

Motorized Stage/Controller/Cable Sets

These sets are offered at value prices. These sets are easy to operate. Enjoy them as soon as they arrive.

X axis Set | HPS60-20X-SET



This set enables easy automatic positioning in one straight direction and JOG operation.

- Stage size : 60mm×60mm
- Travel : 20mm
- Load Capacity: 49N [5kgf]
- Cable length : 3m

Products Name	Part Number	Quantity	Reference
High Performance Motorized Stages	HPS60-20X-M5	1	G028
Single axis Stage Controller	GSC-01	1	G098
AC Adapter	PAT-001-POW1	1	—
D15RP Cable	D15RP-CA-3	1	G108

XY axis Set | SetHPS120-60XY-SET



This set enables XY axis automatic alignment, and program operation without using a PC.

- Stage size : 120mm×120mm
- Travel : 60mm
- Load Capacity: 88.2 [9kgf]
- Cable length : 3m

Products Name	Part Number	Quantity	Reference
High Performance Motorized Stages	HPS120-60X-M5	2	G028
2 axis Stage Controller	GSC-02	1	G099
Joystick Terminal	SJT-02	1	G106
AC Adapter	PAT-001-POW1	1	—
D15RP Cable	D15RP-CA-3	2	G108

For easier positioning ... Manual stages which can be used in combination.

■ θ axis Rotation Stages
KSP-606M



Reference E144

■ Z axis Steel Extended Contact Slide Stages
TSD-603



Reference E086

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Options

 40mm 60mm 80mm 85mm 100mm 120mm

Others

Xyθ axis Set | HPS/HDS120-XYθ-SET



Motorized stage system for minute positioning and angle adjustment such as for marking of semiconductor wafers.

- It can be controlled externally using Ethernet/RS232C/USB interface. Also, the number of axes is extendable by adding slave controllers (Part Number: HIT-S).
- Stage size : $\phi 120\text{mm}$
- Travel : $\pm 6^\circ$ [θ axis]
: 60mm [XY axis]
- Load Capacity : 58.8N [6kgf]
- Cable length : 3m

Products Name	Part Number	Part Number	Reference
High Performance Motorized Stages	HPS120-60X-M5	2	G028
High durability automatic rotation stage	HDS-120YAW	1	G080
Extensible Stage Controller (Master)	HIT-M	1	G103
Extensible Stage Controller (Slave)	HIT-S	3	G103
AC Adapter		1	—
D15RP Cable	D15RP-CA-3	3	G108

XYZ axis Set | OSMS20-XYZ-SET



This set is best suited for measuring and inspection equipment and for XYZ axis automatic positioning of workpieces.

- It can be controlled externally using RS232C/GP-IB/USB interface, or manually using a joy stick (JS-300).
- Stage size : 60mm×60mm
- Travel : 85mm [XY axis], 10mm [Z axis]
- Load Capacity : 29.4N [3kgf]
- Cable length : 3m

Products Name	Part Number	Part Number	Reference
OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor	OSMS20-85(X)	2	G032
Translation Motorized Stages, Flat Z axis - 5 Phase Stepping Motor	OSMS60-10ZF	1	G070
4 axis Stage Controllers	SHOT-304GS	1	G102
Joystick Terminal	JS-300	1	G107
D15RP Cable	D15RP-CA-3	1	G108
D15D15A Cable	D15D15A-CA-3	2	G108
MDR14-CA-2.5 Cable	MDR14-CA-2.5	1	G109

Make it more convenient ... Software for stage control

■ **Software for Positioning, Measurement & Analysis**
SGMACSE



Reference G022

■ **Software for Monitoring & Control**
SGVIEWE



Reference G022

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- 60mm
- 80mm
- 85mm
- 100mm
- 120mm
- Others

High Performance Motorized Stages | HPS

RoHS

Motorized stages with ball screws offering middle/high performance at low price.



- Ball screws with improved durability compared to the existing TSDM series.
- Our original high precision integrated ball guide used in place of a cross roller guide makes it possible to offer a price lower than the TAMM series.

Guide

- ▶ Please contact us when assembled into XYZ axis or use in reversion on the ceiling or vertical direction.
- ▶ Opposite model or various motor changes are optionally available.
[Reference](#) G030

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40mm

60mm

80mm

85mm

100mm

120mm

Others

Specifications			HPS60-20X-M5	HPS80-50X-M5	HPS120-60X-M5
Part Number					
Mechanical Specifications	Travel [mm]		20	50	60
	Table Size [mm]		60×60	80×80	120×120
	Feed Screw		Ball screw diameter φ6mm, 1mm lead	Ball screw diameter φ6mm, 1mm lead	Ball screw diameter φ6mm, 1mm lead
	Positioning Slide		Ball guide	Ball guide	Ball guide
	Stage Material		Aluminum	Aluminum	Aluminum
	Finish		Black anodized	Black anodized	Black anodized
	Weight [kg]		0.6	1	1.5
Resolution	(Full) [μm/pulse]	2	2	2	
	(Half) [μm/pulse]	1	1	1	
MAX Speed [mm/sec]		10	10	10	
Positioning Accuracy [μm]		15	25	25	
Positional Repeatability [μm]		±1	±2	±2	
Load Capacity [N]		49 (5kgf)	73.5 (7.5kgf)	98 (10kgf)	
Accuracy Specifications	Moment Stiffness	Pitch [°/N·cm]	0.4	0.5	0.5
		Yaw [°/N·cm]	0.4	0.5	0.5
		Roll [°/N·cm]	0.3	0.2	0.2
	Lost Motion [μm]		1	2	2
	Backlash [μm]		1	2	2
	Parallelism [μm]		30	40	50
	Running Parallelism [μm]		10	10	10
Pitch [°] / Yaw [°]		25/25	30/25	30/25	
Sensor	Sensor Part Number		Micro photo sensor: GP1S097HCZ(Sharp Corporation)		
	Limit Sensor		Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor		Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
	Proximity Origin Sensor		None	None	None

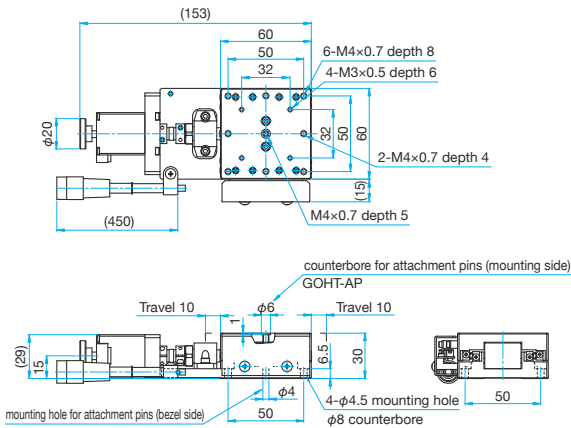
Motor / Sensor Specifications		
Motor	Type	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK523HPB-C12 (□28mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V ±10%
	Current Consumption	60mA or lower (20mA or lower per sensor)
	Control Output	NPN open collector output DC30V or lower, 50mA When load current is 16mA, the residual voltage is under 0.4V When load current is 50mA, the residual voltage is under 0.7V
	Output Logic	In the case of light shielded ,output transistor OFF (No conduction): Limit sensor In the case of light shielded ,output transistor ON (Conduction): Origin sensor

Compatible Driver / Controller		
Control System	Compatible Driver	SG-5M, SG-5MA, SG-55M, SG-55MA, SG-514MSC, MC-7514PCL
	Compatible Controller	GSC-01, GSC-02, SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04

