

Precision Motorized Stages with Built-in Compact Scale

OSMS(CS)20-(X) Stage Size 85 × 85 mm

RoHS

CE

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 Sales Division to use the stage as an XY axis or a Z axis stage.

Specifications

Part Number		OSMS(CS)20-35(X)	OSMS(CS)20-85(X)
Part Number (-M6)		OSMS(CS)20-35(X)-M6	OSMS(CS)20-85(X)-M6
Part Number (-INCH)		OSMS(CS)20-35(X)-INCH	OSMS(CS)20-85(X)-INCH
Mechanical Specifications	Travel [mm]	35	85
	Stage Size [mm]	85×85	85×85
	Feed Screw	Ball screw diameterφ6mm, 1mm lead	Ball screw diameter φ6mm, 1mm lead
	Positioning Slide	Outer rail structure	Outer rail structure
	Stage Material	Aluminum	Aluminum
	Finish	Black anodized	Black anodized
	Weight [kg]	1.4	1.6
Accuracy Specifications	Resolution	(Full) [μm/pulse]	2
		(Half) [μm/pulse]	1
	MAX Speed [mm/sec]		25
	Positioning Accuracy [μm]		10
	Positional Repeatability [μm]		2
	Load Capacity [N]		78.4 (8.0kgf)
	Moment Stiffness	Pitch [°/N·cm]	0.4
		Yaw [°/N·cm]	0.25
		Roll [°/N·cm]	0.35
	Lost Motion [μm]		3
	Backlash [μm]		3
	Parallelism [μm]		30
	Running Parallelism [μm]		10
	Pitch [°] / Yaw [°]		30/20
Sensor	Sensor Part Number	Micro photo sensor : GP1S097HCZ0F (Sharp Corporation)	Micro photo sensor: GP1S092HCP1F (Sharp Corporation)
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
	Proximity Origin Sensor	None	Equipped (NORMAL OPEN)
Scale head	Resolution [μm]	0.5	0.5

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Tamagawa Seiki Co., Ltd.)	
	Motor Part Number	TS3664N4E10 (□24mm)	
	Step Angle	0.72°	
Sensor	Power Voltage	DC5 ~ 24V±10%	
	Current Consumption	60mA or lower (20mA or lower per sensor)	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±5% / 50mA	

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 × 40 mm

60 × 60 mm

80 × 80 mm

85 × 85 mm

100 × 100 mm

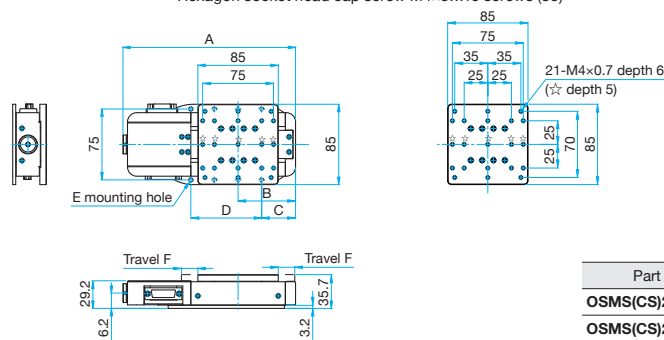
120 × 120 mm

Others



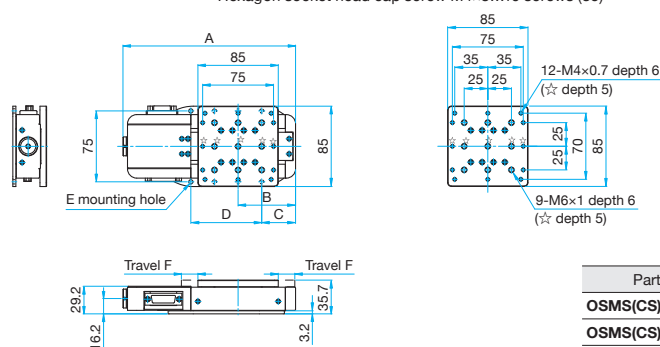
Outline Drawing

OSMS(CS)20-*(X) Hexagon socket head cap screw M4x8...8 screws (35)
Hexagon socket head cap screw M4x8...10 screws (85)



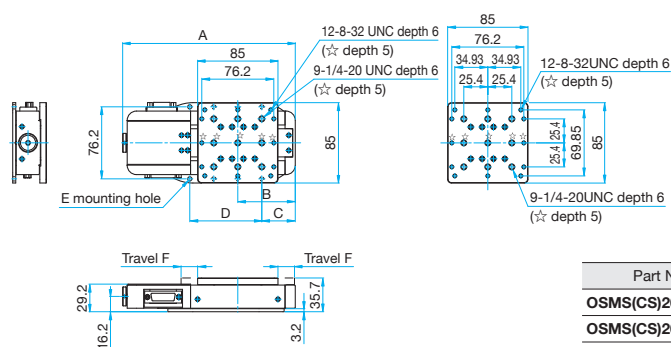
Part Number	A	B	C	D	E	F
OSMS(CS)20-35(X)	182.6	60.8	35.8	75 (25x3)	8- ϕ 4.5	17.5
OSMS(CS)20-85(X)	232.6	85.8	35.8	100 (25x4)	10- ϕ 4.5	42.5

OSMS(CS)20-* *(X)-M6 Hexagon socket head cap screw M4x8...8 screws (35)
Hexagon socket head cap screw M4x8...10 screws (85)



Part Number	A	B	C	D	E	F
OSMS(CS)20-35(X)-M6	182.6	60.8	35.8	75 (25x3)	8-φ4.5	17.5
OSMS(CS)20-85(X)-M6	232.6	85.8	35.8	100 (25x4)	10-φ4.5	42.5

OSMS(CS)20-*(X)-INCH Hexagon socket head cap screw 8/32UNCx5/16...8 screws (35)
Hexagon socket head cap screw 8/32UNCx5/16...10 screws (85)



Part Number	A	B	C	D	E	F
OSMS(CS)20-35(X)-INCH	182.6	60.8	35.4	76.2 (25.4×3)	8-φ4.5	17.5
OSMS(CS)20-85(X)-INCH	232.6	85.8	35	101.6 (25.4×4)	10-φ4.5	42.5

Compatible Controllers / Drivers and Cables

