

Overview of “Goniometer series” piezoelectric motion unit

Low Temperature Piezoelectric Motion - Goniometer Series

Choose your suitable MultiFields® “Goniometer Series” product



Goniometer25-theta



Goniometer25-phi

Series defined by size	“25mm Series”	
1 Work Environment	Default: 1.4 K ~ 400 K; 1e-7 mbar; 35 Tesla Option1 - .ULT, lowest temperature 30 mK; Option2 - .UHV, highest vacuum environment 2E-11 mbar;	
2 Dimensions	25 × 25 × 12.5 mm	25 × 25 × 12.5 mm
3 Rotation Center To Top Plate	41 mm	53.5 mm
4 Travel Range	6.6 °	6 °
5 Max. Load	200 g	200 g
6 Dynamic Force	2.2 N	2.2 N
7 Encoder	Resistive Sensor	
Sensor Range	6.6 °	6 °
Sensor Resolution	0.2 m°	
8 Fine Tune Resolution @ 2 K*	0.5 μ°	
9 Step Size (min) @300 K*	50 μ°	
10 Pins	Driven - 2 pins; Sensor - 3 pins	
11 Main Body	Default: Pure Ti; ULT: BeCu	
12 Weight	28 g	28 g

Fine Tune Resolution @2 K–Fine tune mode is a unique analog motion driven method, where piezo units are controlled by analog voltage signal, instead of continuous high frequency wave sequence. Because the resolution of the analog signal is very high, the stage can achieve sub-nano meter positioning accuracy.

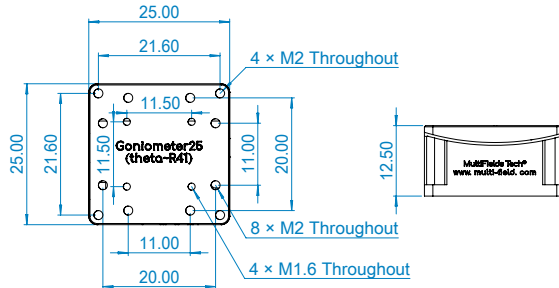
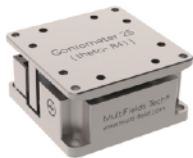
Step Size (min) @300 K–The open loop minimum increamental step size that the stage can move when it's doing stick-slip motion, driven by continuous high frequency wave sequence.

"25mm Series" – Goniometer25-theta (closed-loop)

Goniometer stage with closed-loop control

- ➔ Features
- Compact design
 - Long travel range
 - Common pivot with Goniometer25-phi for stacking
 - Ultra-high vacuum & low temperature compatible

➔ Picture & dimensions



➔ Specifications

Optional Versions ⇨		.HV (default)	.ULT	.UHV	.ULT.UHV
		.HV version, compatible with 1E-7 mbar .ULT version, used at He3 or dilution cryogenics systems .UHV version, compatible with 2E-11 mbar			
1	Footprint × hight	25 × 25 × 12.5 mm			
2	Weight	28 g			
3	Work environment	Temperature range: 1.4 ~ 400 K, Max. Magnetic field: 35 Tesla			
4	Option1 - 30 mK		✓		✓
5	Option2 - 2e-11 mbar			✓	✓
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, Sensor - 3 pins			
10	Fine Tune Resolution @2 K*	0.5 μ°			
11	Step Size (min) @300 K*	50 μ°			
12	Travel range	~ 6.6 °			
13	Max. Velocity @300 K	~ 1 °/s			
14	Max. Load	200 g			
15	Dynamic force	2.2 N			
16	Rotation center to top plate	41 mm			
17	Position encoder	Resistive Sensor			
18	Encoder range	6.6 °			
19	Sensor resolution	0.2 m°			

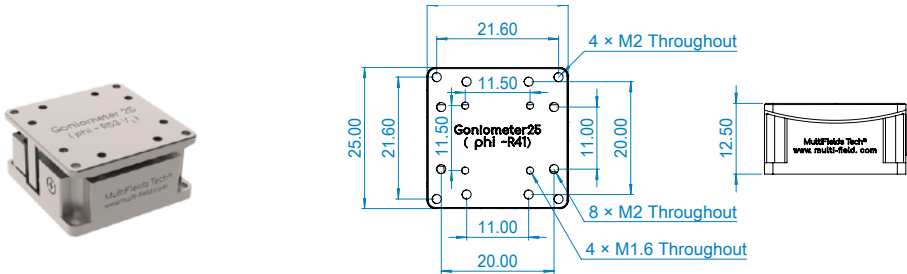
For detail drawing and 3D model please contact us.

“25mm Series” – Goniometer25-phi (closed-loop)

Goniometer stage with closed-loop control

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4	Option1 - 30 mK		✓		✓
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6	Mainbody	Pure Ti	BeCu	Pure Ti	BeCu
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9	Pins number	Drive - 2 pins, Sensor - 3 pins			
10	Fine Tune Resolution @2 K*	0.5 μ°			
11	Step Size (min) @300 K*	50 μ°			
12	Travel range	~ 6 °			
13	Max. Velocity @300 K	~ 1 °/s			
14	Max. Load	200 g			
15	Dynamic force	2.2 N			
16	Rotation center to top plate	53.5 mm			
17	Position encoder	Resistive Sensor			
18	Encoder range	6 °			
19	Sensor resolution	0.2 m°			

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