

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(X)		OSMS33-500(X)		
Part Number (-M6)		OSMS33-300(X)-M6		OSMS33-500(X)-M6		
Part Number (-INCH)		OSMS33-300(X)-INCH		OSMS33-500(X)-INCH		
Mechanical Specifications	Travel [mm]		300		500	
	Stage Size [mm]		120×120		120×120	
	Feed Screw		Ball screw diameter ϕ10mm, 10mm lead		Ball screw diameter ϕ10mm, 10mm lead	
	Positioning Slide		Outer rail structure		Outer rail structure	
	Stage Material		Aluminum		Aluminum	
	Finish		Black anodized		Black anodized	
	Weight [kg]		7.3		10.1	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	20		20	
		(Half) [μm/pulse]	10		10	
	MAX Speed [mm/sec]		120		120	
	Positioning Accuracy [μm]		25		25	
	Positional Repeatability [μm]		6		6	
	Load Capacity [N]		196 (20.0kgf)		196 (20.0kgf)	
	Moment Stiffness	Pitch [°/N·cm]	0.12		0.12	
		Yaw [°/N·cm]	0.08		0.08	
		Roll [°/N·cm]	0.1		0.1	
	Lost Motion [μm]		5		5	
	Backlash [μm]		3		3	
	Parallelism [μm]		50		50	
	Running Parallelism [μm]		15		25	
Pitch [°] / Yaw [°]		40/25		40/25		
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	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	MC-S0514ZU, SG-514MSC, MC-7514PCL
	Compatible Controller	SHOT-702, HSC-103, SHOT-302GS, SHOT-304GS, HIT-M·HIT-S, 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 x 40 mm

60 x 60 mm

80 x 80 mm

85 x 85 mm

100 x 100 mm

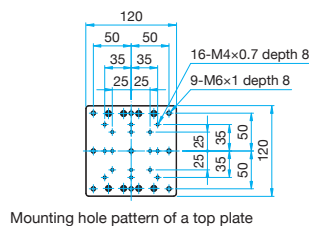
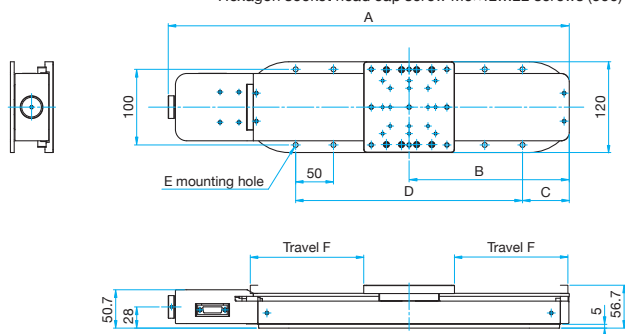
120 x 120 mm

Others



Outline Drawing

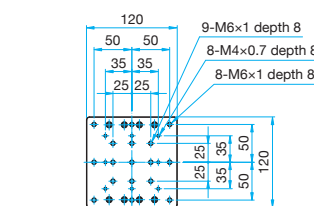
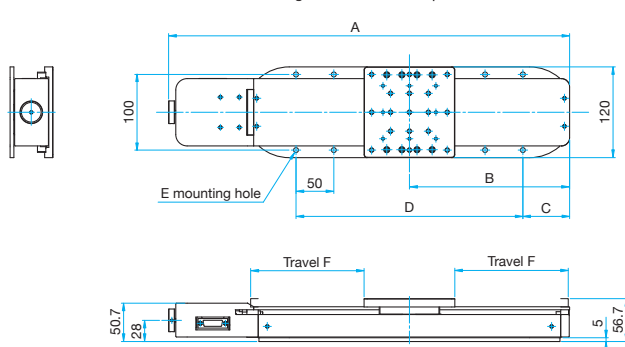
OSMS33-*(X) Hexagon socket head cap screw M6x12...14 screws (300)
Hexagon socket head cap screw M6x12...22 screws (500)



