

Description:

PA series products are designed as middle-size and middle-travel-range precise motorized stages. The base plates in this series employ high-rigidity U-type structure to ensure this series could be suitable for the operations in the circumstances of heavy load, high rigidity and multi-dimension combinations. A stainless-steel dustproof cover is optional to protect all inner parts of stages from particles and dust in real operation environments, which could guarantee better stability, durability and the capability to keep a long-term accuracy.

PA series products employ precise-grade ball screws, linear-slider guides and high-performance Shaft coupling units. This kind of design offers good adaptabilities for being used in accurate operation scenarios with relative complex environments.

Main characteristics:

- Fine machining for U-type aluminum alloy base plates, which are treated as black anodic-oxidation. High rigidity and nice appearance.
- Precise-grade linear-slider guides are used to guarantee high load capability and high motion accuracy
- Stainless-steel dustproof covers are optional
- Two-phase stepping motors standard, servo motors optional

Naming rules:

PA 100-(ST242)(-C)(-SR)

Series code:
PA: precise, ball screw, linear-slider guide and aluminum alloy

Travel range:
050: 50mm
100: 100mm
150: 150mm
200: 200mm
300: 300mm
400: 400mm

Type of motor:
None (default): two-phase 57 stepping motor
ST242: two-phase 42 stepping motor
ASP1: Panasonic 100W AC servo motor
ASY2: Yaskawa 200W AC servo motor
P1: Installation plate and Shaft coupling of Panasonic 100W AC servo motor
Y2: Installation plate and Shaft coupling of Yaskawa 200W AC servo motor

Position of sensors:
None (default): Internal
SL: External, left side
SR: External, right side

Type of protection:
None (default): No protection
C: with protection

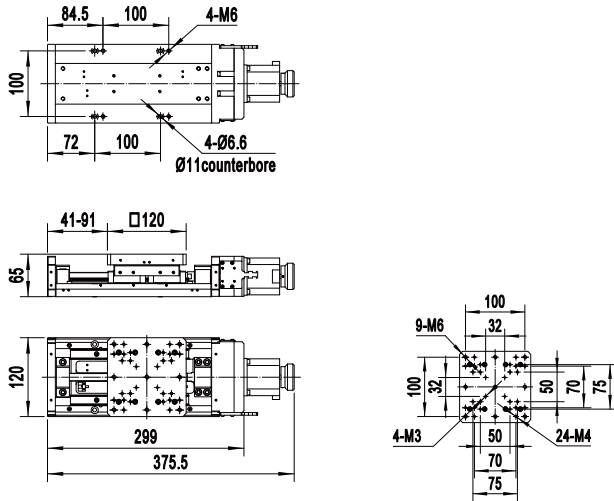
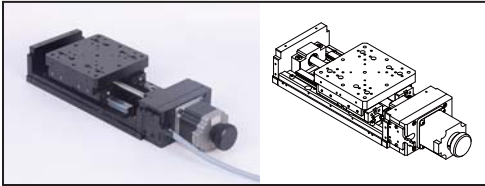
Selection chart:

