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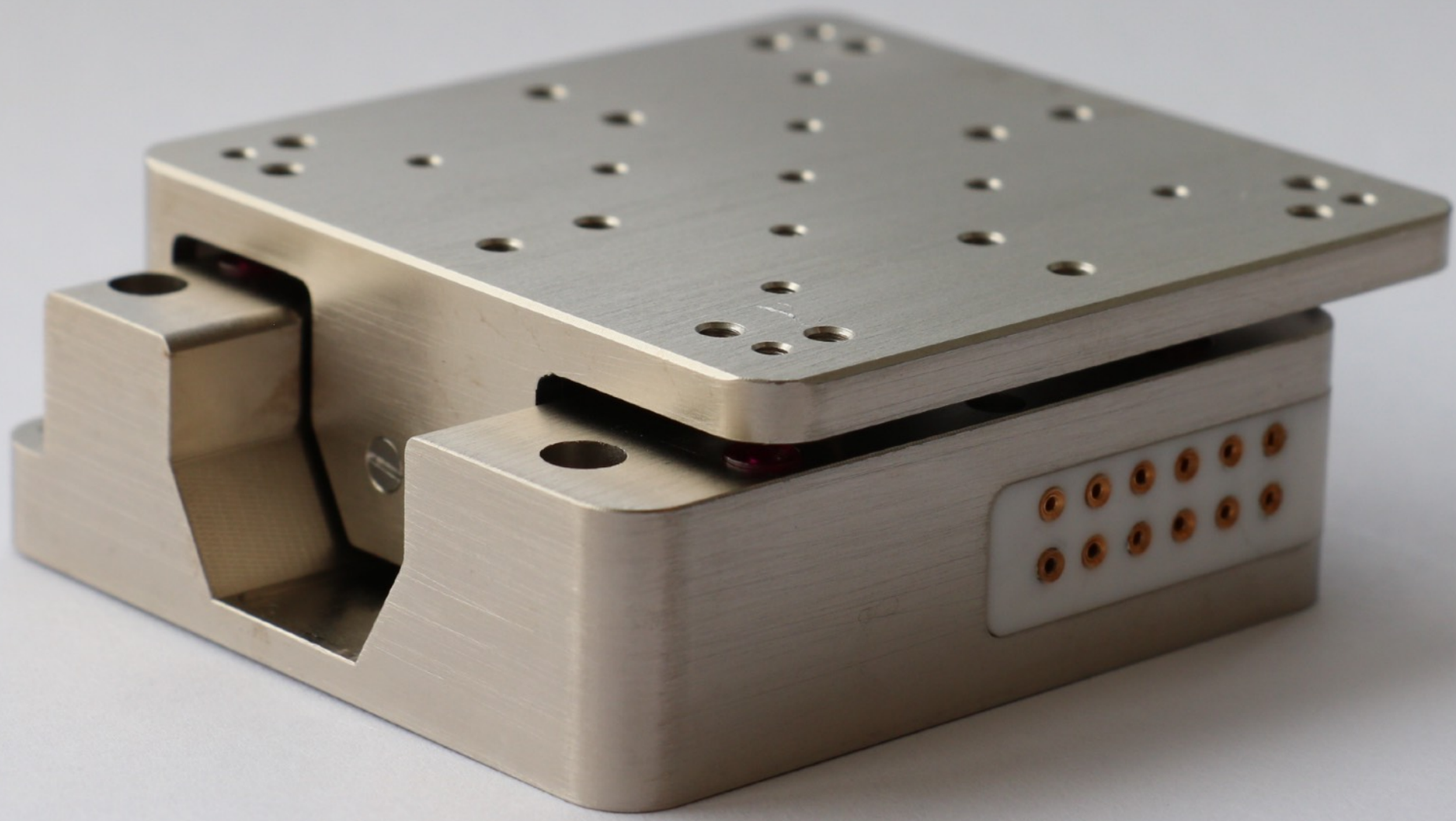

Piezoelectric Motion Unit

(10 mK, 2E−11 mbar & 35 Tesla)

A PRODUCT LINE OF PIEZOELECTRIC MOTION , MULTIFIELDS TECHNOLOGIES.

Piezoelectric Motion - LT

2025 New

"Closed-Loop Scanner Series" – ScannerXX.Ultra

Scanners with sub-nanoscale resolution capacitive displacement sensors for closed-loop control

➡ Precision demands a sensor.

Closed-loop scanner with a displacement sensor actively compensates the negative effects such as environment temperature drift, piezoelectric creep and self-heating, achieving unprecedented precision at low temperatures, which ensures the sophisticated experiments survive at extreme low temperature.

➡ "25 mm" Series

- Scanner25-x.Ultra.HV
- Scanner25-x.Ultra.UHV
- Scanner25-x.Ultra.ULT
- Scanner25-x.Ultra.UHV.ULT

- Scanner25-z.Ultra.HV
- Scanner25-z.Ultra.UHV
- Scanner25-z.Ultra.ULT
- Scanner25-z.Ultra.UHV.ULT

X direction ➡
Scanner25-x.Ultra

Y direction ➡
Scanner25-x.Ultra

Z direction ➡
Scanner25-z.Ultra

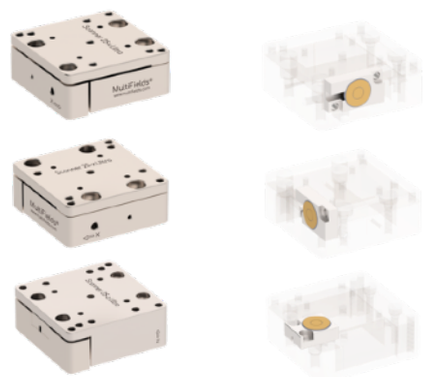

Figure 1, "25mm series", XYZ 3-freedom scanning motion set, 2pcs Scanner25-x.Ultra + 1pc Scanner25-z.Ultra

➡ "35 mm" Series

- Scanner35-xy.Ultra.HV
- Scanner35-xy.Ultra.UHV
- Scanner35-xy.Ultra.ULT
- Scanner35-xy.Ultra.UHV.ULT

- Scanner35-z.Ultra.HV
- Scanner35-z.Ultra.UHV
- Scanner35-z.Ultra.ULT
- Scanner35-z.Ultra.UHV.ULT

XY direction ➡
Scanner35-xy.Ultra

Z direction ➡
Scanner35-z.Ultra

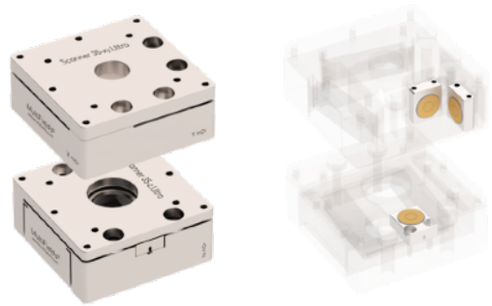

Figure 2, "35mm series", XYZ 3-freedom scanning motion set, 1pcs Scanner35-xy.Ultra + 1pc Scanner35-z.Ultra

.HV version, compatible with 1E-7 mbar
.ULT version, used at He3 or dilution cryogenics systems
.UHV version, compatible with 2E-11 mbar

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New Controller - MC-ArchimedesLT.03.Ultra

Multi-channels high-speed controller for closed-loop scanner control

➡ Features

- Capacitive sensing: Sub-nm displacement resolution | Tunable analog bandwidth
- High-speed Data acquisition: 50 kSa/s sampling rate | Synchronous multi-channel sampling
- Real-time communication: SPI communication between master and slave | 50 kSa/s stable data transmission | EtherCAT/ EtherNET/ USB3.0
- Closed-loop control: Sub-nm resolution at ultra-high speed | Synchronous multi-channel closed-loop control

➡ Interface & Functions

Communications

* EtherCAT
* EtherNET
* USB 3.0

Drive terminals

* Analog in
* Analog out
* Trigger in
* Trigger out
* Voltage Output

Sensing terminals

* Sensor input
* Tuning Knob
* Analog out

Figure.3 Closed- loop scanner controller - MC-ArchimedesLT.03.Ultra.
Working together with Multifields® closed-loop scanner , each of three channels maintains synchronous and individual closed-loop control with sub-nm resolution.

Piezoelectric Motion - LT

2025 New

Tech. Note – Precision, Spacial Resolution & Repeatability

Some definitions and discussion of technical parameters

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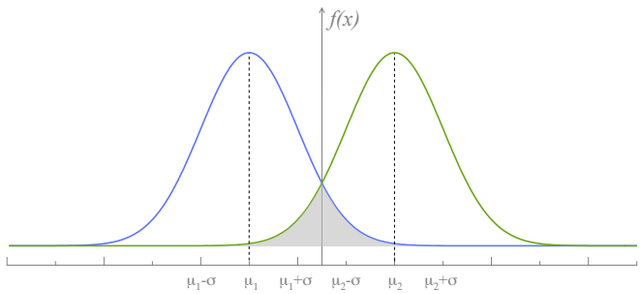
➡ Precision, also known Standard Deviation (ISO 3534-2:2006)

Precision is the closeness of agreement between independent test results obtained under stipulated conditions. **The measure of precision is usually expressed in terms of imprecision and computed as a standard deviation of the test results.** Less precision is reflected by a larger standard deviation. [SOURCE: ISO 3534-2:2006,3.3.4]

➡ Spacial Resolution, discussion about the criterion

Resolution is generally defined as the smallest detectable interval between measured values. For a physical parameter whose measurement values follow a Gaussian distribution N (μ, σ^2), a significant portion of people equate the standard deviation σ directly with resolution, while others adopt a stricter criterion, such as 3σ.

