

NXP Series Multi-Axes Parallel Flexure Platforms



Description:

The NXP series is a platform that can support high-precision alignment in up to 6 axes. This series of products adopts a parallel structure design, which can effectively solve the problem of error buildup of the traditional stacked stages. In addition, the NXP platform adopts a flexure design, which has no sliding mechanism or bearings and very few moving parts. Through this design, the stiffness of the whole device can be significantly improved, and the height and inertia of the device can be controlled in an ideal range. Another unique feature of the NXP series is the common point, serving as the reference point for all rotational axes, which can greatly reduce the alignment time of the system, especially for complex alignment of planar optical devices. In general, it's an ideal option for sub-micron and nanoscale applications.

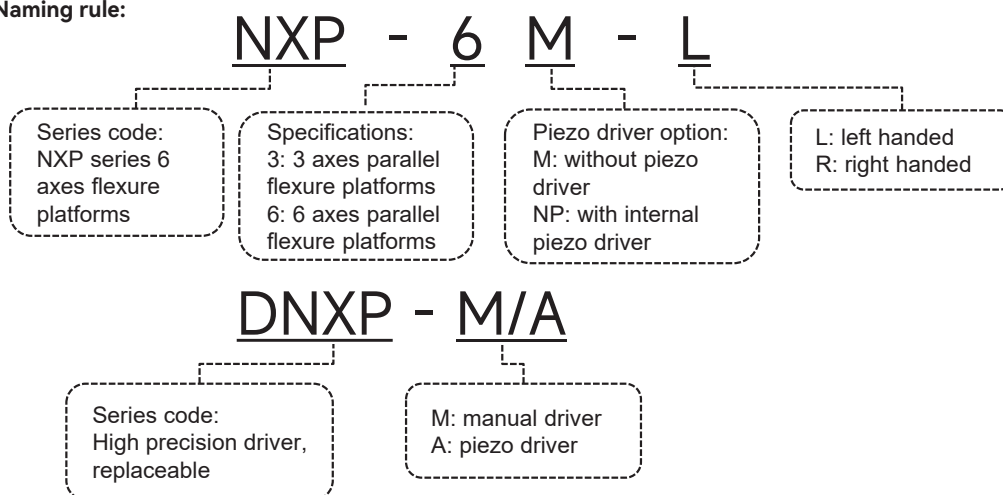
Applications:

- Fiber coupling
- Waveguide coupling
- Optoelectronic packaging
- Any other high-resolution alignment or positioning applications

Optional driver:

- Manual driver: precision micrometer
- Motorized driver: precision stepper motor
- piezo driver

Naming rule:



Note

1. Three-axes flexure platform without L/R model.
2. The device does not include a driver, which needs to be purchased separately (DNXP-M/A), and driver can be mixed as required.

Selection chart:

NXP Series Six Axes Parallel Flexure Platforms

Model		NXP-6M	NXP-6NP
Travel range		The travel of X, Y and Z is 4 mm. Rx, Ry, Rz(roll, pitch and yaw) travel is 4° (70mrad)	
Transmission ratio	X	1:1.5	1:1.5
	Y		Drivers move 1 μm, and the carrier plate moves 1.5 μm
	Z	1:1	The drive transmission ratio is 1:1. Piezo transmission ratio 1:1.5
Resolution		Please refer to below driver sheet	
Center of rotation		Common center of rotation. Maximum crosstalk 100 μm	
Parameters of piezo type	Model	None	Piezo, closed loop
	Travel range		Typical value 19μm
	Resolution		X, Y, Z 1nm Rx, Ry, Rz 0.018urad
Load capacity		1Kg	
Resonant frequency		>130 Hz(±10%)	
Heat stability		1um/°C	

NXP Series Three Axes Parallel Flexure Platforms

Model		NXP-3M	NXP-3NP
Travel range		4mm	
Transmission ratio		1:1	
Resolution		Please refer to below driver sheet	
Crosstalk		<100um	
Parallelism of carrier plate		<100um	
Parameters of piezo type	Model	None	Piezo, closed loop
	Travel range		Typical value 19μm
	Resolution		X, Y, Z 1nm
Load capacity		1Kg	
Resonant frequency		>130 Hz(±10%)	
Heat stability		1um/°C	

