

Description:

CXP series is special designed for the usage scenarios such as small-size and high frequency operation. The main body is made by hard aluminum alloy with black anodic-oxidation surface treatments which ensure the good wear resistance and nice appearance. A set of crossed-roller guide is employed which offers high motion precision even with heavy load. 1mm lead pitch and high precision two-phase stepping motor are the key parts to ensure minimum incremental motion size and high positioning accuracy. This model is a very idea option for automation equipment, precise instruments in which limited space must being considered. CXPF series is one of derivative version of CXP series, equipped with longer lead pitch(2mm) and a set crossed-roller guides to meet the requirements of faster moving, higher rigidity and longer travel range.

Features:

- Using short-lead-pitch ball screws with two-phase stepping motors to provide $\leq 5\mu\text{m}$ minimum incremental motion and rigidity
- Crossed-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, 2mm lead pitch ball screw, crossed-roller guide, aluminum alloy

Dimension of table:
40:40mm×40mm
60:60mm×60mm

Motor type:
None (default):two-phase stepping motor
ST542:5 phase 42 stepping motor

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

CXPF 30-80 (-ST542)

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

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

Motor type:
None (default):two-phase stepping motor
ST542:5 phase 42 stepping motor

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

Selection chart:

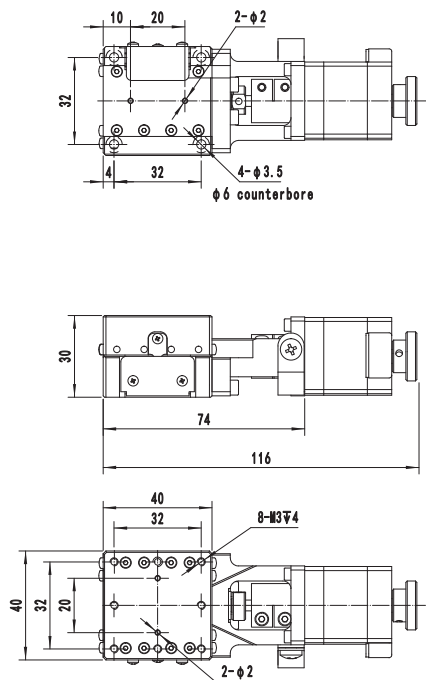
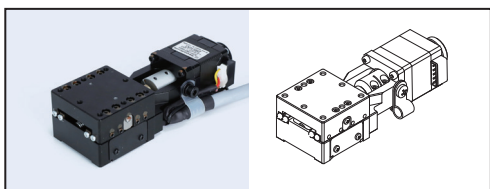
	Model	CXP15-40	CXP20-60	CXPF30-80	CXPF50-80100	CXPF75-80125	CXPF100-80175	
Mechanical specifications	Travel range(mm)	15	20	30	50	75	100	
	Stage surface size(mm)	40×40	60×60	80×80	80×100	80×125	80×175	
	Guide mechanism	ball screw, $\phi 6 \times 1$		ball screw, $\phi 8 \times 2$				
	Guide mechanism	crossed-roller bearing guides						
	Main body material, surface treatments	Black anodized aluminum-alloy						
	Weight(Kg)	0.4	0.6	1.2	1.4	1.6	1.8	
	Shaft coupling(OD - OD1-OD2)(mm)	16-03-05		16-05-05				
Accuracy specifications	Resolution(step/half-step)(μm)	5/2.5		10/5				
	20-fine-subdivision resolution(μm)	0.25		0.5				
	Highest speed(mm/s)*	10		20				
	Repositioning accuracy(μm)	$\leq \pm 1.5$				$\leq \pm 2$		
	Backlash(μm)	≤ 3				≤ 0.1		
	Static parallelism(mm)	≤ 0.08				≤ 0.1		
	Dynamic straightness(μm)	≤ 10				≤ 15		
Specialty specifications	Minimum incremental motion(μm)**	≤ 5		≤ 2				
	Brand and model number of motor	Shinano, STP-28D1003-08		Shinano, SST43D2126-10				
Electrical Specifications (Motor specifications)	Motor and its stepping angle($^{\circ}$)	2 phase 28 stepping motor, 1.8		2 phase 42 stepping motor, 1.8				
	Insulation resistance	Above 100M Ω /Min						
	Insulating strength	"500V AC no abnormality within 1 minute"						
	Insulating level	UL B level						
	Weight(Kg)	0.11		0.29				
	Voltage(V)	1.9		2.8				
	Current	1.3A/phase		1.7A/phase				
	Resistance	1.45 \pm 10%Q/phase		1.65 \pm 10% Ω /phase				
	Inductance	1.25mH/phase		3.6mH/phase				
	Holding torque	0.0785N.m		0.456N.m				
	Retarding torque	0.00294N.m(reference value)		0.005N.m(reference value)				
	Inertia of the rotor	8g.cm		56g.cm				
	Operating temperature	0~+50 $^{\circ}\text{C}$						
	Max operating temperature for motor	80 $^{\circ}\text{C}$ Max						
	Brand and model number of stepping driver(optional)	Moons, SR2						
	Connectors, sensors	Type of plug for stage	DB9(pin)					
		Type of cable for stage	High flexibility cable(Helukabel, Germany)					
Length of cables for stages(m)		0.2						
Position-limit sensors(built-in)		2×GP1S09xHCP(Japan SHARP)						
Origin-point sensors(built-in)		1×GP1S09xHCPI(Japan SHARP)						
Voltage of power supply for sensors(V)		DC5-24V \pm 10%						
current consumption		<60(total)						
Control output		NPN open collector output DC5 ~ 24V 8mA or less Residual voltage 0.3V or less(when load current is 2mA)						
Maximum load capacity	Status of output ports	output ON when sensor is blocked						
	Horizontal direction(kg)	5	8	16	20	25	30	
	Vertical direction(kg)	2	3	5	6	7	8	
	Inverted direction(kg)	3	4	5	5	5	5	