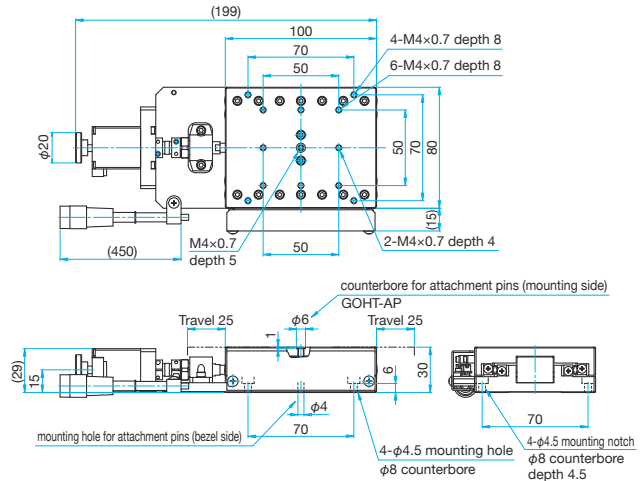


Outline Drawing

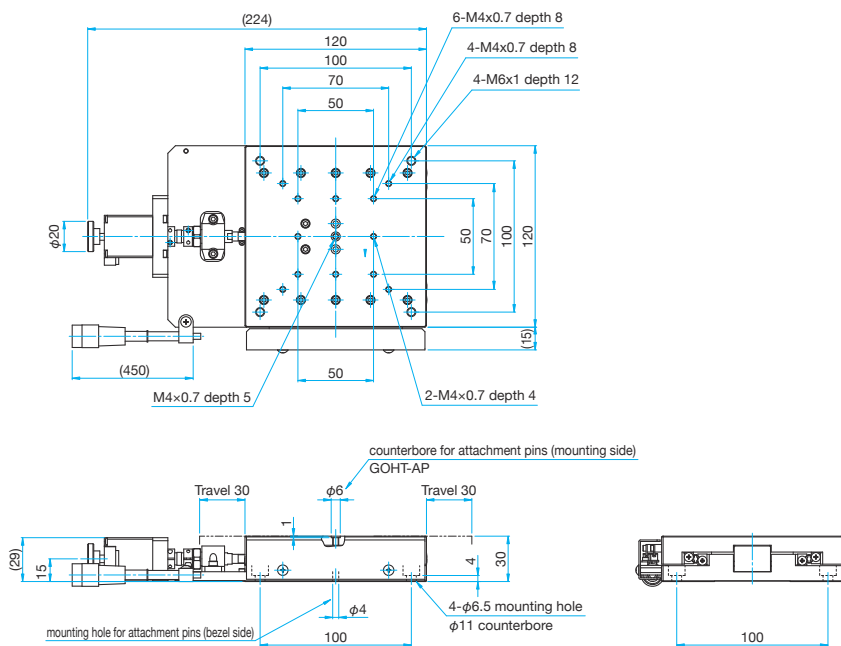
HPS60-20X-M5 Hexagon socket head cap screw M4×12...4 screws



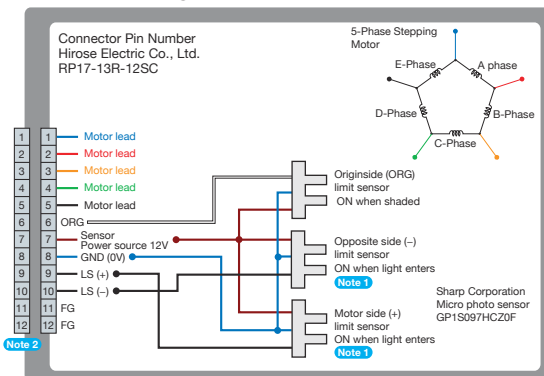
HPS80-50X-M5 Hexagon socket head cap screw M4×12...4 screws



HPS120-60X-M5 Hexagon socket head cap screw M4×12...4 screws



Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with proximity origin sensors.
Note 2 Compatible cable connector: Hirose Electric Co., Ltd. RP17-13PA-12PC/RP17-PC-122

Compatible Controllers / Drivers and Cables

Controller	Cable	Stage
<ul style="list-style-type: none"> GSC-01 [1 axis] GSC-02 [2 axes] SHOT-702 [2 axes] GIP-101 [1 axis] SHOT-302GS [2 axes] SHOT-304GS [4 axes] HIT-M-HIT-S [8 axes] PGC-14 [4 axes] Reference: G098 - G105	D15RP-CA Reference: G108	HPS60-20X-M5 HPS80-50X-M5 HPS120-60X-M5
<ul style="list-style-type: none"> Drivers Reference: G020 - G021	MINI-CA-SG Reference: G108	

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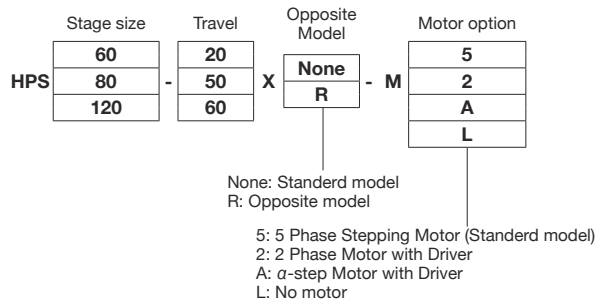
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- Theta Rotation
- Goniometer
- Vacuum
- Options
- 40mm
- 60mm
- 80mm
- 85mm
- 100mm
- 120mm
- Others

High Performance Motorized Stage Options | HPS Option

Specification Method of Option Code

Option Code



Example of Code Specification

HPS60-20X□-M□

Features of Options

2 Phase Motor with Driver	It can reduce the total cost because a driver is equipped. On the other hand, precision is inferior to 5 phase motors.
α Stepping Motor with Driver	Can be replaced with an α stepping motor with driver which can move fast. The motor also has built-in encoder.
No Motor	No Motor Provide a stage without motor because the customer mounts own motor. Note that mounting and adjustment of a motor requires specialized skills.



Guide

- ▶ Please contact us when assembled into XYZ axis or use in reversion on the ceiling or vertical direction.
- ▶ Replacement with electromagnetic brakes or grease change is also available. Contact our International Sales Division for more information.

Specifications (ex. HPS60-20X)

Part Number		HPS60-20X-M2	HPS60-20X-MA	HPS60-20X-ML	
Mechanical Specifications	Travel [mm]	20	20	20	
	Table Size [mm]	60×60	60×60	60×60	
	Feed Screw	Ball screw diameter ϕ 6mm, 1mm lead	Ball screw diameter ϕ 6mm, 1mm lead	Ball screw diameter ϕ 6mm, 1mm lead	
	Positioning Slide	Ball guide	Ball guide	Ball guide	
	Stage Material	Aluminum	Aluminum	Aluminum	
	Finish	Black anodized	Black anodized	Black anodized	
	Weight [kg]	0.6	1	0.6	
Accuracy Specifications	Resolution	(Full) [μ m/pulse]	5	2 (500P/R)	—
		(Half) [μ m/pulse]	2.5	1 (1000P/R)	—
	MAX Speed [mm/sec]	20	40	—	
	Positioning Accuracy [μ m]	15	15	—	
	Positional Repeatability [μ m]	\pm 2	\pm 0.5	—	
	Load Capacity [N]	49 (5kgf)	49 (5kgf)	49 (5kgf)	
	Moment Stiffness	Pitch [$^{\circ}$ /N·cm]	0.4	0.4	0.4
		Yaw [$^{\circ}$ /N·cm]	0.4	0.4	0.4
		Roll [$^{\circ}$ /N·cm]	0.3	0.3	0.3
	Lost Motion [μ m]	1	1	—	
	Backlash [μ m]	1	1	1	
	Parallelism [μ m]	30	30	30	
	Running Parallelism [μ m]	10	10	10	
Pitch [$^{\circ}$] / Yaw [$^{\circ}$]	25/25	25/25	25-25		
Sensor	Sensor Part Number	Micro photo sensor: GP1S097HCZ (Sharp Corporation)	Micro photo sensor: GP1S097HCZ (Sharp Corporation)	Micro photo sensor: GP1S097HCZ (Sharp Corporation)	
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	
	Proximity Origin Sensor	None	None	None	

Motor / Sensor Specifications

	Type	2-phase stepping motor (Oriental Motor Co., Ltd.)	α STEP motor (Oriental Motor Co., Ltd.)	(No motor)
Motor	Motor Part Number	PKP223D15B (□28mm)	ARM26SBK (□28mm)	—
	Step Angle	1.8 $^{\circ}$	0.72 $^{\circ}$ (500P/R)	—
	Driver	Part Number	A8576-0415Y	ARD-K
Sensor	Power input	DC24V \pm 10% 1A	DC24V \pm 10% 0.9A	—
	Power Voltage	DC5 - 24V \pm 10%		
	Current Consumption	60mA or lower (20mA or lower per sensor) A8576-0415Y		
	Control Output	DC24V \pm 10% 1A		
Output Logic	NPN open collector output DC30V or lower, 50mA When load current is 16mA, the residual voltage is under 0.4V When load current is 50mA, the residual voltage is under 0.7V In the case of light shielded ,output transistor OFF (No conduction); Limit sensor			

