

XYZ axes | P12.XYZ100S/K

Aperture Ø35mm | Piezo Nanopositioning Stages



Introduction

P12.XYZ100 is XYZ axes motion piezo scanning stage. The piezo scanner could realize displacement of 100µm/axis. The aperture diameter as 35mm, which is suitable for lighttransmitted applications such as microscopy.

Characteristics >>

- XYZ motion
- Travel to 100µm/axis
- Load capacity to 0.6kg
- 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.XYZ100S	P12.XYZ100K	Units
Active axes		X, Y, Z	X, Y, Z	
Travel range(0~120V)		80/axis	80/axis	$\mu\text{m} \pm 10\%$
Travel range(0~150V)		100/axis	100/axis	$\mu\text{m} \pm 10\%$
Sensor		SGS	-	
Aperture		$\varnothing 35$	$\varnothing 35$	mm
Closed/open loop resolution		3	1	nm
Linearity		0.1	-	%F.S.
Repeatability		0.05	-	%F.S.
Pitch/yaw/roll		<15	<15	μrad
Push/pull force		20/4	20/4	N
Stiffness		X0.3/Y0.25/Z0.2	X0.3/Y0.25/Z0.2	$\text{N}/\mu\text{m} \pm 20\%$
Unloaded resonant frequency		X230/Y180/Z150	X230/Y180/Z150	$\text{Hz} \pm 20\%$
Closed/open-loop unloaded step time		30	0.8	$\text{ms} \pm 20\%$
Load capacity		0.6	0.6	kg
El. capacitance		1.8/axis	1.8/axis	$\mu\text{F} \pm 20\%$
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]		-	-	

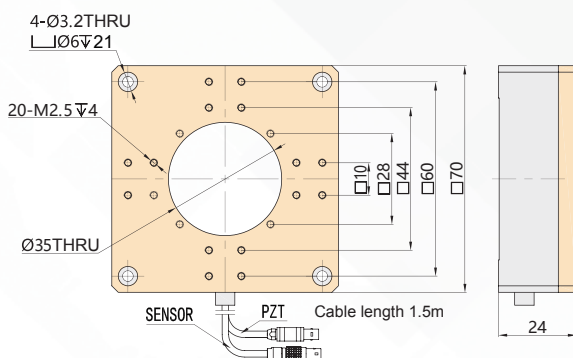
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

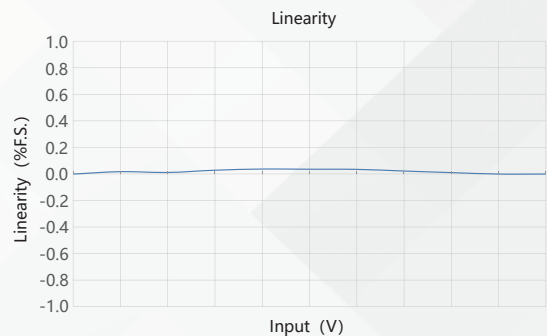
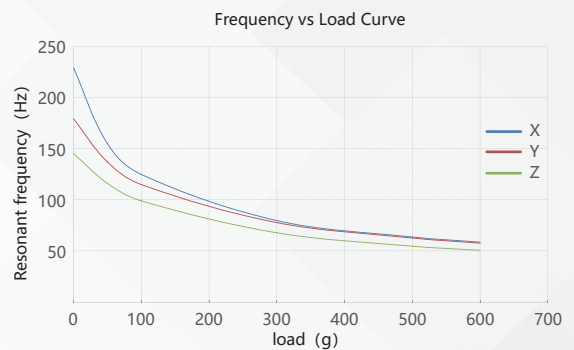
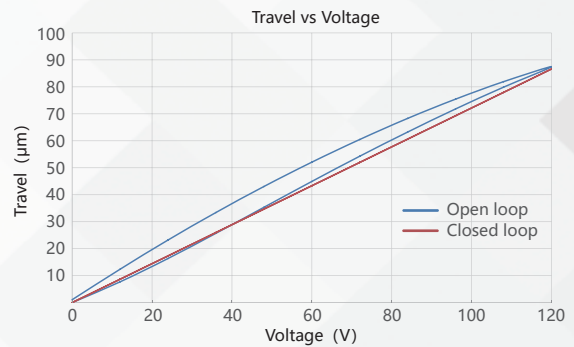
[2] Custom cable length and connector is available.

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.D3

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



E70

Small size, 70mA
RS-232/RS-422/USB interface
Software secondary development



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