*Note: Highest speed is measured under zero-load conditions with the motor running at 600 RPM.

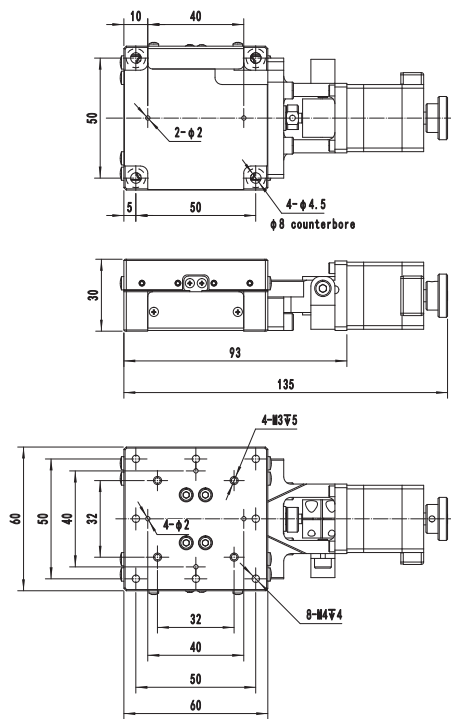
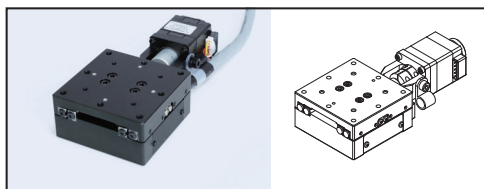
**Note: $\leq 2\mu\text{m}$ (when using our TMC controller), microstep capacity $\leq 5\mu\text{m}$ when using our other controllers.

