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

Low Temperature · Piezoelectric Motion- Linear Series

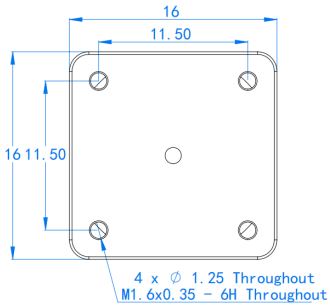
Smallest linear stage with closed-loop control

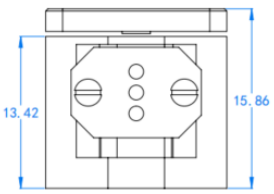
Linear16-z.HV

Features

- Compact design, dimensions: Did 16*15.7 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: 250 g & 3 N
- Long travel range: 3 mm
- Closed-loop control with position sensing up to 0.1 um resolution

Dimension drawing





Linear16-z, 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	Dia 16 mm × 10.5 mm			
2 Weight	12 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	250 g			
15 Dynamic force	3 N			
Sensor (closed loop)				
16 Position encoder	Resistive Sensor			
17 Encoder range	3 mm			
18 Sensor resolution	~ 150 nm			
19 Repeatibility	1 - 2 um			