
Pitch	0.02° (0.349 mrad)
Roll	0.02° (0.349 mrad)
Yaw	0.03° (0.523 mrad)
Probe Diameter Range	2-13 mm
Probe Angle Range	360° (6.283 rad)
Linear Motion Per Motor Rev	0.6096 mm (0.024")
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	600 mA/phase
Motor Winding Resistance	6.5 ohms/phase
Inductance	3.5 mH/phase
Motor Rated Power	6.9 Watts

Microstep Size (Default Resolution)	**0.047625 µm**
Motor Connection	D-sub 15
Default Resolution	1/64 of a step
Guide Type	Recirculating ball bearing
Mechanical Drive System	Precision lead screw
Limit or Home Sensing	Magnetic hall sensor
Axes of Motion	3
Stage Parallelism	< 25 µm (< 0.000984")
Joystick Control	Velocity Mode
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	1.032 kg (2.275 lb)

M-LSM Series Charts





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