

"16mm Series" – Linear16-x (closed-loop)

Low Temperature · Piezoelectric Motion- Linear Series

Smallest linear stage with closed-loop control

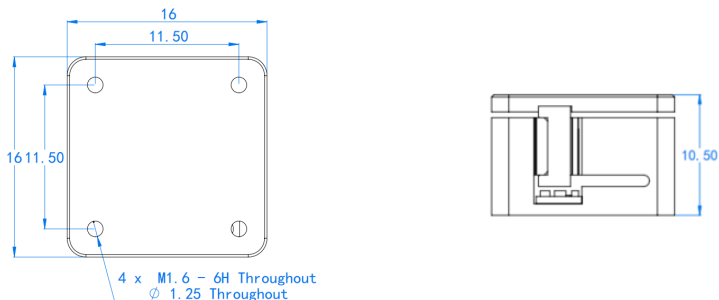


Linear16-x.HV

Features

- Compact design, dimensions: 16*16*10.5 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: 50 g & 1.5 N
- Long travel range: 3 mm
- Closed-loop control with position sensing up to 0.1 μ m resolution

Dimension drawing



Linear16-x, 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 × hight	16 × 16 mm × 10.5 mm			
2	Weight	10 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					
7	Mainbody	Pure Ti	BeCu	Pure Ti	BeCu
8	Wires	Phosphor Bronze Twisted Paired Wires, 20cm			
9	Pin materials	Polyster (glass fiber filled), BeCu		Peek, BeCu	
10	Pins number	Drive - 2 pins, Sensor - 3 pins			
Motion					
11	Travel range	3 mm			
12	Max. Velocity @300 K	~ 2 mm/s			
13	Drive voltage	Max. 200 V			
14	Max. Load	50 g			
15	Dynamic force	1.5 N			
Sensor (closed loop)					
16	Position encoder	Resistive Sensor			
17	Encoder range	3 mm			
18	Sensor resolution	~ 150 nm			
19	Repeatability	1 - 2 um			