

Description:

PA series products are designed as middle-size and middle-travel-range precise motorized stages. The base of this series employ high-rigidity U-type structure to ensure this stage could be suitable for the operations in the circumstances of heavy load, high rigidity and multi-dimension combinations. A stainless-steel dust proof 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 equip precision ball screw, linear-slider guide and high-performance shaft coupling units. This kind of design offers good adaptabilities for being used in accurate operation scenarios with relative complex environments.

Features:

- 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 dust cover is optional
- Default configuration: Two-phase stepping motor, servo motor is 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
600:600mm
800:800mm
1000:1000mm

Motor type :
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

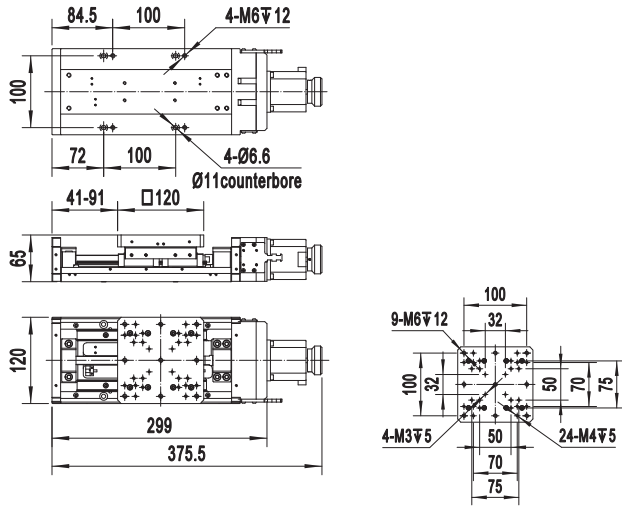
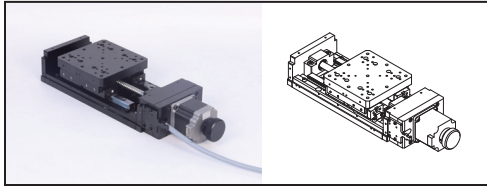
Type of protection :
None (default): No protection
C: with protection

Selection chart:

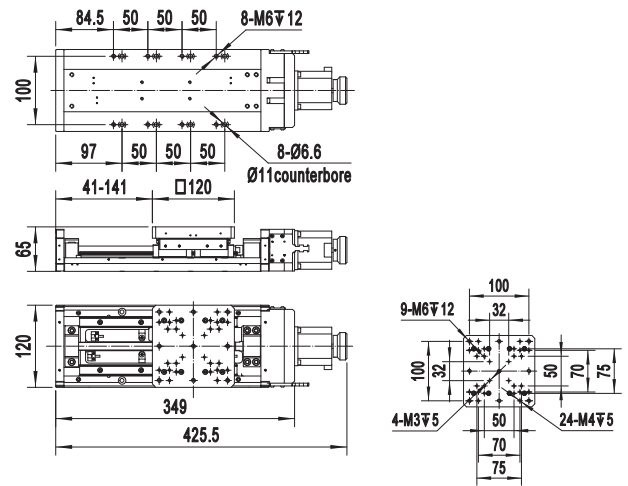
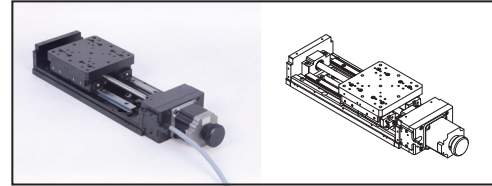
| Model | PA050 | PA100 | PA150 | PA200 | PA300 | PA400 | PA600 | PA800 | PA1000 | |
|----------------------------------|---|---|-------|-------|-----------------------------|-------|-------|-----------------------------|--------|------|
| Mechanical specifications | Travel range(mm) | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 |
| | Stage surface size(mm) | 120×120 | | | 150X150 | | | 200X200 | | |
| | Transmission mechanism | precision ball screw, Φ12×4 | | | precision ball screw, Φ16×5 | | | precision ball screw, Φ25×5 | | |
| | Guide mechanism | linear-slider guides | | | | | | | | |
| | Main body material, surface treatment | Black anodized aluminum alloy | | | | | | | | |
| | Weight(Kg) | 5.8 | 6.2 | 6.6 | 7 | 8.9 | 9.9 | 21.5 | 25 | 28.4 |
| | Shaft coupling(OD - OD1- OD2) (mm) | 30-6.35-8 | | | | | | 32-8-12 | | |
| Accuracy specifications | Step resolution(μm) | 20 | | | 25 | | | | | |
| | 20-fine-subdivision resolution(μm) | 1 | | | 1.25 | | | | | |
| | Highest speed(mm/s) | 40 | | | 50 | | | | | |
| | Single-direction positioning accuracy | ≤30 | | | | | | / | | |
| | Repositioning accuracy(μm) | ≤±3 | | | | | | ≤±5 | | |
| | Static clearance(μm) | ≤3 | | | | | | | | |
| | Backlash(μm) | ≤5 | | | | | | | | |
| | Static parallelism(mm) | ≤0.1 | | | | | | ≤0.12 | | |
| | Dynamic straightness(μm) | ≤20 | | | ≤25 | | | ≤15μm/100mm | | |
| | Dynamic parallelism(μm) | ≤25 | | | ≤30 | | | ≤15μm/100mm | | |
| | 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, SST59D3206 | | | | | | Shinano, SST59D5301 | | |
| | Working current(A) | 2.8 | | | | | | 3.0 | | |
| | Holding torque of motor(N·m) | 1.44 | | | | | | 1.57 | | |
| | Brand and model number of stepping driver(optional) | Moons, SR4 | | | | | | | | |
| | Type of plug for stage | DB9(pin) | | | | | | | | |
| | Type of cable for stage | High flexibility cable(Helukabel, Germany) | | | | | | | | |
| | Length of connection cable(m) | 0.2 | | | | | | | | |
| | Position-limit sensors(built-in) | 2×PM-L25(SUNX, Japan) | | | | | | | | |
| | Origin-point sensors(built-in) | 1×PM-L25(SUNX, Japan) | | | | | | | | |
| | Voltage of power supply for sensors(V) | DC5~24V±10% | | | | | | | | |
| | Current consumption(mA) | <60(total) | | | | | | | | |
| | Control output | NPN open collector output DC5 ~ 24V 8mA or less Residual voltage 0.3V or less(when load current is 2mA) | | | | | | | | |
| Status of output ports | Position limit sensor: output ON when sensor is blocked;Origin-point sensor: output OFF when sensor is blocked; | | | | | | | | | |
| Maximum load capacity | Horizontal direction(Kg) | 30 | | | 50 | | | 80 | | |
| | Vertical direction(Kg) | Please use "xx-Z" model for vertical load, refer to PAXx-Z series for details | | | | | | | | |
| | Inverted direction(Kg) | 15 | | | 25 | | | 40 | | |

Dimensions:

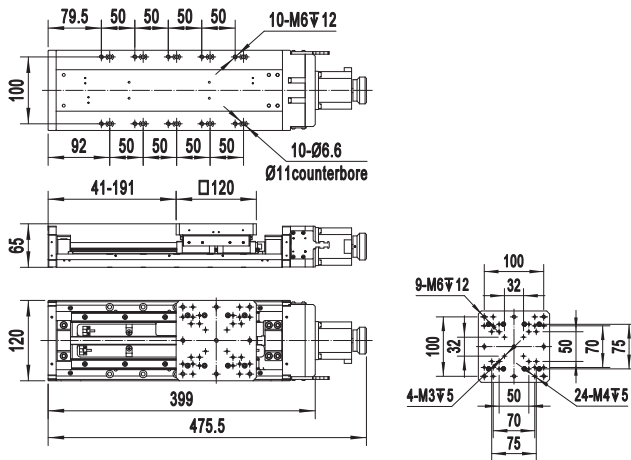
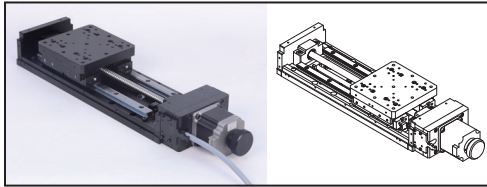
PA050



