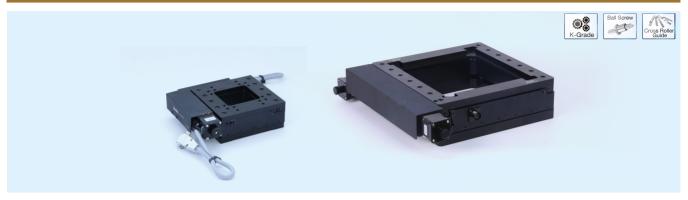
2D- or 3D motorized alignment stages

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





Description:

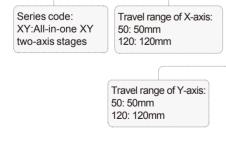
They are best application scenarios for motorized XY series all-in-one two-axis stages in which workpieces treated in production lines with high precise and high repetition rate scanning. XY series products are designed according to all-in-one principle and employ cross-roller guides and ball screws 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 crossroller 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)



Central light-through hole and covers:
None (default):
central hole, without any cover GC: central hole with glass cover AC:central hole with aluminum-alloy cover NH: No central hole

Type of motors: None (default):standard two-phase stepping motors ST5xx:Optional five-phase stepping motors.xx refers to model number of motors

ASPx: Optional Panasonic servo motors. x refers to power code of servo motors Note: partial products can not employ servo motors

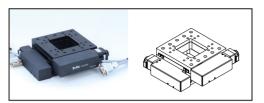
Selection chart:

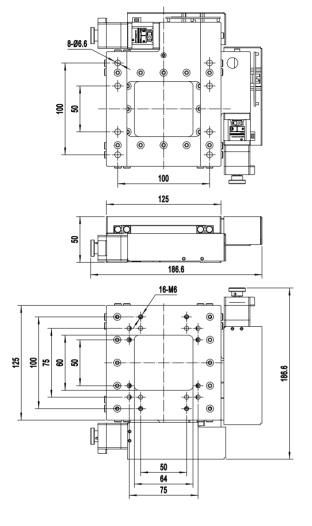
Fine ball screws, \$ 6 \times 1 Fine ball screws, \$ 6 \times 1 Fine ball screws, \$ 16 \times 4		Model number	XY5050	XY120120
Central light-through dimension (mm) 60×64 188×188	Mechanical specifications	Travel range(mm)		
Light-through dimension at extreme position (mm) 36×47 128×128		Table dimensions(mm)	125×125	280×280
Mechanical specifications Fine ball screws, \$6 \times 1 Fine ball screws		Central light-through hole dimension (mm)	60×64	188×188
Fine ball screws, \$ 6 \times 1 Fine ball screws, \$ 6 \times 1 Fine ball screws, \$ 16 \times 4			35×47	128×128
Main body materials and surface treatments Shaft coupling (external diameter-diameter of aperture 1-diameter of aperture 2) (mm) Weight (Kg) Resolution (step/half-step) (µm) Accuracy specifications Accuracy specifications Accuracy specifications Main body materials and surface treatments Shaft coupling (external diameter-diameter) 13-3-5 20-5-10 20-fine subdivision resolution (µm) 5/2.5 20/10 20-fine-subdivision resolution (µm) 0.25 1 Highest speed (mm/s) * 10 40 Repositioning accuracy (µm) 8-extra 3 8-extra 4 8-e		Transmission mechanism	Fine ball screws, ∮6×1	Fine ball screws, ∮ 16×4
Shaft coupling (external diameter-diameter of aperture 1-diameter of aperture 1-diameter of aperture 1-diameter of aperture 2) (mm)		Guides (guiding mechanism)	Cross-roller guides	Cross-roller guides
Accuracy specifications Electrical specifications Electrical specifications Error on orthogonality (l/m) 0.0785 0.456 Brand and model number of stepping driver (cottional) The policy for stages 1.7 1.7 Holding torque of motor (N-m) 0.0785 0.456 1.7 Brand and model number of stepping driver (cottional) Type of connection cable 1.3 1.7 Holding torque of motor (spin)-point sensors (built-in), for each axis 1.4DB9 (pin) 1.4Aviation plug (9 pins) Voltage of power supply for sensors (V) DC5-24V ± 10% NPN open-collector output NPN open-collector output NPN open-collector output Status of output ports Output for control NPN open-collector output NPN open-collector output		Main body materials and surface treatments	Black anodic-oxidation aluminum-alloy	
Resolution (step/half-step) (µm) 5/2.5 20/10			13-3-5	20-5-10
20-fine-subdivision resolution (µm) 0.25 1 Highest speed (mm/s) * 10 40 Repositioning accuracy (µm) ≤±1.5 ≤±3 Backlash clearance (µm) ≤3 ≤5 Static parallelism (mm) ≤0.1 Motion straightness(µm/100mm) ≤10 Motion straightness(µm/100mm) ≤15 ≤60 Error on orthogonality (µm) ≤15 ≤60 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) 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 / (specifications) Congin-point sensors (built-in), for each axis 2*GP1S09xHCPI (Sharp, Japan) 2*PM-L25 (SUNX, Japan) Voltage of power supply for sensors (V) DC5-24V ±10% Status of output ports Output ON when sensor is blocked		Weight (Kg)	2.2	7
Highest speed (mm/s) * 10 40	Accuracy specifications	Resolution (step/half-step) (µm)	5/2.5	20/10
Repositioning accuracy (µm)		20-fine-subdivision resolution (µm)	0.25	1
Backlash clearance (µm) Static parallelism (mm) Motion straightness(µm/100mm) Motional parallelism (µm) Error on orthogonality (µm) Brand and model number of motor Working current (A) Holding torque of motor (N·m) Brand and model number of stepping driver (optional) Type of plugs for stages Type of connection cable Length of connection cable Position-limit sensors (built-in), for each axis Origin-point sensors (built-in), for each axis Voltage of power supply for sensors (V) Status of output ON when sensor is blocked		Highest speed (mm/s) *	10	40
Backlash clearance (µm) Static parallelism (mm) Motion straightness(µm/100mm) Motional parallelism (µm) Error on orthogonality ((µm) Brand and model number of motor Working current (A) Holding torque of motor (N·m) Brand and model number of stepping driver (optional) Type of plugs for stages Type of connection cable Length of connection cable Position-limit sensors (built-in), for each axis Origin-point sensors (built-in), for each axis Voltage of power supply for sensors (V) Status of output ports Output for control Status of output ports Output ON when sensor is blocked		Repositioning accuracy (µm)	≤±1.5	≤±3
Static parallelism (mm) Motion straightness(µm/100mm) Error on orthogonality (µm) Error on orthogonality (µm) Sand and model number of motor Working current (A) Holding torque of motor (N·m) Brand and model number of stepping driver (optional) Type of plugs for stages Type of connection cable Length of connection cable Position-limit sensors (built-in), for each axis Origin-point sensors (built-in), for each axis Voltage of power supply for sensors (V) Status of output ports Status of output ports Output for control New of the sensor is blocked		Backlash clearance (µm)	≤3	≤5
Motional parallelism (μm) Error on orthogonality (μμm) Error on orthogonality (μμπ) Error on orthogonal Shinano, STP-28D1003-08 Error on		Static parallelism (mm)	≤0.1	