Mounting hole pattern of a top plate

Part Number	A	B	C	D	E	F
OSMS33-300(X)	530.3	211.8	61.8	300 (50x6)	14-φ6.5	150
OSMS33-500(X)	730.3	311.8	61.8	500 (50x10)	22-φ6.5	250

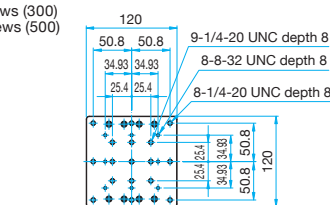
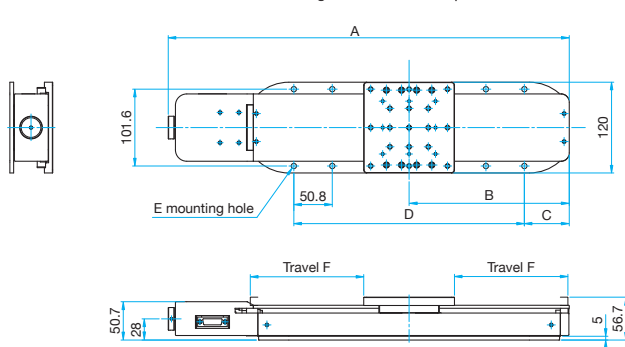
OSMS33-*(X)-M6 Hexagon socket head cap screw M6x12...14 screws (300)
Hexagon socket head cap screw M6x12...22 screws (500)



Mounting hole pattern of a top plate

Part Number	A	B	C	D	E	F
OSMS33-300(X)-M6	530.3	211.8	61.8	300 (50x6)	14-φ6.5	150
OSMS33-500(X)-M6	730.3	311.8	61.8	500 (50x10)	22-φ6.5	250

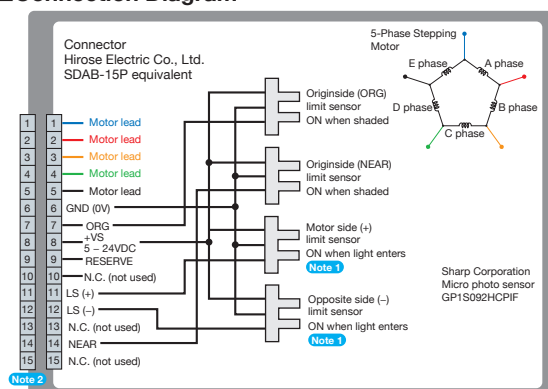
OSMS33-*(X)-INCH Hexagon socket head cap screw 1/4-20UNCx1/2...14 screws (300)
Hexagon socket head cap screw 1/4-20UNCx1/2...22 screws (500)



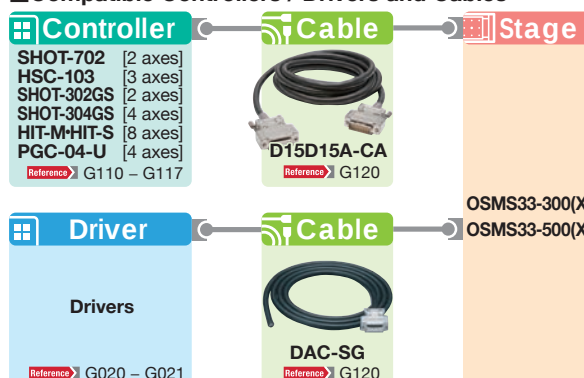
Mounting hole pattern of a top plate

Part Number	A	B	C	D	E	F
OSMS33-300(X)-INCH	530.3	211.8	59.4	304.8 (50.8x6)	14-φ7	150
OSMS33-500(X)-INCH	730.3	311.8	57.8	508 (50.8x10)	22-φ7	250

Connection Diagram



Compatible Controllers / Drivers and Cables



Application Systems

Optics & Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators & Adjusters

Motoeized 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