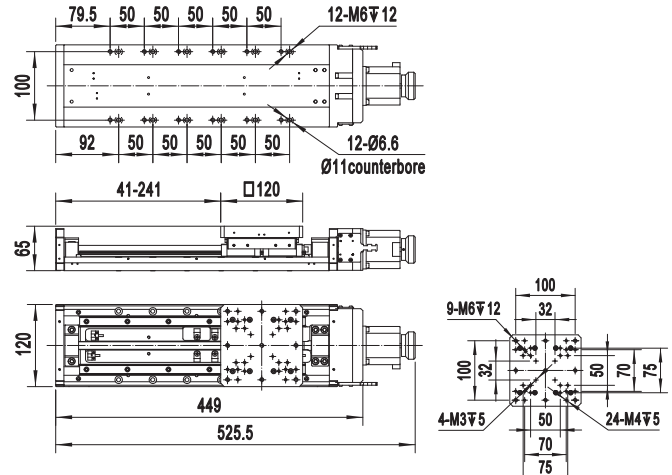
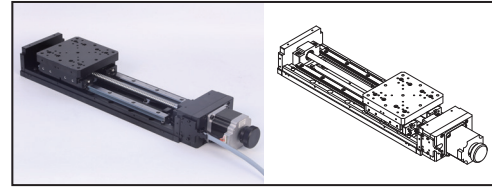
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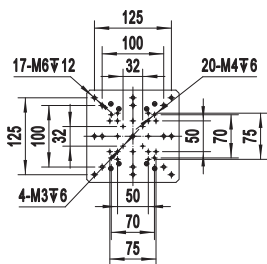
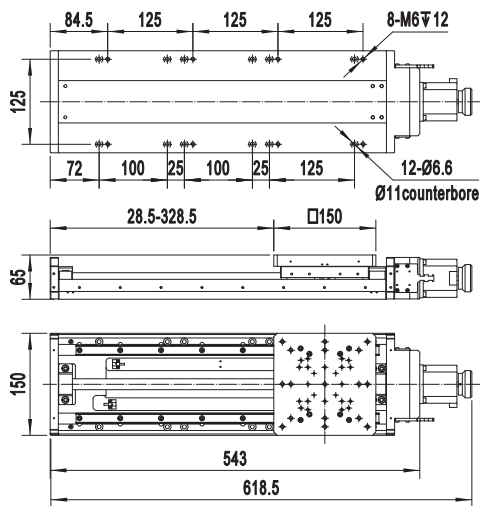
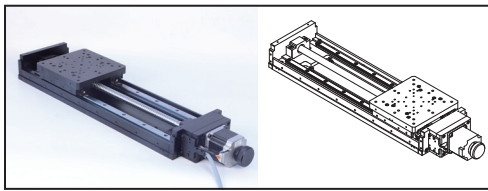
PA150