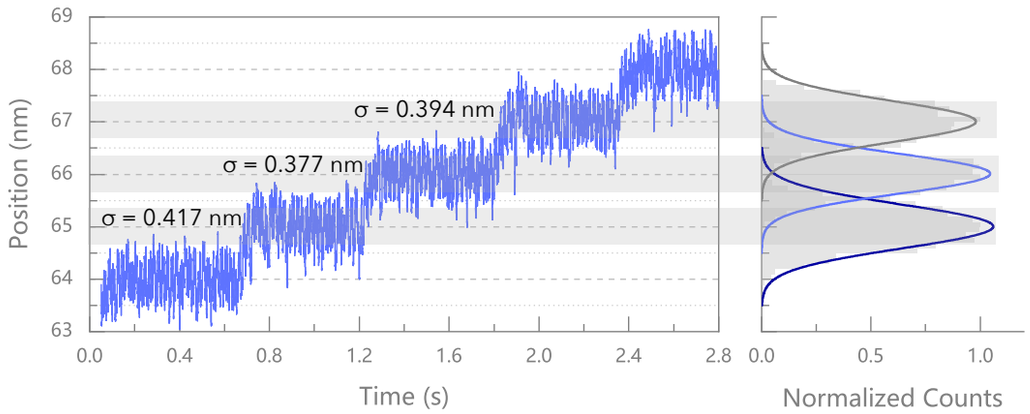
When the measured values are adjacent, the percentage of overlapping area between their Gaussian distributions determines the distinguishability of these two values, which is a critical factor in defining the resolution.



➡ Example, Spacial resolution of Scanner.Ultra motion

Scanner35-z.Ultra was operated at 4.2 K in a ultra low-vibration cryogenic platform (ColdTABLE*) .

The data acquisition from the capacitive sensor showed the RMS noise (σ) during closed-loop control was typically ~0.4 nm. We make scanner to move step by step with 1 nm distance. It is easy to distinguish steps.



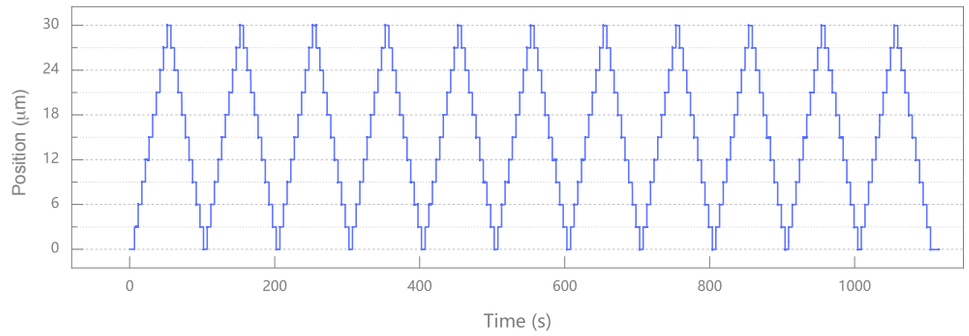
* ColdTABLE - one product of Multifields® cryogenic system series

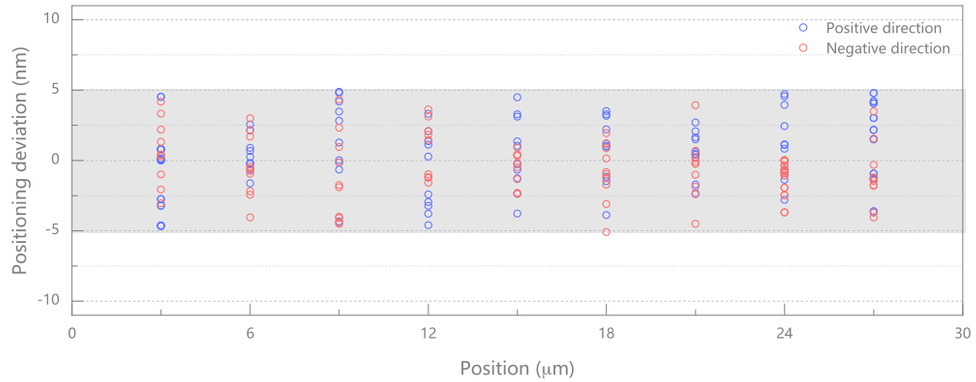
➡ Characterization of Bidirectional Repeatability (ISO 230-2:2006(E))

The bidirectional repeatability characterization was performed using a laser interferometer (resolution 0.1 nm, sampling rate 50 kHz) to monitor the displacement of scanner. The scanner was programmed to execute bidirectional motion over a 30 um range with 3 um incremental steps (20 steps in one cycle), completing 10 full back- and-forth cycles. The experiments was performed at 4.2 K in a ultra low-vibration cryogenic platform (ColdTABLE) with a MC-ArchimedesLT.Ultra03 controller.

The positioning deviation were calculated as $E_{ij} = P_{measure,ij} - P_{mean,i}$, where i denotes the target position index and j denotes the cycle number. The figure below shows all position deviation in ±5 nm range. According to the definition of bidirectional repeatability in ISO 230-2:2006(E) , the bidirectional repeatability of Scanner.Ultra series product is smaller than 5 nm.

All parameters MultiFields shows in specification strictly follow ISO 230-2:2006(E).





➡ The sensor redefines the motion control at cryogenic temperature

Our proprietary capacitive displacement sensor delivers sub-nanometer resolution in cryogenic environments – the core reason why our scanner achieves excellent precision, resolution and repeatability.

Capacitive displacement sensor

C0.2.FLT.Cryo

Piezoelectric Motion - LT

2025 New

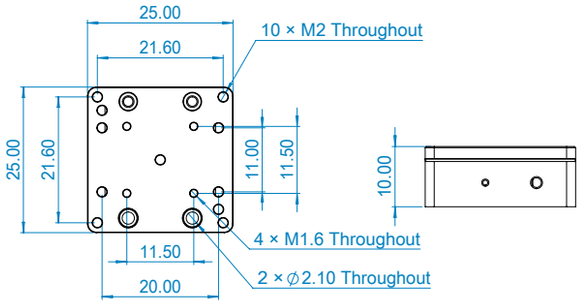
"Closed-Loop" – Scanner25-x.Ultra

Scanners with sub-nanoscale resolution capacitive displacement sensors for closed-loop control

➡ Features

- Closed-loop control
- Sub-nm resolution
- 55 um travel range at room temperature
- 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 mm × 10.5 mm			
2	Weight	80 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	twisted paired wire & triax cable			
8	Connectors	2 head pins + 1 triax connector (for each dimension)			
9	Scanning Axis	X			
10	Travel range	@300 K: 55 μm; @4 K: 30 μm			
11	Drive Voltage	Max. 75 V @300 K; Max. 150 V @4 K			
12	Max. Load	250 g			
13	Capacitance @300 K	7 uF			
14	Sensor	Capacitive displacement sensor			
15	Resolution	0.5 nm			
16	Linearity error	Typical ~ 0.1 %			
17	Bidirectional Repeatability	< 5 nm			

For detail drawing and 3D model please contact us.

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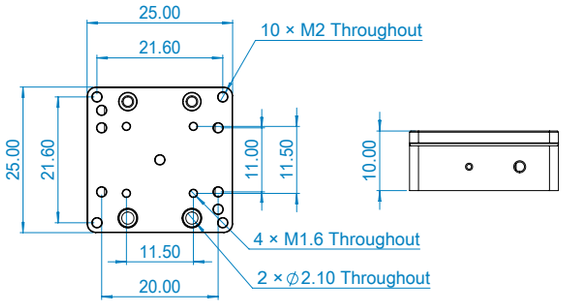
"Closed-Loop" – Scanner25-z.Ultra

Scanners with sub-nanoscale resolution capacitive displacement sensors for closed-loop control

➡ Features

- Closed-loop control
- Sub-nm resolution
- 55 um travel range at room temperature
- 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 mm × 10.5 mm			
2	Weight	80 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	twisted paired wire & triax cable			
8	Connectors	2 head pins + 1 triax connector (for each dimension)			
9	Scanning Axis	Z			
10	Travel range	@300 K: 55 μm; @4 K: 30 μm			
11	Drive Voltage	Max. 75 V @300 K; Max. 150 V @4 K			
12	Max. Load	250 g			
13	Capacitance @300 K	7 uF			
14	Sensor	Capacitive displacement sensor			
15	Resolution	0.5 nm			
16	Linearity error	Typical ~ 0.1 %			
17	Bidirectional Repeatability	< 5 nm			

For detail drawing and 3D model please contact us.

Specifications subject to change without notice.

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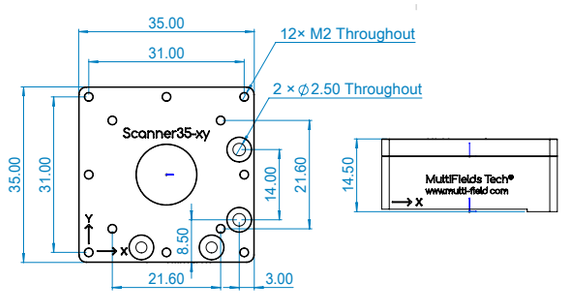
"Closed-Loop" – Scanner35-xy.Ultra

Scanners with sub-nanoscale resolution capacitive displacement sensors for closed-loop control

➡ Features

- Closed-loop control
- Sub-nm resolution
- 100 × 100 um travel range at room temperature
- 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	35 × 35 mm × 14.5 mm			
2	Weight	110 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	twisted paired wire & triax cable			
8	Connectors	2 head pins + 1 triax connector (for each dimension)			
9	Scanning Axis	X, Y			
10	Travel range	@300 K: 100*100 μm; @4 K: 60*60 μm			
11	Drive Voltage	Max. 75 V @300 K; Max. 150 V @4 K			
12	Max. Load	500 g			
13	Capacitance @300 K	7 uF			
14	Sensor	Capacitive displacement sensor			
15	Resolution	0.5 nm			
16	Linearity error	Typical ~ 0.1 %			
17	Bidirectional Repeatability	< 5 nm			

For detail drawing and 3D model please contact us.