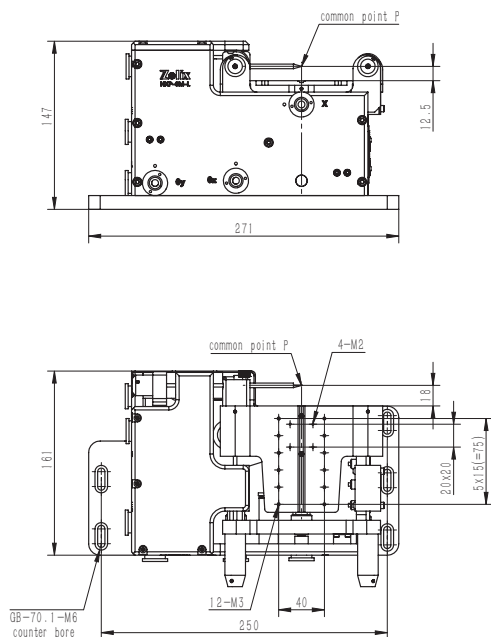
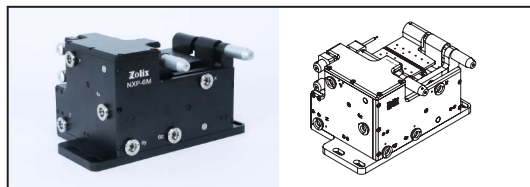
Driver

Model	DNXP-M	DNXP-A
Driver type	Manual	Motorized
Travel range	13mm Actual travel is 4mm when used with NXP series	8mm Actual travel is 4mm when used with NXP series
Resolution	Coarse adjustment 10 μm, fine adjustment 0.5 μm	Full step 1.25μm/half step 0.625μm
Motor	None	2 phase 35 stepper motor, stepper angle 1.8°
Limit		Built-in limit switch
Positioning accuracy		The bidirectional repeatability is 5.0 μm

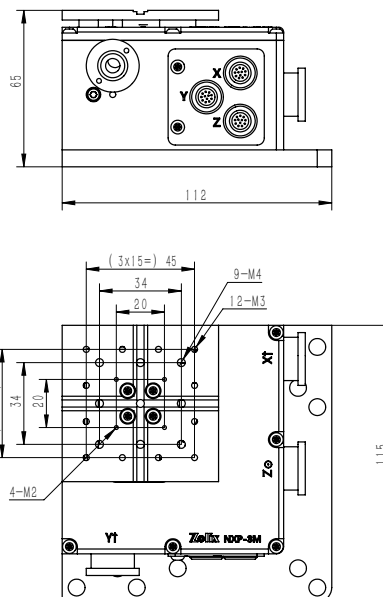
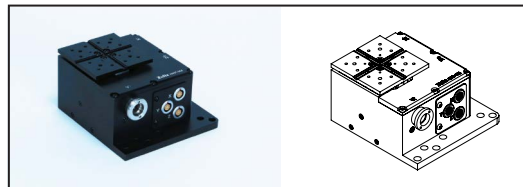


Dimensions:

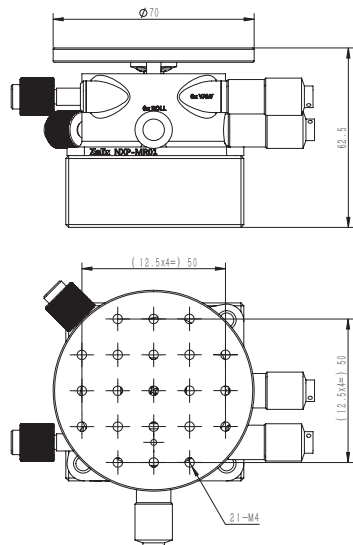
NXP-6-L



NXP-3

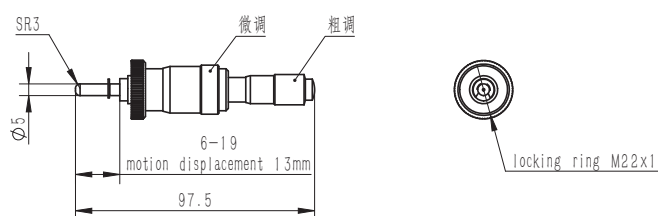
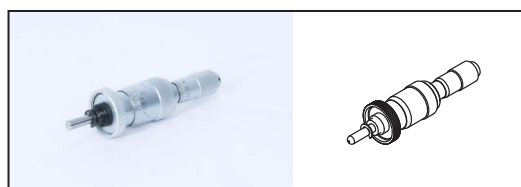


NXP-MR01



Item	NXP-MR01
Pitch/Roll travel range	$\pm 5^\circ$
Pitch/Roll resolution	0.036°
Yaw travel range	$\pm 10^\circ$
Yaw resolution	0.03°
Maximum horizontal load	5Kg

DNXP-M



DNXP-A

