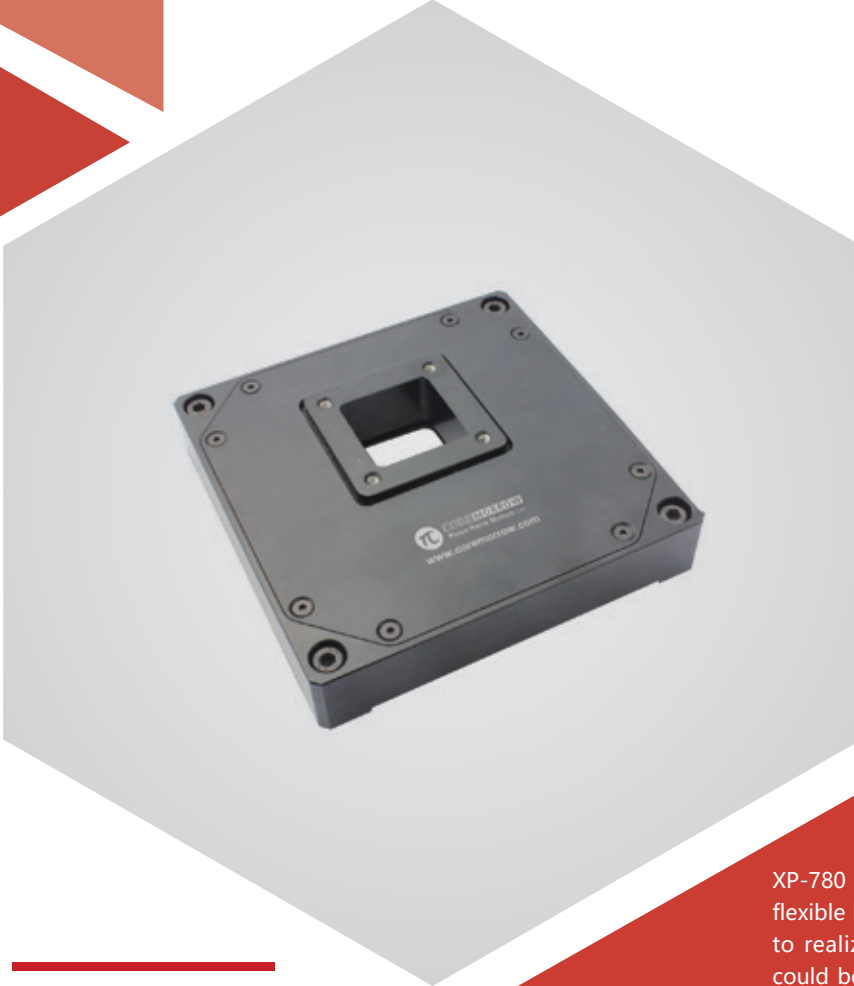


X axis | XP-780.XS/K

Piezo Nanopositioning Stages



Characteristics >>

- Max stroke to 200 μ m
- Aperture: 25 \times 25mm
- Max load to 5kg
- Open/closed loop is optional
- Available UHV version

Applications >>

- Laser interference
- Nano-measurement
- Nano-imprint
- Scanning microscope
- Nano-measurement
- Nano-imprint
- Nano-lithography, biotechnology
- Nanometer manipulation technology

Introduction

XP-780 piezo scanner adopts amplification mechanism, flexible hinge design and high-reliability piezo actuator to realize displacement of X-axis up to 200 μ m, and could be configured with closed-loop sensor for high-precision scanning and positioning. The size of aperture is 25mm \times 25mm. It could realize 2 or 3 axes motion by superimposing.



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Technical Data >>

Type	S-Closed loop K-Open loop	XP-780.XS	XP-780.XK	Units
Active axes		X	X	
Travel range(0~120V)		160	160	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		200	200	$\mu\text{m}\pm 10\%$
Sensor		SGS	-	
Aperture		25×25	25×25	mm
Closed/open loop resolution		5.5	2	nm
Closed-loop linearity		0.1	-	%F.S.
Repeatability		0.05	-	%F.S.
Pitch/yaw/roll		<50	<50	μrad
Push/pull force		80/40	80/40	N
Stiffness		0.5	0.5	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		200	200	$\text{kHz}\pm 20\%$
Closed/open-loop unloaded step time		20	5	$\text{ms}\pm 20\%$
Load capacity		5	5	kg
El. capacitance		11	11	$\mu\text{F}\pm 20\%$
Operating temperature ^[1]		-20~80	-20~80	$^{\circ}\text{C}$
Material		Aluminum	Aluminum	
Size(L×W×H)		100×100×20	100×100×20	mm
Mass		240	240	$\text{g}\pm 5\%$
Cable length ^[2]		1.5	1.5	$\text{m}\pm 10\text{mm}$
Connector ^[2]		-	-	

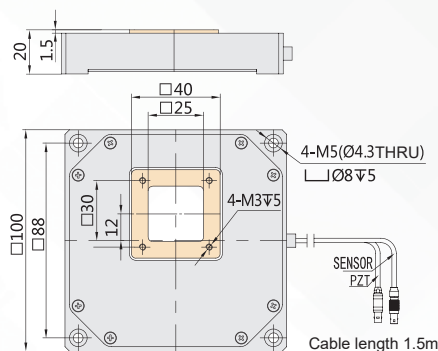
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

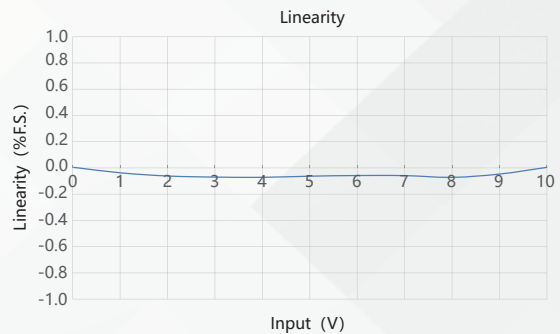
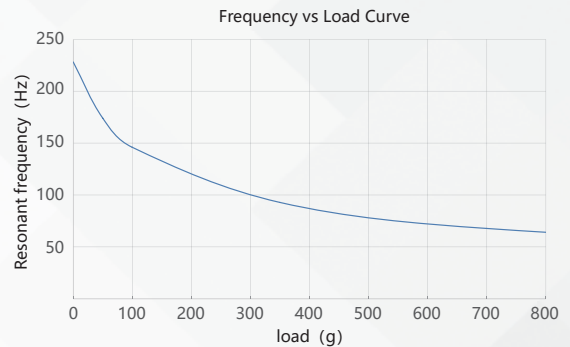
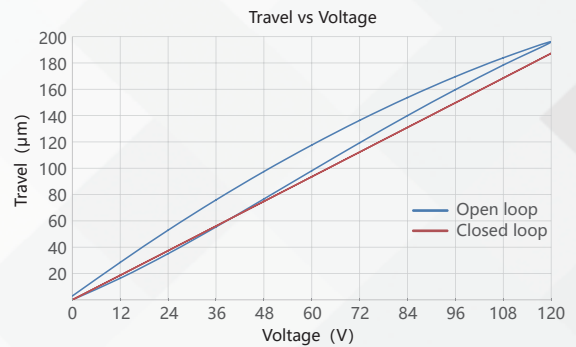
[2] Custom cable length and connector is available.

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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