

Piezo Nanopositioning Stages

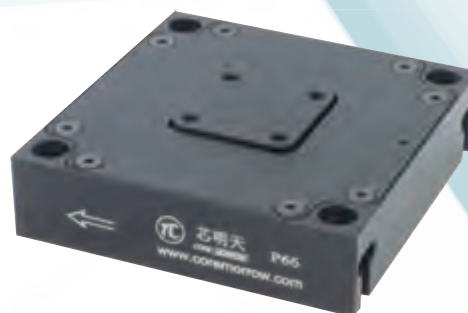
P66.X/P66.Z/P66.XY/P66.XZ/P66.XYZ

Features

- Motions in X, Z, XY, XZ and XYZ are available
- Max stroke to 30μm
- Max load 5kg
- Open/closed loop

Applications

- Interference / scanning
- Micromachining / precision control
- Metering
- Semiconductor technology

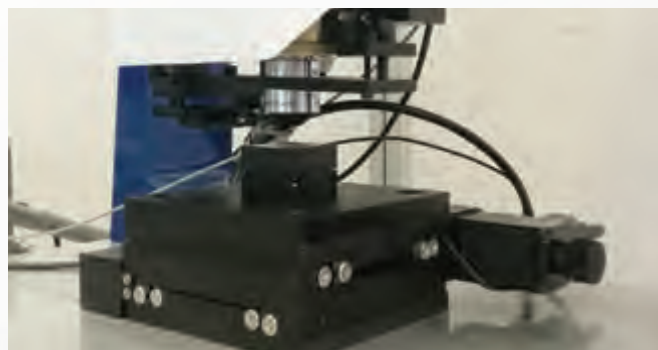


Closed-Loop and Open-Loop Versions

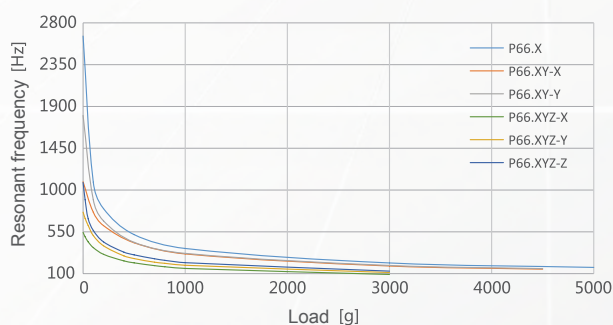
P66 have two specifications of open loop and closed loop, and the closed-loop version has a high-resolution and fast-response strain gauge sensor (SGS), which is equipped in the most appropriate location of the drive mechanism. It can feedback to the controller with signals of high-bandwidth, nanopositioning accuracy. The sensor uses a full-bridge configuration to eliminate thermal drift and ensure the stability of optical positioning in the nanometer range.

Scanning Probe Microscope (SPM)

Coremorrow P66.XY piezo nanopositioning stage is widely used in SPM because of the features of high response frequency, high precision, and high reliability etc.



Frequency vs Loading



Recommend Controllers

E00/E01	E72	E53
		
1~3 channels Computer software, Analog input, Rotary knob Open/closed loop Ave. current: 291/58mA	1~3 channels Computer software, Analog input Open/closed loop Ave. current: 50mA	1 channel Computer software, Analog input Open/closed loop Ave. current: 60mA

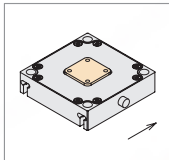
Technical data

Models	S-Closed loop K-Open loop	P66.X30S P66.X30K	P66.Z30S P66.Z30K	P66.XY30S P66.XY30K	P66.XZ30S P66.XZ30K	P66.XYZ30S P66.XYZ30K	P66.X60S P66.X60K	P66.XY60S P66.XY60K	Units
Active axes		X	Z	XY	XZ	XYZ	X	XY	
Travel range(0~120V)		24	24	24/axis	24/axis	24/axis	48	48/axis	$\mu\text{m}\pm 20\%$
Travel range(-20~150V)		30	30	30/axis	30/axis	30/axis	60	68/axis	$\mu\text{m}\pm 20\%$
Integrated sensor		SGS/-	SGS/-	SGS/-	SGS/-	SGS/-	SGS/-	SGS/-	
Closed/open loop resolution		1.5/0.7	1.5/0.7	1.5/0.7	1.5/0.7	1.5/0.7	2/0.8	2/0.8	nm
Closed-loop linearity		0.1/-	0.1/-	0.1/-	0.1/-	0.15/-	0.1/-	0.15/-	%F.S.
Repeatability		0.05/-	0.05/-	0.08/-	0.08/-	0.1/-	0.05/-	0.1/-	%F.S.
Pitch/Yaw/Roll		<15	<15	<15	<15	<15	<20	<20	μrad
Push/pull force capacity		120/15	30/10	100/15	30/10	30/10	160/16	120/12	N
Stiffness		4.4	1.1	3.3	1.1	1.1	2.8	2.1	$\text{N}/\mu\text{m}\pm 20\%$
Unloaded resonant frequency		2.6	1.6	X1.6/Y0.9	X1.5/Z0.8	X0.6/Y0.7/Z1.2	1.3	X0.9/Y1.2	$\text{kHz}\pm 20\%$
Closed/open-loop unloaded Step time		5/0.8	15/1	8/0.8	20/1	30/1	10/1.6	20/1.6	$\text{ms}\pm 20\%$
Operating frequency	10% Travel	500	80	260	60	40	200	100	$\text{Hz}\pm 20\%$
	100% Travel	50	8	25	6	4	20	10	
Load capacity		8	1	5	1	1	6	4	kg
Electrical capacitance		3.6	3.6	3.6/axis	3.6/axis	3.6/axis	7.2	7.2/axis	$\mu\text{F}\pm 20\%$
Material		Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
Mass		120	200	260	320	460	190	450	$\text{g}\pm 5\%$

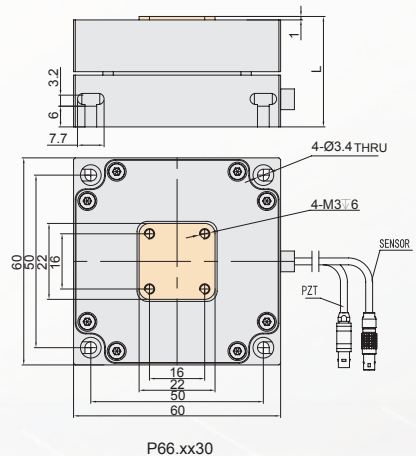
The technical data are measured by Coremorrow E00/E01 series piezo controller.

Drawings

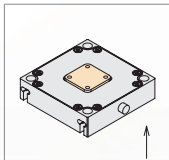
P66.X30



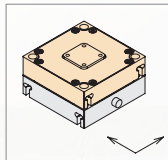
Models	L(mm)	Models	L(mm)
P66.X30	16	P66.XZ30	39
P66.Z30	23	P66.XYZ30	55
P66.XY30	32		



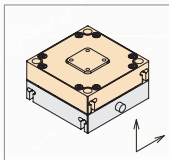
P66.Z30



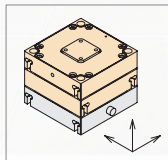
P66.XY30



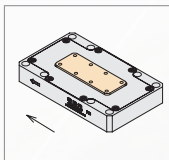
P66.XZ30



P66.XYZ30



P66.X60



P66.XY60

