Table 1 - Piezoelectric Motion Units - “Lab” Series Products

	Linear Motion Unit		Rotary Motion Unit			
	X direction, Motion Stag	Z direction, Motion Stage	Tx，Tilting Stage		Tz, Rotary Stage	
35 mm	 LS35x.Lab.O/ .E Sereis Options: .NM / .HV/. UHV	 LS35z.Lab.O Sereis Options: .NM / .HV/. UHV	 GS35-35.Lab.O Sereis Options: .NM / .HV/. UHV	 GS35-55.Lab.O Sereis Options: .NM / .HV/. UHV	 RS35.Lab.O/ .E Sereis Options: .NM / .HV/. UHV	35 mm
65 mm	 LS65x.Lab.O/ .E Sereis Options: .NM / .HV /.UHV	 LS65z.Lab.O Sereis Options: .NM / .HV /.UHV	 GS65-77.Lab.O Sereis Options: .NM / .HV /.UHV	 GS65-97.Lab.O Sereis Options: .NM / .HV /.UHV	 RS65.Lab.O/ .E Sereis Options: .NM /.HV /.UHV	65 mm
	.NM, non-magnetic; .HV, high vacuum compatible; .UHV, ultra-high vacuum compatible					

Optional models ⇨

.E ~ 100 nm Optic Encoder
.O ~ 2nm Optic Encoder
.adv ~ 0.5 nm Optic Encoder

.HV ~ 1e-7 mbar high vacuum compatible
.UHV ~ 2e-11 mbar ultra-high vacuum compatible

.NM ~ non-magnetic

”LS35x.Lab“ Sereis

- LS35x.Lab.E

- LS35x.Lab.O
- LS35x.Lab.O.HV
- LS35x.Lab.O.UHV
- LS35x.Lab.O.NM
- LS35x.Lab.O.HV.NM
- LS35x.Lab.O.UHV.NM

- LS35x.Lab.adv
- LS35x.Lab.adv.HV
- LS35x.Lab.adv.UHV
- LS35x.Lab.adv.NM
- LS35x.Lab.adv.HV.NM
- LS35x.Lab.adv.UHV.NM

LS35z.Lab Sereis

- LS35z.Lab.O
- LS35z.Lab.O.HV
- LS35z.Lab.O.UHV
- LS35z.Lab.O.NM
- LS35z.Lab.O.HV.NM
- LS35z.Lab.O.UHV.NM

- LS35z.Lab.adv
- LS35z.Lab.adv.HV
- LS35z.Lab.adv.UHV
- LS35z.Lab.adv.NM
- LS35z.Lab.adv.HV.NM
- LS35z.Lab.adv.UHV.NM

LS65x.Lab Sereis

- LS65x.Lab.E

- LS65x.Lab.O
- LS65x.Lab.O.HV
- LS65x.Lab.O.UHV
- LS65x.Lab.O.NM
- LS65x.Lab.O.HV.NM
- LS65x.Lab.O.UHV.NM

- LS65x.Lab.adv
- LS65x.Lab.adv.HV
- LS65x.Lab.adv.UHV
- LS65x.Lab.adv.NM
- LS65x.Lab.adv.HV.NM
- LS65x.Lab.adv.UHV.NM

LS65z.Lab Sereis

- LS65z.Lab.O
- LS65z.Lab.O.HV
- LS65z.Lab.O.UHV
- LS65z.Lab.O.NM
- LS65z.Lab.O.HV.NM
- LS65z.Lab.O.UHV.NM

- LS65z.Lab.O.LR
- LS65z.Lab.O.LR.HV
- LS65z.Lab.O.LR.UHV
- LS65z.Lab.O.LR.NM
- LS65z.Lab.O.LR.HV.NM
- LS65z.Lab.O.LR.UHV.NM

- LS65z.Lab.adv
- LS65z.Lab.adv.LR
- LS65z.Lab.adv.LR.HV
- LS65z.Lab.adv.LR.UHV
- LS65z.Lab.adv.LR.NM
- LS65z.Lab.adv.LR.HV.NM
- LS65z.Lab.adv.LR.UHV.NM

