

# X axis | P92.X30S/K

## Fast Tool Positioning Stages



### Characteristics >>

- Active axes X
- Travel range to 30 $\mu$ m
- Load capacity to 300g
- Ultra high precision
- Fast response time

### Applications >>

- Diamond micro-feeding
- Precision processing
- High-speed tool control
- Workpiece positioning
- Light guide plate mold processing
- FTS fast tool servo turning system
- Precision machining and grinding
- Optical element processing
- Precise positioning of Large load workpiece

## Introduction

P92.X30 fast tool positioning stage is a fast tool microfeed stage designed for ultra-precision turning. It uses its own characteristics of high response frequency, high rigidity, and high precision to drive the tool to move in the direction of rapid micro-feed movement, which can realize the precision machining of complex surface shape workpiece or structure.



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## Technical Data >>

Type	S-Closed loop K-Open loop	P92.X30S	P92.X30K	Units
Active axis		X	X	
Travel range(0~120V)		24	24	$\mu\text{m}\pm 10\%$
Travel range(0~150V)		30	30	$\mu\text{m}\pm 10\%$
Integrated sensor		SGS	-	
Resolution		1	0.5	nm
Linearity		0.1	-	%F.S.
Repeatability		0.05	-	%F.S.
Pitch/yaw/roll		<10	<10	$\mu\text{rad}$
Push/pull force		300/100	300/100	N
Stiffness		10	10	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		1.8	1.8	$\text{kHz}\pm 20\%$
Unloaded step time		5	3	$\text{ms}\pm 20\%$
Load capacity		0.3	0.3	kg
El. capacitance		7.2	7.2	$\mu\text{F}\pm 20\%$
Operating temperature <sup>[1]</sup>		CAP 10~50, LVDT 10~40, other -20~80		$^{\circ}\text{C}$
Material		Steel, Aluminum		
Mass		1450	1450	$\text{g}\pm 5\%$
Cable length <sup>[2]</sup>		1.5 or longer, exclude CAP sensor version		$\text{m}\pm 10\text{mm}$

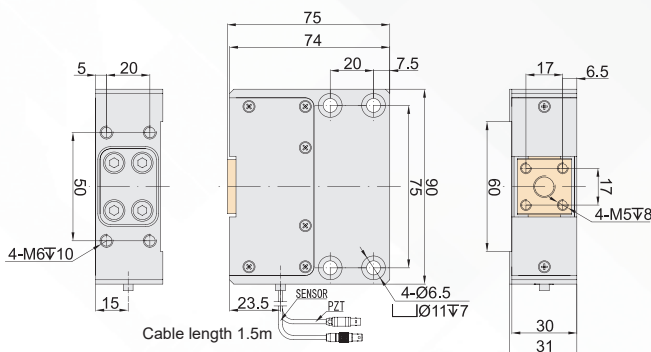
Note: Technical data are measured by CoreMorrow E00/E01 series piezo controller. Max driving voltage could be -20V~150V, 0~120V is recommended for long-term and high-reliable operation. Unless otherwise specified, the above parameters are measured at room temperature about 25°C.

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

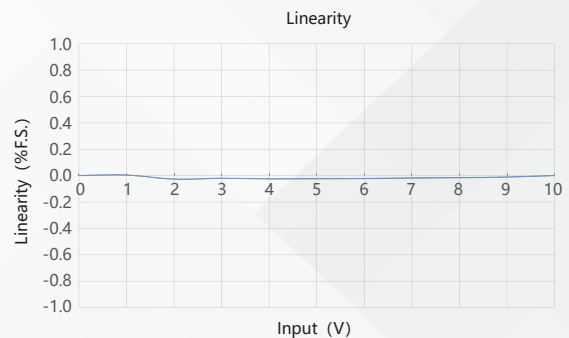
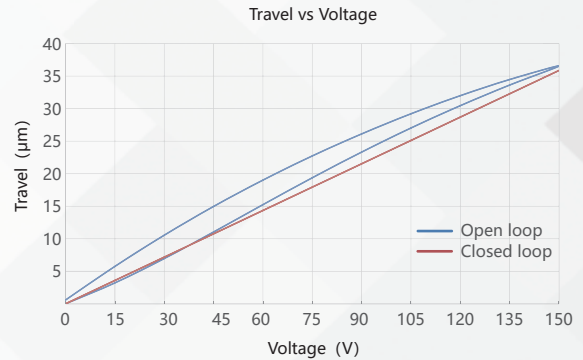
[2] Custom cable length and connector is available.

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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