

Precision Rotation Motorized Stages

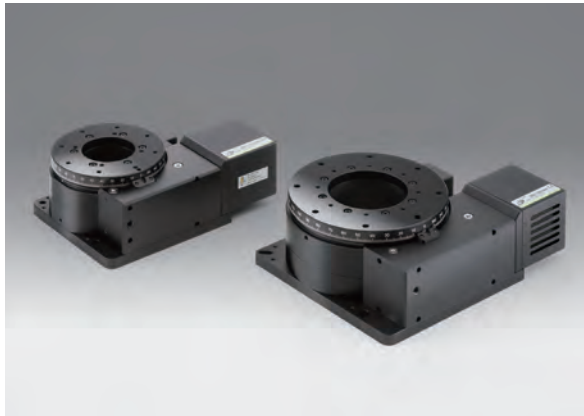
Stage Size ϕ 120 mm / ϕ 160 mm

HST-YAW

RoHS

CE

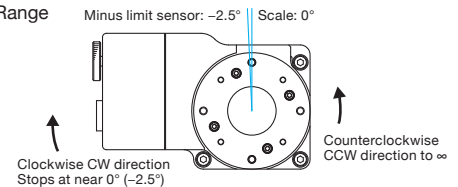
High precision and high stability rotation motorized stages fitted with bearing positioning slide. The combination of HST Series and 3 axis Stage Controllers HSC-103 can perform low-noise and low-vibration operation, compared with conventional products.



- Rotation motorized stages suitable for use when high load capacity is required.

Guide

▶ Rotation Range



- ▶ Homing of rotation motorized stages is performed using the CW limit sensor as the origin sensor.
- ▶ Origin detection is adjusted so that the stage stops at 0 degrees when homing is performed in the MINI system at half step.

Attention

- ▶ Load capacity and precision may be derated when mounted upside down or vertically. Contact us for informations regarding your specific application.

Specifications

Part Number			HST-120YAW-0B	HST-160YAW-0B
Mechanical Specifications	Rotation Range		Move in the counterclockwise CCW direction to ∞, and stop at near 0 degree (−2.5°) in the clockwise CW direction.	
	Stage Size [mm]		φ120	φ160
	Travel Mechanism (reduction ratio)		Worm gear (1:144)	Worm gear (1:144)
	Positioning Slide		Bearing method	Bearing method
	Stage Material		Aluminum / Aluminum bronze	Aluminum / Aluminum bronze
	Weight [kg]		5	8.5
Accuracy Specifications	Resolution	(Full) [°/pulse]	0.005	0.005
		(Half) [°/pulse]	0.0025	0.0025
	MAX Speed [°/sec]		30	30
	Positioning Accuracy [°]		0.1	0.1
	Positional Repeatability [°]		0.01	0.01
	Load Capacity [N]		343 (35.0kgf)	392 (40.0kgf)
	Moment Stiffness [°/N·cm]		0.015	0.01
	Lost Motion [°]		0.01	0.01
	Backlash [°]		0.003	0.003
	Parallelism [μm]		50	50
	Concentricity [μm]		20	20
	Wobble [mm]		0.01	0.01
Sensor	Sensor Part Number		Micro Photoelectric Sensor: PM-U25 (SUNX Co., Ltd.)	Micro Photo Sensor: PM-F25 (SUNX Co., Ltd.)
	Limit Sensor		Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor		None	None
	Proximity Origin Sensor		None	None

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 1.4A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PKP546N18B ($\square$ 42mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 – 24V $\pm$ 10%
	Current Consumption	15mA or lower
	Control Output	NPN open collector output DC30V or lower, 50mA or lower
	Output Logic	When shaded: Output transistor OFF

Compatible Cable

Cable	Driver Cable	D15D15A-CA
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Compatible Driver / Controller

Control System	Compatible Driver	SG-5M*, MC-S0514ZU, SG-514MSC*, MC-7514PCL (* DC36V)
	Compatible Controller	HSC-103, SHOT-302GS, SHOT-304GS, HIT-M·HIT-SH, PGC-04-U

