

PXY 36

compact 2-axes scan positioner stage

Concept:

The two axis flexure piezo stage of the series PXY 36 are ideally suited for nm-precise positioning of large optic components such as mirrors and lenses, adjustment and mounting in semiconductor technologies and electronics, and applications in prototyping technologies and quality assurance as well as microbiology. The micropositioner travel range per axis is 36µm. The design of the piezo engineering FEA modeled flexure hinges enables the stage to reach shortest settling time and reduces the lateral run out in z axis down to a few nano-meters. The multiaxis piezo electric nano- positioning stages PXY can be controlled with each piezo amplifier from piezosystem jena.

Specials:

With the use of a control signal, the X and Y-axis can be controlled separately. For the PXY 36 systems, the advantages of parallel kinematics have been implemented. Settling and re-settling forces are actively generated by the stage design principle. As opposed to other actuating systems, all actuators affect the same moving plate and share one fixed point. Thus the resonant frequency is improved significantly. Furthermore, both moving axes provide identical dynamic behavior.

Also, the systems may be specially prepared for vacuum and/or cryogenic applications

Interfaces:

The piezo XY positioning stage PXY 36 has to be fixed by using the mounting holes on the base plate.

Components can be mounted on the top plate by four threaded holes.

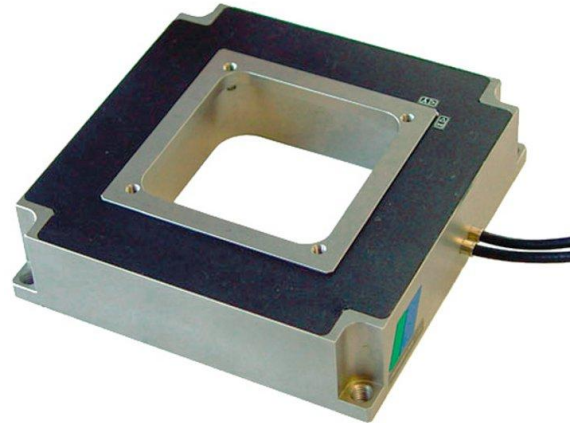


image: PXY 36

Product highlights:

- accurate parallel motion
- XY motion
- 36µm motion range
- without mechanical play
- direct piezo movement
- high dynamic range
- integrated pre-load for dynamical use

Applications:

- lens positioning
- 2D-scanning systems
- beam alignment
- semiconductor
- micro manipulation

PXY 36

Technical data:

linear positioning stage	unit	PXY 36	PXY 36 CAP
part no.		T-235-00	T-235-06
axis	-	X,Y	X,Y
motion in open($\pm 10\%$)/closed loop*	μm	36/ -	36/30
capacitance per axis ($\pm 20\%$)**	μF	3.6	3.6
resolution (open/closed loop)***	nm	0.07/ -	0.07/1
integrated measurement system	-	-	capacitive
typ. repeatability	nm	-	± 4
typ. non-linearity	%	-	0.006
resonant frequency x/y	unloaded	900/900	900/900
	with 100g	800/800	800/800
max. forces	push	N in x/y	1368/1368
	pull	N in x/y	137/137
stiffness x/y/z	N/ μm in	38/38/14.5	38/38/14.5
voltage range	V	-20...130V	-20...130V
connector (additional variation please see table below) ****	-	LEMO 0S.302	LEMO 0S.302/ LEMO 0S.650
cable length	m	1	1.6
min. bend radius of cable	mm	15	15
temperature range	$^{\circ}\text{C}$	-20 $^{\circ}\text{C}$... +80 $^{\circ}\text{C}$	-20 $^{\circ}\text{C}$... +80 $^{\circ}\text{C}$
material	-	aluminum/stainless steel	
dimensions (LxWxH)	mm	100x100x25	100x100x25
inside opening	mm	50x50	50x50
weight	g	700	725

* typical value measured with NV 40/3 amplifier (closed loop: NV 40/3 CLE amplifier)

** typical value for small electrical field strength

*** the resolution is only limited by the noise of the power amplifier and metrology

**** additional connector configuration examples, please see table blow

Product name	Description	Specials	Part. No Suffix.
PXY 36 CAP Digital	Version for digital controller series d-Drive and 30DV50 in combination with additional functionalities: Interchangeability, ASI, ASC	Connector Sub-D 15	T-235-06D

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