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□40mm

□60mm

□80mm

□85mm

□100mm

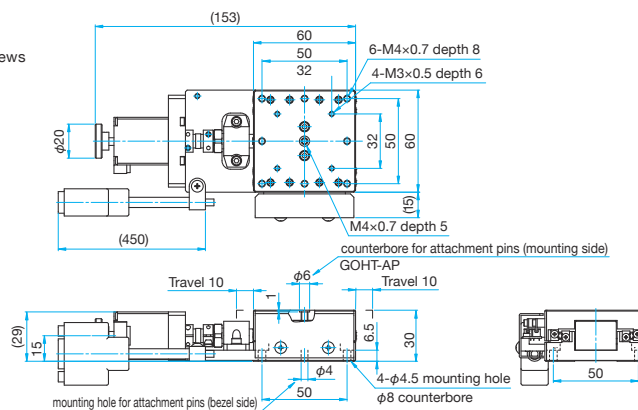
□120mm

Others

Outline Drawing

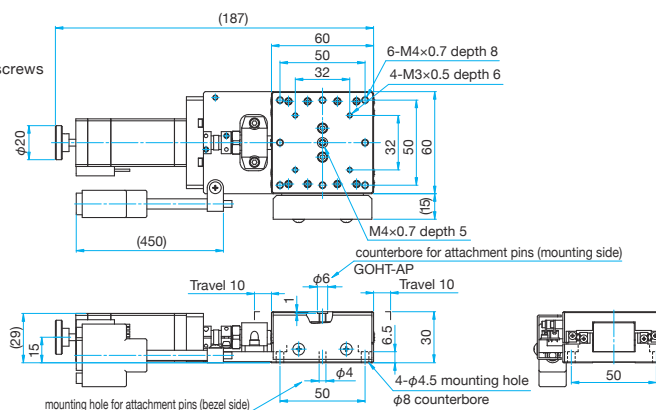
HPS60-20X-M2

Hexagon socket head cap screw M4x8...6 screws



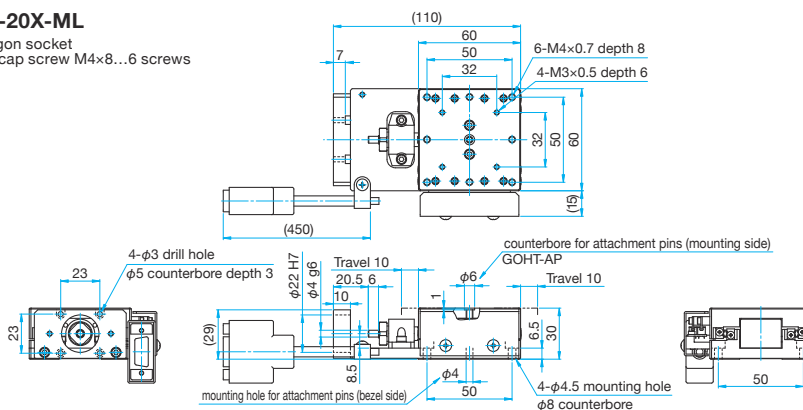
HPS60-20X-MA

Hexagon socket head cap screw M4x8...6 screws

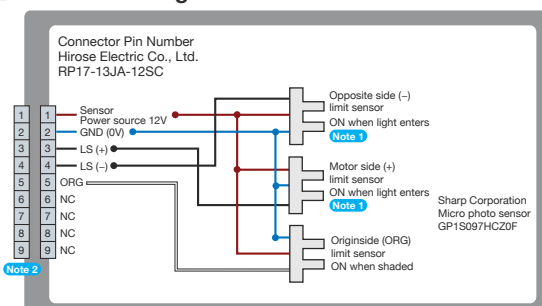


HPS60-20X-ML

Hexagon socket head cap screw M4x8...6 screws



Connection Diagram



Note 1 The motor side limit sensor is the (+) forward direction limit sensor. There is no origin proximity sensor for this motorized stage.

Note 2 Compatible cable connector: Hirose Electric Co., Ltd. RP17-13PA-12PC/RP17-PC-122

(Reference) Motor Comparison Table

Section	5 Phase Stepping Motor	2 Phase Stepping Motor	αSTEP Motor
Positioning Accuracy	○	○	◎
Minute Feed Accuracy	○	○	○
Speed Stability	○	△	◎
Heat Generation (Continuous Operation)	○	△	◎
Max. Speed	○	○	◎
Rising Responsiveness	○	○	◎

*Rough guide for when the motors are mounted on our motorized stage. (◎ : goodness ○ : standard △ : inferior)

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Options

□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor

OSMS20-(X) Stage size □85mm

RoHS

CE

Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc.
[Reference](#) G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. [Reference](#) G110
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

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□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

Specifications				
Part Number		OSMS20-35(X)	OSMS20-85(X)	
Part Number (-M6)		OSMS20-35(X)-M6	OSMS20-85(X)-M6	
Part Number (-INCH)		OSMS20-35(X)-INCH	OSMS20-85(X)-INCH	
Mechanical Specifications	Travel [mm]	35	85	
	Table Size [mm]	85×85	85×85	
	Feed Screw	Ball screw diameter φ6mm, 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]	1.1	1.3	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	2	2
		(Half) [μm/pulse]	1	1
	MAX Speed [mm/sec]	25	25	
	Positioning Accuracy [μm]	5	10	
	Positional Repeatability [μm]	3	3	
	Load Capacity [N]	78.4 (8.0kgf)	78.4 (8.0kgf)	
	Moment Stiffness	Pitch [°/N·cm]	0.4	0.4
		Yaw [°/N·cm]	0.25	0.25
		Roll [°/N·cm]	0.35	0.35
	Lost Motion [μm]	3	3	
	Backlash [μm]	3	3	
	Parallelism [μm]	30	30	
	Running Parallelism [μm]	10	10	
Pitch [°] / Yaw [°]	30/20	30/20		
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF(Sharp Corporation)		
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped	Equipped	
	Proximity Origin Sensor	None	Equipped	

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)
	Control Output	NPN open collector output DC30V or lower, 50mA or lower
	Output Logic	When shaded: Output transistor OFF (no conduction)

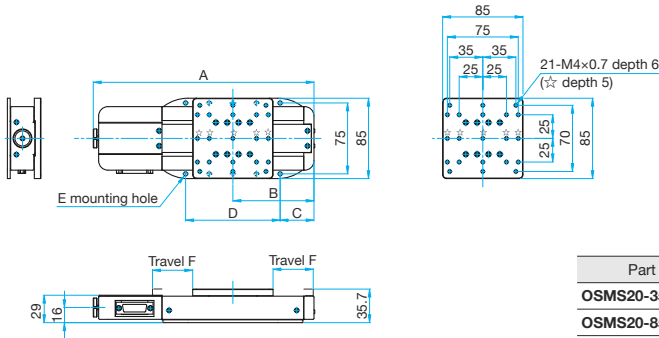
Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, SG-5MA, SG-55M, SG-55MA, SG-514MSC, MC-7514PCL
	Compatible Controller	GSC-01, GSC-02, SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04



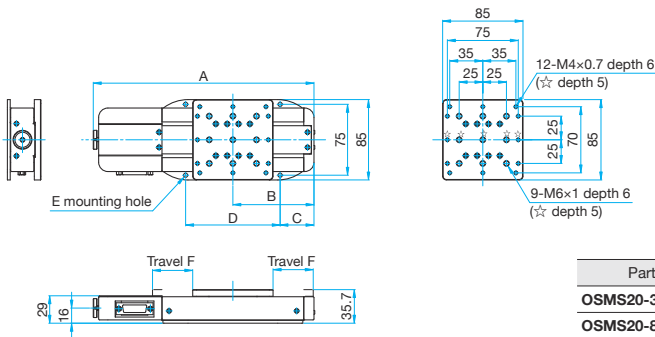
Outline Drawing

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



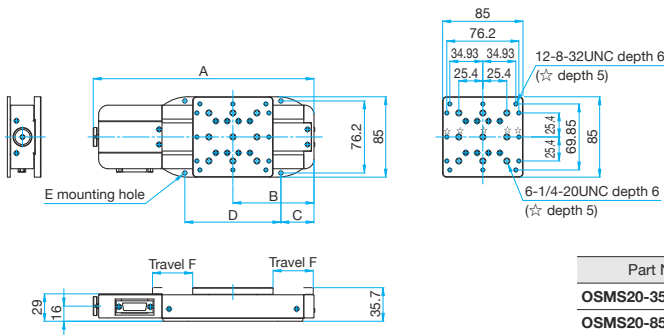
Part Number	A	B	C	D	E	F
OSMS20-35(X)	183.5	60.8	35.8	75 (25x3)	8-φ4.5	17.5
OSMS20-85(X)	233.5	85.8	35.8	100 (25x4)	10-φ4.5	42.5

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



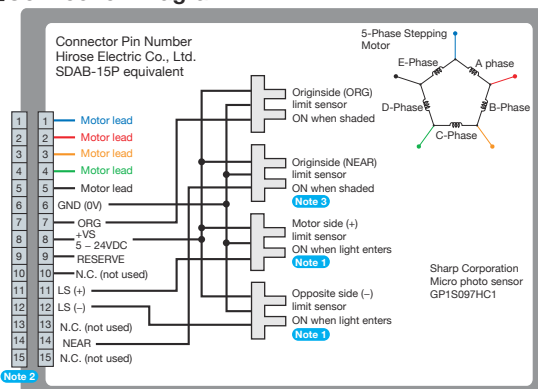
Part Number	A	B	C	D	E	F
OSMS20-35(X)-M6	183.5	60.8	35.8	75 (25x3)	8-φ4.5	17.5
OSMS20-85(X)-M6	233.5	85.8	35.8	100 (25x4)	10-φ4.5	42.5