RS35.Lab Sereis

- RS35.Lab.E

- RS35.Lab.O
- RS35.Lab.O.HV
- RS35.Lab.O.UHV
- RS35.Lab.O.NM
- RS35.Lab.O.HV.NM
- RS35.Lab.O.UHV.NM

RS65.Lab Sereis

- RS65.Lab.E

- RS65.Lab.O
- RS65.Lab.O.HV
- RS65.Lab.O.UHV
- RS65.Lab.O.NM
- RS65.Lab.O.HV.NM
- RS65.Lab.O.UHV.NM

GS35-35.Lab.O Sereis

- GS35-35.Lab.O
- GS35-35.Lab.O.HV
- GS35-35.Lab.O.UHV
- GS35-35.Lab.O.NM
- GS35-35.Lab.O.HV.NM
- GS35-35.Lab.O.UHV.NM

GS35-55.Lab.O Sereis

- GS35-55.Lab.O
- GS35-55.Lab.O.HV
- GS35-55.Lab.O.UHV
- GS35-55.Lab.O.NM
- GS35-55.Lab.O.HV.NM
- GS35-55.Lab.O.UHV.NM

GS65-77.Lab.O Sereis

- GS65-77.Lab.O
- GS65-77.Lab.O.HV
- GS65-77.Lab.O.UHV
- GS65-77.Lab.O.NM
- GS65-77.Lab.O.HV.NM
- GS65-77.Lab.O.UHV.NM

GS65-97.Lab.O Sereis

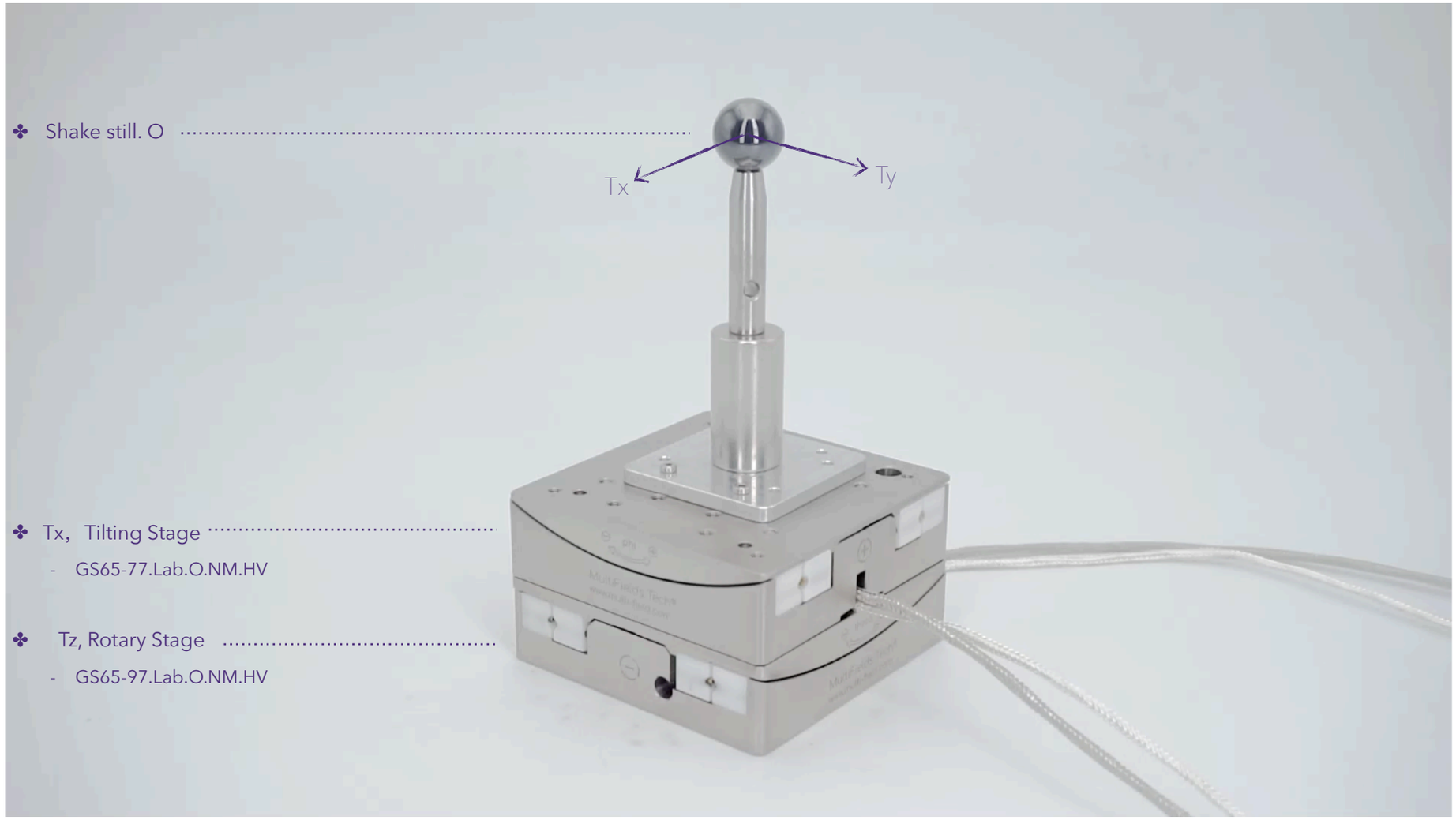
- GS65-97.Lab.O
- GS65-97.Lab.O.HV
- GS65-97.Lab.O.UHV
- GS65-97.Lab.O.NM
- GS65-97.Lab.O.HV.NM
- GS65-97.Lab.O.UHV.NM

