

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		OSMS20-35(XY)	OSMS20-85(XY)
Part Number (-M6)		OSMS20-35(XY)-M6	OSMS20-85(XY)-M6
Part Number (-INCH)		OSMS20-35(XY)-INCH	OSMS20-85(XY)-INCH
Mechanical Specifications	Travel [mm]	35	85
	Stage Size [mm]	85x85	85x85
	Feed Screw	Ball screw diameter $\phi$ 6mm, 1mm lead	Ball screw diameter $\phi$ 6mm, 1mm lead
	Positioning Slide	Outer rail structure	Outer rail structure
	Stage Material	Aluminum	Aluminum
	Finish	Black anodized	Black anodized
	Weight [kg]	2.2	2.6
Accuracy Specifications	Resolution (Full) [ $\mu$ m/pulse]	2	2
	Resolution (Half) [ $\mu$ m/pulse]	1	1
	MAX Speed [mm/sec]	25	25
	Load Capacity [N]	68.6(7.0kgf)	68.6(7.0kgf)
	Backlash [ $\mu$ m]	3	3
Sensor	Orthogonality of Motion [ $\mu$ m]	5	5
	Sensor Part Number	Micro photo sensor : GP1S097HCZ0F (Sharp Corporation)	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	None	Equipped (NORMAL OPEN)

#### Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Tamagawa Seiki Co., Ltd.)	
	Motor Part Number	TS3664N4E10 ( $\square$ 24mm)	
	Step Angle	0.72°	
Sensor	Power Voltage	DC5 - 24V $\pm$ 10%	
	Current Consumption	120mA or lower (60mA or lower a per axis20mA or lower per a sensor)	160mA or lower (80mA or lower a per axis20mA 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		OSMS20-35(X)	OSMS20-85(X)	
Accuracy Specifications	Positioning Accuracy [ $\mu$ m]	5	7	
	Positional Repeatability [ $\mu$ m]	3	3	
	Moment Stiffness	Pitch [ $^{\circ}$ /N·cm]	0.4	0.4
		Yaw [ $^{\circ}$ /N·cm]	0.25	0.25
		Roll [ $^{\circ}$ /N·cm]	0.35	0.35
	Lost Motion [ $\mu$ m]	3	3	
	Parallelism [ $\mu$ m]	30	30	
Running Parallelism [ $\mu$ m]	10	10		

#### Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, SG-5MA, MC-S0514ZU, SG-514MSC, MC-7514PCL
	Compatible Controller	GSC-02, SHOT-702, HSC-103, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04-U

Application Systems

Optics &amp; Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators &amp; Adjusters

Motorized Stages

Light Sources &amp; 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

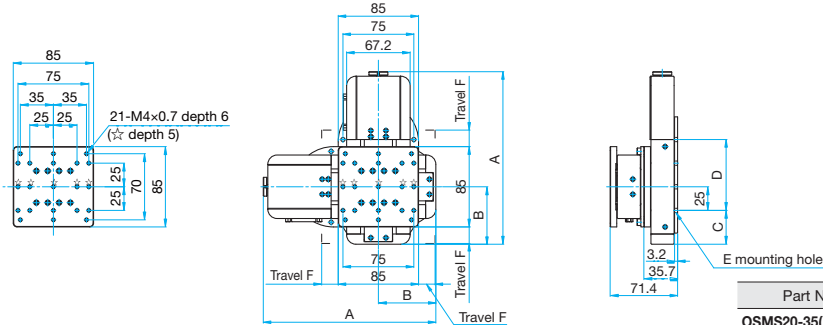
120 x 120 mm

Others



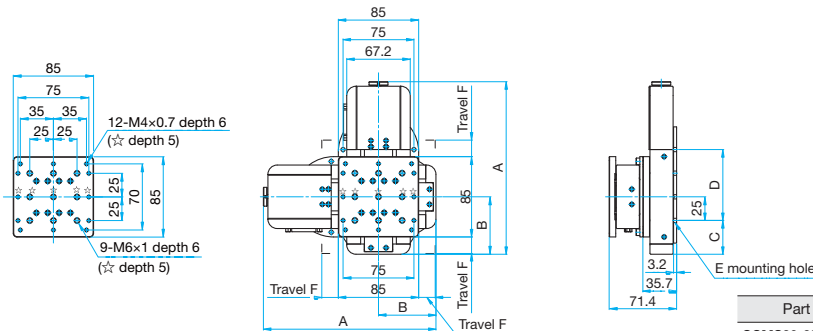
**Outline Drawing**

**OSMS20-\*(XY)** Hexagon socket head cap screw M4x8...8 screws (35)  
 Hexagon socket head cap screw M4x8...10 screws (85)



