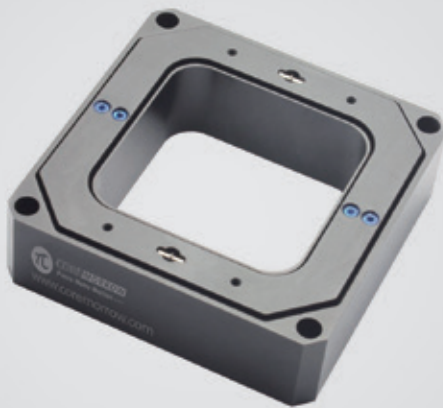


# Z axis | P78.Z200S/K

## Piezo Z Microscope Scanner



### Characteristics >>

- Active axes Z
- Max stroke to 187.5μm
- Resolution to 1.5nm
- Aperture size: 64×64mm

### Applications >>

- Biotechnology
- Microscopic imaging
- Interferometry/measurement
- Confocal microscopy
- Super-resolution microscopy
- Autofocus system
- Semiconductor test
- 3D imaging

## Introduction

P78.Z200 piezo scanner is ideal for applications such as nanoscale alignment and measurement. Closed-loop sensor with bridge configuration can be selected to eliminate temperature drift and ensure the positioning stability in the nanometer range.



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## Technical Data >>

Type	S-Closed loop K-Open loop	P78.Z200S	P78.Z200K	Units
Active axis		Z	Z	
Travel range(0~120V)		150	150	$\mu\text{m} \pm 10\%$
Travel range(0~150V)		187.5	187.5	$\mu\text{m} \pm 10\%$
Sensor		SGS	-	
Aperture		64×64	64×64	mm
Resolution		5	1.5	nm
Closed-loop linearity		0.1	-	%F.S.
Repeatability		0.05	-	%F.S.
Pitch/yaw/roll		<20	<20	$\mu\text{rad}$
Push/pull force capacity		50/8	50/8	N
Stiffness		0.35	0.35	$\text{N}/\mu\text{m} \pm 20\%$
Unloaded resonant frequency		270	270	$\text{Hz} \pm 20\%$
Unloaded Step time		15/3.2	15/3.2	$\text{ms} \pm 20\%$
Load capacity		1	1	kg
El. capacitance		14.4	14.4	$\mu\text{F} \pm 20\%$
Operating temperature <sup>[1]</sup>		-20~80	-20~80	°C
Material		Aluminum	Aluminum	
Size(L×W×H)		100×100×30	100×100×30	mm
Mass		340	340	$\text{g} \pm 5\%$
Cable length <sup>[2]</sup>		1.5	1.5	$\text{m} \pm 10\text{mm}$
Sensor/voltage connector <sup>[2]</sup>		LEMO	LEMO	

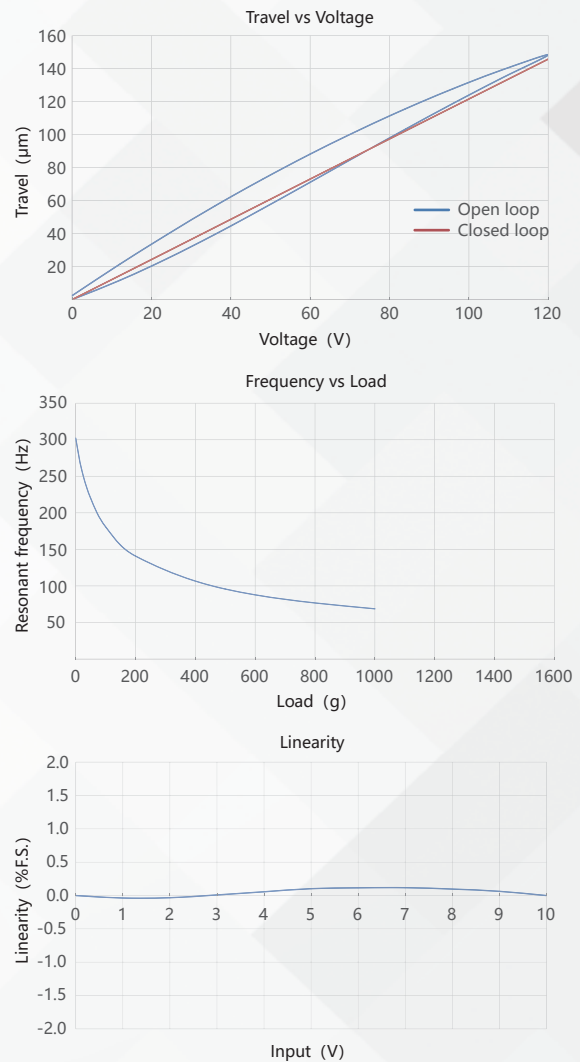
Note: Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

[2] Custom cable length and connector is available.

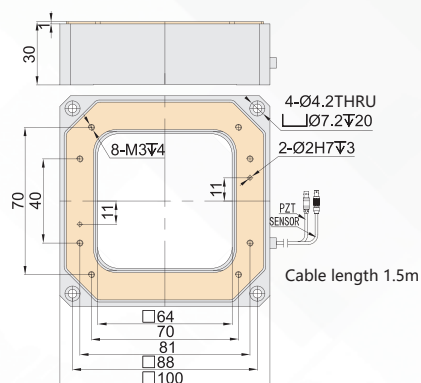
Note: The parallelism of the moving platform is about 20 $\mu\text{m}$ , and the roughness is about 1.6 to 3.2. Please contact the sales engineer for confirmation before purchase.

## Curves >>



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

## Drawing >>



## 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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