www.multi-field.com | MultiFields Technologies

"GS65" Goniometer Stage - Introduction to physical application

Introduction to physical application

Physical motion demonstration: high vacuum & completely non-magnetic solution, 2 degrees of freedom swing motion



Piezoelectric Motion - RT

压电·摇摆位移台– GS35–35.Lab.O (闭环)

室温·压电运动解决方案 – ".Lab 系列" 良好封装的摇摆位移台

外形紧凑，动力性能不折扣的摇摆位移台；

GS35-35.Lab.O

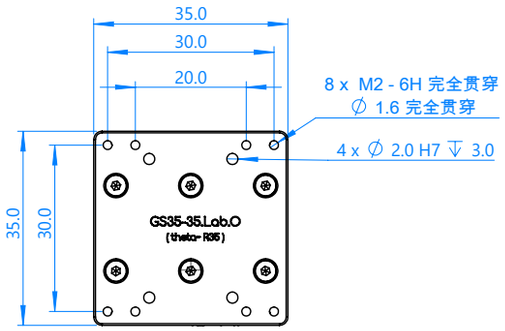
Features

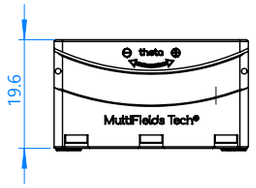
- Very Quiet，20 kHz drive frequency
- Compact Design,35 mm x 35 mm x 20 mm
- 闭环控制 · 空间传感分辨率(.O) 0.06urad(默认), 0.03urad可选
- Min step below 1 urad
- 可提供多轴堆叠安装转接件
- Controller compatible with linear and rotary stage
- Support Options，high vacuum (.HV) & ultra- high vacuum (.UHV)

Optional models

.O ~ 2nm Optic Encoder	*.HV ~ 1e-7 mbar high vacuum*	*.UHV ~ 2e-11 mbar ultra- high vacuum*	*.NM ~ non-magnetic*
• GS35-35.Lab.O	• GS35-35.Lab.O.HV	• GS35-35.Lab.O.UHV	• GS35-35.Lab.O.NM
• GS35-35.Lab.O.NM.HV	• GS35-35.Lab.O.NM. UHV		

