

Long travel, high stiffness precision motorized stages with built-in compact optical scales make highly accurate and reliable full closed loop system using Sigma-Koki controllers (SHOT-302GS/304GS, HIT-M·HIT-S)



- U-shaped guide rail offers light weight, and minimized deflection to achieve high stiffness.
- Includes a compact scale built in while keeping the installation space the same as that of the equivalent open loop OSMS series.

Guide

- ▶ Contact our Sales Division for replacement of motors or for stabilizing (drop-preventing) mechanism.
[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
- ▶ Contact our International Sales Division to use the stage as an XY axis or a Z axis stage.

Specifications

Part Number		OSMS(CS)33-300(X)	OSMS(CS)33-500(X)	
Part Number (-M6)		OSMS(CS)33-300(X)-M6	OSMS(CS)33-500(X)-M6	
Part Number (-INCH)		OSMS(CS)33-300(X)-INCH	OSMS(CS)33-500(X)-INCH	
Mechanical Specifications	Travel [mm]	300	500	
	Stage Size [mm]	120x120	120x120	
	Feed Screw	Ball screw diameter ϕ 10mm, 10mm lead	Ball screw diameter ϕ 10mm, 10mm lead	
	Positioning Slide	Outer rail structure	Outer rail structure	
	Stage Material	Aluminum	Aluminum	
	Finish	Black anodized	Black anodized	
	Weight [kg]	7.4	10.2	
Accuracy Specifications	Resolution	(Full) [μ m/pulse]	20	20
		(Half) [μ m/pulse]	10	10
	MAX Speed [mm/sec]	100	100	
	Positioning Accuracy [μ m]	25	25	
	Positional Repeatability [μ m]	5	5	
	Load Capacity [N]	196 (20.0kgf)	196 (20.0kgf)	
	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 [μ m]	5	5	
	Backlash	3	3	
	Parallelism [μ m]	50	50	
	Running Parallelism [μ m]	15	25	
Pitch [$^{\circ}$] / Yaw [$^{\circ}$]	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)	
Scale head	Resolution [μ m]	0.5	0.5	

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Tamagawa Seiki Co., Ltd.)
	Motor Part Number	TS3667N43E967 (□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
Scale head	Power Voltage / Current Consumption	DC5V \pm 5% / 100mA

Compatible Cable

Cable	Driver Cable	D15D15A-CA
	Scale Cable	GSEF-CA-3

Compatible Driver / Controller

Control System	Compatible Driver	—
	Compatible Controller	SHOT-302GS, SHOT-304GS, HIT-M·HIT-S

Application Systems

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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

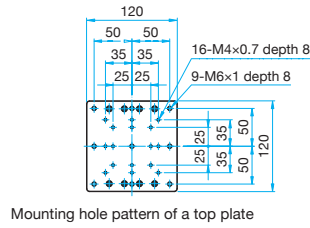
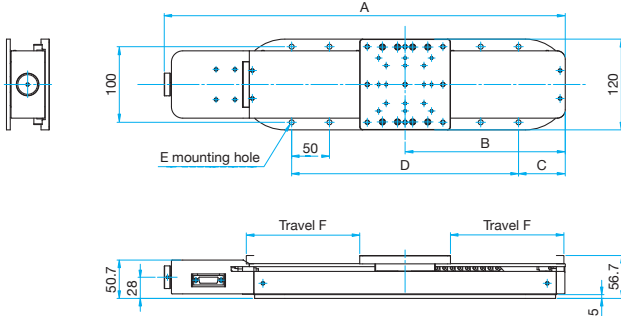
120 x 120 mm

