

# Precision Motorized Stages - 5 Phase Stepping Motor

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

HST-X

RoHS

CE

High precision X 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
- ▶ Two single axis stages can be sent to OptoSigma to be assembled, aligned and tested for a nominal cost.

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40 × 40 mm

60 × 60 mm

80 × 80 mm

85 × 85 mm

100 × 100 mm

120 × 120 mm

Others

## Specifications

Part Number		HST-50X	HST-100X	HST-200X	
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]	8.7	10.6	18.7	
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]	5	7	8	
	Positional Repeatability [μm]	2	2	2	
	Load Capacity [N]	392 (40.0kgf)	392 (40.0kgf)	392 (40.0kgf)	
	Moment Stiffness	Pitch [°/N·cm]	0.01	0.01	0.01
		Yaw [°/N·cm]	0.01	0.01	0.01
		Roll [°/N·cm]	0.005	0.005	0.005
	Lost Motion [μm]	1	1	1	
	Backlash [μm]	1	1	1	
	Parallelism [μm]	50	70	100	
	Running Parallelism [μm]	10	10	20	
Pitch [°] / Yaw [°]	15/15	20/20	20/20		
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF (Sharp Corporation)			
	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	80mA or lower (20mA or lower per 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		

## Compatible Cable

Cable	Driver Cable	D15D15A-CA
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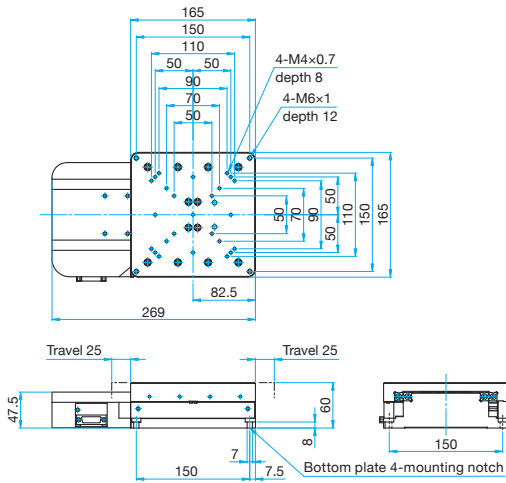
## Compatible Driver / Controller

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

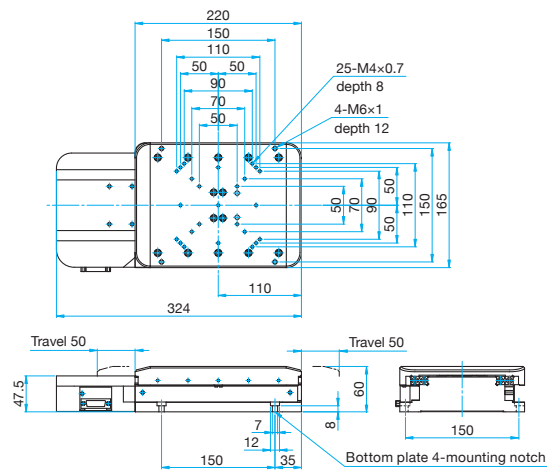


**Outline Drawing**

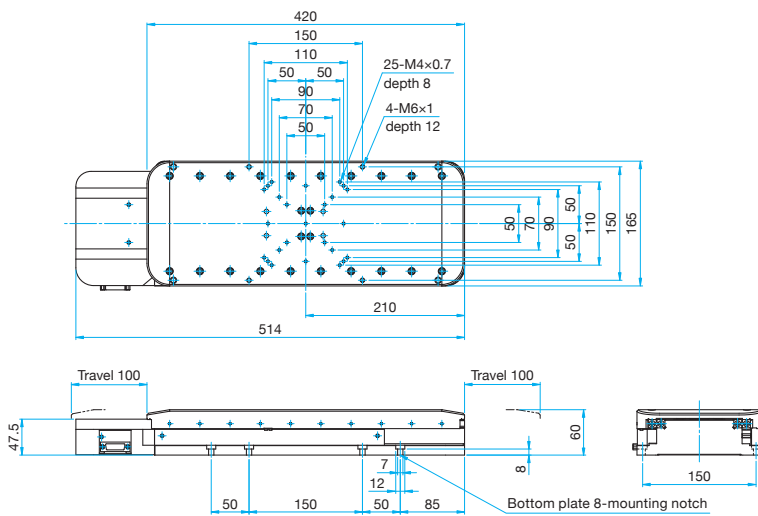
**HST-50X** Hexagon socket head cap screw M6x15...4 screws



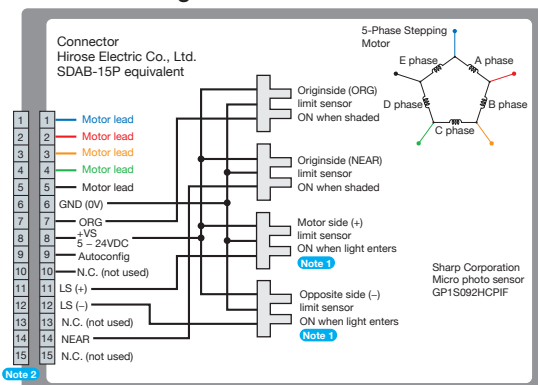
**HST-100X** Hexagon socket head cap screw M6x15...4 screws



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

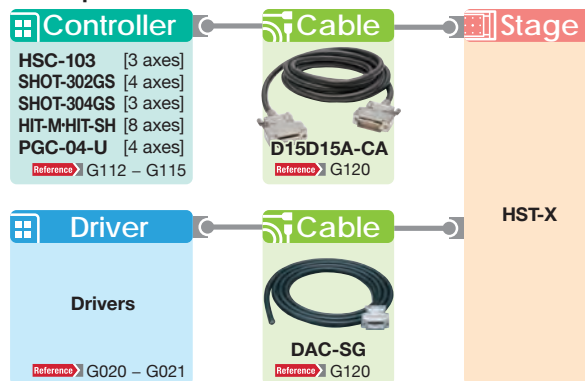


**Connection Diagram**



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

**Compatible Controllers / Drivers and Cables**



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