

Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools for which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

#### Guide

- ▶ Contact our Sales Division if you desire to change motors, etc.  
[Reference](#) G017, G123 (Motorized Stage System Question Sheet)  
[WEB Reference](#) [Catalog Code](#) W9500
- ▶ Grease change is optionally available.  
[Reference](#) G122 [WEB Reference](#) [Catalog Code](#) W9006
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

#### Specifications

Part Number		OSMS33-300(XY)	OSMS33-500(XY)	
Part Number (-M6)		OSMS33-300(XY)-M6	OSMS33-500(XY)-M6	
Part Number (-INCH)		OSMS33-300(XY)-INCH	OSMS33-500(XY)-INCH	
Mechanical Specifications	Travel [mm]	300	500	
	Stage Size [mm]	120x120	120x120	
	Feed Screw	Ball screw diameter $\phi$ 10mm, 10mm lead	Ball screw diameter $\phi$ 10mm, 10mm lead	
	Positioning Slide	Outer rail structure	Outer rail structure	
	Stage Material	Aluminum	Aluminum	
	Finish	Black anodized	Black anodized	
	Weight [kg]	14.0	17.2	
Accuracy Specifications	Resolution	(Full) [ $\mu$ m/pulse]	20	20
		(Half) [ $\mu$ m/pulse]	10	10
	MAX Speed [mm/sec]	80	80	
	Load Capacity [N]	156 (16.0kgf)	156 (16.0kgf)	
	Backlash [ $\mu$ m]	3	3	
	Orthogonality of Motion [ $\mu$ m]	10	10	
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF(Sharp Corporation)		
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	
	Proximity Origin Sensor	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	

#### Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Tamagawa Seiki Co., Ltd.)
	Motor Part Number	TS3667N43E967 ( $\square$ 42mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V $\pm$ 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		OSMS33-300(X)	OSMS33-500(X)	
Accuracy Specifications	Positioning Accuracy [ $\mu$ m]	25	20	
	Positional Repeatability [ $\mu$ m]	6	6	
	Moment Stiffness	Pitch [ $^{\circ}$ /N·cm]	0.12	0.12
		Yaw [ $^{\circ}$ /N·cm]	0.08	0.08
		Roll [ $^{\circ}$ /N·cm]	0.1	0.1
	Lost Motion [ $\mu$ m]	5	5	
	Parallelism [ $\mu$ m]	50	50	
Running Parallelism [ $\mu$ m]	15	25		

#### Compatible Driver / Controller

Control System	Compatible Driver	MC-S0514ZU, SG-514MSC, MC-7514PCL
	Compatible Controller	SHOT-702, HSC-103, SHOT-302GS, SHOT-304GS, HIT-M·HIT-S, PGC-04-U

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40 x 40 mm

60 x 60 mm

80 x 80 mm

85 x 85 mm

100 x 100 mm

120 x 120 mm

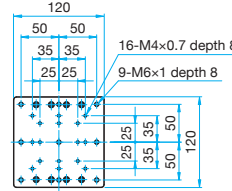
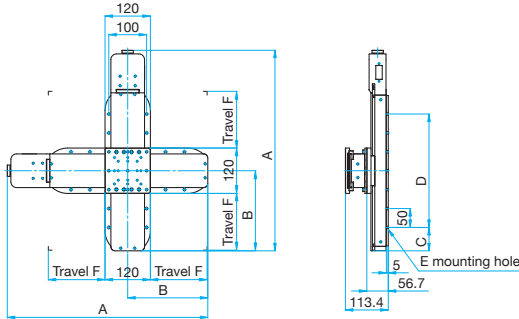
Others



**Outline Drawing**

**OSMS33-\*(XY)**

- Hexagon socket head cap screw M6×12...14 screws (300)
- Hexagon socket head cap screw M6×12...22 screws (500)

