

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(Z)	OSMS33-500(Z)	
Part Number (-M6)		OSMS33-300(Z)-M6	OSMS33-500(Z)-M6	
Part Number (-INCH)		OSMS33-300(Z)-INCH	OSMS33-500(Z)-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]	14.5	16.1	
Accuracy Specifications	Resolution	(Full) [ $\mu$ m/pulse]	20	20
		(Half) [ $\mu$ m/pulse]	10	10
	MAX Speed [mm/sec]	30	30	
	Positioning Accuracy [ $\mu$ m]	50	50	
	Positional Repeatability [ $\mu$ m]	6	6	
	Load Capacity [N]	58.8 (6.0kgf)	58.8 (6.0kgf)	
	Moment Stiffness	Pitch [ $^{\circ}$ /N·cm]	0.2	0.2
		Yaw [ $^{\circ}$ /N·cm]	0.15	0.15
		Roll [ $^{\circ}$ /N·cm]	0.15	0.15
	Lost Motion [ $\mu$ m]	5	5	
	Backlash [ $\mu$ m]	3	3	
	Orthogonality of Motion [ $\mu$ m]	30	35	
	Pitch [ $^{\circ}$ ] / Yaw [ $^{\circ}$ ]	50/25	55/25	
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 $^{\circ}$
Sensor	Power Voltage	DC5 - 24V $\pm$ 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 Driver / Controller

Control System	Compatible Driver	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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Theta Rotation

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Options

40 x 40 mm

60 x 60 mm

80 x 80 mm

85 x 85 mm

100 x 100 mm

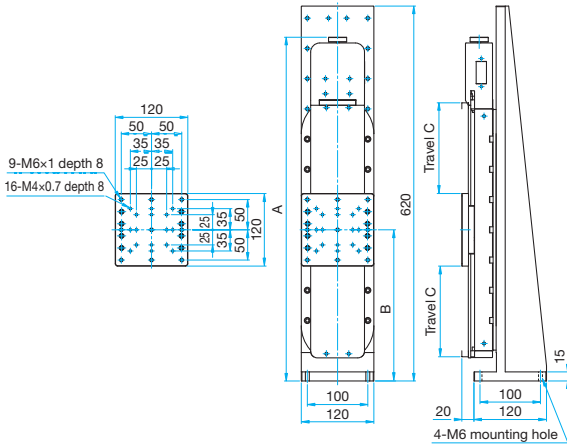
120 x 120 mm

Others



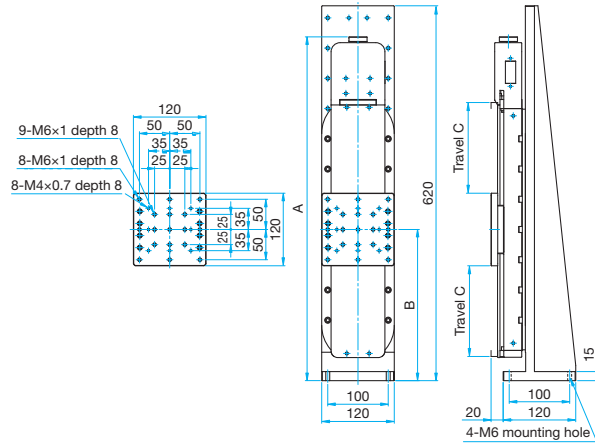
**Outline Drawing**

**OSMS33- \* \*(Z)** Hexagon socket head cap screw M6x22...4 screws



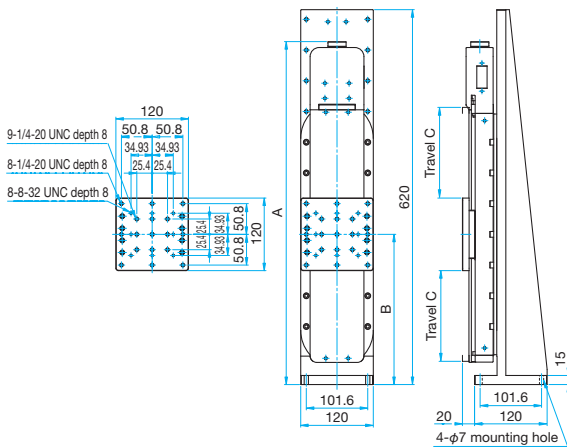
Part Number	A	B	C
<b>OSMS33-300(Z)</b>	568.5	250	150
<b>OSMS33-500(Z)</b>	768.5	350	250

**OSMS33- \* \*(Z)-M6** Hexagon socket head cap screw M6x22...4 screws



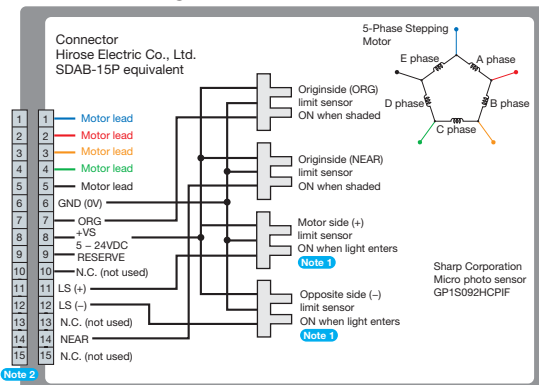
Part Number	A	B	C
<b>OSMS33-300(Z)-M6</b>	568.5	250	150
<b>OSMS33-500(Z)-M6</b>	768.5	350	250

**OSMS33- \* \*(Z)-INCH** Hexagon socket head cap screw 1/4-20UNCx7/8...4 screws



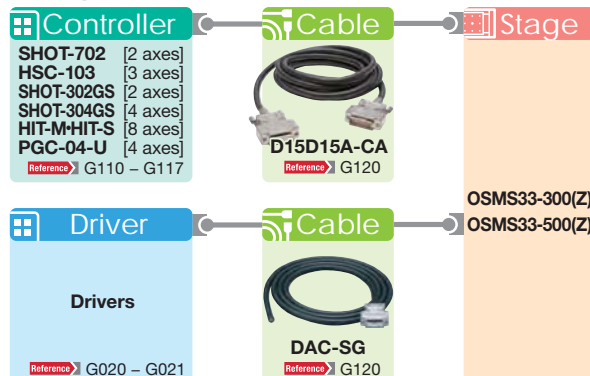
Part Number	A	B	C
<b>OSMS33-300(Z)-INCH</b>	568.5	248.4	150
<b>OSMS33-500(Z)-INCH</b>	768.5	350	250

**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**



- Application Systems
- Optics & Optical Coatings
- Opto-Mechanics
- Bases
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**MotORIZED Stages**

- Light Sources & Laser Safety

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**X Translation**

- Theta Rotation
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- Options
- 40 × 40 mm
- 60 × 60 mm
- 80 × 80 mm
- 85 × 85 mm
- 100 × 100 mm
- 120 × 120 mm
- Others