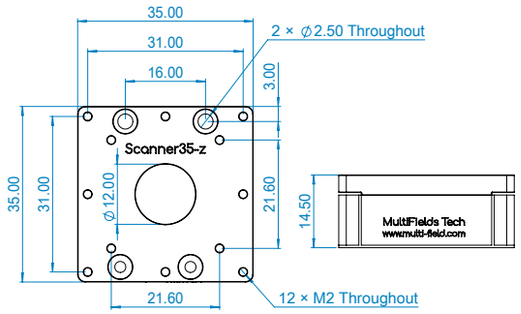
"Closed-loop" – Scanner35-z.Ultra

Scanners with sub-nanoscale resolution capacitive displacement sensors for closed-loop control

➡ Features

- Closed-loop control
- Sub-nm resolution
- 100 um travel range at room temperature
- 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	35 × 35 mm × 14.5 mm			
2	Weight	110 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	twisted paired wire & triax cable			
8	Connectors	2 head pins + 1 triax connector (for each dimension)			
9	Scanning Axis	Z			
10	Travel range	@300 K: 100 μm; @4 K: 60 μm			
11	Drive Voltage	Max. 75 V @300 K; Max. 150 V @4 K			
12	Max. Load	500 g			
13	Capacitance @300 K	7 uF			
14	Sensor	Capacitive displacement sensor			
15	Resolution	0.5 nm			
16	Linearity error	Typical ~ 0.1 %			
17	Bidirectional Repeatability	< 5 nm			

For detail drawing and 3D model please contact us.

Table 1 - Product Matrix of Motion Units (work below 2 K)

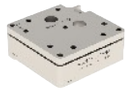
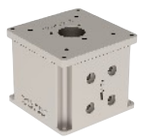
	"Linear" Series			"Rotator" Series		"Goniometer" Series		"Scanner" Series		
16mm Series (Footprint Size)	 Linear16-x	 Linear16-z		 Rotator16		NA		 Scanner16-xy	 Scanner16-z	5 Products
25mm Series (Footprint Size)	 Linear25-x	 Linear25-z	 Linear25-z-LR	 Rotator25	 Rotator25-optic	 Goniometer25-phi	 Goniometer25-theta	 Scanner25-xy	 Scanner25-z	9 Products
35mm Series (Footprint Size)	 Linear35-x	 Linear35-z-optic		 Rotator35		 Goniometer35-phi	 Goniometer35-theta	 Scanner35-xy	 Scanner35-z	7 Products
	Linear stage, 7 Products			Rotator, 4 Products		Goniometer, 4 Products		Scanner, 6 Products		Total, 21

Table 2 - Product Line of Long Stroke Linear Motion Units (Work below 2 K)

Travel Range	30 mm	50 mm	75 mm	100 mm	200 mm	
Long Stroke Linear Motion Unit	 LS-Linear30	 LS-Linear50	 LS-Linear75	 LS-Linear100	 LS-Linear200	5 Products

Piezoelectric Motion - LT

Overview of “Linear Series” Piezoelectric Motion Unit

Low Temperature Piezoelectric Motion - Linear Series

Choose your suitable MultiFields® “Linear Series” products

Linear16-x

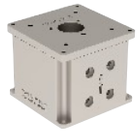
Linear16-z

Linear25-x

Liear25-z

Linear25-z-LR

Linear35-x



Linear35-z-optic

Defined by size	“16mm Series”		“25mm Series”			“35mm Series”		Defined by size
1 Work Environment	•Default: 1.4 K ~ 400 K; 1e-7 mbar; 35Tesla •Option1 - .ULT, lowest use temperature 30 mK; •Option2 - .UHV, highest vacuum environment 2E-11 mbar;							Work Environment 1
2 Dimensions	16*16*10.5 mm	16*16*16 mm	25*25*9.5 mm	25*25*19.6 mm	25*25*29.6 mm	35*35*10.5 mm	35*35*30 mm	Dimensions 2
3 Travel Range	3 mm	3 mm	6 mm	6 mm	16 mm	20 mm	8 mm	Travel Range 3
4 Max. Load	50 g	250 g	500 g	300 g	300 g	2500 g	500 g	Max. Load 4
5 Dynamic Drive Force	1.5 N	3 N	2 N	3 N	3 N	3 N	5 N	Dynamic Drive Force 5
6 Position Sensor	Resistive sensor							Position Sensor 6
Sensor Range	3 mm	3 mm	6 mm	6 mm	16 mm	20 mm	8 mm	Sensor Range
Sensor Resolution	150 nm							Sensor Resolution
Sensor Repeatability	1 -2 μm							Sensor Repeatability
7 Drive Voltage	Max. 200 V							Drive Voltage 7
8 Fine Tune Resolution @ 2 K*	sub-nanometer @ 2 K							Fine Tune Resolution @ 2 K* 8
9 Step Size (min) @ 300 K*	~ 10 nm @ 300 K							Step Size (min) @ 300 K* 9
10 Pins Number	Drive - 2 pins Sensor - 3 pins	Drive - 2 pins / 4pins (adv) Sensor - 3 pins	Drive - 2 pins Sensor - 3 pins	Drive - 2 pins / 4pins (adv) Sensor - 3 pins	Drive - 2 pins / 4pins (adv) Sensor - 3 pins	Drive - 2 pins Sensor - 3 pins	Drive - 2 pins / 4pins (adv) Sensor - 3 pins	Pins Number 10
11 Weight	10 g	12 g	24 g	34g	40 g	38 g	118 g	Weight 11

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.

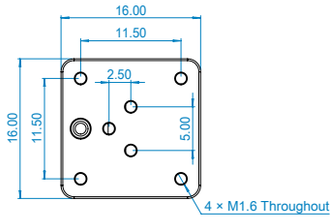
“16mm Series” – Linear16-x (closed-loop)

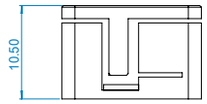
Smallest linear stage of x direction with 50g high load

➡ Features

- Miniature size
- Non-magnetic material
- 50g High load
- Closed-loop control
- 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	16 × 16 × 10.5 mm			
2	Weight	10 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*	sub - nm			
11	Step Size (min) @300 K*	~ 10 nm			
12	Travel range	3 mm			
13	Max. Velocity @300 K	~ 2 mm/s			
14	Max. Load	50 g			
15	Dynamic force	1.5 N			
16	Position encoder @2 K	Resistive Sensor			
17	Encoder range	3 mm			
18	Sensor resolution	~ 150 nm			
19	Repeatibility	1 - 2 μm			

For detail drawing and 3D model please contact us.

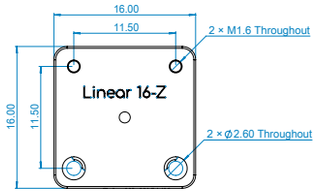
“16mm Series” – Linear16-z (closed-loop)

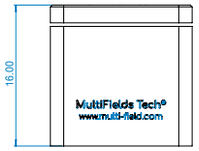
Smallest linear stage of z direction with 250g super-high load

➡ Features

- Miniature size
- Non-magnetic material
- 250g high load
- Closed-loop control
- 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	16 × 16 × 16 mm			
2	Weight	12 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 - 4 pins, Sensor - 3 pins			
10	Fine Tune Resolution @2 K*	sub - nm			
11	Step Size (min) @300 K*	~ 10 nm			
12	Travel range	3 mm			
13	Max. Velocity @300 K	~ 2 mm/s			
14	Max. Load	250 g			
15	Dynamic force	3 N			
16	Position encoder	Resistive Sensor			
17	Encoder range	3 mm			
18	Sensor resolution	~ 150 nm			
19	Repeatibility	1 - 2 μm			

For detail drawing and 3D model please contact us.

Piezoelectric Motion - LT

Specifications subject to change without notice.

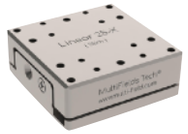
“25mm Series” – Linear25-x (closed-loop)

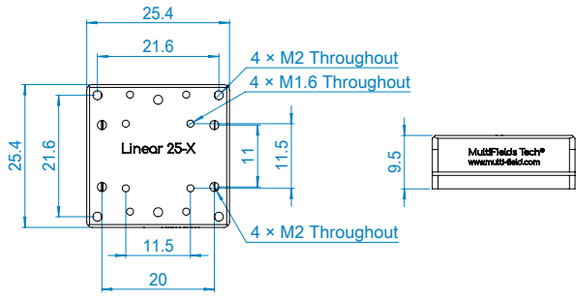
A stage with precise rails performs excellent linearity and high load

➡ Features

- Compact design
- Non-magnetic material
- 500g high load
- Long travel range
- 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	25.4 × 25.4 × 9.5 mm			
2	Weight	24 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*	sub - nm			
11	Step Size (min) @300 K*	~ 10 nm			
12	Travel range	6 mm			
13	Max. Velocity @300 K	~ 3 mm/s			
14	Max. Load	500 g			
15	Dynamic force	2 N			
16	Position encoder	Resistive Sensor			
17	Encoder range	6 mm			
18	Sensor resolution	~ 150 nm			
19	Repeatibility	1 - 2 μm			

For detail drawing and 3D model please contact us.

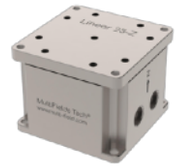
“25mm Series” – Linear25-z (closed-loop)

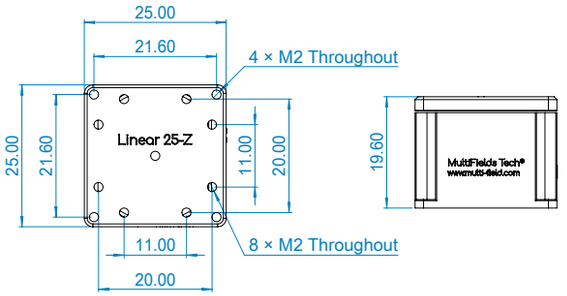
A top-of-the-line solution for low cross-talk motion in X&Y direction

➡ Features

- Compact design
- Non-magnetic material
- High load & force
- Long travel range
- 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 × 19.6 mm			
2	Weight	34 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 - 4 pins, Sensor - 3 pins			
10	Fine Tune Resolution @2 K*	sub - nm			
11	Step Size (min) @300 K*	~ 10 nm			
12	Travel range	6 mm			
13	Max. Velocity @300 K	~ 2 mm/s			
14	Max. Load	300 g			
15	Dynamic force	3 N			
16	Position encoder	Resistive Sensor			
17	Encoder range	6 mm			
18	Sensor resolution	~ 150 nm			
19	Repeatibility	1 - 2 μm			

For detail drawing and 3D model please contact us.