Others



Outline Drawing

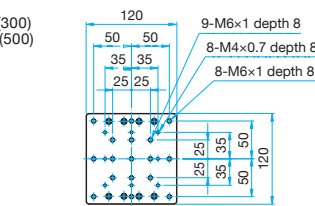
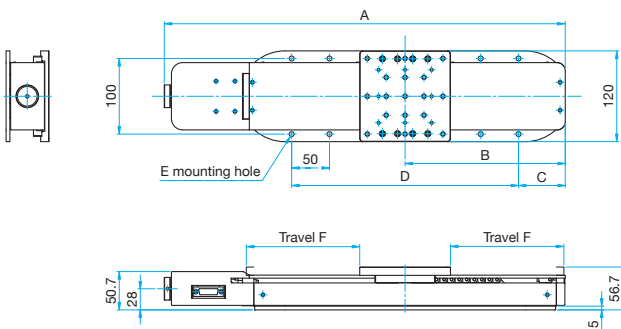
OSMS(CS)33-*(X) Hexagon socket head cap screw M6x12...14 screws (300)
Hexagon socket head cap screw M6x12...22 screws (500)



Mounting hole pattern of a top plate

Part Number	A	B	C	D	E	F
OSMS(CS)33-300(X)	530.3	211.8	61.8	300 (50x6)	14-φ6.5	150
OSMS(CS)33-500(X)	730.3	311.8	61.8	500 (5x10)	22-φ6.5	250

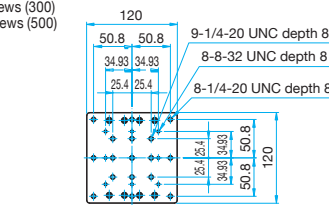
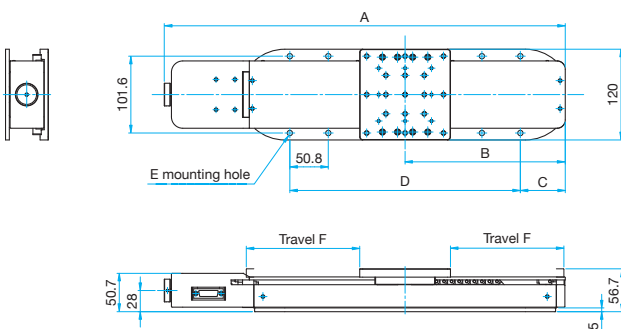
OSMS(CS)33-*(X)-M6 Hexagon socket head cap screw M6x12...14 screws (300)
Hexagon socket head cap screw M6x12...22 screws (500)



Mounting hole pattern of a top plate

Part Number	A	B	C	D	E	F
OSMS(CS)33-300(X)-M6	530.3	211.8	61.8	300 (50x6)	14-φ6.5	150
OSMS(CS)33-500(X)-M6	730.3	311.8	61.8	500 (5x10)	22-φ6.5	250

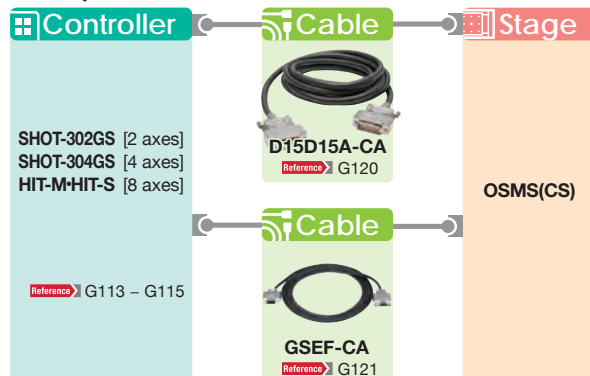
OSMS(CS)33-*(X)-INCH Hexagon socket head cap screw 1/4-20UNCx1/2...14 screws (300)
Hexagon socket head cap screw 1/4-20UNCx1/2...22 screws (500)



Mounting hole pattern of a top plate

Part Number	A	B	C	D	E	F
OSMS(CS)33-300(X)-INCH	530.3	211.8	59.4	304.8 (50.8x6)	14-φ7	150
OSMS(CS)33-500(X)-INCH	730.3	311.8	57.8	508 (50.8x10)	22-φ7	250

Compatible Controllers / Drivers and Cables



- Application Systems
- Optics & Optical Coatings
- Opto-Mechanics
- Bases
- Manual Stages
- Actuators & Adjusters

MotORIZED Stages

- Light Sources & Laser Safety
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- 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