

"55mm Series" – Linear55-x-Pro (closed-loop)

Low Temperature · Piezoelectric Motion- Linear Series

Best motion linear stage with closed-loop control

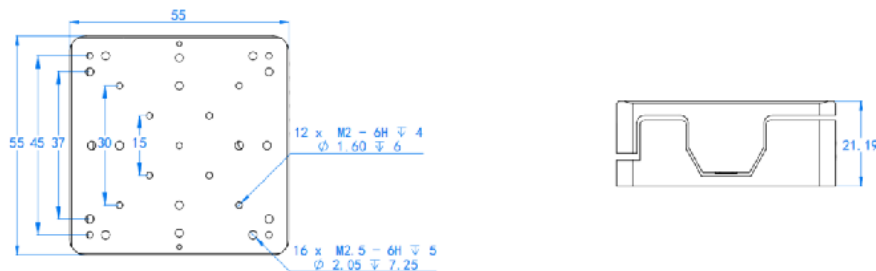


Linear55-x-Pro.HV

Features

- Compact design, dimensions: 55*55*21.2 mm
- Ultra-high vacuum & very low temperature compatible: 2 E-11 mbar & 30 mK
- Non-magnetic material Composed of pure Ti & BeCu, compatible with the 18 Tesla magnetic field
- High loads & high thrusts: 500 g & 5 N
- Long travel range: 25 mm
- Closed-loop control with position sensing up to 0.1 um resolution

Dimension drawing



Linear55-x-Pro, Specification

*All data below is measured with 50 ohm wires. Though there is no requirement on wires' conductance, we recommend resistance below 50 ohm.

| Optional Versions ⇨ | .HV (default) | .ULT | .UHV | .ULT.UHV |
|---|--|------|------------|----------|
| .HV version, default product; .ULT version, used at He3 or dilution cryogenics systems .UHV version, compatible with 2E-11 mbar | | | | |
| 1 Footprint × height | 55 × 55 mm × 21.2 mm | | | |
| 2 Weight | 200 g | | | |
| Working Environment | | | | |
| 3 Work environment | Temperature range: 1.4 ~ 400 K Vacuum: 2e-7 mbar Max. Magnetic field: 18 Tesla | | | |
| 4 Option1 - 30 mK | | ✓ | | ✓ |
| 5 Option2 - 2e-11 mbar | | | ✓ | ✓ |
| Materials | | | | |
| 6 Mainbody | Pure Ti | BeCu | Pure Ti | BeCu |
| 7 Wires | Phosphor Bronze Twisted Paired Wires, 20cm | | | |
| 8 Pin materials | Polyster (glass fiber filled), BeCu | | Peek, BeCu | |
| 9 Pins number | Drive - 2 pins /7 pins (adv) , Sensor - 3 pins | | | |
| Motion | | | | |
| 10 Travel range | 25 mm | | | |
| 11 Max. Velocity @300 K | ~ 2 mm/s | | | |
| 12 Drive voltage | Max. 200 V | | | |
| 13 Max. Load | 500 g | | | |
| 14 Dynamic force | 5 N | | | |
| Sensor (closed loop) | | | | |
| 15 Position encoder | Resistive Sensor | | | |
| 16 Encoder range | 25 mm | | | |
| 17 Sensor resolution | ~ 150 nm | | | |
| 18 Repeatability | 1 - 2 um | | | |

Piezoelectric Motion - LT

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