Application Systems

Optics & Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators & Adjusters

Motorized Stages

Light Sources & Laser Safety

Index

Guide

Controllers/Drivers

Softwares

Stepping Motor

AC Servo Motor

Cables

Piezo

X Translation

Theta Rotation

Goniometer

Vacuum

Options

40 × 40 mm

60 × 60 mm

80 × 80 mm

85 × 85 mm

100 × 100 mm

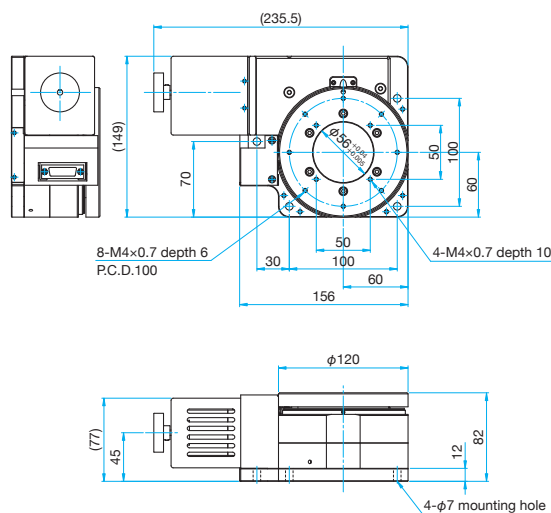
120 × 120 mm

Others

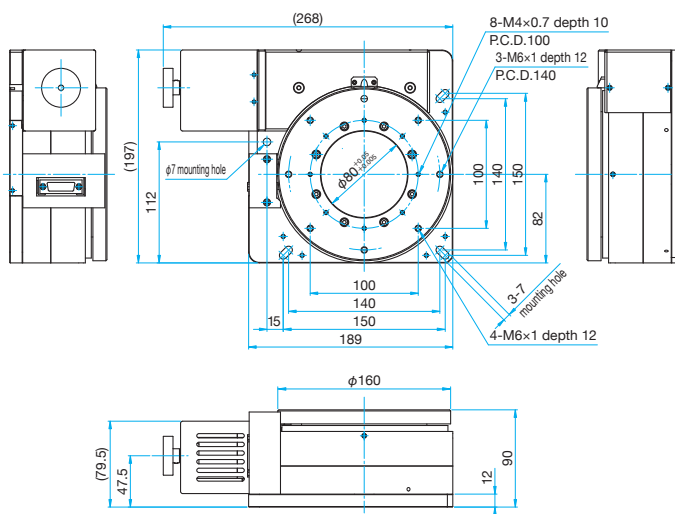


Outline Drawing

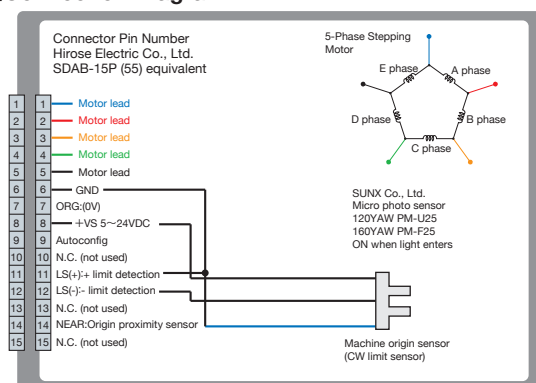
HST-120YAW-0B Hexagon socket head cap screw M6×20...4 screws



HST-160YAW-0B Hexagon socket head cap screw M6×20...4 screws



Connection Diagram

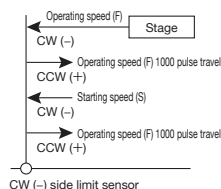


Machine Origin Detection

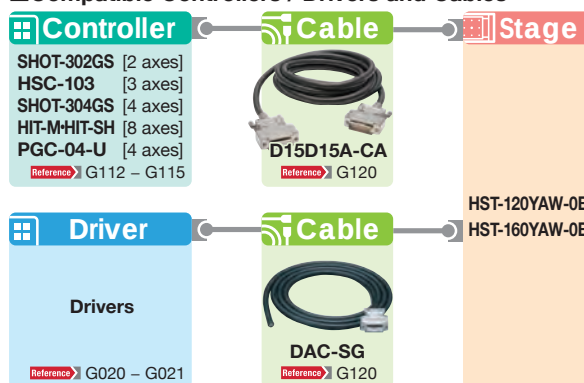
MINI System

When the machine origin detection command is issued, the stage starts traveling in the CW (-) direction at the operating speed (F) set with the memory switch, and stops by the CW (-) side limit sensor. Then it travels in the CCW (+) direction at the operating speed (F) for 1000 pulses.

After stop, it starts traveling in the CW (-) direction again at the starting speed (S), and stops by the CW (-) side limit sensor. After that, it travels in the CCW (+) direction at the operating speed (F) for 1000 pulses. This position is regarded as the machine origin.



Compatible Controllers / Drivers and Cables



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Bases

Manual Stages

Actuators & Adjusters

MotORIZED Stages

Light Sources & Laser Safety

Index

Guide

Controllers/Drivers

Softwares

Stepping Motor

AC Servo Motor

Cables

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X Translation

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