Piezoelectric Motion - LT

Specifications subject to change without notice.

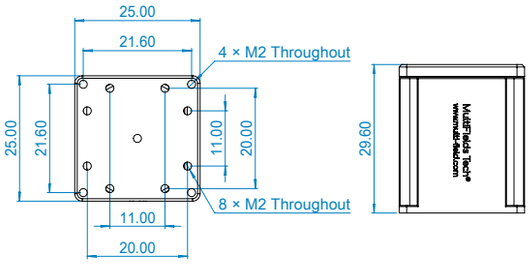
“25mm Series” – Linear25-z.LR (closed-loop)

Larger motion range with low cross-talk in X&Y direction

➡ Features

- Compact design
- Non-magnetic material
- High load & force
- 16mm travel range
- 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 × 29.6 mm			
2	Weight	62 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 - 4 pins , Sensor - 3 pins			
10	Fine Tune Resolution @2 K*	sub - nm			
11	Step Size (min) @300 K*	~ 10 nm			
12	Travel range	16 mm			
13	Max. Velocity @300 K	~ 2 mm/s			
14	Max. Load	300 g			
15	Dynamic force	3 N			
16	Position encoder	Resistive Sensor			
17	Encoder range	16 mm			
18	Sensor resolution	~ 150 nm			
19	Repeatibility	1 - 2 μm			

For detail drawing and 3D model please contact us.

MultiFields
多场科技

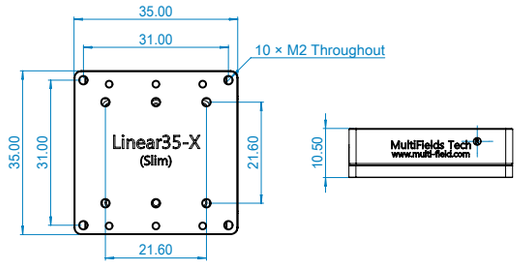
“35mm Series” – Linear35-x (closed-loop)

High-load linear stage with ultra-long travel range

➡ Features

- 20mm travel range
- 2500g high load
- Closed-loop control
- Non-magnetic material
- 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	35 × 35 × 10.5 mm			
2	Weight	54 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*	sub - nm			
11	Step Size (min) @300 K*	~ 10 nm			
12	Travel range	20 mm			
13	Max. Velocity @300 K	~ 2 mm/s			
14	Max. Load	2500 g			
15	Dynamic force	3 N			
16	Position encoder	Resistive Sensor			
17	Encoder range	20 mm			
18	Sensor resolution	~ 150 nm			
19	Repeatibility	1 - 2 μm			

For detail drawing and 3D model please contact us.

Piezoelectric Motion - LT

Specifications subject to change without notice.

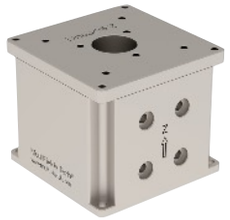
“35mm Series” – Linear35-z-Optic (closed-loop)

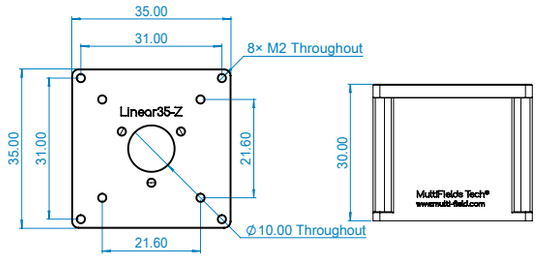
⌀10-mm throughout aperture along motion axis.

➡ Features

- 10-mm aperture
- Non-magnetic material
- High load & force
- Closed-loop control
- 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	35 × 35 × 30 mm			
2	Weight	118 g			
3	Clear Aperture	10 mm			
4	Work environment	Temperature range: 1.4 ~ 400 K, Max. Magnetic field: 35 Tesla			
5	Option1 - 30 mK		✓		✓
6	Option2 - 2e-11 mbar			✓	✓
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 - 4 pins, Sensor - 3 pins			
11	Fine Tune Resolution @2 K*	sub - nm			
12	Step Size (min) @300 K*	~ 10 nm			
13	Travel range	8 mm			
14	Max. Velocity @300 K	~ 2 mm/s			
15	Max. Load	500 g			
16	Dynamic force	5 N			
17	Position encoder	Resistive Sensor			
18	Encoder range	8 mm			
19	Sensor resolution	~ 150 nm			

For detail drawing and 3D model please contact us.

Overview of “Rotator series” piezoelectric motion unit

Low Temperature · Piezoelectric Motion - Rotator Series

Choose your suitable MultiFields® “Rotator Series” product

Rotator16

Rotator25

Rotator25-optic

Rotator35

	Series defined by size	“16mm Series”	“25mm Series”	“25mm Series”	“35mm Series”	Series defined by size	
1	Work Environment	• Default: 1.4 K ~ 400 K;1e-7 mbar; 35 Tesla • Option1 - .ULT, lowest use temperature 30 mK; • Option2 - .UHV, highest vacuum environment 2E-11 mbar;				Work Environment	1
2	Dimensions	Dia 16*15.6 mm	25*25*16.5 mm	30*23*14.5 mm	35*35*16.5 mm	Dimensions	2
3	Travel Range	360 ° endless				Travel Range	3
4	Max. Load	100 g	250 g	250 g	500 g	Max. Load	4
5	Dynamic Torque	0.4 Ncm	1.5 Ncm	1.5 Ncm	2.5 Ncm	Dynamic Torque	5
6	Max. Velocity @300 K	10 °/s	3 °/s	3 °/s	10 °/s	Max. Velocity @300 K	6
7	Encoder	Resistive Sensor				Encoder	7
	Sensor Range	270 °	320 °	320 °		Sensor Range	
	Sensor Resolution	10 m°				Sensor Resolution	
	Sensor Repeatability	50 m°				Sensor Repeatability	
8	Fine Tune Resolution @ 2 K*	5 μ°	4 μ°	4 μ°	3 μ°	Fine Tune Resolution @ 2 K*	8
9	Step Size (min) @ 300 K*	0.5 m°	0.4 m°	0.4 m°	0.3 m°	Step Size (min) @ 300 K*	9
10	Pins	Drive - 2 pins Sensor - 3 pins				Pins	10
11	Main Body	Default: Pure Ti ULT: BeCu				Main Body	11
12	Weight	10 g	24 g	24 g	45 g	Weight	12

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.

Piezoelectric Motion - LT

Specifications subject to change without notice.

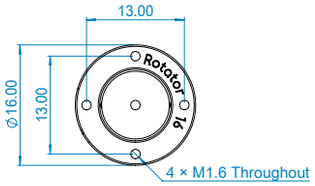
“16mm Series” – Rotator16 (closed-loop)

Smallest rotary stage with closed-loop control

➡ Features

- Miniature size
- 360 ° endless travel range
- Closed-loop control
- Non-magnetic material
- 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	Dia 16 × 15.6 mm			
2	Weight	10 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*	5 μ°			
11	Step Size (min) @300 K*	0.5 m°			
12	Travel range	360 ° endless			
13	Max. Velocity @300 K	~ 10 °/s			
14	Max. Load	100 g			
15	Dynamic torque	0.4 Ncm			
16	Position encoder	Resistive Sensor			
17	Encoder range	270 °			
18	Sensor resolution	10 m°			
19	Repeatibility	~ 50 m°			

For detail drawing and 3D model please contact us.

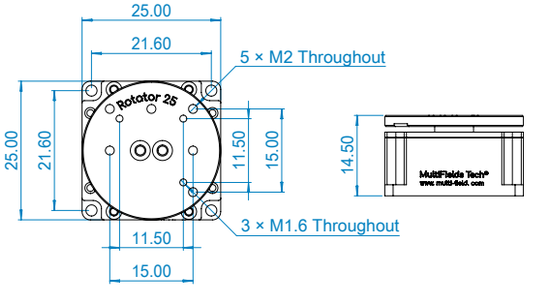
“25mm Series” – Rotator25 (closed-loop)

High-performance rotary stage with closed-loop control

➡ Features

- Compact disign
- 360 ° endless travel range
- Closed-loop control
- Non-magnetic material
- 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 × 14.5 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*	4 μ°			
11	Step Size (min) @300 K*	0.4 m°			
12	Travel range	360 ° endless			
13	Max. Velocity @300 K	~ 3 °/s			
14	Max. Load	250 g			
15	Dynamic torque	1.5 Ncm			
16	Position encoder	Resistive Sensor			
17	Encoder range	320 °			
18	Sensor resolution	10 m°			
19	Repeatibility	~ 50 m°			

For detail drawing and 3D model please contact us.

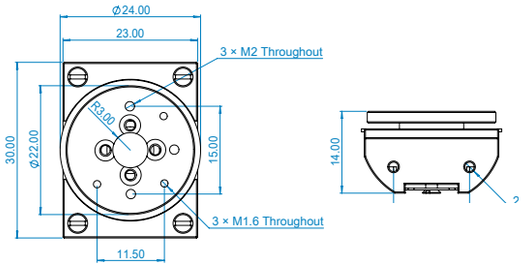
“25mm Series” – Rotator25-Optic (closed-loop)

⌀6-mm throughout aperture along rotation axis.