Model number		PA050	PA100	PA150	PA200	PA300	PA400	PA600	PA800	PA1000	
Mechanical specifications	Table dimensions(mm)	120×120				150×150		200×200			
	Travel range(mm)	50	100	150	200	300	400	600	800	1000	
	Transmission mechanism	precise ball screws $\Phi 12 \times 4$				precise ball screws $\Phi 16 \times 5$		precise ball screws $\Phi 25 \times 5$			
	Guides (guiding mechanism)	linear-slider guides									
	Main body materials and surface treatments	Black anodic-oxidation aluminum-alloy									
	Weight (Kg)	5.8	6.2	6.6	7	8.9	9.9	21.5	25	28.4	
	Shaft coupling (external diameter-diameter of aperture 1-diameter of aperture 2) (mm)	30-6.35-8						32-8-12			
Accuracy specifications	Closed-cycle resolution (μm)	20				25					
	Open-cycle 20-fine-subdivision resolution (μm)	1				1.25					
	Highest speed (mm/s) *	40				50					
	Single-direction positioning accuracy (μm)	≤ 30						/			
	Repositioning accuracy (μm)	$\leq \pm 3$						$\leq \pm 5$			
	Static clearance (μm)	≤ 3									
	Backlash clearance (μm)	≤ 5									
	Static parallelism (mm)	≤ 0.1									
	Motion linearity (μm)	≤ 20				≤ 25		$\leq 15\mu\text{m}/100\text{mm}$			
	Motion parallelism (μm)	≤ 25				≤ 30		$\leq 15\mu\text{m}/100\text{mm}$			
	Yaw (")	≤ 50						/			
	Pitch (")	≤ 55				≤ 60		/			
Electrical specifications	Motor and its stepping angle (")	Two-phase 57 stepping motor, 1.8									
	Brand and model number of motor	Shinano, SST-59D3206						Shinano,SST-59D5301			
	Working current (A)	2.8						3.0			
	Torque of motor (N·m)	1.44						1.57			
	Brand of grating ruler	Fagor, MX or MKX series									
	Brand and model number of stepping driver (optional)	Moons, SR4									
	Type of plugs for stages and grating rulers	2*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*PM-L25 (SUNX, Japan)									
	Origin-point sensors (built-in)	11*PM-L25 (SUNX, Japan)									
	Voltage of power supply for sensors (V)	DC5~24V $\pm 10\%$									
	Consuming current (mA)	<60 (total)									
	Output for control	collector of NPN open-circuit output									
	Status of output ports	Position limit sensor: output ON when sensor is blocked; Origin-point sensor: output OFF when sensor is blocked									
Operating load	Horizontal direction (Kg)	30				50		80			
	Invert direction (Kg)	15				25		40			
	Vertical direction (Kg)	Using model number "xx-Z" for vertical load operation. Refer to KSAXxx-Z series									

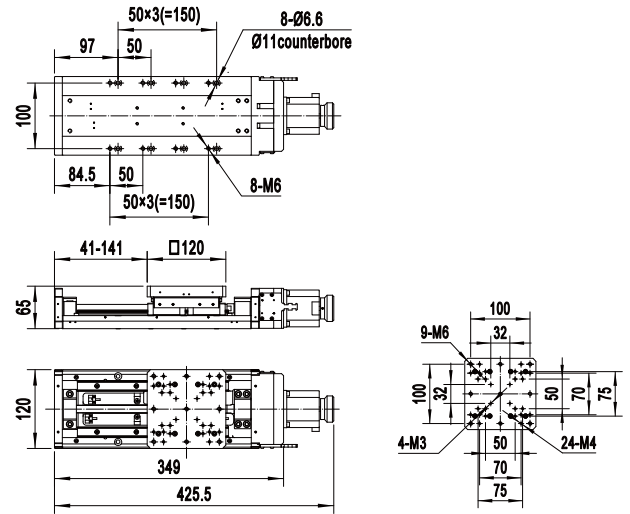
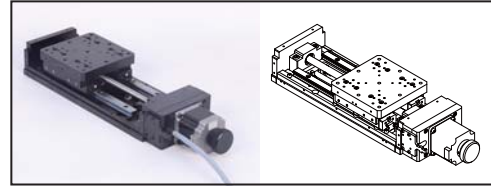
Highest speed is measured with the conditions of zero-load and motors being worked at 600rpm

Dimensions:

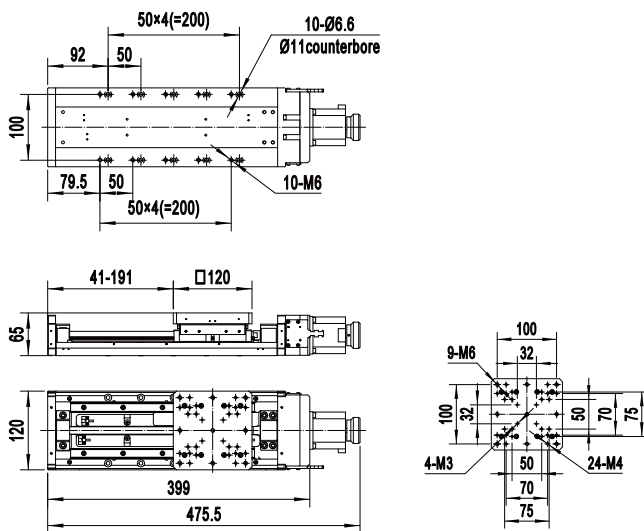
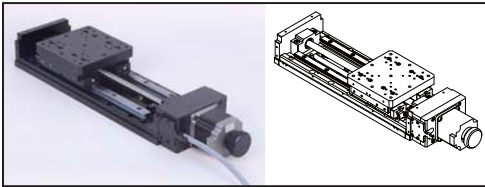
PA050



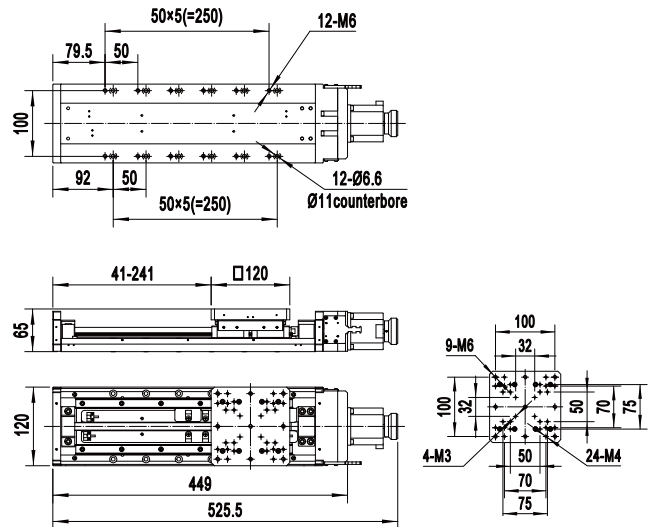
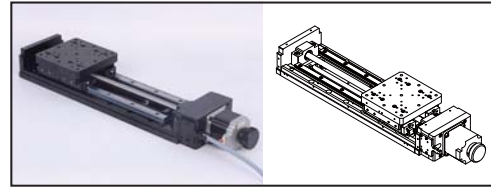
PA100



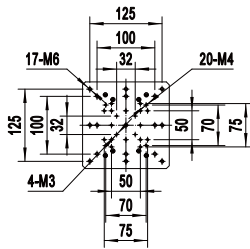
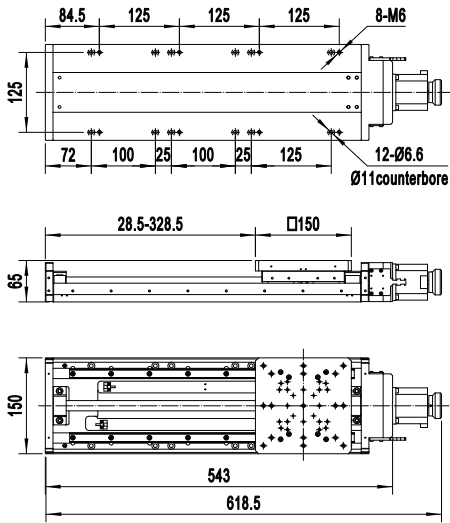
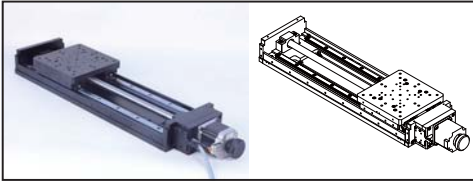
PA150