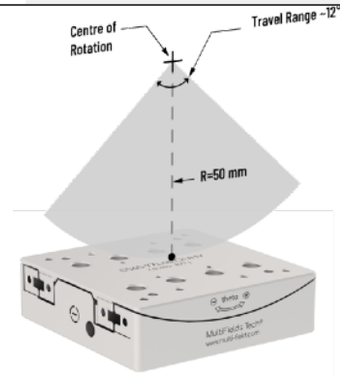
2D·Drawings





GS35-35.Lab Series – Specification

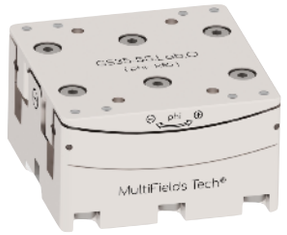
Optional Versions ⇨		GS35-35.Lab.O
Special version is optional ⇨		.NM， non-magnetic; .HV， high vacuum compatible; .UHV，ultra-high vacuum compatible;
1	Dimension	35 mm × 35 mm × 20 mm
2	Main Material	标准版 .HV, .UHV Stainless；.NM，纯钛
3	Mass	250 g
4	Travel Range	+/- 10 °
5	Drive Frequency	Max. 20 kHz (very quiet)
6	Open loop · spatial motion resolution	0.5 urad
7	Cable & Connectors	默认，屏蔽线缆 D-Sub15 .UHV 版本, kapton漆包线，PEEK D-Sub 15
Motion parameters for recommended installation I		
6	Tilting radius	35 mm
7	Velocity	~ 3 °/s (max)*
8	Mini Step Size	2 urad
10	Load	2 kg
11	Holding Torque	25 N*mm
12	Driving Torque	10 N*mm
Sensor		
13	Sensor Type	Optic Encoder (.O)
14	Sensor Range	20 °
15	Sensor Resolution	1 urad



压电·摇摆位移台– GS35–55.Lab.O (闭环)

室温·压电运动解决方案 – ".Lab 系列" 良好封装的摇摆位移台

外形紧凑，动力性能不折扣的压电摇摆位移台；



GS35-55.Lab.O

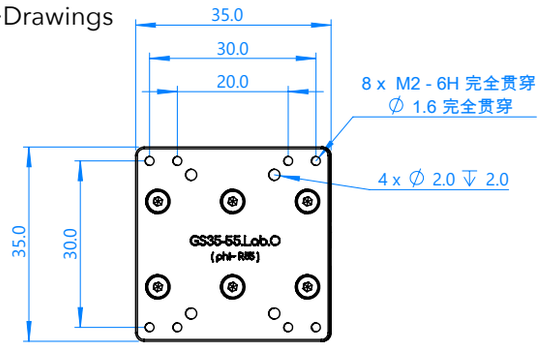
Features

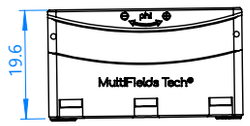
- Very Quiet，20 kHz drive frequency
- Compact Design,35 mm x 35 mm x 20 mm
- 闭环控制 · 空间传感分辨率(.O) 0.05urad(默认), 0.02urad可选
- Min step below 1 urad
- 可提供多轴堆叠安装转接件
- Controller compatible with linear and rotary stage
- Support Options，high vacuum (.HV) & ultra- high vacuum (.UHV)

Optional models

.O ~ 2nm Optic Encoder	*.HV ~ 1e-7 mbar high vacuum*	*.UHV ~ 2e-11 mbar ultra- high vacuum*	*.NM ~ non-magnetic*
• GS35-55.Lab.O	• GS35-55.Lab.O.HV	• GS35 -55.Lab.O.UHV	• GS35-55.Lab.O.NM
• GS35-55.Lab.O.HV.NM	• GS35-55.Lab.O.UHV.NM		