➡ Features

- Compact disign
- 6-mm aperture
- 360 ° endless travel range
- Vertical mounting
- 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	30 × 23 × 14.5 mm			
2	Clear aperture	6mm			
3	Weight	24 g			
4	Work environment	Temperature range: 1.4 ~ 400 K, Max. Magnetic field: 35 Tesla			
5	Option1 - 30 mK		✓		✓
6	Option2 - 2e-11 mbar			✓	✓
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			
11	Fine Tune Resolution @2 K*	4 μ°			
12	Step Size (min) @300 K*	0.4 m°			
13	Travel range	360 ° endless			
14	Max. Velocity @300 K	~ 3 °/s			
15	Max. Load	250 g			
16	Dynamic torque	1.5 Ncm			
17	Position encoder	Resistive Sensor			
18	Encoder range	320 °			
19	Sensor resolution	10 m°			

For detail drawing and 3D model please contact us.

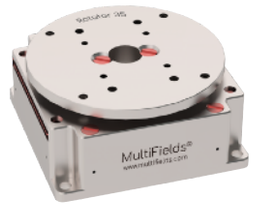
“35mm Series” – Rotator35-Optic (closed-loop)

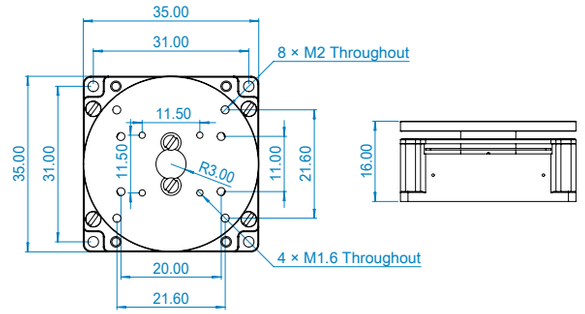
High-performance rotary stage with ⌀6-mm throughout aperture

➡ Features

- Compact disign
- 6-mm aperture
- 360 ° endless travel range
- High load & high torque
- 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	35 × 35 × 16.5 mm			
2	Clear aperture	6mm			
3	Weight	45 g			
4	Work environment	Temperature range: 1.4 ~ 400 K, Max. Magnetic field: 35 Tesla			
5	Option1 - 30 mK		✓		✓
6	Option2 - 2e-11 mbar			✓	✓
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			
11	Fine Tune Resolution @2 K*	3 μ°			
12	Step Size (min) @300 K*	0.3 m°			
13	Travel range	360 ° endless			
14	Max. Velocity @300 K	~ 10 °/s			
15	Max. Load	500 g			
16	Dynamic torque	2.5 Ncm			
17	Position encoder	Resistive Sensor			
18	Encoder range	320 °			
19	Sensor resolution	10 m°			

For detail drawing and 3D model please contact us.

Overview of “Goniometer series” piezoelectric motion unit

Low Temperature Piezoelectric Motion - Goniometer Series

Choose your suitable MultiFields® “Goniometer Series” product

Goniometer25-theta

Goniometer25-phi

Goniometer35-theta

Goniometer35-phi

Series defined by size	“25mm Series”		“35mm Series”		Series defined by size
1 Work Environment	• Default: 1.4 K ~ 400 K; 1e-7 mbar; 35 Tesla • Option1 - .ULT, lowest use temperature 30 mK; • Option2 - .UHV, highest vacuum environment 2E-11 mbar;				Work Environment 1
2 Dimensions	25*25*12.5 mm	25*25*12.5 mm	35*35*16 mm	35*35*16 mm	Dimensions 2
3 Rotation Center To Top Plate	41 mm	53.5 mm	50 mm	66 mm	Rotation Center To Top Plate 3
4 Travel Range	6.6 °	6 °	12 °	10 °	Travel Range 4
5 Max. Load	200 g	200 g	500 g	500 g	Max. Load 5
6 Dynamic Force	2.2 N	2.2 N	3 N	3 N	Dynamic Force 6
7 Encoder	Resistive Sensor				Encoder 7
Sensor Range	6.6 °	6 °	12 °	10 °	Sensor Range
Sensor Resolution	0.2 m°		0.5 m°		Sensor Resolution
8 Fine Tune Resolution @ 2 K*	0.5 μ°				Fine Tune Resolution @ 2 K* 8
9 Step Size (min) @300 K*	50 μ°				Step Size (min) @300 K* 9
10 Pins	Driven - 2 pins; Sensor - 3 pins				Pins 9
11 Main Body	Default: Pure Ti; ULT: BeCu				Main Body 10
12 Weight	20 g	20 g	70 g	70 g	Weight 11

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.

Piezoelectric Motion - LT

Specifications subject to change without notice.

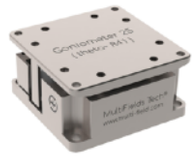
"25mm Series" – Goniometer25-theta (closed-loop)

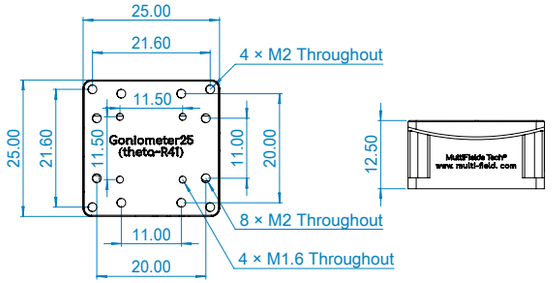
Goniometer stage with closed-loop control

➡ 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.

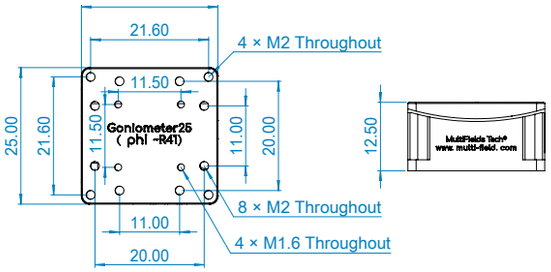
"25mm Series" – Goniometer25-phi (closed-loop)

Goniometer stage with closed-loop control

➡ Features

- Compact design
- Long travel range
- Common pivot with Goniometer25-theta 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 °			
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°			

For detail drawing and 3D model please contact us.

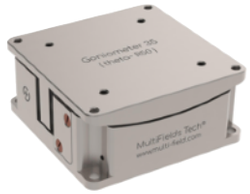
"35mm Series" – Goniometer35-theta (closed-loop)

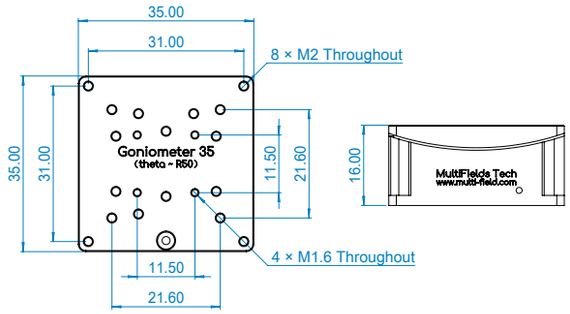
Goniometer stage with closed-loop control

➡ Features

- High load
- Long travel range
- Common pivot with Goniometer35-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	35 × 35 × 16 mm			
2	Weight	70 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	Driven - 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	~ 12 °			
13	Max. Velocity @300 K	~ 1 °/s			
14	Max. Load	500 g			
15	Dynamic force	3 N			
16	Rotation center to top plate	50 mm			
17	Position encoder	Resistive Sensor			
18	Encoder range	12 °			
19	Sensor resolution	0.5 m°			

For detail drawing and 3D model please contact us.

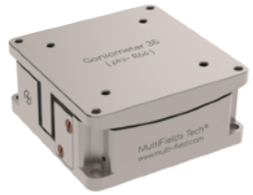
"35mm Series" – Goniometer35-phi (closed-loop)

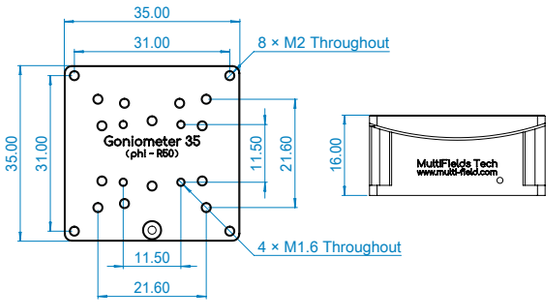
Goniometer stage with closed-loop control

➡ Features

- High load
- Long travel range
- Common pivot with Goniometer35-theta for stacking
- Ultra-high vacuum & low temperature compatible

➡ Picture & dimensions





➡ Specifications

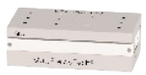
	Optional Versions ⇨	.HV (default)	.ULT	.UHV	.ULT.UHV
		.HV version, compatible with 1E-7 mbar .ULT version, used at He3 or dilution cryogenics systems .UHV version, compatible with 2E-11 mbar			
1	Footprint × hight	35 × 35 × 16 mm			
2	Weight	70 g			
3	Work environment	Temperature range: 1.4 ~ 400 K, 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	Driven - 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	~ 10 °			
13	Max. Velocity @300 K	~ 1 °/s			
14	Max. Load	500 g			
15	Dynamic force	3 N			
16	Rotation center to top plate	66 mm			
17	Position encoder	Resistive Sensor			
18	Encoder range	12 °			
19	Sensor resolution	0.5 m°			

For detail drawing and 3D model please contact us.