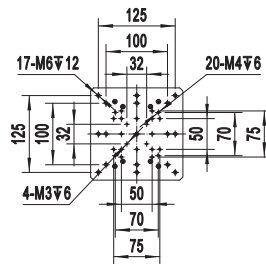
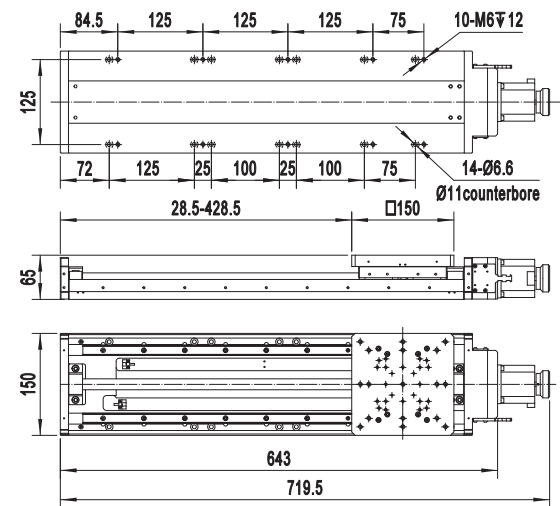
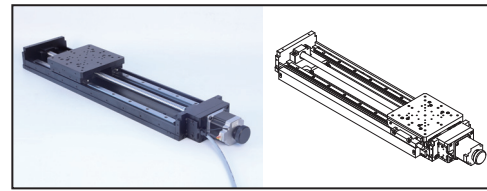
PA200



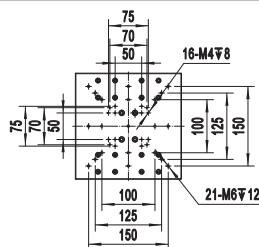
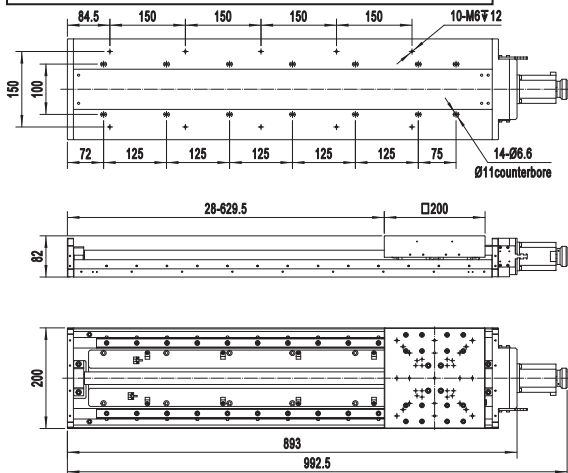
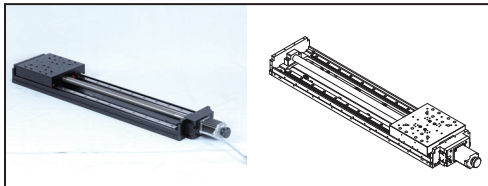
PA300



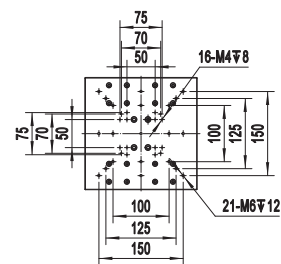
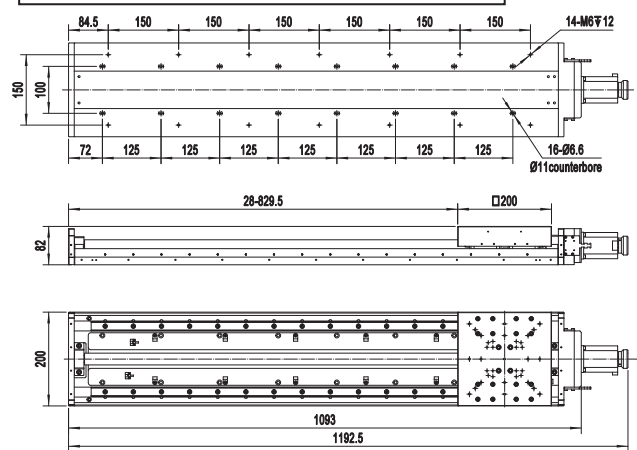
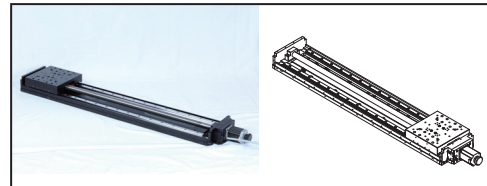
PA400



PA600



PA800



PA1000

