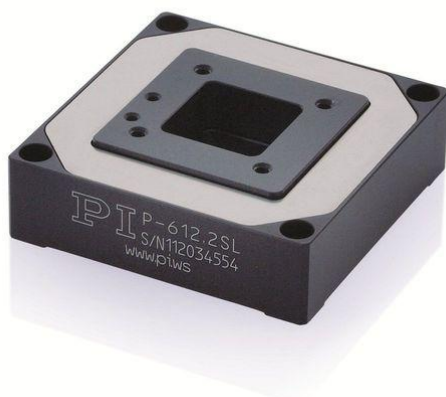


XY Piezo Nanopositioning System

COMPACT, CLEAR APERTURE

P-612.2



- + Compact: Footprint 60 mm x 60 mm
- + 100 μm \times 100 μm closed- loop travel range (130 μm \times 130 μm , open- loop)
- + For cost- sensitive applications
- + Clear aperture 20 mm \times 20 mm
- + Enhanced responsiveness & multi- axis precision: Parallel kinematics / metrology
- + Outstanding lifetime due to PICMA[®] piezo actuators
- + Available as compact version

Specifications

	P-612.2SL	P-612.20L	Unit	Tolerance
Active axes	X, Y	X, Y		
Motion and positioning				
Integrated sensor	SGS	-		
Open- loop travel, -20 to +120 V	130	130	μm	min. (20 % / -0 %)
Closed- loop travel	100	-	μm	
Open- loop resolution	0.8	0.8	nm	typ.
Closed- loop resolution	5	-	nm	typ.
Linearity error	0.4	-	%	typ.
Repeatability	<10	-	nm	typ.
Pitch	± 10	± 10	μrad	typ.
Yaw in X / Y	$\pm 10 / \pm 50$	$\pm 10 / \pm 50$	μrad	typ.
Mechanical properties				
Stiffness	0.15	0.15	N / μm	± 20 %
Unloaded resonant frequency	400	400	Hz	± 20 %
Resonant frequency @ 100 g	200	200	Hz	± 20 %
Push / pull force capacity in motion direction	15 / 5	15 / 5	N	max.
Load capacity	15	15	N	max.
Drive properties				
Ceramic type	PICMA [®] P-885	PICMA [®] P-885		
Electrical capacitance	1.5	1.5	μF	± 20 %
Dynamic operating current coefficient	1.9	1.9	$\mu\text{A} / (\text{Hz} \times \mu\text{m})$	± 20 %
Miscellaneous				
Operating temperature range	-20 to 80	-20 to 80	$^{\circ}\text{C}$	
Material	Aluminum, steel	Aluminum, steel		
Mass	105	105	g	± 5 %
Cable length	1.5	1.5	m	± 10 mm
Sensor connection	LEMO connector	-		
Voltage connection	LEMO connector	LEMO connector		

Resolution of PI piezo nanopositioning systems is not limited by friction or stiction. Value given is noise equivalent motion with E -503 amplifier.

Recommended controllers

Single- channel (1 per axis): E-610 servo- controller / amplifier, E-625 servo- controller, bench- top, E-621 controller module

Multi- channel: modular piezo controller system E-500 with amplifier module E-503 (three channels) or E-505 (1 per axis, high- power) and E-509 controller

Order Information

P-612.20L

XY Nanopositioning System with Aperture 20 mm × 20 mm, 100 µm × 100 µm, Open- Loop

P-612.2SL

XY Nanopositioning System with 20 mm × 20 mm Aperture, 100 µm × 100 µm, Strain Gauge Sensors

Ask about custom designs!

Controllers / Drivers / Amplifiers

[E-610 Piezo Amplifier / Controller](#)

[E-625 Piezo Servo- Controller & Driver](#)

[E-621 Piezo Servo- Controller & Driver](#)

[E-500 • E-501 Modular Piezo Controller](#)

[E-505 Piezo Amplifier Module](#)

Related Products

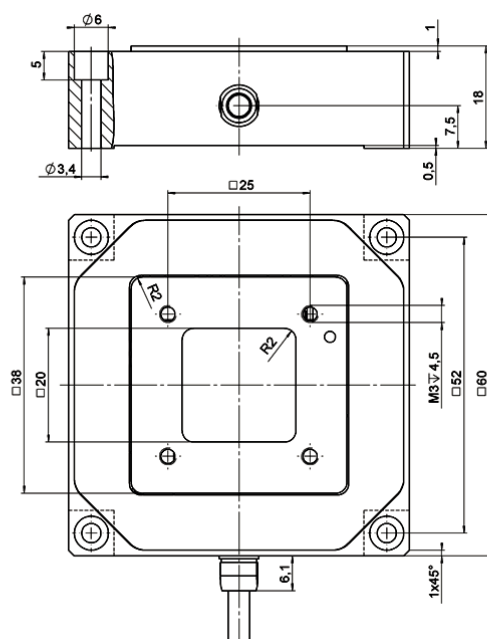
[P-541.2 • P-542.2 XY Piezo Stage](#)

[P-611.1 Linear Piezo Positioning System](#)

[P-713 XY Piezo Scanner](#)

[P-620.2 – P-629.2 PIHera XY Piezo Stage](#)

Drawings / Images



P-612.2 dimensions in mm