Overview of “LS-Linear Series” Piezoelectric Motion Unit

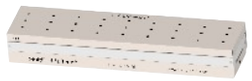
Low Temperature Piezoelectric Motion - Scanner Series

Choose your suitable MultiFields® “LS-linear Series” product



LS-Linear30

LS-Linear50



LS-Linear75

LS-Linear100

LS-Linear200

Series defined by size						Series defined by size
1 Work Environment	• Default: 1.4 K ~ 400 K; 1e-7 mbar; 35 Tesla • Option1 - .ULT, lowest use temperature 30 mK; • Option2 - .UHV, highest vacuum environment 2E-11 mbar;					Work Environment 1
2 Motion Axies	X Axis					Motion Axies 2
3 Dimensions	60 mm × 32 mm × 19.5 mm	90 mm × 32 mm × 19.5 mm	135 mm × 32 mm × 19.5 mm	180 mm × 32 mm × 19.5 mm	320 mm × 32 mm × 19.5 mm	Dimensions 3
4 Travel Range	30 mm	50 mm	75 mm	100 mm	200 mm	Travel Range 4
5 Max. Load	0.75 kg	1.5 kg			2 kg	Max. Load 5
6 Positioner Sensor	Resistive sensor					Positioner Sensor 6
Sensor Range	30 mm	50 mm	75 mm	100 mm	200 mm	Sensor Range
Sensor Resolution	150 nm					Sensor Resolution
Sensor Repeatability	1 -2 μm					Sensor Repeatability
7 Drive Voltage	Max.200 V					Drive Voltage 7
8 Pins	Drive - 2 pins, Sensor - 3 pins					Pins 8
9 Main Body	Default: Pure Ti; ULT: BeCu					Main Body 9
10 Weight	120 g	150 g	200 g	300 g	600 g	Weight 10

Piezoelectric Motion - LT

Specifications subject to change without notice.

"LS-Linear Series" – LS-Linear30 (closed-loop)

Linear motion stage with long travel range of 30 mm at cryogenic temperature

➡ Features

- High load & force
- 30 mm travel range
- Non-magnetic material
- Closed-loop control
- 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	60 × 32 × 19.5 mm			
2	Weight	120 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	Travel range	30 mm			
11	Max. Velocity @300 K	~ 3 mm/s			
12	Drive voltage	Max. 200 V			
13	Max. Load	750 g			
14	Dynamic force	3 N			
15	Position encoder	Resistive Sensor			
16	Encoder range	30 mm			
17	Sensor resolution	~ 150 nm			
18	Repeatability	1 - 2 μm			

For detail drawing and 3D model please contact us.

MultiFields
多场科技

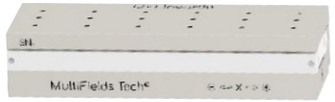
"LS-Linear Series" – LS-Linear50 (closed-loop)

Linear motion stage with long travel range of 50 mm at cryogenic temperature

➡ Features

- High load & force
- 50 mm travel range
- Non-magnetic material
- Closed-loop control
- 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	90 × 32 × 19.5 mm			
2	Weight	150 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	Travel range	50 mm			
11	Max. Velocity @300 K	~ 3 mm/s			
12	Drive voltage	Max. 200 V			
13	Max. Load	750 g			
14	Dynamic force	3 N			
15	Position encoder	Resistive Sensor			
16	Encoder range	50 mm			
17	Sensor resolution	~ 150 nm			
18	Repeatability	1 - 2 μm			

For detail drawing and 3D model please contact us.

Piezoelectric Motion - LT

Specifications subject to change without notice.

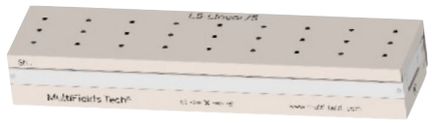
"LS-Linear Series" – LS-Linear75 (closed-loop)

Linear motion stage with long travel range of 75 mm at cryogenic temperature

➡ Features

- High load & force
- 75 mm travel range
- Non-magnetic material
- Closed-loop control
- 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	135 × 32 × 19.5 mm			
2	Weight	200 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	Travel range	75 mm			
11	Max. Velocity @300 K	~ 3 mm/s			
12	Drive voltage	Max. 200 V			
13	Max. Load	1000 g			
14	Dynamic force	3 N			
15	Position encoder	Resistive Sensor			
16	Encoder range	75 mm			
17	Sensor resolution	~ 150 nm			
18	Repeatability	1 - 2 μm			

For detail drawing and 3D model please contact us.

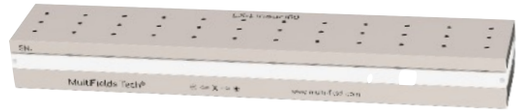
"LS-Linear Series" – LS-Linear100 (closed-loop)

Linear motion stage with long travel range of 100 mm at cryogenic temperature

➡ Features

- High load & force
- 100 mm travel range
- Non-magnetic material
- Closed-loop control
- 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	180 × 32 × 19.5 mm			
2	Weight	300 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	Travel range	100 mm			
11	Max. Velocity @300 K	~ 3 mm/s			
12	Drive voltage	Max. 200 V			
13	Max. Load	1000 g			
14	Dynamic force	3 N			
15	Position encoder	Resistive Sensor			
16	Encoder range	100 mm			
17	Sensor resolution	~ 150 nm			
18	Repeatability	1 - 2 μm			

For detail drawing and 3D model please contact us.

"LS-Linear Series" – LS-Linear200 (closed-loop)

Linear motion stage with long travel range of 100 mm at cryogenic temperature

➡ Features

- High load & force
- 200 mm travel range
- Non-magnetic material
- Closed-loop control
- 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	320 × 32 × 19.5 mm			
2	Weight	600 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	Travel range	200 mm			
11	Max. Velocity @300 K	~ 3 mm/s			
12	Drive voltage	Max. 200 V			
13	Max. Load	1500 g			
14	Dynamic force	3 N			
15	Position encoder	Resistive Sensor			
16	Encoder range	320 mm			
17	Sensor resolution	~ 150 nm			
18	Repeatability	1 - 2 μm			

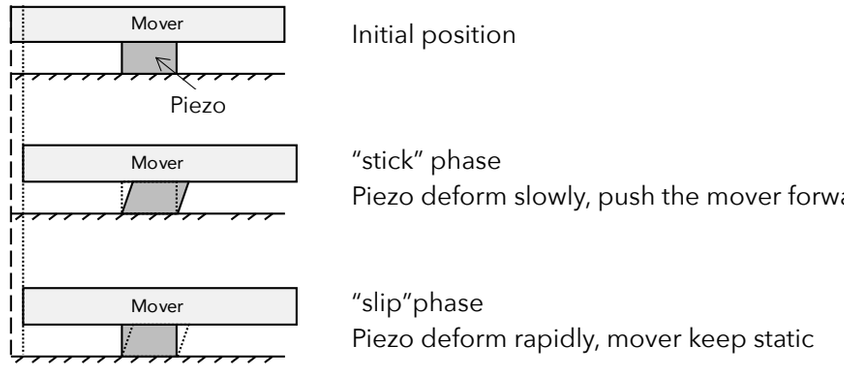
For detail drawing and 3D model please contact us.

Working principle

How piezo positioning stages & position sensors work

How piezo positioning stages work

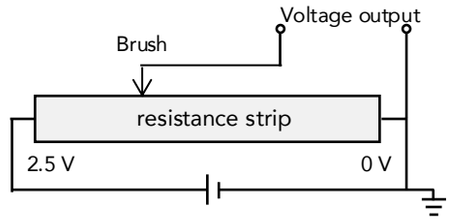
The Multifields® piezo positioning stage works on the "stick-slip" mode. The mover of the stage is pushed forward by the deformation of piezoelectric ceramics. When the piezoelectric ceramic is slowly deformed, the stage follows the piezoelectric ceramic to move. When piezoelectric ceramics deform rapidly, the stage remains stationary due to its inertia. Using the "slow-fast" periodic action of piezoelectric ceramics, the stage can be driven to achieve a continuous "stick-slip" step movement, and the process in one cycle is shown in Figure 1



How position sensors work

The principle of the resistive position sensor is similar to that of a sliding rheostat. A brush is connected on the moving platform of the stage, so that the brush contacts the resistance strip. one end of the resistance strip is grounded, and the other end is applied with a fixed voltage of 2.5V.

Note: Voltage measurement is used in cryogenic piezo positioning stage controllers instead of resistance measurement, so the changes in resistance of the stripe due to temperature variation do not affect the final output of the sensor.



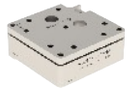
Overview of “Scanner Series” Piezoelectric Motion Unit

Low Temperature Piezoelectric Motion - Scanner Series

Choose your suitable MultiFields® “Scanner Series” product

Scanner16-xy

Scanner16-z



Scanner25-xy

Scanner25-z

Scanner35-xy

Scanner35-z

Series defined by size	“16mm Series”		“25mm Series”	“25mm Series”	“35mm Series”		Series defined by size	
1 Work Environment	• Default: 1.4 K ~ 400 K; 1e-7 mbar; 35 Tesla • Option1 - .ULT, lowest use temperature 30 mK; • Option2 - .UHV, highest vacuum environment 2E-11 mbar;						Work Environment	1
2 Scanning Axies	X, Y	Z	X, Y	Z	X, Y	Z	Scanning Axies	2
3 Dimensions	16*16*9 mm	16*16*6 mm	25*25*13.5 mm	25*25*12 mm	35*35*14.5 mm	35*35*14.5 mm	Dimensions	3
4 Travel Range	30 μm*30 μm	30 μm	55 μm*55um	55 μm	100 μm*100 μm	100 μm	Travel Range	4
5 Max. Load	100 g	100 g	200 g	200 g	500 g	500 g	Max. Load	5
6 Repeatability	< 10 nm						Repeatability	6
7 Drive Voltage	Max. 75 V @300K；Max. 180 V @4K						Drive Voltage	7
8 Resolution	0.5 nm	0.5 nm	0.8 nm	0.8 nm	2 nm	2 nm	Resolution	8
9 Pins	4 pins	2 pins	4 pins	2 pins	4 pins	2 pins	Pins	9
10 Main Body	Default: Pure Ti; ULT: BeCu						Main Body	10
11 Weight	8 g	7g	23 g	20 g	65 g	65 g	Weight	11

Piezoelectric Motion - LT

Specifications subject to change without notice.