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



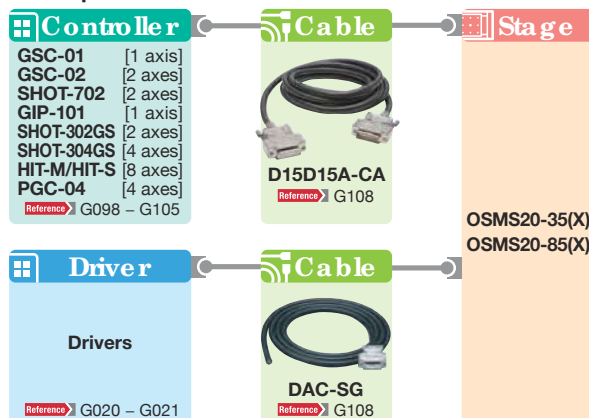
Part Number	A	B	C	D	E	F
OSMS20-35(X)-INCH	183.5	60.8	34.5	76.2(25.4x3)	8-φ4.5	17.5
OSMS20-85(X)-INCH	233.5	85.8	35	101.6(25.4x4)	10-φ4.5	42.5

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. 13 and 14P are short-circuited

Compatible Controllers / Drivers and Cables



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□ 40mm

□ 60mm

□ 80mm

■ 85mm

□ 100mm

□ 120mm

Others

OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor | OSMS20-(XY) Stage size □85mm



Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

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- ▶ Contact our International Sales Division if you desire to change motors, etc.
[Reference](#) G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. [Reference](#) G110
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

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Options

□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

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
	Table Size [mm]	85×85	85×85
	Feed Screw	Ball screw diameter φ6mm, 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]	2.2	2.6
Accuracy Specifications	Resolution	(Full) [μm/pulse]	2
		(Half) [μm/pulse]	1
	MAX Speed [mm/sec]	25	25
	Load Capacity [N]	68.6(7.0kgf)	68.6(7.0kgf)
	Backlash [μm]	3	3
	Orthogonality of Motion [μm]	5	5
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF(Sharp Corporation)	
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor	Equipped	Equipped
	Proximity Origin Sensor	None	Equipped

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)
	Control Output	NPN open collector output DC30V or lower, 50mA or lower
	Output Logic	When shaded: Output transistor OFF (no conduction)

(Reference) Precision Specifications of Single Axis Stage

Part Number		OSMS20-35(X)	OSMS20-85(X)	
Accuracy Specifications	Positioning Accuracy [μm]	5	7	
	Positional Repeatability [μm]	3	3	
	Moment Stiffness	Pitch [°/N·cm]	0.4	0.4
		Yaw [°/N·cm]	0.25	0.25
		Roll [°/N·cm]	0.35	0.35
	Lost Motion [μm]	3	3	
	Parallelism [μm]	30	30	
Running Parallelism [μm]	10	10		

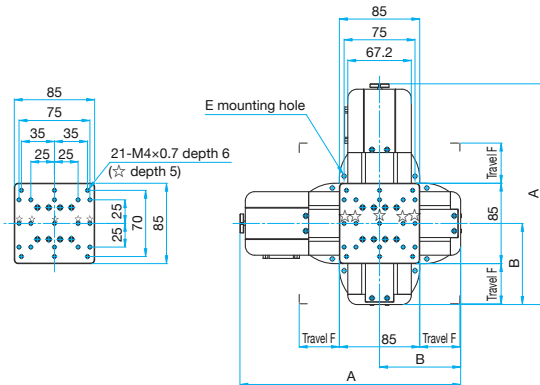
Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, SG-5MA, SG-55M, SG-55MA, SG-514MSC, MC-7514PCL
	Compatible Controller	GSC-01, GSC-02, SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04



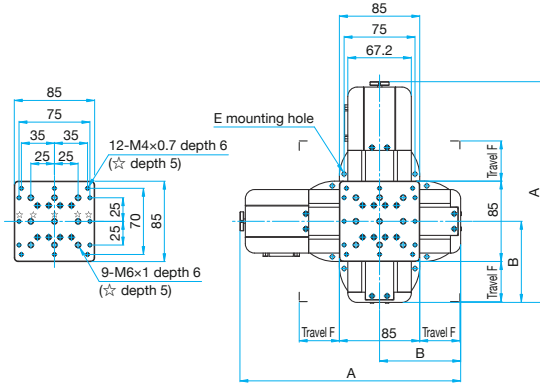
Outline Drawing

OSMS20-*(XY) Hexagon socket head cap screw M3x6...4 screws



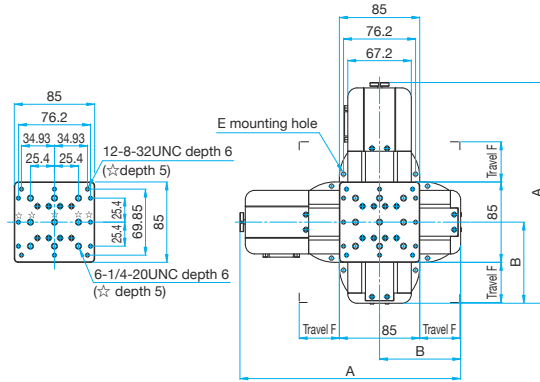
Part Number	A	B	C	D	E	F
OSMS20-35(XY)	183.5	60.8	35.8	75 (25x3)	8-φ4.5	17.5
OSMS20-85(XY)	233.5	85.8	35.8	100 (25x4)	10-φ4.5	42.5

OSMS20-*(XY)-M6 Hexagon socket head cap screw M3x6...4 screws



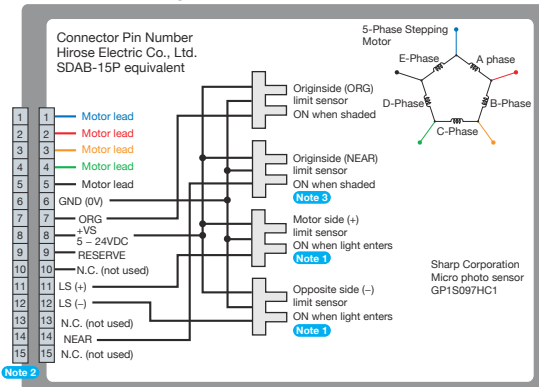
Part Number	A	B	C	D	E	F
OSMS20-35(XY)-M6	183.5	60.8	35.8	75 (25x3)	8-φ4.5	17.5
OSMS20-85(XY)-M6	233.5	85.8	35.8	100 (25x4)	10-φ4.5	42.5

OSMS20-*(XY)-INCH Hexagon socket head cap screw M3x6...4 screws



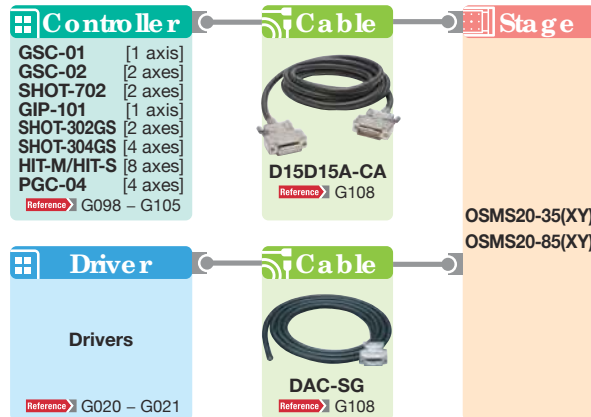
Part Number	A	B	C	D	E	F
OSMS20-35(XY)-INCH	183.5	60.8	34.5	76.2(25.4x3)	8-φ4.5	17.5
OSMS20-85(XY)-INCH	233.5	85.8	35	101.6(25.4x4)	10-φ4.5	42.5

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. 13 and 14P are short-circuited

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□ 40mm

□ 60mm

□ 80mm

□ 85mm

□ 100mm

□ 120mm

Others

OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor

OSMS20-(Z) Stage size □85mm

RoHS

CE

Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc.
[Reference](#) G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. [Reference](#) G110

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□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

Specifications

Part Number		OSMS20-35(Z)	OSMS20-85(Z)	
Part Number (-M6)		OSMS20-35(Z)-M6	OSMS20-85(Z)-M6	
Part Number (-INCH)		OSMS20-35(Z)-INCH	OSMS20-85(Z)-INCH	
Mechanical Specifications	Travel [mm]	35	85	
	Table Size [mm]	85×85	85×85	
	Feed Screw	Ball screw diameter φ6mm, 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]	2.3	2.5	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	2	2
		(Half) [μm/pulse]	1	1
	MAX Speed [mm/sec]	5	5	
	Positioning Accuracy [μm]	10	20	
	Positional Repeatability [μm]	3	5	
	Load Capacity [N]	29.4 (3.0kgf) ^{*1}	29.4 (3.0kgf) ^{*1}	
	Moment Stiffness	Pitch [°/N·cm]	0.8	0.8
		Yaw [°/N·cm]	0.5	0.5
		Roll [°/N·cm]	0.7	0.7
	Lost Motion [μm]	3	3	
	Backlash [μm]	3	3	
Orthogonality of Motion [μm]	25	30		
Pitch [°] / Yaw [°]	45/20	45/20		
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF (Sharp Corporation)		
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped	Equipped	
	Proximity Origin Sensor	None	Equipped	

*1 If you use the controller of ②.

