

## P92 Fast Tool Positioning Stages



P92.X70



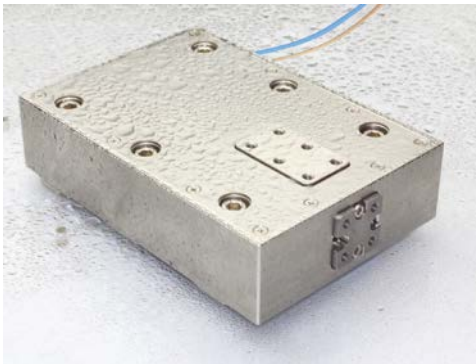
P92.X30

Two models of displacement (30 $\mu$ m or 75 $\mu$ m) about P92 are optional, and the corresponding models are P93.X30 and P93.X70. P92.X70 has 2 fixed points, in side or moving surface.

### ► Features

- Ultra high precision
- Large load capacity
- Quick response time
- High stiffness

### ► Dust and Droplet Proof On Request

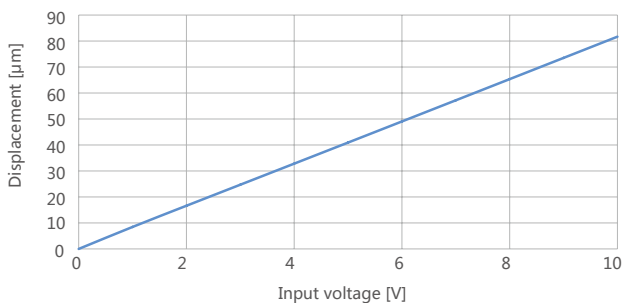


### ► High Stiffness

The stage body material is made of stainless steel to ensure the stability during processing, the structure is stable and reliable, and the machining accuracy is not affected by the vibration.

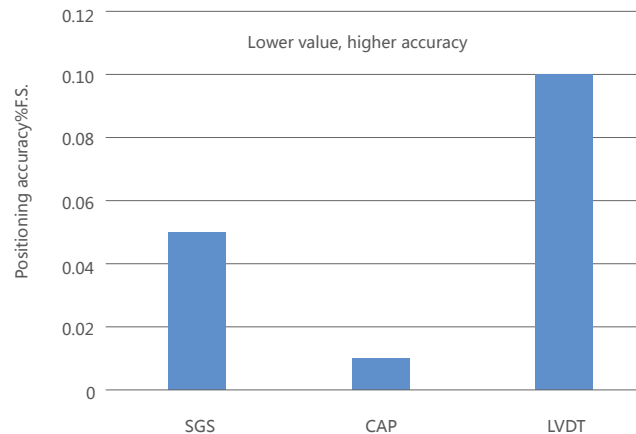
The stiffness of the fast tool positioning stage is much greater than the conventional piezo nanopositioning stage.

### ► Closed Loop Curve

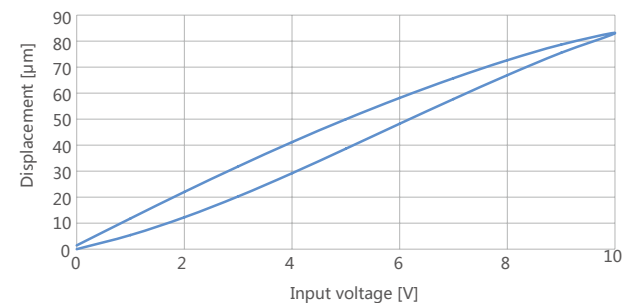


### ► Sensor

P92 could be optionally equipped with SGS sensor, LVDT sensor or CAP sensor to eliminate the hysteresis and creep of piezo actuator, input control voltage is linear with output displacement.

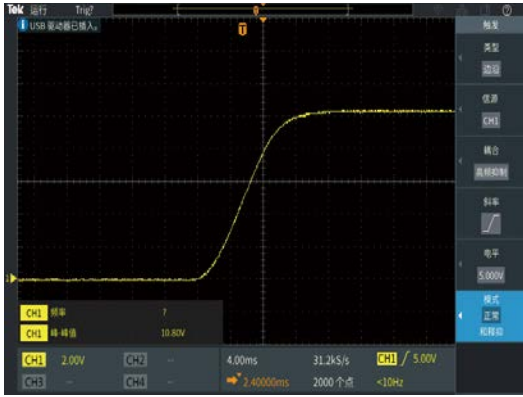


### ► Open Loop Curve



### ► Step Time

The step time with load of P92.X70C is about 12ms. Matching different controllers would be different step times. The required step time could also be set before shipping.