Dimensions:

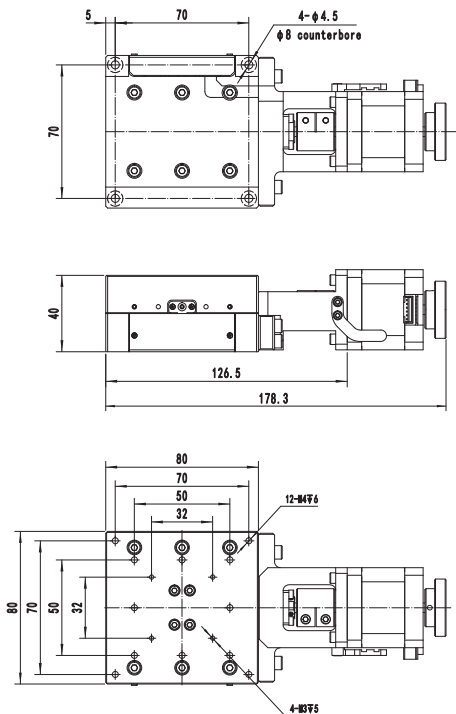
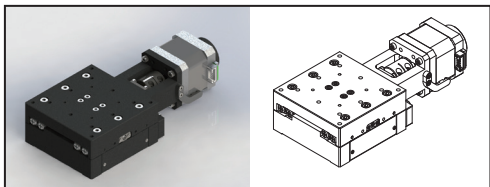
CXP15-40



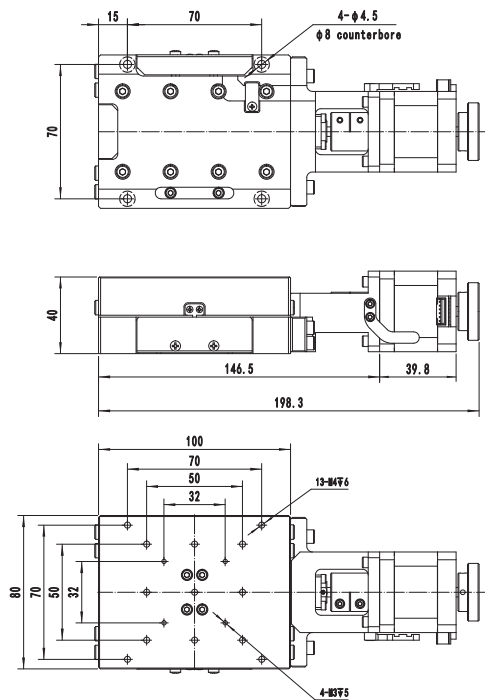
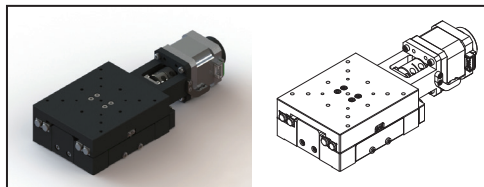
CXP20-60



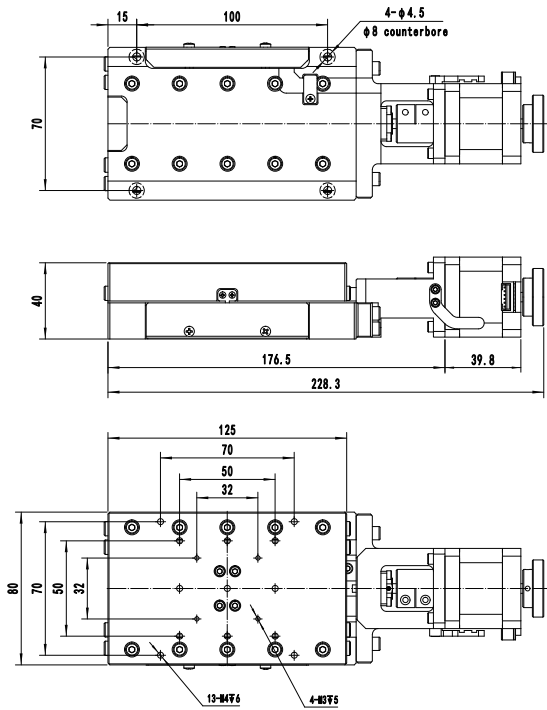
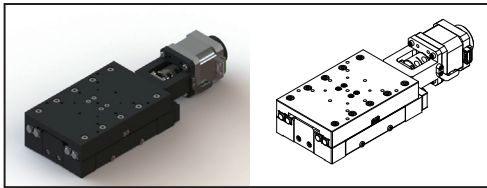
CXPF30-80



CXPF50-80100



CXPF75-80125



CXPF100-80175

