

# Z axis | P72.Z80S/K

## Piezo Objective Scanner



### Characteristics >>

- Active axes Z
- Travel to 80 $\mu$ m
- Load capacity to 0.4kg
- Millisecond response time
- Closed loop for high repeatability

### Applications >>

- 3D imaging
- Surface structure analysis
- Biotechnology
- Interference/metering
- Confocal microscope
- Semiconductor test

## Introduction

P72 piezoelectric objective scanner is a Z-axis motion piezo positioner specially designed for objective lens focusing microscopy. It adopts a frictionless flexible hinge parallel guiding mechanism, with ultra-high focusing stability. The objective positioner is loaded with a microscopic detection/measurement or observation device to improve accuracy.



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## Technical Data >>

Type	S-Closed loop K-Open loop	P72.Z80S	P72.Z80K	Units
Active axis		Z	Z	
Nominal travel range(0~120V)		64	64	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		80	80	$\mu\text{m}\pm 10\%$
Integrated sensor		SGS	-	
Resolution		3	1	nm
Linearity		0.1	-	%F.S.
Repeatability		0.05	-	%F.S.
Push/pull force		160/20	160/20	N
Stiffness		2	2	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		700	700	$\text{Hz}\pm 20\%$
Loaded resonant frequency		300@400g	300@400g	$\text{Hz}\pm 20\%$
Unloaded step time		7	2.5	$\text{ms}\pm 20\%$
Load capacity		0.4	0.4	kg
El. capacitance		14	14	$\mu\text{F}\pm 20\%$
Operating temperature <sup>[1]</sup>		-20~80	-20~80	$^{\circ}\text{C}$
Material		Steel	Steel	
Mass		360 (no cable)		$\text{g}\pm 5\%$
Cable length <sup>[2]</sup>		1.5	1.5	$\text{m}\pm 10\text{mm}$
Sensor/voltage connector <sup>[2]</sup>		-	-	

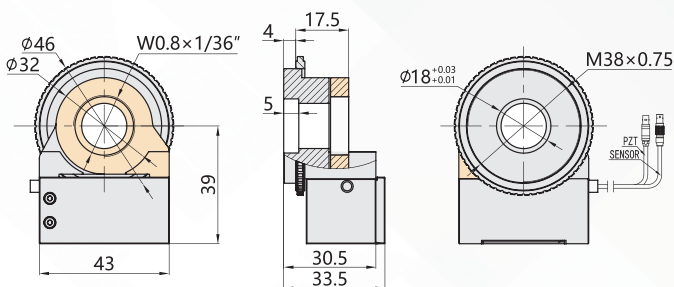
Note: Technical data are measured by CoreMorrow E00/E01 series piezo controller. Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

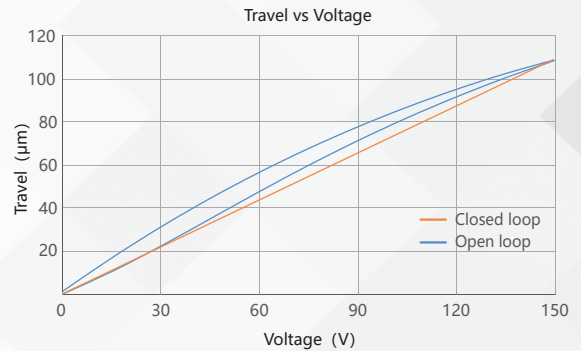
[2] Custom cable length and connector is available.

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.

## 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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