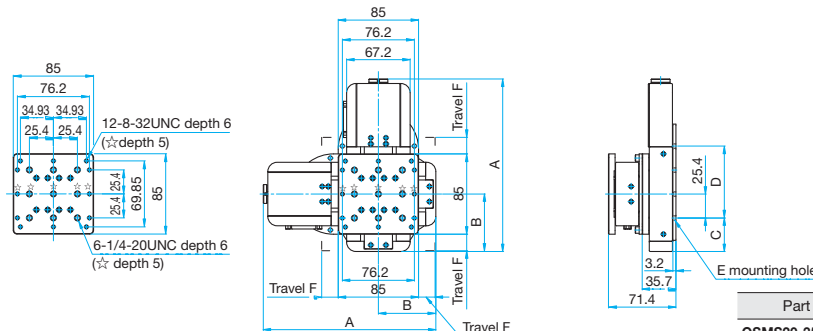
Part Number	A	B	C	D	E	F
<b>OSMS20-35(XY)</b>	182.6	60.8	35.8	75 (25x3)	8-φ4.5	17.5
<b>OSMS20-85(XY)</b>	232.6	85.8	35.8	100 (25x4)	10-φ4.5	42.5

**OSMS20-\*(XY)-M6** Hexagon socket head cap screw M4x8...8 screws (35)  
 Hexagon socket head cap screw M4x8...10 screws (85)



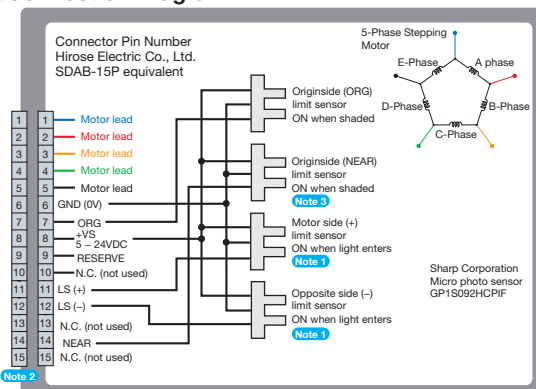
Part Number	A	B	C	D	E	F
<b>OSMS20-35(XY)-M6</b>	182.6	60.8	35.8	75 (25x3)	8-φ4.5	17.5
<b>OSMS20-85(XY)-M6</b>	232.6	85.8	35.8	100 (25x4)	10-φ4.5	42.5

**OSMS20-\*(XY)-INCH** Hexagon socket head cap screw 8/32UNCx5/16...8 screws (35)  
 Hexagon socket head cap screw 8/32UNCx5/16...10 screws (85)



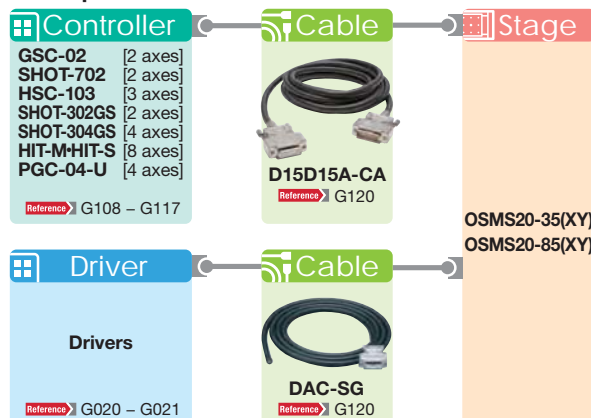
Part Number	A	B	C	D	E	F
<b>OSMS20-35(XY)-INCH</b>	182.6	60.8	35.4	76.2(25.4x3)	8-φ4.5	17.5
<b>OSMS20-85(XY)-INCH</b>	232.6	85.8	35	101.6(25.4x4)	10-φ4.5	42.5

**Connection Diagram**



- Note 1** The motor side limit sensor is the + direction limit sensor.
- Note 2** Compatible cable connector: DDK Ltd. 17JE-13150
- Note 3** OSMS20-35 is not fitted with proximity origin sensor. 6 and 14P are short-circuited

**Compatible Controllers / Drivers and Cables**



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 × 40 mm

60 × 60 mm

80 × 80 mm

**85 × 85 mm**

100 × 100 mm

120 × 120 mm

Others