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)
	Control Output	NPN open collector output DC30V or lower, 50mA or lower
	Output Logic	When shaded: Output transistor OFF (no conduction)

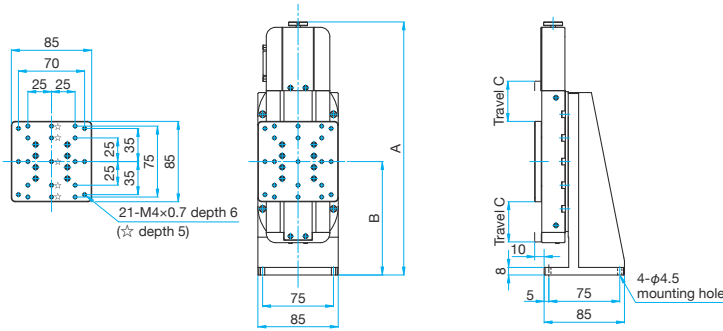
Compatible Driver / Controller

Control System	Compatible Driver	①: SG-5M, SG-5MA ②: SG-55M, SG-55MA, SG-514MSC, SG-5151, KR-525M, MC-7514PCL
	Compatible Controller	①: GSC-01, GSC-02 ②: SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04



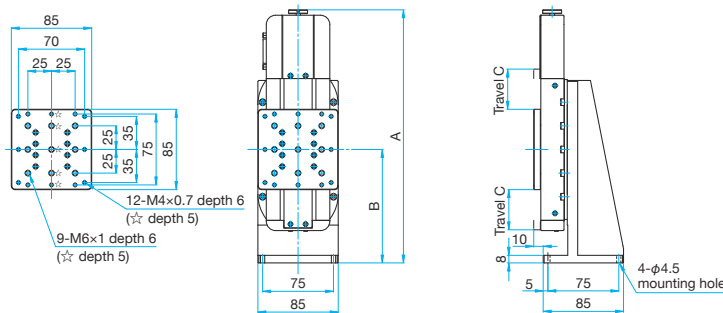
Outline Drawing

OSMS20-*(Z) Hexagon socket head cap screw M4x8...4 screws



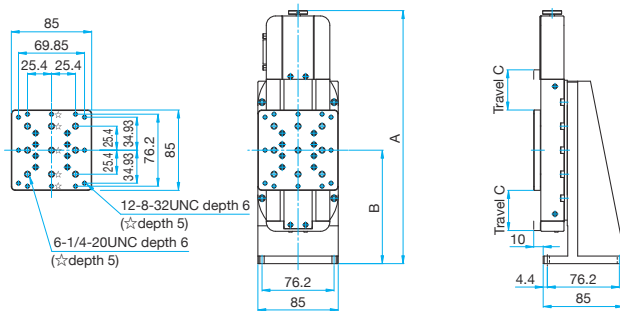
Part Number	A	B	C
OSMS20-35(Z)	217.7	95	17.5
OSMS20-85(Z)	267.7	120	42.5

OSMS20-*(Z)-M6 Hexagon socket head cap screw M4x8...4 screws



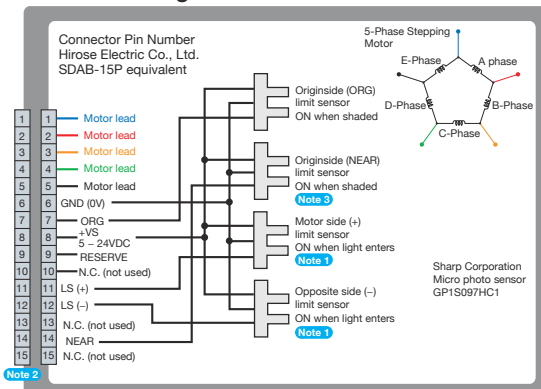
Part Number	A	B	C
OSMS20-35(Z)-M6	217.7	95	17.5
OSMS20-85(Z)-M6	267.7	120	42.5

OSMS20-*(Z)-INCH Hexagon socket head cap screw M4x8...4 screws



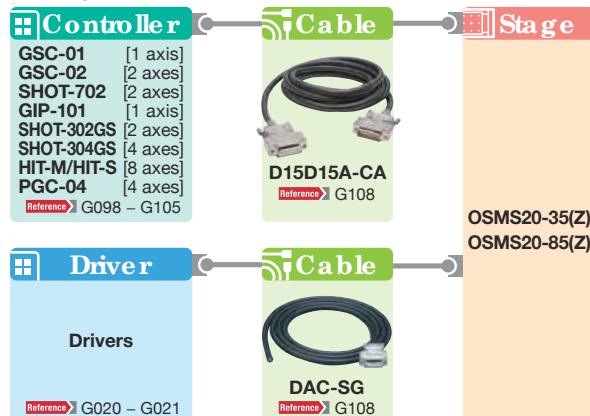
Part Number	A	B	C
OSMS20-35(Z)-INCH	216.4	94.6	17.5
OSMS20-85(Z)-INCH	267.7	120	42.5

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. 13 and 14P are short-circuited

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40mm

60mm

80mm

85mm

100mm

120mm

Others

Precision Motorized Stages with Built-in Compact Scale

OSMS(CS)20-(X) Stage size □85mm

RoHS

CE

The dedicated stage controllers (SHOT-302GS/304GS, HIT series) offer a full closed loop system with high precision and high reliability.



- The stages enable high stiffness and high precision positioning because their structure, which is strong against momentum and combined load, is less susceptible to pitching, rolling and yawing.
- A compact scale is built in, but the installation space is the same as that of other OSMS series when the travel is the same.

Guide

- ▶ Contact our International Sales Division for replacement of motors or for stabilizing (drop-preventing) mechanism.
[Reference](#) ▶ G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. [Reference](#) ▶ G110
- ▶ Contact our International 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	
	Table Size [mm]	85×85	85×85	
	Feed Screw	Ball screw diameter φ6mm, 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	2
		(Half) [μm/pulse]	1	1
	MAX Speed [mm/sec]	25	25	
	Positioning Accuracy [μm]	5	10	
	Positional Repeatability [μm]	2	2	
	Load Capacity [N]	78.4 (8.0kgf)	78.4 (8.0kgf)	
	Moment Stiffness	Pitch [°/N·cm]	0.4	0.4
		Yaw [°/N·cm]	0.25	0.25
		Roll [°/N·cm]	0.35	0.35
	Lost Motion [μm]	3	3	
Backlash [μm]	3	3		
Parallelism [μm]	30	30		
Running Parallelism [μm]	10	10		
Pitch [°] / Yaw [°]	30/20	30/20		
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF (Sharp Corporation)		
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped	Equipped	
	Proximity Origin Sensor	None	Equipped	
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)
	Control Output	NPN open collector output DC30V or lower, 50mA or lower
	Output Logic	When shaded: Output transistor OFF (no conduction)
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