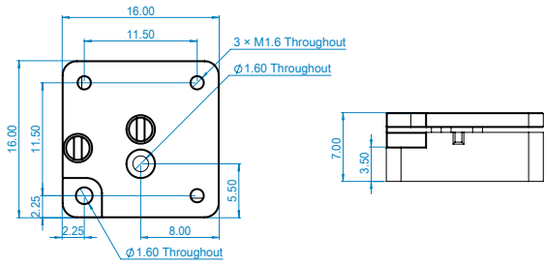
"16mm Series" – Scanner16-xy

Smallest scanning stage of x & y direction

➡ Features

- Miniature size
- Sub-nm resolution
- 30 × 30 um travel range at room temperature
- 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	16 × 16 × 7 mm			
2	Weight	8 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	2 pins for each axis			
10	Scanning Axies	X, Y			
11	Travel range @300 K	30 × 30 μm			
12	Drive voltage	Max. 75 V @300 K, Max. 180 V @4 K			
13	Max. Load	100 g			
14	Capacitance @300 K	1 uF			
15	Resolution	0.5 nm			
16	Repeatability	< 10 nm			

For detail drawing and 3D model please contact us.

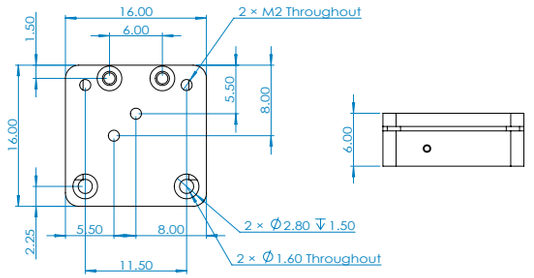
"16mm Series" – Scanner16-z

Smallest scanning stage of Z direction

➡ Features

- Miniature size
- Sub-nm resolution
- 30 um travel range at room temperature
- 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	16 × 16 × 6 mm			
2	Weight	7g			
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	2 pins			
10	Scanning Axies	Z			
11	Travel range @300 K	30 μm			
12	Drive voltage	Max. 75 V @300 K, Max. 180 V @4 K			
13	Max. Load	100 g			
14	Capacitance @300 K	0.8 uF			
15	Resolution	0.5 nm			
16	Repeatability	< 10 nm			

For detail drawing and 3D model please contact us.

Piezoelectric Motion - LT

Specifications subject to change without notice.

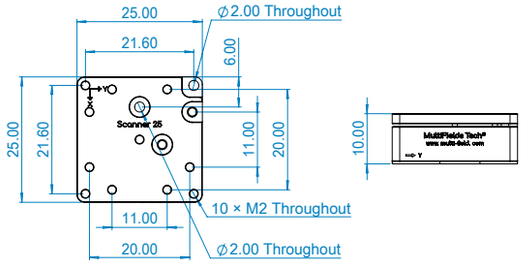
“25mm Series” – Scanner25-xy

High-load scanning stage of x & y direction with long travel range

➡ Features

- Compact design
- Sub-nm resolution
- 55 × 55 um travel range at room temperature
- 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 × 10 mm			
2	Weight	23 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	2 pins for each axis			
10	Scanning Axies	X, Y			
11	Travel range @300 K	55 × 55 μm			
12	Drive voltage	Max. 75 V @300 K, Max. 180 V @4 K			
13	Max. Load	200 g			
14	Capacitance @300 K	4 uF			
15	Resolution	0.8 nm			
16	Repeatability	< 10 nm			

For detail drawing and 3D model please contact us.

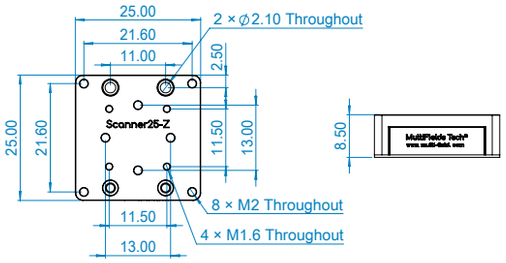
“25mm Series” – Scanner25-z

High-load scanning stage of Z direction with long travel range

➡ Features

- Compact design
- Sub-nm resolution
- 55 um travel range at room temperature
- 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 × 8.5 mm			
2	Weight	20 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	2 pins			
10	Scanning Axies	Z			
11	Travel range @300 K	55 μm			
12	Drive voltage	Max. 75 V @300 K, Max. 180 V @4 K			
13	Max. Load	200 g			
14	Capacitance @300 K	4.2 uF			
15	Resolution	0.8 nm			
16	Repeatability	< 10 nm			

For detail drawing and 3D model please contact us.

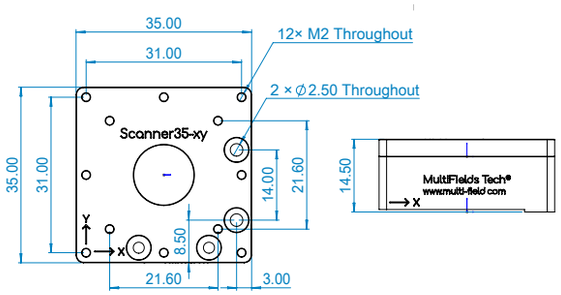
“35mm Series” – Scanner35-xy-Optic

High-performance scanning stage of x & y direction with long travel range

➡ Features

- Compact design
- Sub-nm resolution
- 100 × 100 um travel range at room temperature
- 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	35 × 35 × 14.5 mm			
2	Weight	65 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	2 pins for each axis			
10	Scanning Axies	X, Y			
11	Travel range @300 K	100 × 100 μm			
12	Drive voltage	Max. 75 V @300 K, Max. 180 V @4 K			
13	Max. Load	500 g			
14	Capacitance @300 K	8 uF			
15	Resolution	2 nm			
16	Repeatability	< 10 nm			

For detail drawing and 3D model please contact us.

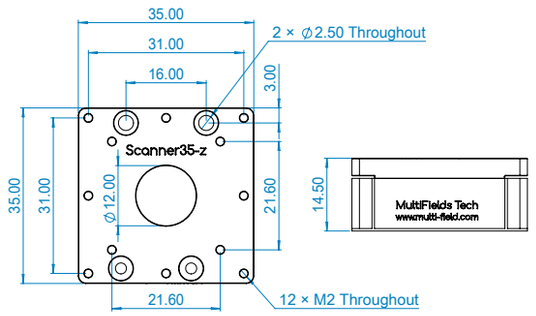
“35mm Series” – Scanner35-z-Optic

High-performance scanning stage of z direction with long travel range

➡ Features

- Compact design
- Sub-nm resolution
- 100 um travel range at room temperature
- Ultra-high vacuum & low temperature compatible

➡ Picture & dimensions



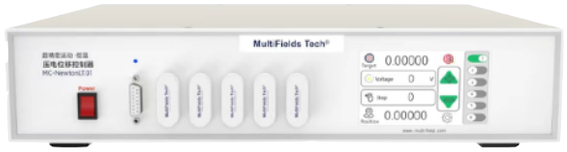
➡ Specifications

	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	35 × 35 × 14.5 mm			
2	Weight	65 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	2 pins			
10	Scanning Axies	Z			
11	Travel range @300 K	100 μm			
12	Drive voltage	Max. 75 V @300 K, Max. 180 V @4 K			
13	Max. Load	500 g			
14	Capacitance @300 K	8 uF			
15	Resolution	2 nm			
16	Repeatability	< 10 nm			

For detail drawing and 3D model please contact us.

Motion Controller – MC-NewtonLT.01/06

6-channels closed-loop controller designed for low temperature piezoelectric motion units



MC-NewtonLT.01

MC-NewtonLT.06

- Up to 6 channels connection
- Support FINE TUNE function
- Touch screen panel
- Close-loop control
- Optional trigger function

	Optional Versions ⇨	MC-NewtonLT.01	MC-NewtonLT.06
1	Compatible positioner	Linear, Rotator, Goniometer & LS-Linear Series	
2	Control mode	All channels closed-loop control	
3	Size	19″ / 3U	
4	Work voltage & power	220 VAC & 60 W	
5	Communication interface	USB & TCP/IP	
6	Amplifiers	1 channel	2 channels
7	Max output voltage	-200 V ~ +200 V	
8	Drive frequency range	1 ~ 10 kHz	
9	Power for 1 channel	Max. 40 W	
10	Slew rate	2 kV/us	
11	GND in drive output	1 channels independent GND	6 channels independent GND
12	Encoder	Resistive encoder	
13	Sensor output voltage	DC 2.5 V	
14	Resolution of read voltage	50 μV (18-bit)	
15	Connectors	1 channel	6 channels
16	Input resistance	10 kOhm	
17	GND in sensor readout	1 channel independent GND	6 channels independent GND
18	Electrical connector	D-sub 15 for each channel	

For detail drawing and 3D model please contact us.

Motion Controller - MC-ArchimedesLT.03

3-channels controller designed for low temperature piezoelectric scanning motion units

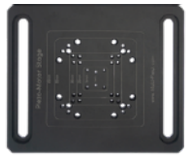
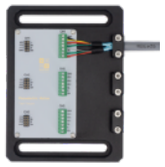
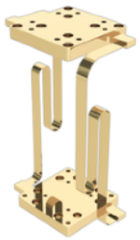
MC-ArchimedesLT.03

- 3-Channels scanning motion control output
- Compatible with all low temperature Scanning Stages of MultiFields
- LabVIEW Sub VI control program is provided to support users' independent use
- USB / TCP/IP computer remote control

Optional Versions ⇨	MC-ArchimedesLT.03
Compatible positioner	Scanning Stages
Size	19″ / 3U
Work voltage & power	220 VAC & 60 W
Communication interface	USB & TCP/IP
Analog input	-10 V ~ + 10V
Output channels	3 channels
Max output voltage	-150 V ~ +150 V
Drive frequency range	Max. 1kHz
Amplifier resolution	3 mV
Connectors	3 channels, BNC
Input resistance	10 kOhm

For detail drawing and 3D model please contact us.

