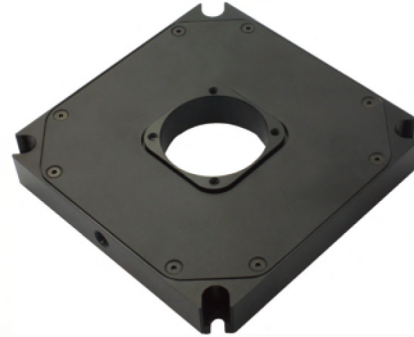




Piezo Nanopositioning Scanners P18.X/P18.XY/P18.XYZ

Features

- Max travel range 1110 μ m
- Max load 3.5kg
- Aperture \varnothing 35mm
- Millisecond response time



1–3 axes

P18 piezo nanopositioning scanners can be connected via adapters to form a variety of motion structures such as XY, XYZ.

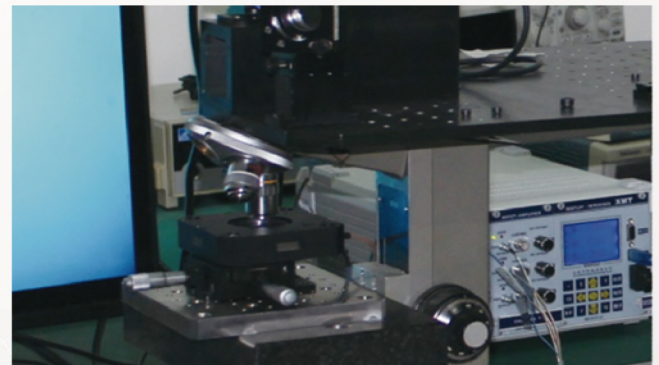
Large displacement, large load, high stiffness, high frequency

P18 piezo nanopositioning scanner incorporates high-reliability piezo actuator that can achieve scanning range of up to 1110 μ m, good linearity of motion, and closed-loop version with excellent linearity and repeatability.

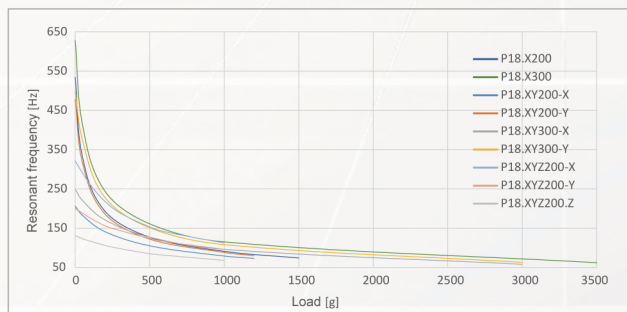
P18 adopts a unique structural design, featuring large rigidity, large blocking force, and large load capacity. The max load capacity is up to 3.5kg and unload resonant frequency reaches 500Hz. Matching CoreMorrow's high-power controller has a response time of up to 5ms. They are the first choice for semiconductor manufacturing, scanning microscopy and other applications.

Applications–Nanolithography

CoreMorrow's P18.XY300 will be applied to nanolithography experiments with its large displacement, high precision, and high stability.



Frequency vs Loading



Recommend Controllers

E00/E01	E72	E53
1~3 channels Computer software, Analog input, Rotary knob Open/closed loop Ave. power: 35W/7W	1~3 channels Computer software, Analog input Open/closed loop Ave. power: 6W	1 channel Computer software, Analog input Open/closed loop Ave. power: 10W

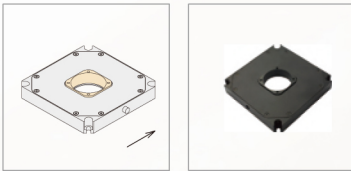
Technical data

Models	S: Closed-loop K: Open-loop	P18.X200S P18.X200K	P18.X600S P18.X600K	P18.X900S P18.X900K	P18.XY200S P18.XY200K	P18.XY300S P18.XY300K	P18.XYZ200S P18.XYZ200K	Units
Active axes		X	X	X	X, Y	X, Y	X, Y, Z	
Travel range(0~120V)		200	600	900	200/axis	300 or ±150/axis	200/axis	μm±20%
Travel range(-20~150V)		280	740	1110	280/axis	370 or ±185/axis	280/axis	μm±20%
Integrated sensor		SGS/-	SGS/-	SGS/-	SGS/-	SGS/-	SGS/-	
Aperture		Ø35	Ø35	Ø35	Ø35	Ø35	Ø35	mm
Closed/open loop resolution		8/5	15/5	25/5	8/5	10/5	8/5	nm
Closed-loop linearity		0.2/-	0.25/-	0.4/-	0.2/-	0.2/-	0.2/-	%F.S.
Repeatability		0.15/-	0.15/-	0.2/-	0.15/-	0.1/-	0.15/-	%F.S.
Push/pull force capacity		60/20	150/150	90/90	60/20	150/150	30/10	N
Stiffness		0.3	0.3	0.1	X0.3/Y0.3	X0.5/Y0.5	X0.1/Y0.1/Z0.1	N/μm±20%
Unloaded resonant frequency		500	300	120	X200/Y450	X250/Y500	X300/Y200/Z120	Hz±20%
Load capacity		2	2	1	1.5	3	1	kg
Electrical capacitance		11	42	63	11/axis	21/axis	11/axis	μF±20%
Material		Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	
Mass		200	380	600	360	380	600	g±5%

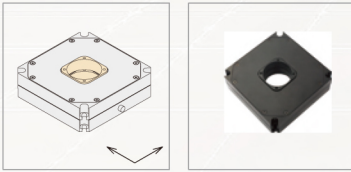
The technical data are measured by Coremorow E00 series piezo controller.

Drawings

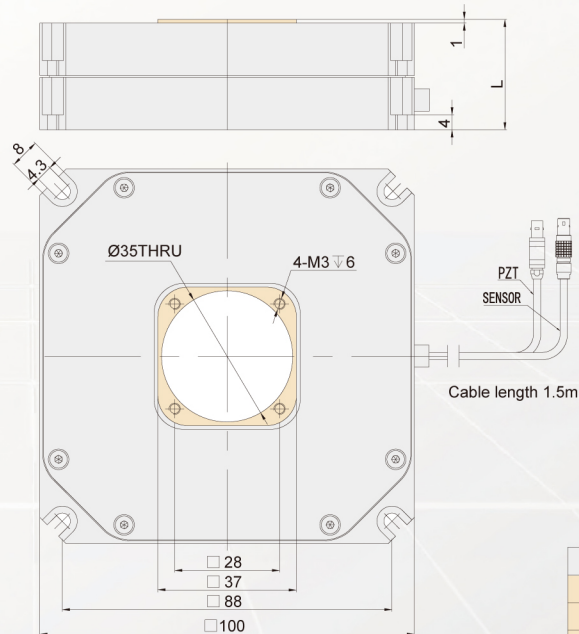
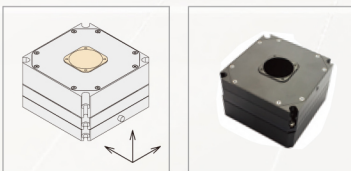
P18.X



P18.XY



P18.XYZ



Model	L(mm)
P18.X	15
P18.XY	29.5
P18.XYZ	57.5