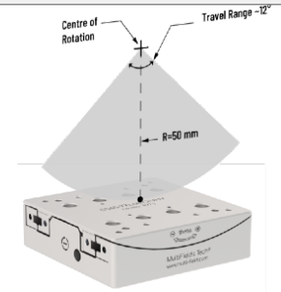
2D·Drawings





GS35-55.Lab Series – Specification

Optional Versions ⇨		GS35-55.Lab.O
Special version is optional ⇨		.NM， non-magnetic; .HV， high vacuum compatible; .UHV，ultra-high vacuum compatible;
1	Dimension	35 × 35 mm × 20 mm
2	Main Material	标准版 .HV, .UHV, Stainless；.NM，纯钛
3	Mass	250 g
4	Travel Range	+/- 10 °
5	Drive Frequency	Max. 20 kHz (very quiet)
6	Open loop · spatial motion resolution	0.5 urad
7	Cable & Connectors	默认，屏蔽线缆 D-Sub15 .UHV 版本, kapton漆包线，PEEK D-Sub15
Motion parameters for recommended installation I		
8	Tilting radius	55 mm
9	Velocity	~ 3 °/s*
10	Mini Step Size	2 urad
11	Load	2 kg
12	Holding Torque	25 N*mm
13	Driving Torque	10 N*mm
Sensor		
14	Sensor Type	Optic Encoder (.O)
15	Sensor Range	20 °
16	Sensor Resolution	1 urad



Goniometer Stage - GS65-77.Lab.O

Tilting motion with R=77 mm, compatible with GS65-77.Lab.O stage

GS65-77.Lab.O

Features

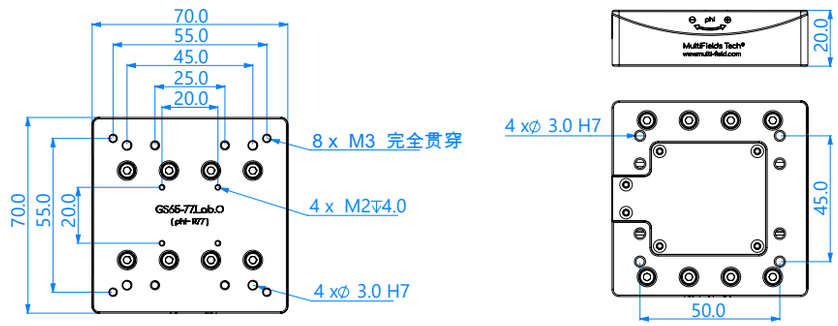
- Very Quiet, 20 kHz drive frequency
- Compact Design, 70 × 70 mm × 20 mm
- Min step below 1 urad
- Multi-axis stacking adapters available
- Controller compatible with linear and rotary stage
- Support Options, high vacuum (.HV) & ultra- high vacuum (.UHV)

Optional models

.O ~ 2nm Optic Encoder *.HV ~ 1e-7 mbar high vacuum* *.UHV ~ 2e-11 mbar ultra- high vacuum* *.NM ~ non-magnetic*

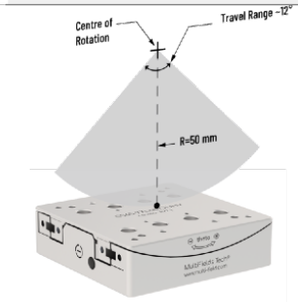
- GS65-77.Lab.O
- GS65-77.Lab.O.HV
- GS65-77.Lab.O.UHV
- GS65-77.Lab.O.NM
- GS65-77.Lab.O.HV.NM
- GS65-77.Lab.O.UHV.NM

2D·Drawings



GS65-77.Lab Series – Specification

Optional Versions ⇨		GS65-77.Lab.O
Special version is optional ⇨		.NM， non-magnetic; .HV， high vacuum compatible; .UHV，ultra-high vacuum compatible;
1	Dimension	70 × 70 mm × 20 mm
2	Main Material	标准版 .HV .UHV Aluminium; .NM 纯Ti
3	Mass	650 g
4	Travel Range	+/- 10 °
5	Drive Frequency	Max. 20 kHz (very quiet)
6	Open loop · spatial motion resolution	0.2 urad
7	Cable & Connectors	默认，屏蔽线缆 D-Sub15 .UHV 版本, kapton漆包线，PEEK D-Sub15
Motion parameters for recommended installation I		
6	Tilting radius	77 mm
7	Velocity	~ 3 °/s*
8	Mini Step Size	1 urad
10	Load	2 kg
11	Holding Torque	50 N*mm
12	Driving Torque	20 N*mm
Sensor		
13	Sensor Type	Optic Encoder (.O)
14	Sensor Range	20 °
15	Sensor Resolution	0.06urad(default), 0.03urad optional