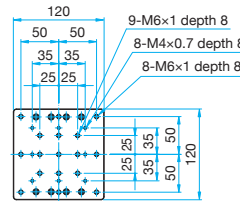
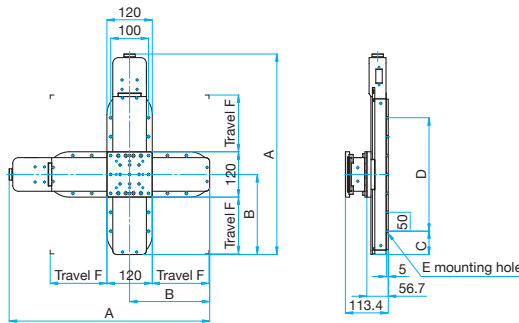


Mounting hole pattern of a top plate

Part Number	A	B	C	D	E	F
OSMS33-300(XY)	530.3	211.8	61.8	300 (50×6)	14-φ6.5	150
OSMS33-500(XY)	730.3	311.8	61.8	500 (50×10)	22-φ6.5	250

**OSMS33-\*(XY)-M6**

- Hexagon socket head cap screw M6×12...14 screws (300)
- Hexagon socket head cap screw M6×12...22 screws (500)

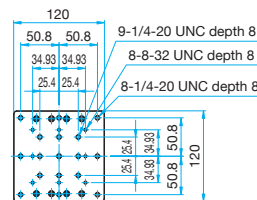
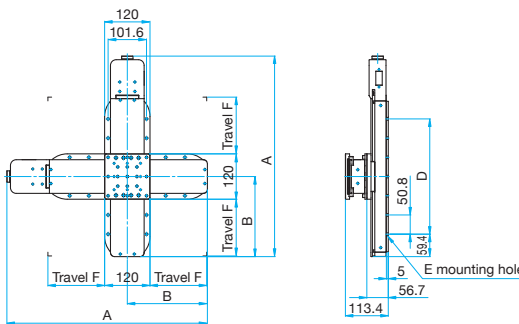


Mounting hole pattern of a top plate

Part Number	A	B	C	D	E	F
OSMS33-300(XY)-M6	530.3	211.8	61.8	300 (50×6)	14-φ6.5	150
OSMS33-500(XY)-M6	730.3	311.8	61.8	500 (50×10)	22-φ6.5	250

**OSMS33-\*(XY)-INCH**

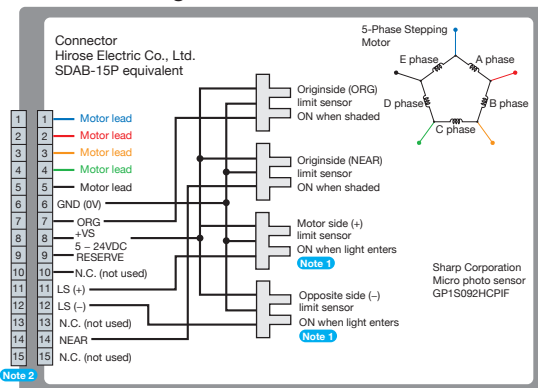
- Hexagon socket head cap screw 1/4-20UNC×1/2...14 screws (300)
- Hexagon socket head cap screw 1/4-20UNC×1/2...22 screws (500)



Mounting hole pattern of a top plate

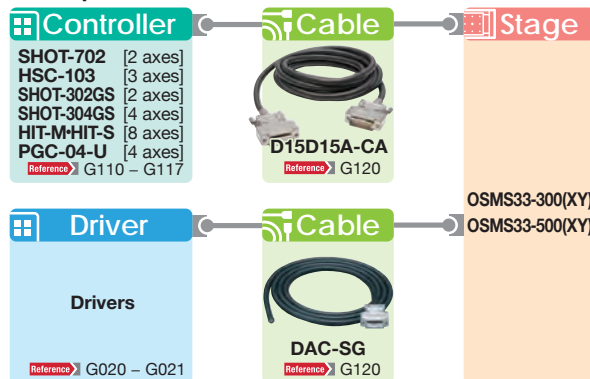
Part Number	A	B	C	D	E	F
OSMS33-300(XY)-INCH	530.3	211.8	59.4	304.8 (50.8×6)	14-φ7	150
OSMS33-500(XY)-INCH	730.3	311.8	57.8	508 (50.8×10)	22-φ7	250

**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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