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□40mm

□60mm

□80mm

□85mm

□100mm

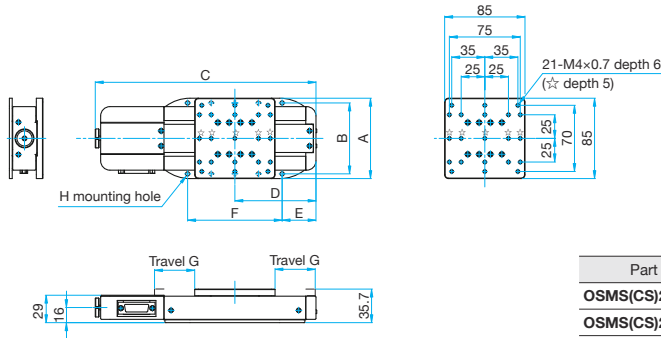
□120mm

Others



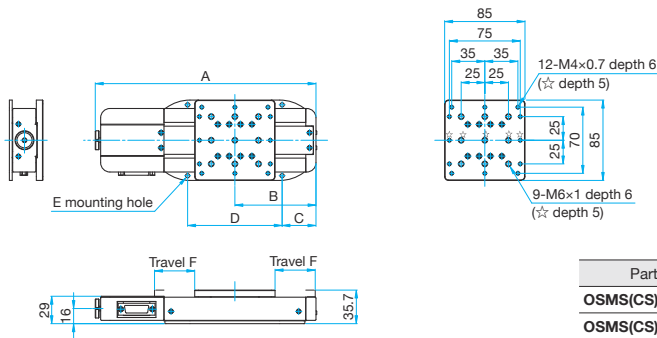
Outline Drawing

OSMS(CS)20--*(X)** Hexagon socket head cap screw M3x6...4 screws



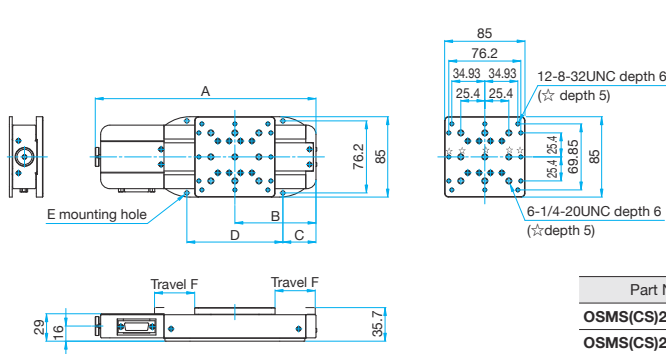
Part Number	A	B	C	D	E	F
OSMS(CS)20-35(X)	183.5	60.8	35.8	75 (25x3)	8-φ4.5	17.5
OSMS(CS)20-85(X)	233.5	85.8	35.8	100 (25x4)	10-φ4.5	42.5

OSMS(CS)20--*(X)-M6** Hexagon socket head cap screw M3x6...4 screws



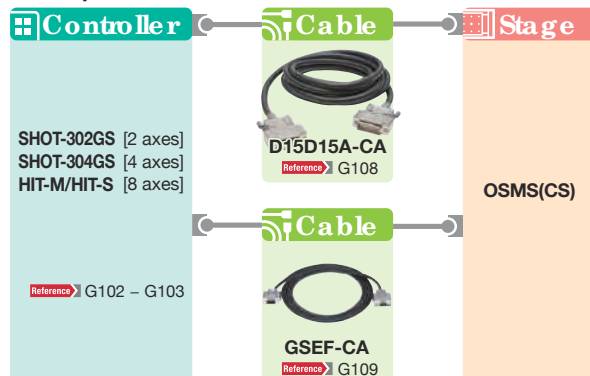
Part Number	A	B	C	D	E	F
OSMS(CS)20-35(X)-M6	183.5	60.8	35.8	75 (25x3)	8-φ4.5	17.5
OSMS(CS)20-85(X)-M6	233.5	85.8	35.8	100 (25x4)	10-φ4.5	42.5

OSMS(CS)20--*(X)-INCH** Hexagon socket head cap screw M3x6...4 screws



Part Number	A	B	C	D	E	F
OSMS(CS)20-35(X)-INCH	183.5	60.8	34.5	76.2 (25.4x3)	8-φ4.5	17.5
OSMS(CS)20-85(X)-INCH	233.5	85.8	35	101.6 (25.4x4)	10-φ4.5	42.5

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40mm

60mm

80mm

85mm

100mm

120mm

Others

OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor

OSMS26-(X) Stage size □100mm

RoHS

CE

Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc.
Reference G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. **Reference** G110
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

Specifications

Part Number		OSMS26-50(X)	OSMS26-100(X)	OSMS26-200(X)	OSMS26-300(X)	
Part Number (-M6)		OSMS26-50(X)-M6	OSMS26-100(X)-M6	OSMS26-200(X)-M6	OSMS26-300(X)-M6	
Part Number (-INCH)		OSMS26-50(X)-INCH	OSMS26-100(X)-INCH	OSMS26-200(X)-INCH	OSMS26-300(X)-INCH	
Mechanical Specifications	Travel [mm]	50	100	200	300	
	Table Size [mm] (M6, INCH)	100×100 (120×120)	100×100 (120×120)	100×100 (120×120)	100×100 (120×120)	
	Feed Screw	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	
	Positioning Slide	Outer rail structure	Outer rail structure	Outer rail structure	Outer rail structure	
	Stage Material	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Black anodized	Black anodized	Black anodized	Black anodized	
	Weight [kg]	2.2	2.7	3.8	4.0	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	4	4	4	4
		(Half) [μm/pulse]	2	2	2	2
	MAX Speed [mm/sec]	40	40	40	40	
	Positioning Accuracy [μm]	5	10	15	20	
	Positional Repeatability [μm]	3	3	6	6	
	Load Capacity [N]	117 (12.0kgf)	117 (12.0kgf)	117 (12.0kgf)	117 (12.0kgf)	
	Moment Stiffness	Pitch [°/N·cm]	0.23	0.23	0.23	0.23
		Yaw [°/N·cm]	0.12	0.12	0.12	0.12
		Roll [°/N·cm]	0.2	0.2	0.2	0.2
	Lost Motion [μm]	3	3	5	5	
	Backlash [μm]	3	3	3	3	
	Parallelism [μm]	50	50	50	50	
	Running Parallelism [μm]	10	10	10	20	
	Pitch [°] / Yaw [°]	25/20	25/20	30/25	30/25	
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF (Sharp Corporation)				
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped	Equipped	Equipped	Equipped	
	Proximity Origin Sensor	Equipped	Equipped	Equipped	Equipped	

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK525HPB-C4(□28mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V±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)

Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, SG-5MA, SG-55M, SG-55MA, SG-514M5C, MC-7514PCL
	Compatible Controller	GSC-01, GSC-02, SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04

