

Precision Motorized Stages - 5 Phase Stepping Motor

Stage Size 165 × 165 mm / 165 × 220 mm / 165 × 420 mm

HST-XY

RoHS

High precision XY axis stages fitted with precision ball screws and precision crossed roller.



- The combination of HST Series and 3 axis Stage Controllers HSC-103 can perform low-noise and low-vibration operation, compared with conventional products.
- Steel body offers excellent stiffness and high load capacity.

Guide

- Contact our sales team for more information regarding customization.
[Reference](#) G123 [WEB Reference](#) [Catalog Code](#) W9500

Specifications

Part Number		HST-50XY	HST-100XY	HST-200XY	
Mechanical Specifications	Travel [mm]	50	100	200	
	Stage Size [mm]	165×165	165×220	165×420	
	Feed Screw	Ball screw diameter φ10mm, 2mm lead	Ball screw diameter φ10mm, 2mm lead	Ball screw diameter φ10mm, 2mm lead	
	Positioning Slide	Crossed roller	Crossed roller	Crossed roller	
	Stage Material	Steel	Steel	Steel	
Weight [kg]		17.4	20.4	37.4	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	4	4	4
		(Half) [μm/pulse]	2	2	2
	MAX Speed [mm/sec]	10	10	20	
	Positioning Accuracy [μm]	10	12	15	
	Positional Repeatability [μm]	2	2	2	
	Load Capacity [N]	196 (20.0kgf)	196 (20.0kgf)	196 (20.0kgf)	
	Lost Motion [μm]	1	1	1	
	Backlash [μm]	1	1	1	
	Orthogonality of Motion [μm]	5	5	10	
Sensor Part Number Micro photo sensor: GP1S092HCPIF (Sharp Corporation)					
Sensor	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	
	Proximity Origin Sensor	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 1.4A/phase (Oriental Motor Co., Ltd.)		
	Motor Part Number	PKP544N18B (□42mm)	PKP544N18B (□42mm)	PKP546N18B (□42mm)
	Step Angle	0.72°		
Sensor	Power Voltage	DC5 – 24V ±10%		
	Current Consumption	160mA or lower (80mA or lower a per axis 20mA or lower per a sensor)		
	Control Output	NPN open collector output DC30V or lower, 50mA or lower		
	Output Logic	When shaded: Output transistor OFF (no conduction): Limit sensor When shaded: Output transistor ON (conduction): Origin sensor, Proximity Origin Sensor		

(Reference) Precision Specifications of Single Axis Stage

Part Number		HST-50X	HST-100X	HST-200X
Accuracy Specifications	Moment Stiffness	Pitch ["/N·cm]	0.01	0.01
		Yaw ["/N·cm]	0.01	0.01
		Roll ["/N·cm]	0.005	0.005
	Parallelism [μm]	50	70	100
	Running Parallelism [μm]	10	10	20

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
	Compatible Controller	HSC-103, SHOT-302GS, SHOT-304GS, HIT-M-HIT-SH, PGC-04-U