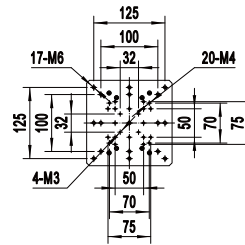
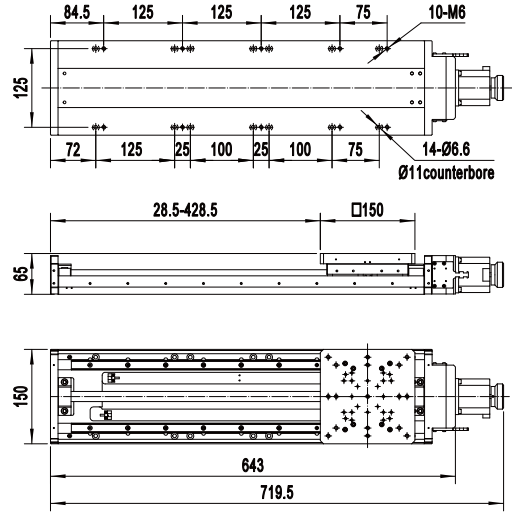
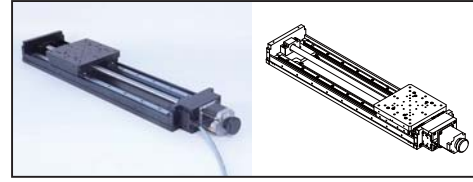
PA200



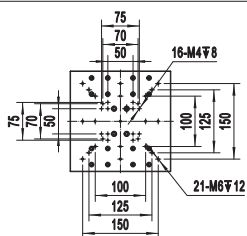
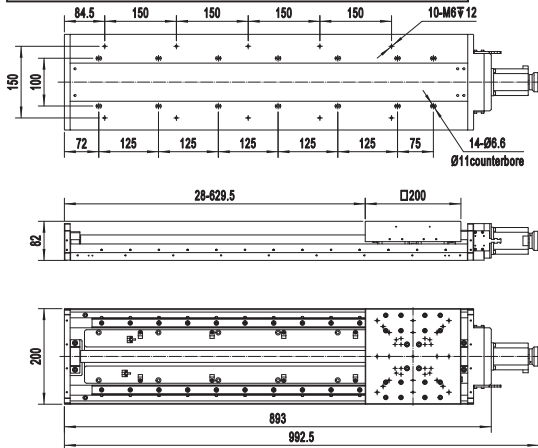
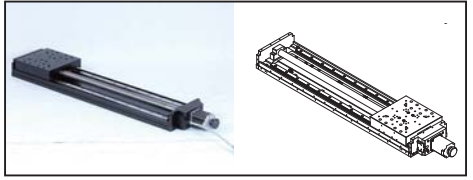
PA300



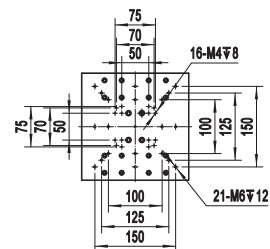
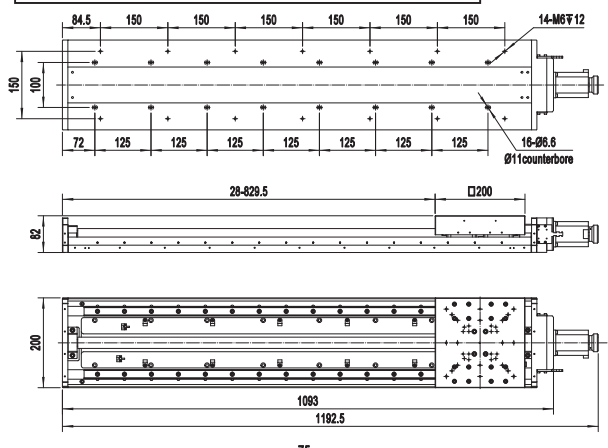
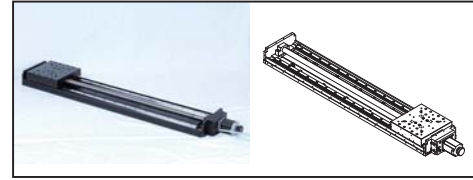
PA400



PA600



PA800



PA1000