Error on orthogonality ((\(\mu\)m)) \text{15} \text{60} \text{Brand and model number of motor} \text{Shinano, STP-28D1003-08} \text{Shinano, SST43D2126-2410} \text{Working current (A)} \text{1.3} \text{1.7} \text{Holding torque of motor (N·m)} \text{0.0785} \text{0.456} \text{Brand and model number of stepping driver (optional)} \text{Moons, SR2} \text{(optional)} \text{Type of plugs for stages} \text{1*DB9 (pin)} \text{1*Aviation plug (9 pins)} \text{Type of connection cable} \text{High flexible cables (Helukabel, Germany)} \text{/} \text{Length of connection cable} \text{0.2} \text{/} \text{Position-limit sensors (built-in), for each axis} \text{2*GP1S09xHCPI (Sharp, Japan)} \text{2*PM-L25 (SUNX, Japan)} \text{Voltage of power supply for sensors (V)} \text{DC5-24V} \pm \text{10%} \text{Output for control} \text{NPN open-collector output} \text{NPN open-collector output} \text{NPN open-collector output} \text{Status of output ports} \text{output on to N when sensor is blocked} \text{Status of output ports} \text{Status of output ports} \qu		Motion straightness(µm/100mm)	≤10	
Brand and model number of motor Shinano, STP-28D1003-08 Shinano, SST43D2126-2410 Working current (A) Holding torque of motor (N·m) Brand and model number of stepping driver (optional) Type of plugs for stages Type of plugs for stages Type of connection cable Length of connection cable High flexible cables (Helukabel, Germany) Length of connection cable Position-limit sensors (built-in), for each axis Origin-point sensors (built-in), for each axis Voltage of power supply for sensors (V) NPN open-collector output Status of output ports Output ON when sensor is blocked		Motional parallelism (µm)	≤25	
Working current (A) Holding torque of motor (N·m) Brand and model number of stepping driver (optional) Type of plugs for stages Type of connection cable Length of connection cable Position-limit sensors (built-in), for each axis Origin-point sensors (built-in), for each axis Voltage of power supply for sensors (V) Output for control Status of output ports 1.3 1.7 1.0 1.3 1.7 Moons, SR2 1*DB9 (pin) 1*Aviation plug (9 pins) 1*Aviation plug (9 pins) / / / / / / / / / / / / /		Error on orthogonality ((µm)	≤15	≤60
Holding torque of motor (N·m) Brand and model number of stepping driver (optional) Type of plugs for stages Type of connection cable Length of connection cable Position-limit sensors (built-in), for each axis Origin-point sensors (built-in), for each axis Voltage of power supply for sensors (V) Output for control Status of output ports O.0785 O.0785 O.08 Nevnoss, SR2 Nevnoss, S	Electrical specifications	Brand and model number of motor	Shinano, STP-28D1003-08	Shinano,SST43D2126-2410
Brand and model number of stepping driver (optional) Type of plugs for stages Type of connection cable Length of connection cable Position-limit sensors (built-in), for each axis Voltage of power supply for sensors (V) Output for control Status of output ports Brand and model number of stepping driver (optional) 1*Abayiation plug (9 pins) 1*Aviation plug (9 pins) 1*Aviation plug (9 pins) 7 2*PM-L25 (SUNX, Japan) 2*PM-L25 (SUNX, Japan) 7 DC5~24V ±10% NPN open-collector output NPN open-collector output		Working current (A)	1.3	1.7
(optional) 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 ±10% Output for control NPN open-collector output NPN open-collector output Status of output ports output ON when sensor is blocked		Holding torque of motor (N·m)	0.0785	0.456
Type of connection cable Length of connection cable Length of connection cable Position-limit sensors (built-in), for each axis Origin-point sensors (built-in), for each axis Voltage of power supply for sensors (V) Output for control Status of output ports Type of connection cable High flexible cables (Helukabel, Germany) / 2*GP1S09xHCPI (Sharp, Japan) / DC5~24V ±10% NPN open-collector output NPN open-collector output			Moons, SR2	
Length of connection cable Position-limit sensors (built-in), for each axis Origin-point sensors (built-in), for each axis Voltage of power supply for sensors (V) Output for control Status of output ports D.2 2*GP1S09xHCPI (Sharp, Japan) 1*GP1S09xHCPI (Sharp, Japan) / DC5~24V ±10% NPN open-collector output NPN open-collector output Output ON when sensor is blocked		Type of plugs for stages	1*DB9 (pin)	1*Aviation plug (9 pins)
Length of connection cable Position-limit sensors (built-in), for each axis Origin-point sensors (built-in), for each axis Voltage of power supply for sensors (V) Output for control Status of output ports O.2 2*GP1S09xHCPI (Sharp, Japan) 1*GP1S09xHCPI (Sharp, Japan) / DC5~24V ±10% NPN open-collector output NPN open-collector output		Type of connection cable	High flexible cables (Helukabel, Germany)	/
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) Output for control NPN open-collector output Status of output ports output ON when sensor is blocked		Length of connection cable	0.2	/
Voltage of power supply for sensors (V) Output for control NPN open-collector output NPN open-collector output Status of output ports output ON when sensor is blocked		Position-limit sensors (built-in), for each axis	2*GP1S09xHCPI (Sharp, Japan)	2*PM-L25 (SUNX, Japan)
Output for control NPN open-collector output NPN open-collector output Status of output ports output ON when sensor is blocked		Origin-point sensors (built-in), for each axis	1*GP1S09xHCPI (Sharp, Japan)	/
Status of output ports output ON when sensor is blocked		Voltage of power supply for sensors (V)	DC5~24V ±10%	
		Output for control	NPN open-collector output	NPN open-collector output
Operating load Horizontal direction (Kg) 4 20		Status of output ports	output ON when sensor is blocked	
	Operating load	Horizontal direction (Kg)	4	20

 $[\]ast$ Highest speed is measured with the conditions of zero-load and motors being worked at 600rpm

Dimensions:

XY5050





XY120120