Piezoelectric Motion - RT

Goniometer Stage - GS65-97.Lab.O

Tilting motion with R=97 mm, compatible with GS65-97.Lab.O stage

GS65-97.Lab.O

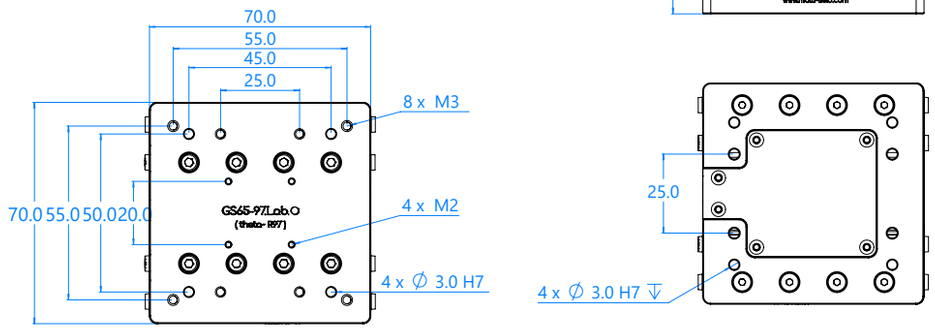
Features

- Very Quiet, 20 kHz drive frequency
- Compact Design, 70 × 70 mm × 20 mm
- Min step below 1 urad
- Multi-axis stacking adapters available
- Controller compatible with linear and rotary stage
- Support Options, high vacuum (.HV) & ultra- high vacuum (.UHV)

Optional models

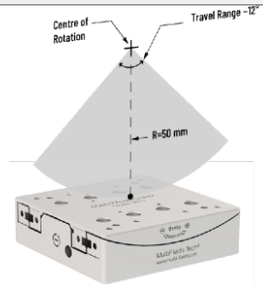
.O ~ 2nm Optic Encoder	*.HV ~ 1e-7 mbar high vacuum*	*.UHV ~ 2e-11 mbar ultra- high vacuum*	*.NM ~ non-magnetic*
• GS65-97.Lab.O	• GS65-97.Lab.O.HV	• GS65-97.Lab.O.UHV	• GS65-97.Lab.O.NM
• GS65-97.Lab.O.HV.NM	• GS65-97.Lab.O.UHV.NM		

2D·Drawings



GS65-97.Lab Series – Specification

Optional Versions ⇨		GS65-97.Lab.O
Special version is optional ⇨		.NM， non-magnetic; .HV， high vacuum compatible; .UHV，ultra-high vacuum compatible;
1	Dimension	70 × 70 mm × 20 mm
2	Main Material	标准版 .HV .UHV Aluminium; .NM 纯Ti
3	Mass	650 g
4	Travel Range	+/- 10 °
5	Drive Frequency	Max. 20 kHz (very quiet)
6	Open loop · spatial motion resolution	0.2 urad
7	Cable & Connectors	默认，屏蔽线缆 D-Sub15 .UHV 版本, kapton漆包线，PEEK D-Sub15
Motion parameters for recommended installation l		
8	Tilting radius	97 mm
9	Velocity	~ 3 °/s*
10	Mini Step Size	1 urad
11	Load	2 kg
12	Holding Torque	50 N*mm
13	Driving Torque	20 N*mm
Sensor		
14	Sensor Type	Optic Encoder (.O)
15	Sensor Range	20 °
16	Sensor Resolution	0.05urad(default), 0.02urad optional



Piezoelectric Motion - RT