

Z axis | P12.Z300S/K

Aperture Ø35mm | Piezo Nanopositioning Stages



Introduction

P12.Z300 is Z axis motion piezo scanning stage. The piezo scanner could realize displacement of 300 μ m. The aperture diameter as 35mm, which is suitable for lighttransmitted applications such as microscopy.

Characteristics >>

- Z motion
- Travel to 300 μ m
- Load capacity to 0.4kg
- Optional UHV compatible version
- Closed-loop version for high repeatability

Applications >>

- Scanning interference
- Surface measurement
- Optical capture
- Confocal microscopy
- Wafer positioning
- Image processing and stabilization



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Technical Data >>

Type	S-Closed loop K-Open loop	P12.Z300S	P12.Z300K	Units
Active axes		Z	Z	
Travel range(0~120V)		240	240	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		300	300	$\mu\text{m}\pm 10\%$
Sensor		SGS	-	
Aperture		$\varnothing 35$	$\varnothing 35$	mm
Closed/open loop resolution		8	2.5	nm
Linearity		0.15	-	%F.S.
Repeatability		0.1	-	%F.S.
Pitch/yaw/roll		<15	<15	μrad
Push/pull force		30/10	30/10	N
Stiffness		0.1	0.1	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		100	100	$\text{Hz}\pm 20\%$
Closed/open-loop unloaded step time		30	2.4	$\text{ms}\pm 20\%$
Load capacity		0.4	0.4	kg
El. capacitance		5.4	5.4	$\mu\text{F}\pm 20\%$
Operating temperature ^[1]		-20~80	-20~80	$^{\circ}\text{C}$
Material		Steel, Al	Steel, Al	
Size(L×W×H)		70×70×24	70×70×24	mm
Mass		260	260	$\text{g}\pm 5\%$
Cable length ^[2]		1.5	1.5	$\text{m}\pm 10\text{mm}$
Connector ^[2]		-	-	

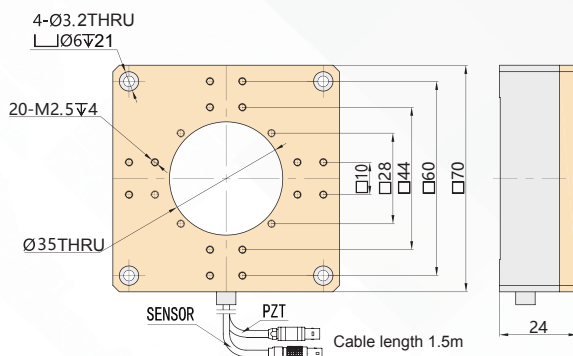
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

[1] Custom ultralow temperature and ultrahigh vacuum versions are available.

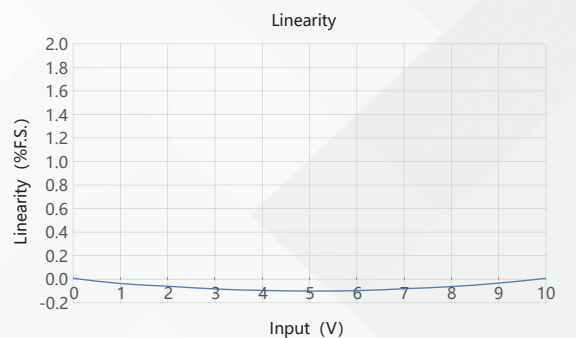
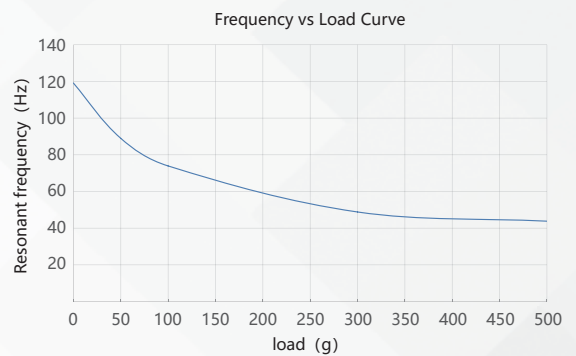
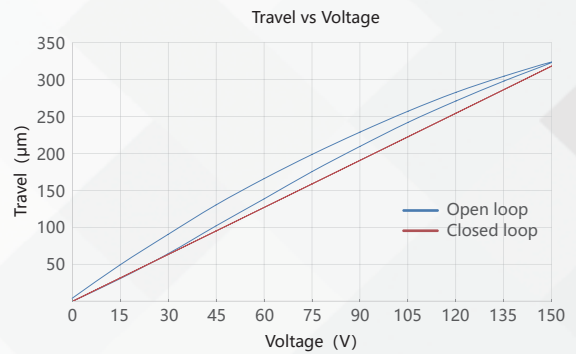
[2] Custom cable length and connector is available.

Note: The parallelism of the moving platform is about 20 μm , and the roughness is about 1.6 to 3.2. Please contact the sales engineer for confirmation before purchase.

Drawing >>



Curves >>



Disclaimer: The data here are typical, only for reference. Some variations will occur for different batch.

Recommended Controllers >>



E01.D1
 LCD, membrane button, up to 625mA
 RS-232/RS-422/USB interface
 Software secondary development



E53
 Small size, 60mA
 RS-232/RS-422/USB interface
 Software secondary development



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