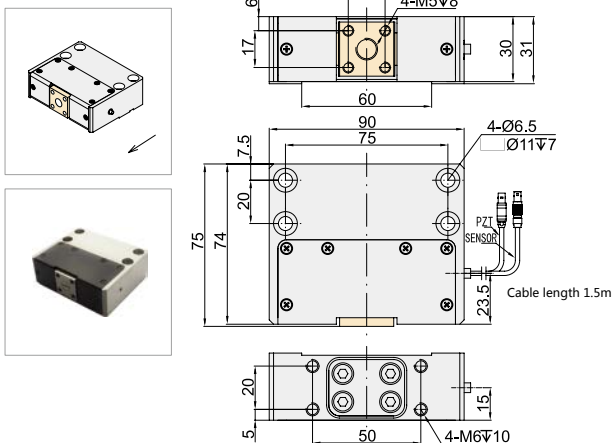


### ► Recommend Piezo Controller

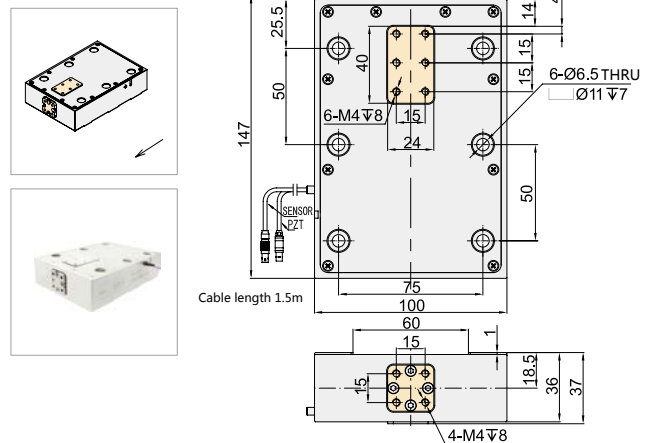
E00/E01	E72	E53
1 channel Computer software, Analog input, Rotary knob Open/closed loop Ave. current: 291mA	1 channel Computer software, Analog input Open/closed loop Ave.current: 50mA	1 channel Computer software, Analog input Open/closed loop Ave.current: 60mA
Note : For technical data, please refer to "Piezo Controllers"		

### ► Drawings

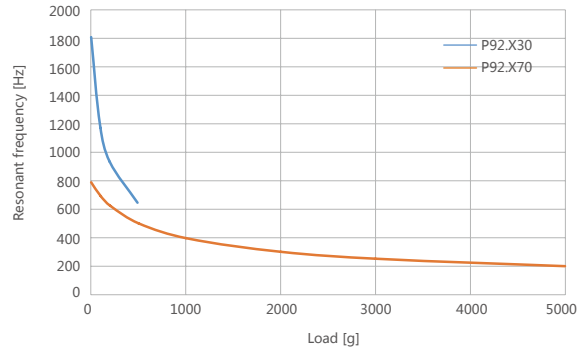
P92.X30



P92.X70



### ► Frequency VS Load Curve



### ► Technical data

Models	S/C/L-Closed loop K-Open loop	P92.X30S P92.X30K	P92.X70C P92.X70L P92.X70K	Units
Travel range(0~120V)		24	60	$\mu\text{m}\pm 20\%$
Travel range(0~120V)		30	75	$\mu\text{m}\pm 20\%$
Integrated sensor		SGS/-	CAP/LVDT/-	
Closed/open loop resolution		2/0.7	5/10/2.5	nm
Closed-loop linearity		0.1/-	0.1/0.2/-	%F.S.
Repeatability		0.05/-	0.01/0.1/-	%F.S.
Pitch/Yaw/Roll		<10	<15	$\mu\text{rad}$
Push/pull force capacity		300/100	550/240	N
Stiffness		10	8	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		1.8	0.8	$\text{kHz}\pm 20\%$
Closed/open-loop unloaded Step time		5/3	10/5	$\text{ms}\pm 20\%$
Unloaded operating frequency	10% Travel	1000	550	$\text{Hz}\pm 20\%$
	100% Travel	40	20	
Load capacity		0.3	5	kg
Electrical capacitance		7.2	18	$\mu\text{F}\pm 20\%$
Material		Steel, Aluminum	Steel	
Mass		1450	3500	$\text{g}\pm 5\%$

Note: Max driving voltage could be -20V~150V, Recommended voltage 0~120V for long-term operation to extend lifetime.

Technical data are measured by CoreMorrow E00/E01 series piezo controller.