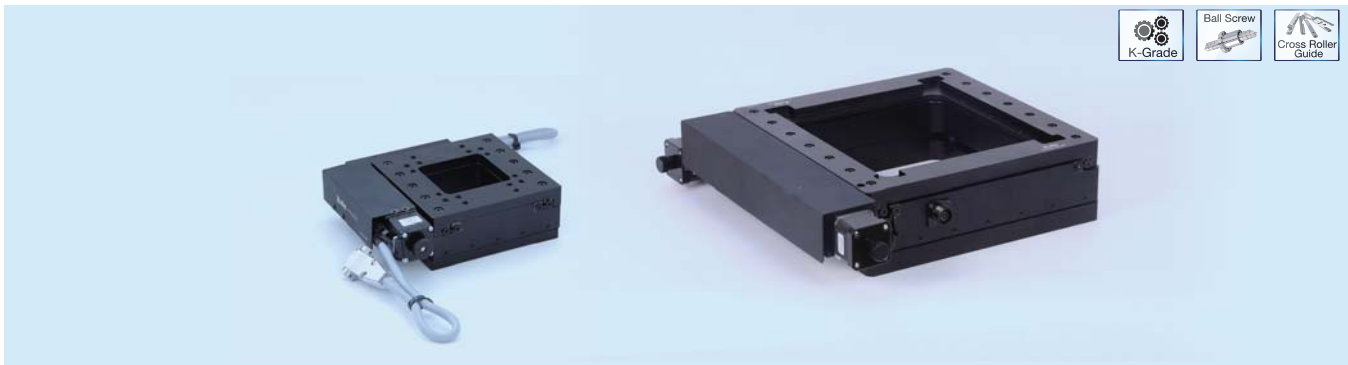


# 2D- or 3D motorized alignment stages

## Motorized XY series all-in-one two-axis stages FAstage



### Description:

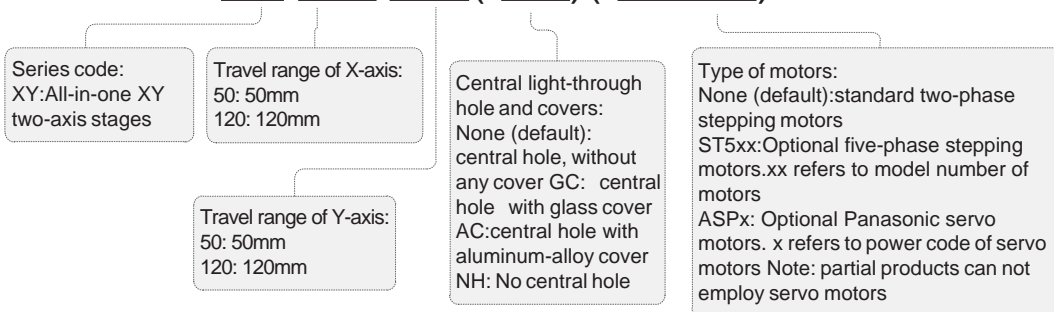
They are best application scenarios for motorized XY series all-in-one two-axis stages in which workpieces treated in production lines with high precise and high repetition rate scanning. XY series products are designed according to all-in-one principle and employ cross-roller guides and ball screws to construct transmission mechanism to ensure high orthogonality and motion accuracy. A distinct of this series is that selected large-size rectangular light-through hole at the center of stages. Optional glass cover or aluminum-alloy c cover could help operators to realize scanning or alignment with transmission mode or reflection mode separately.

### Main characteristics:

- Using ball screws to meet the requirement of high precise and high repetition operations
- Better motion accuracy is guaranteed by employing cross-roller guides
- Rectangular light-through hole is provided, with optional glass or aluminum-alloy covers
- Two-phase stepping motors are standard. Five-phase stepping or servo motors are optional

