

Motorized Linear Stages

CXP and CXPF series high-precision motorized linear stages



Description:

CXP series is high-precision motorized linear stages designed and manufactured by Zolix, especially for the usage scenarios such as small-size and high frequency of operation. This family of product are made of hard aluminum alloy with black anodic-oxidation surface treatments which ensure the good wear resistance and nice appearance. A set of cross-roller guide is employed which offers high motion precision even with heavy load. Imported ball screws (1mm lead pitch) are the key parts of driving mechanism and used with two-phase stepping motors (Japanese brands) to ensure accurate micro-step capabilities and high positioning accuracy. It is their best using scenarios of integrating this series into customer's own systems such automation equipment, instruments and production lines in which limited space must be considered.

CXPF series is one of derivative version of CXP family. A new type of ball screw who has longer lead pitch (2mm) and a set of new cross-roller guides are used to replace the original ones to meet the requirements of faster moving, higher rigidity and longer travel range.

Main characteristics:

- Using short-lead-pitch ball screws with two-phase stepping motors to provide good micro-step capability and rigidity
- Cross-roller guides ensure better rigidity and higher load capability
- Installation surface treated by using fine-grinding techniques to guarantee higher motion precision
- Three built-in sensors (positive and negative position limit sensors and one origin-point sensor) installed with flexible cables and relative units to make sure easy maintenance

Naming rules:

CXP 20-60 (-ST528)

Series code:
CXP: high precision, 1mm lead pitch ball screw, cross-roller guide and aluminum alloy

Dimension of table:
40: 40mm X 40mm
60: 60mm X 60mm

Type of stepping motor:
None (default): two-phase stepping motor
ST528: Five-phase 28-stepping motor

Effective travel range:
15: 15mm
20: 20mm

CXPF 30-80 (-ST542)

Series code:
CXP: high precision, 2mm lead pitch ball screw, cross-roller guide and aluminum alloy. Faster and higher rigidity version

Dimension of table:
80: 80mm X 80mm
80100: 80mm X 100mm
80125: 80mm X 125mm
80175: 80mm X 175mm

Type of stepping motor:
None (default): two-phase stepping motor
ST542: Five-phase 42-stepping motor

Effective travel range:
30: 30mm
50: 50mm
75: 75mm
100: 100mm



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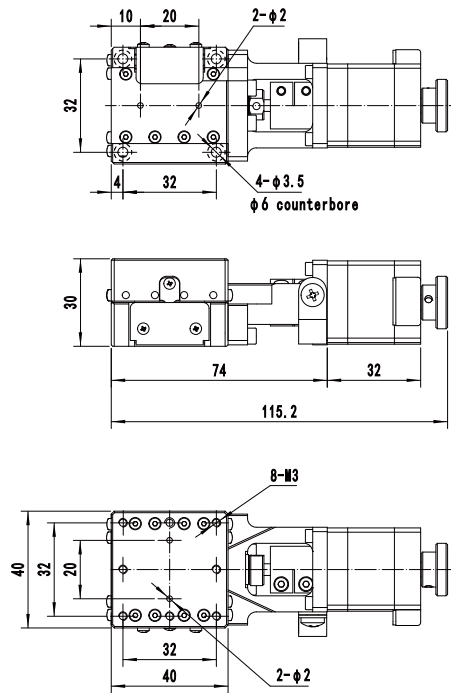
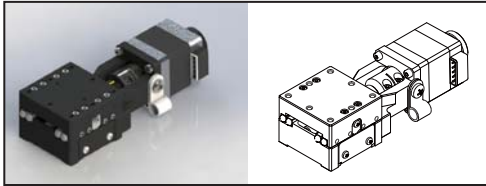
Selection chart:

Model number		CXP15-40	CXP20-60	CXPF30-80	CXPF50-80100	CXPF75-80125	CXPF100-80175
Mechanical specifications	Table dimensions(mm)	40×40	60×60	80×80	80×100	80×125	80×175
	Travel range(mm)	15	20	30	50	75	100
	Transmission mechanism	ball screws, ball screw, Φ6×1			ball screws, Φ8×2		
	Guides (guiding mechanism)	cross-roller guides					
	Main body materials and surface treatments	Black anodic-oxidation aluminum-alloy					
	Weight (Kg)	0.4	0.6	1.2	1.4	1.6	1.8
	Shaft coupling (external diameter-diameter of aperture 1-diameter of aperture 2) (mm)	16-3-5		16-5-5			
Accuracy specifications	Step/half-step resolution (μm)	5/2.5		10/5			
	20-fine-subdivision resolution (μm)	0.25		0.5			
	Highest speed (mm/s)*	10		20			
	Single-direction positioning accuracy (μm)	≤20				≤40	
	Repositioning accuracy (μm)	≤±1.5				≤±2	
	Static clearance (μm)	≤1					
	Backlash clearance (μm)	≤3					
	Static parallelism (mm)	≤0.08				≤0.1	
	Motion linearity (μm)	≤10					
	Motion parallelism (μm)	≤15					
	Yaw (")	≤35				/	
	Pitch (")	≤30				/	
Specialty specifications	Micro-step capability (μm)	≤5		≤2**			
	Repositioning accuracy with micro-step motion (μm)	≤±1					
	Backlash clearance with micro-step motion (μm)	≤0.5					
Electrical specifications	Motor and its stepping angle (°)	Two-phase 28 stepping motor, 1.2,		Two-phase 42 stepping motor, 1.8			
	Brand and model number of motor	Shinano, STP-28D1003-08		Shinano, SST-43D2126-10			
	Working current (A)	1.3		1.7			
	Torque of motor (N·m)	0.0785		0.456			
	Brand and model number of stepping driver (optional)	Moons, SR2					
	Type of plugs for stages	1*DB9 (pin)					
	Type of cables for stages	High flexible cables (Helukabel, Germany)					
	Length of cables for stages(m)	0.2					
	Position-limit sensors (built-in)	2*GP1S09xHCPI (Sharp, Japan)					
	Origin-point sensors (built-in)	1*GP1S09xHCPI (Sharp, Japan)					
	Voltage of power supply for sensors (V)	DC5~24V ±10%					
	Output for control	collector of NPN open-circuit output					
	Status of output ports	output ON when sensor is blocked					
Operating load	Horizontal direction (Kg)	5	8	16	20	25	30
	Invert direction (Kg)	2	3	5	6	7	8
	Vertical direction (Kg)	3	4	5	5	5	5

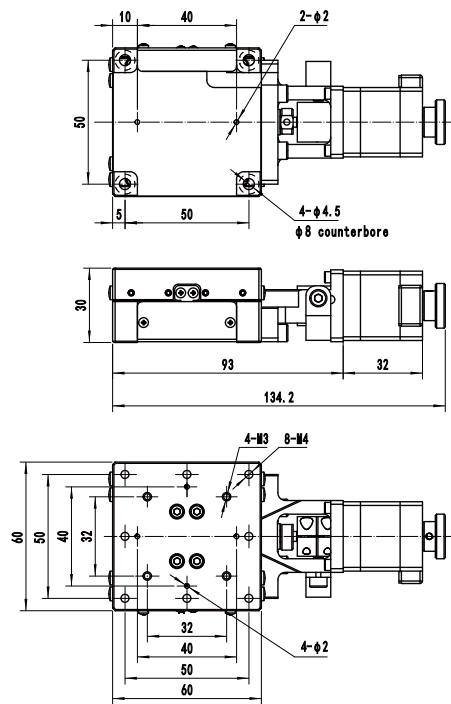
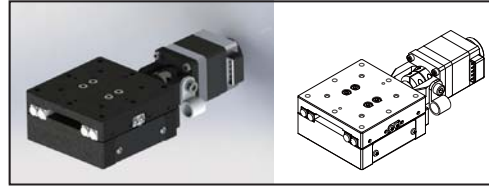
*Note: Highest speed is measured with the conditions of zero-load and motors being worked at 600rpm

Dimensions:

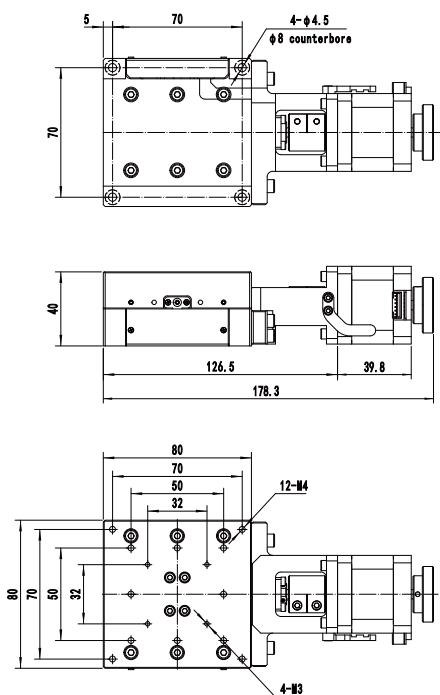
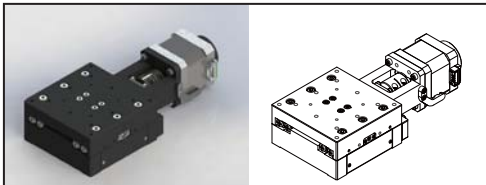
CXP15-40



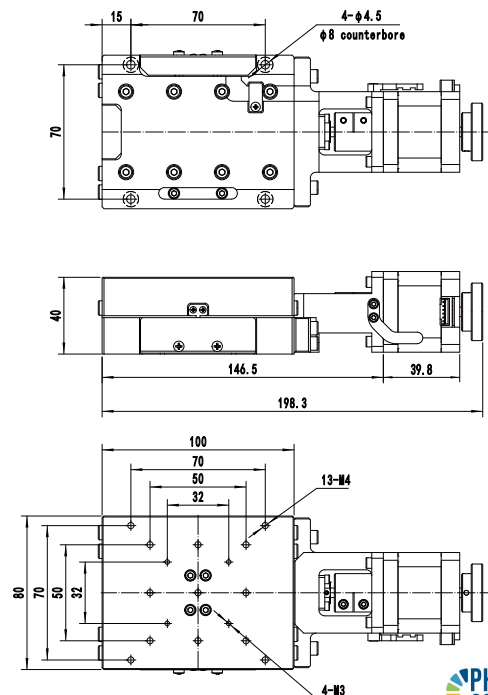
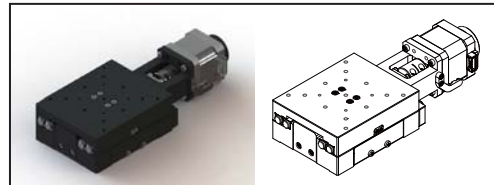
CXP20-60



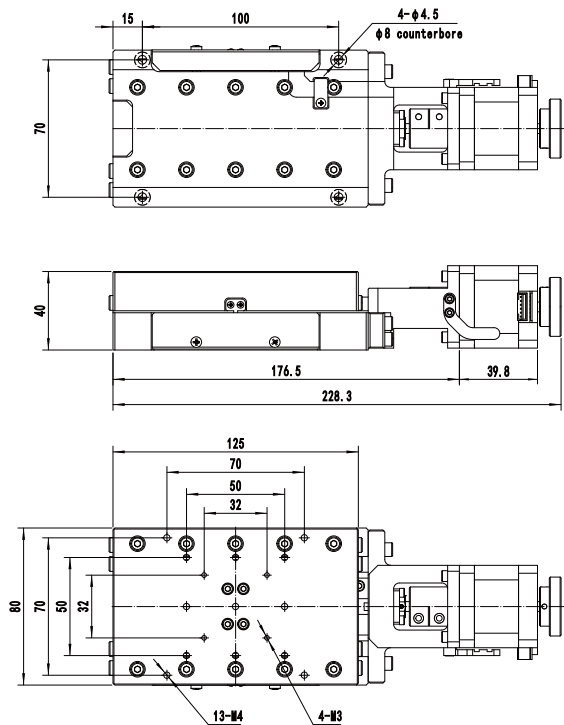
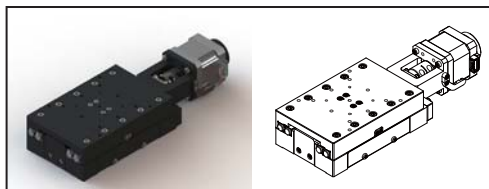
CXPF30-80



CXPF50-80100



CXPF75-80125



CXPF100-80175