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□40mm

□60mm

□80mm

□85mm

□100mm

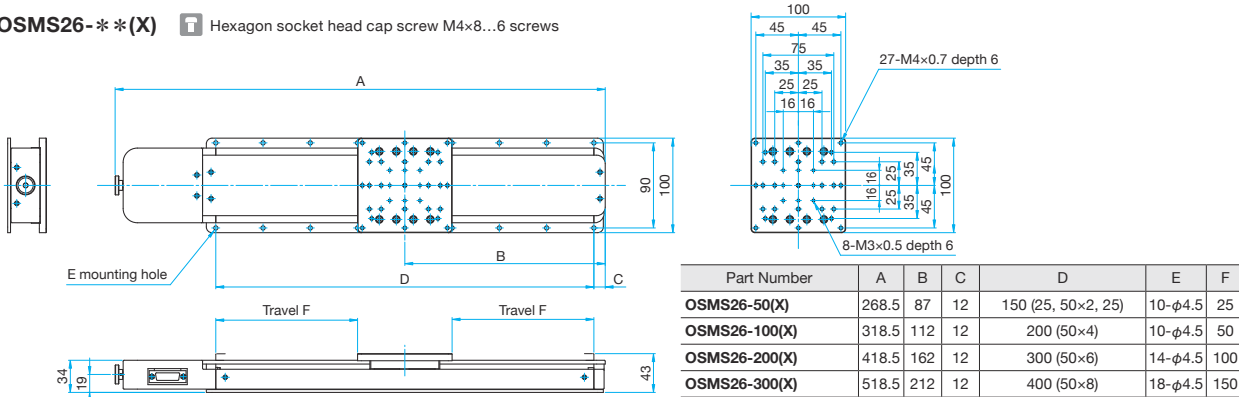
□120mm

Others

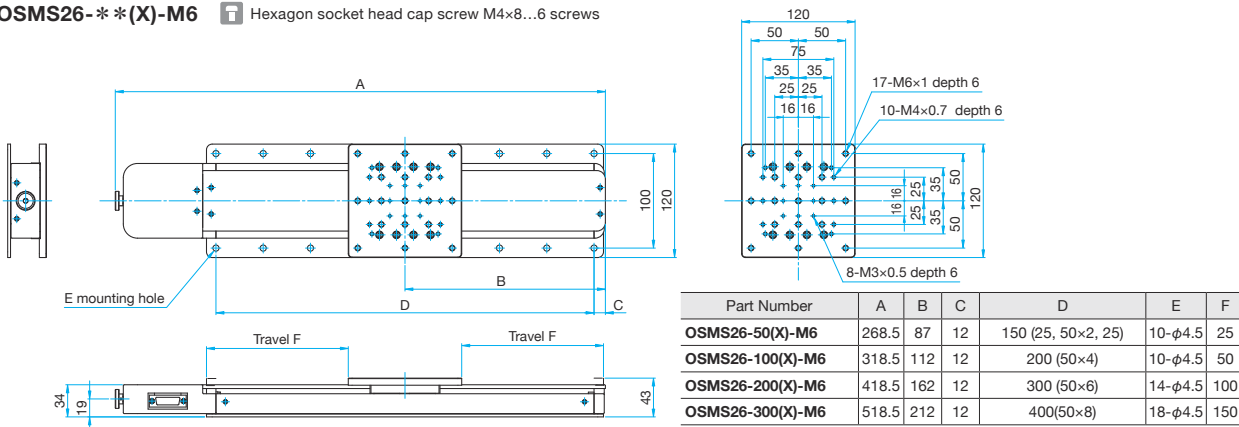


Outline Drawing

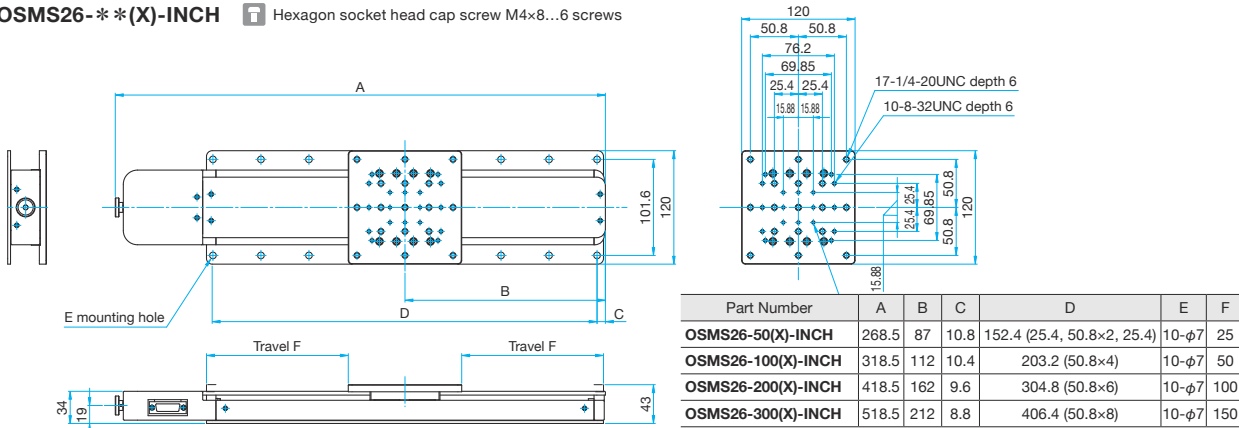
OSMS26-*(X) Hexagon socket head cap screw M4x8...6 screws



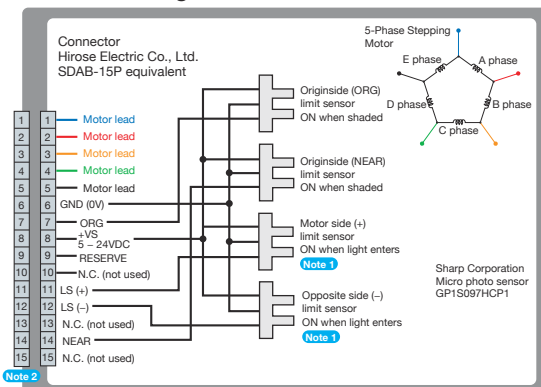
OSMS26-*(X)-M6 Hexagon socket head cap screw M4x8...6 screws



OSMS26-*(X)-INCH Hexagon socket head cap screw M4x8...6 screws



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

Controller	Cable	Stage
GSC-01 [1 axis] GSC-02 [2 axes] SHOT-702 [2 axes] GIP-101 [1 axis] SHOT-302GS [2 axes] SHOT-304GS [4 axes] HIT-M/HIT-S [8 axes] PGC-04 [4 axes] Reference > G098 - G105	D15D15A-CA Reference > G108	OSMS26-50(X) OSMS26-100(X) OSMS26-200(X) OSMS26-300(X)
Driver Drivers Reference > G020 - G021	DAC-SG Reference > G108	

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 □60mm
 □80mm
 □85mm
 □100mm
 □120mm
 Others

OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor | OSMS26-(XY) Stage size □100mm



Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc.
Reference G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. **Reference** G110
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

Specifications

Part Number		OSMS26-50(XY)	OSMS26-100(XY)	OSMS26-200(XY)	OSMS26-300(XY)	
Part Number (-M6)		OSMS26-50(XY)-M6	OSMS26-100(XY)-M6	OSMS26-200(XY)-M6	OSMS26-300(XY)-M6	
Part Number (-INCH)		OSMS26-50(XY)-INCH	OSMS26-100(XY)-INCH	OSMS26-200(XY)-INCH	OSMS26-300(XY)-INCH	
Mechanical Specifications	Travel [mm]	50	100	200	300	
	Table Size [mm] (M6, INCH)	100×100 (120×120)	100×100 (120×120)	100×100 (120×120)	100×100 (120×120)	
	Feed Screw	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	
	Positioning Slide	Outer rail structure	Outer rail structure	Outer rail structure	Outer rail structure	
	Stage Material	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Black anodized	Black anodized	Black anodized	Black anodized	
	Weight [kg]	4.4	5.4	7.6	8.0	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	4	4	4	4
		(Half) [μm/pulse]	2	2	2	2
	MAX Speed [mm/sec]	40	40	40	40	
	Load Capacity [N]	98 (10.0kgf)	98 (10.0kgf)	98 (10.0kgf)	98 (10.0kgf)	
	Backlash [μm]	3	3	3	3	
Orthogonality of Motion [μm]		5	5	10	5	
Sensor	Sensor Part Number					
	Micro photo sensor: GP1S092HCPIF (Sharp Corporation)					
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped	Equipped	Equipped	Equipped	
Proximity Origin Sensor		Equipped	Equipped	Equipped	Equipped	

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK525HPB-C4 (□28mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V±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)

(Reference) Precision Specifications of Single Axis Stage

Part Number		OSMS26-50(X)	OSMS26-100(X)	OSMS26-200(X)	OSMS26-300(X)	
Accuracy Specifications	Positioning Accuracy [μm]	5	10	15	15	
	Positional Repeatability [μm]	3	3	6	6	
	Moment Stiffness	Pitch [°/N·cm]	0.23	0.23	0.23	0.23
		Yaw [°/N·cm]	0.12	0.12	0.12	0.12
		Roll [°/N·cm]	0.2	0.2	0.2	0.2
	Lost Motion [μm]	3	3	5	5	
	Parallelism [μm]	50	50	50	50	
Running Parallelism [μm]	10	10	10	10		

Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, SG-5MA, SG-55M, SG-55MA, SG-514MSC, MC-7514PCL
	Compatible Controller	GSC-01, GSC-02, SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04

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□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

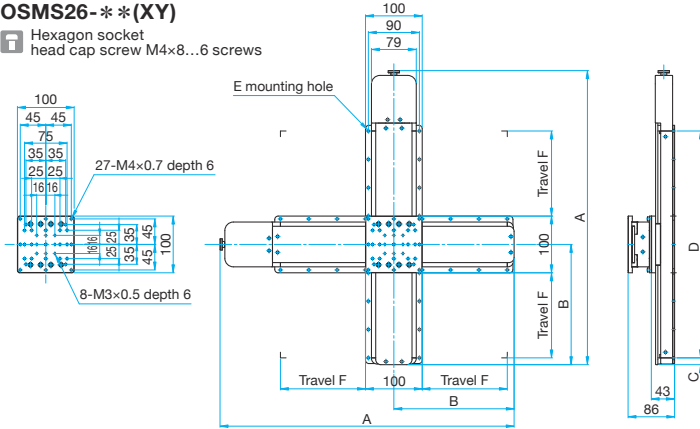
Others



Outline Drawing

OSMS26-*(XY)

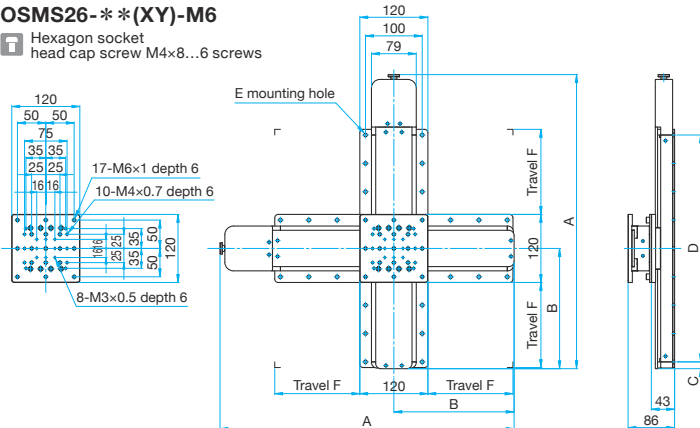
Hexagon socket head cap screw M4x8...6 screws