### Naming rules:

## XY 120 120(-NH)(-ST528)



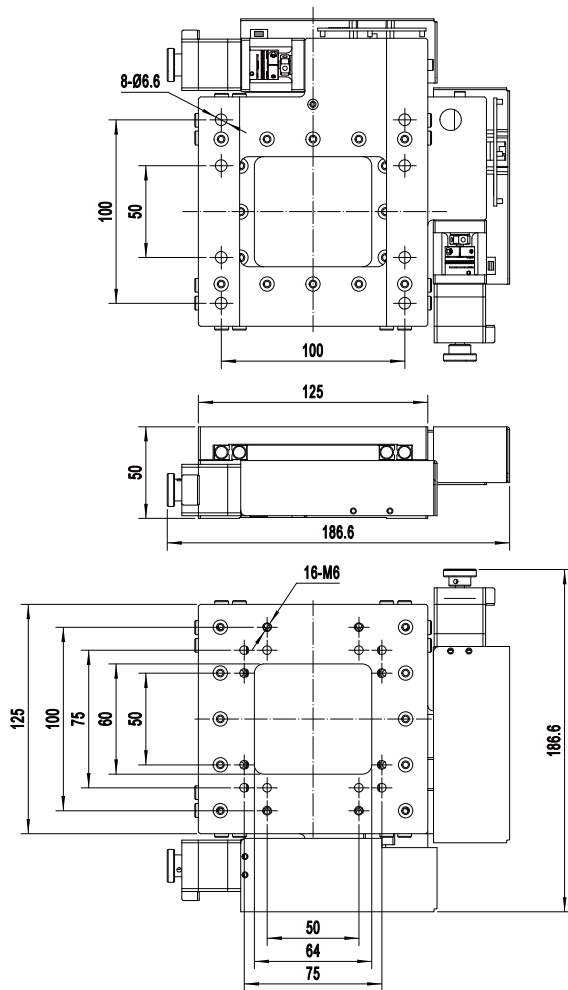
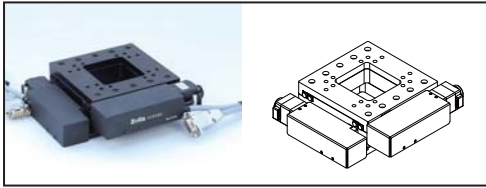
## Selection chart:

Model number		XY5050	XY120120
<b>Mechanical specifications</b>	Travel range(mm)	Xaxis: 50 Yaxis: 50	Xaxis: 120 Yaxis: 120
	Table dimensions(mm)	125×125	280×280
	Central light-through hole dimension (mm)	60×64	188×188
	Light-through dimension at extreme position (mm)	35×47	128×128
	Transmission mechanism	Fine ball screws, $\phi 6 \times 1$	Fine ball screws, $\phi 16 \times 4$
	Guides (guiding mechanism)	Cross-roller guides	Cross-roller guides
	Main body materials and surface treatments	Black anodic-oxidation aluminum-alloy	
	Shaft coupling (external diameter-diameter of aperture 1-diameter of aperture 2) (mm)	13-3-5	20-5-10
Weight (Kg)	2.2	7	
<b>Accuracy specifications</b>	Resolution (step/half-step) ( $\mu\text{m}$ )	5/2.5	20/10
	20-fine-subdivision resolution ( $\mu\text{m}$ )	0.25	1
	Highest speed (mm/s) *	10	40
	Repositioning accuracy ( $\mu\text{m}$ )	$\leq \pm 1.5$	$\leq \pm 3$
	Backlash clearance ( $\mu\text{m}$ )	$\leq 3$	$\leq 5$
	Static parallelism (mm)	$\leq 0.1$	
	Motion straightness( $\mu\text{m}/100\text{mm}$ )	$\leq 10$	
	Motional parallelism ( $\mu\text{m}$ )	$\leq 25$	
Error on orthogonality ( $\mu\text{m}$ )	$\leq 15$	$\leq 60$	
<b>Electrical specifications</b>	Brand and model number of motor	Shinano, STP-28D1003-08	Shinano,SST43D2126-2410
	Working current (A)	1.3	1.7
	Holding 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)	1*Aviation plug (9 pins)
	Type of connection cable	High flexible cables (Helukabel, Germany)	/
	Length of connection cable	0.2	/
	Position-limit sensors (built-in), for each axis	2*GP1S09xHCPI (Sharp, Japan)	2*PM-L25 (SUNX, Japan)
	Origin-point sensors (built-in), for each axis	1*GP1S09xHCPI (Sharp, Japan)	/
	Voltage of power supply for sensors (V)	DC5~24V $\pm 10\%$	
	Output for control	NPN open-collector output	NPN open-collector output
	Status of output ports	output ON when sensor is blocked	
<b>Operating load</b>	Horizontal direction (Kg)	4	20

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

## Dimensions:

XY5050



XY120120