Accessaries List

PM.LT.ToolBox.Basic		Basic version of ToolBox
Interconnect		Used to mount positioner with cross-mounting of different series positioner
Vertical Orientation		Used to mount positioner with cross-mounting of different series positioner
Installation Plate		Used to directly connect on an optic table for positioner
PinsPlate		Used to directly connect on an optic table for positioner
FTC		Used to keep sample cold when piezoelectric positioner moving in vacuum environment

Accessaries - ToolBox.Basic

Piezoelectric Motion - Low temperature series - Accessaries

PM.LT.ToolBox.Basic

	items	Specification	Quantity
1	Screws -BeCu	Compatible with 30 mK & 35 Tesla M1.6, M2 suitable	One set
2	Connectors	Compatible with 30 mK & 35 Tesla	One set
	PA - standard	2pins, 3pins and 4pins	
	Peek - UHV compatible	4pins - BeCu pins, Peek main body	
3	Tools	Multifunction screw driver Tweezers	One set
4	USB-Driver	Manual, software etc.	1 pc

Adapter Plate - Guidance for MultiFields Low Temperature Piezoelectric Positioners Interconnect

Positioner On the Topside ⇩	Linear16-z	Linear16-x	Linear25	Linear35	Rotator16	Rotator25	Rotator35	Goniometer25	Gonimeter35	Scanner16	Scanner25
Linear16-z			AP.LT.L16z	AP.LT.L16z		AP.LT.L16z	AP.LT.L16z	AP.LT.L16z			AP.LT.L16z
Linear16-x	✓	✓	✓	✓		✓	✓	✓	✓		AP.LT.L16x
Linear25			✓	✓			✓	✳	✳		✳
Linear35				✓					✳		
Rotator16						AP.LT.R16	AP.LT.R16	AP.LT.R16	AP.LT.R16		
Rotator25			✓	✓			✳	✳	✳		✳
Rotator35				✓					✳		
Goniometer25			✓	✓			✓	✓	✳		✳
Goniometer35				✓					✓		
Scanner16	✓	✓	AP.LT.S16	AP.LT.S16				AP.LT.S16	AP.LT.S16		AP.LT.S16
Scanner25			✓	✓				✓	✓		
Positioner on the bottom ⇨	Linear16-z	Linear16	Linear25	Linear35	Rotator16	Rotator25	Rotator35	Goniometer25	Gonimeter35	Scanner16	Scanner25

This table gives a comprehensive guide for two same or different positioners connect to each other.
The left column positioners are selected on topside, while the top row positioners are selected as the bottom one.

There are three conditions when two MultiFields Positioners Mount together, including

(1) ✓ do not need extra plate to connect.
(2) ✳ do not need extra plate to connect. Though this mounting form is workable in specific cases, we don't recommend this connection arrangement.
(3) " AP.LT.**** " the part name of adapter plates needed to connect with each other.
(4) "Blank-cell", means this mounting form should be avoid.

Piezoelectric Motion - LT
Specifications subject to change without notice.

Accessaries - Adapter Plate - Interconnect

Adapter plates designed for MultiFields piezoelectric motion units

Adapter Plates are Used to Mount MultiFields Piezoelectric Positioners with Cross-mounting of Different Series Positioners. 1. All the adapter plates are fabricated by pure Ti metal.

2. Non-magnetic screws are included when you purchase the adapter plate set.

Adapter Plates for MultiFields Piezoelectric Positioners

	Part Name	Discription
Linear16-z	AP.LT.L16z	Adapter Plate Used to mount Linear16-z on other MultiFields positioners
Linear16-x	AP.LT.L16x	Adapter Plate Used to mount Linear16-x on other MultiFields positioners
Rotator16	AP.LT.R16	Adapter Plate Used to mount Rotator16 on other MultiFields positioners
Scanner16	AP.LT.L25	Adapter Plate Used to mount Scanner16 on other MultiFields positioners

Accessaries - Adapter Plate - Interconnect

Adapter plates designed for MultiFields piezoelectric motion units

Adapter Plates are Used to Mount MultiFields Piezoelectric Positioners with Vertical Orientation.

1. All the adapter plates are fabricated by pure Ti metal.

2. Non-magnetic screws are included when you purchase the adapter plate set.

3. All the positioners, which are able to be used when it is tilted 90° , have been listed following. The absent ones mean they are not recommended to be tilted by 90°

Adapter Plates for MultiFields Piezoelectric Positioners

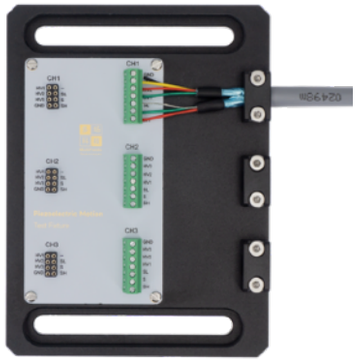
	Part Name	Discription
Linear16-z	AP.LT.L16z-v	Adapter Plates Used to Title Linear16-z by 90°
Linear16-x	AP.LT.L16x-v	Adapter Plates Used to Title Linear16-z by 90°
Rotator16	AP.LT.R16-v	Adapter Plates Used to Title Rotator16 by 90°
Linear25	AP.LT.L25-v	Adapter Plates Used to Title Linear25 by 90°
Linear35	AP.LT.L35-v	Adapter Plates Used to Title Linear35 by 90°
Rotator25	AP.LT.R25-v	Adapter Plates Used to Title Rotator25 by 90°
Rotator25.Optic	AP.LT.R25.Optic-v	Adapter Plates Used to Title Rotator25.Optic by 90°
Rotator35	AP.LT.R35-v	Adapter Plates Used to Title Rotator35 by 90°
Goniometer25	AP.LT.G25-v	Adapter Plates Used to Title Goniometer25 by 90°
Goniometer35	AP.LT.G35-v	Adapter Plates Used to Title Goniometer35 by 90°

Piezoelectric Motion - LT

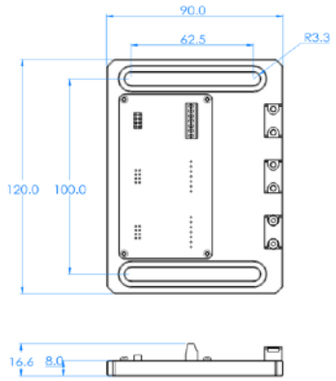
Specifications subject to change without notice.

Accessaries - Adapter Plate - Pins/Installation Plate

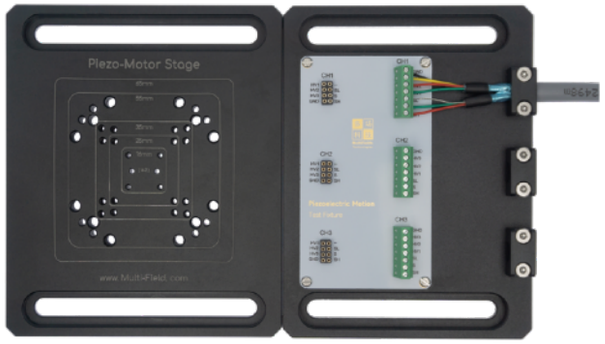
An adapter for MultiFields LT Motion Units to directly connect on an optic table.



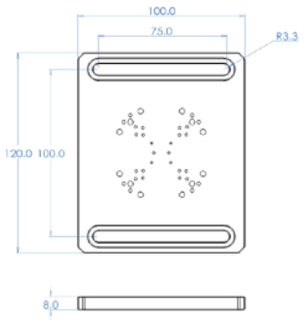
* Real photos of AP.LT.PinsPlate, the cable in photo is PMC.cable supplied by MultiFields



AP.LT.PinsPlate



*AP.LT.PinsPlate (left) and AP.LT.PinPlate (right)

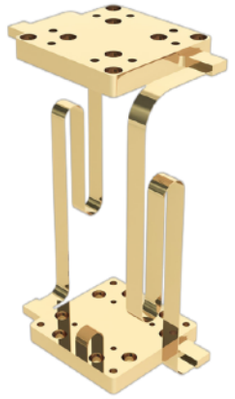


*Compatible with most of the motion products of MultiFields Technology

AP.LT.InstPlate

Accessaries - Flexible Thermal Connection Set

Piezoelectric Motion - Low temperature series - Accessaries



FTC##.L**

Flexible thermal connection set are used to keep sample cold when piezoelectric positions moving in vacuum environment . Higher thermal conductivity is always welcomed in low temperature experiments for a lower base temperature. And a flexible structure guarantees the device won't consumes excessive load capacity.

1. All the adapter plates are fabricated by pure non-magnetic metal.
2. Non-magnetic screws are included when you purchase the flexible thermal connection set.

	FTC16.L**	FTC25.L**	FTC35.L**
Description	Designed for 16mm Linear and Scanner series stack	Designed for 25mm Linear and Scanner Series Stack	Designed for 35mm Linear, Goniometer and Scanner Series Stack
Footprint base plate	16 × 16 mm	25 × 25mm	35 × 35mm
Footprint top plate	16 × 16 mm	25 × 25mm	35 × 35mm
thickness, base plate	2.5 mm		
Thickness, top plate	4 mm		
Length copper coupling foil	35 mm; 65 mm; 100 mm version		
Temperature range	10 mK to 420 K		
Pressure conditions	Ambient, HV, UHV		
Use in magnetic field	max. 35 Tesla		
Temperature Range	1.6 K to 350 K		
Wires	Thermometers, 4 Pins; Heater, 2pins; Pure copper wires,36 awg		
Heater Resistance	50 Ohm		
Heater Power	Max. 50W		
Thermal Conductivity @300 K	FTC**.035mm, 40 mW/K FTC**.065mm, 29 mW/K FTC**.100mm, 16 mW/K		

多场科技

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