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Options

40 × 40 mm

60 × 60 mm

80 × 80 mm

85 × 85 mm

100 × 100 mm

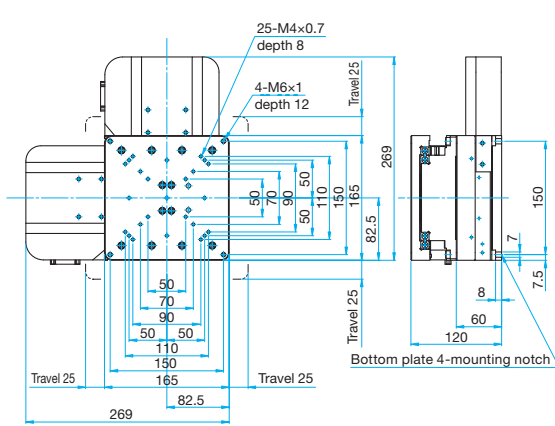
120 × 120 mm

Others

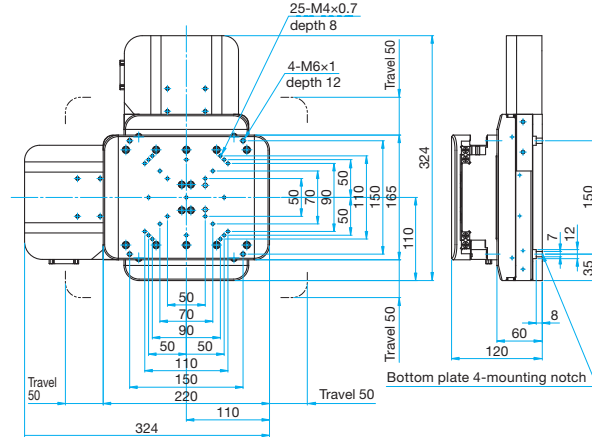


Outline Drawing

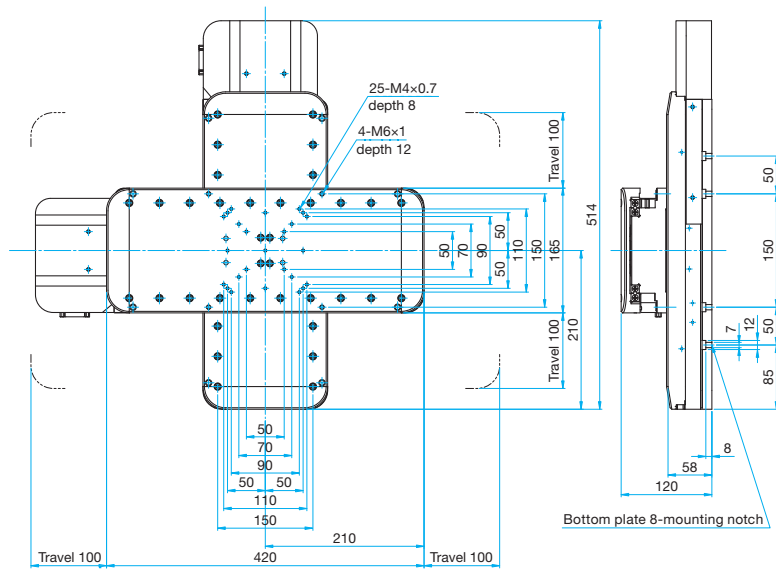
HST-50XY Hexagon socket head cap screw M6x15...4 screws



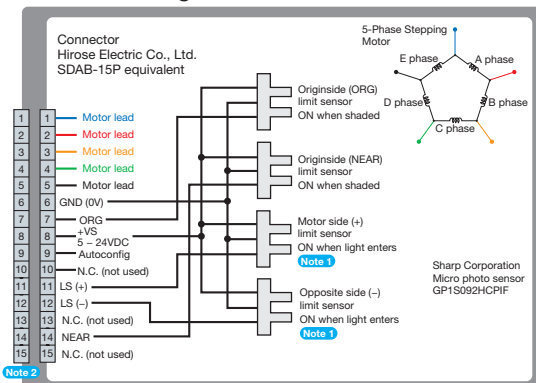
HST-100XY Hexagon socket head cap screw M6x15...4 screws



HST-200XY Hexagon socket head cap screw M6x15...8 screws

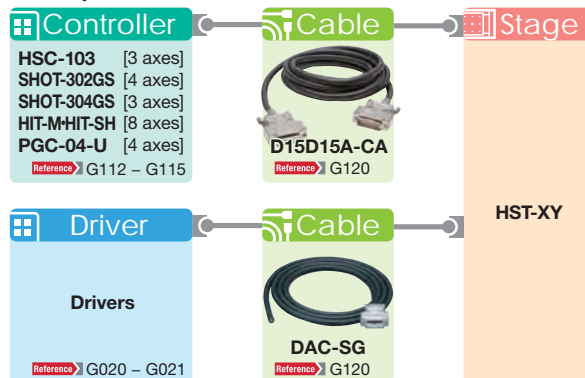


Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor.
Note 2 Compatible cable connector: DDK I Ltd. 17.IF-13150

Compatible Controllers / Drivers and Cables



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