Part Number	A	B	C	D	E	F
OSMS26-50(XY)	268.5	87	12	150 (25, 50x2, 25)	10-φ7	25
OSMS26-100(XY)	318.5	112	12	200 (50x4)	10-φ7	50
OSMS26-200(XY)	418.5	162	12	300 (50x6)	10-φ7	100
OSMS26-300(XY)	518.5	212	12	400 (50x8)	10-φ7	150

OSMS26-*(XY)-M6

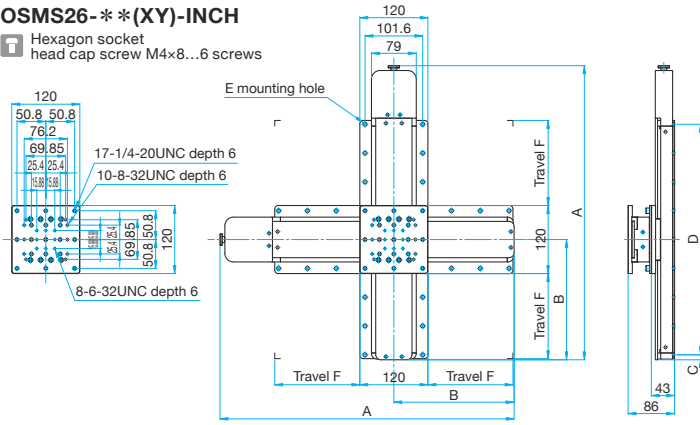
Hexagon socket head cap screw M4x8...6 screws



Part Number	A	B	C	D	E	F
OSMS26-50(XY)-M6	268.5	87	12	150 (25, 50x2, 25)	10-φ7	25
OSMS26-100(XY)-M6	318.5	112	12	200 (50x4)	10-φ7	50
OSMS26-200(XY)-M6	418.5	162	12	300 (50x6)	10-φ7	100
OSMS26-300(XY)-M6	518.5	212	12	400 (50x8)	10-φ7	150

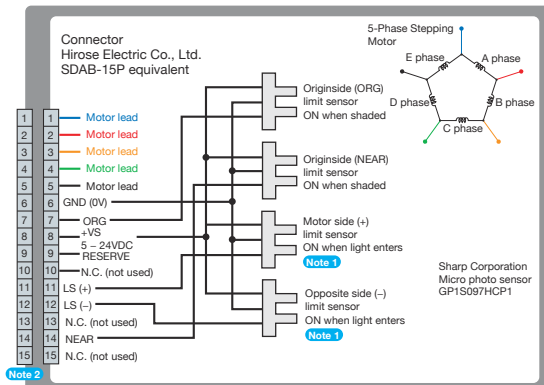
OSMS26-*(XY)-INCH

Hexagon socket head cap screw M4x8...6 screws



Part Number	A	B	C	D	E	F
OSMS26-50(XY)-INCH	268.5	87	10.8	152.4 (25.4, 50.8x2, 25.4)	10-φ7	25
OSMS26-100(XY)-INCH	318.5	112	10.4	203.2 (50.8x4)	10-φ7	50
OSMS26-200(XY)-INCH	418.5	162	9.6	304.8 (50.8x6)	10-φ7	100
OSMS26-300(XY)-INCH	518.5	212	8.8	406.4 (50.8x8)	10-φ7	150

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

Controller	Cable	Stage
GSC-01 [1 axis] GSC-02 [2 axes] SHOT-702 [2 axes] GIP-101 [1 axis] SHOT-302GS [2 axes] SHOT-304GS [4 axes] HIT-M/HIT-S [8 axes] PGC-04 [4 axes] Reference > G098 - G105	D15D15A-CA Reference > G108	OSMS26-50(XY) OSMS26-100(XY) OSMS26-200(XY) OSMS26-300(XY)
Driver Drivers Reference > G020 - G021	DAC-SG Reference > G108	OSMS26-50(XY) OSMS26-100(XY) OSMS26-200(XY) OSMS26-300(XY)

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40mm

60mm

80mm

85mm

100mm

120mm

Others

OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor

OSMS26-(Z) Stage size □100mm

RoHS

CE

Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc.
Reference G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. **Reference** G110
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost

Specifications

Part Number		OSMS26-50(Z)	OSMS26-100(Z)	OSMS26-200(Z)	OSMS26-300(Z)	
Part Number (-M6)		OSMS26-50(Z)-M6	OSMS26-100(Z)-M6	OSMS26-200(Z)-M6	OSMS26-300(Z)-M6	
Part Number (-INCH)		OSMS26-50(Z)-INCH	OSMS26-100(Z)-INCH	OSMS26-200(Z)-INCH	OSMS26-300(Z)-INCH	
Mechanical Specifications	Travel [mm]	50	100	200	150	
	Table Size [mm] (M6, INCH)	100×100 (120×120)	100×100 (120×120)	100×100 (120×120)	100×100 (120×120)	
	Feed Screw	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	
	Positioning Slide	Outer rail structure	Outer rail structure	Outer rail structure	Outer rail structure	
	Stage Material	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Black anodized	Black anodized	Black anodized	Black anodized	
	Weight [kg]	4.4	4.9	7.2	7.4	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	4	4	4	4
		(Half) [μm/pulse]	2	2	2	2
	MAX Speed [mm/sec]	10	10	10	10	
	Positioning Accuracy [μm]	15	20	30	40	
	Positional Repeatability [μm]	3	3	6	6	
	Load Capacity [N]	39.2 (4.0kgf)	39.2 (4.0kgf)	39.2 (4.0kgf)	39.2 (4.0kgf)	
	Moment Stiffness	Pitch [°/N·cm]	0.4	0.4	0.4	0.4
		Yaw [°/N·cm]	0.15	0.15	0.15	0.15
		Roll [°/N·cm]	0.20	0.20	0.20	0.20
	Lost Motion [μm]	3	3	5	5	
	Backlash [μm]	3	3	3	3	
Orthogonality of Motion [μm]	30	40	50	40		
Pitch [°] / Yaw [°]	50/20	50/20	55/20	55/20		
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF (Sharp Corporation)				
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped	Equipped	Equipped	Equipped	
	Proximity Origin Sensor	Equipped	Equipped	Equipped	Equipped	

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK525HPB-C4 (□28mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V±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)

Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, SG-5MA, SG-55M, SG-55MA, SG-514M5C, MC-7514PCL
	Compatible Controller	GSC-01, GSC-02, SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04

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□40mm

□60mm

□80mm

□85mm

□100mm

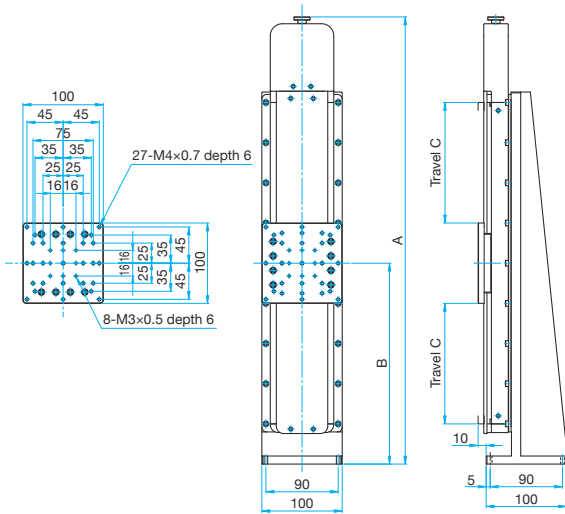
□120mm

Others



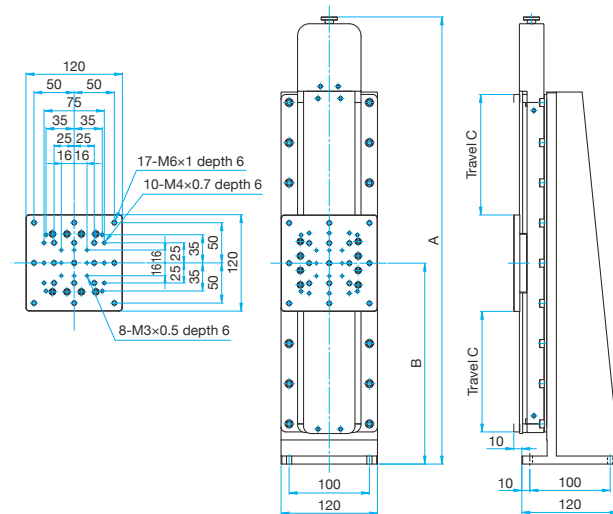
Outline Drawing

OSMS26-*(Z) Hexagon socket head cap screw M4x8...6 screws



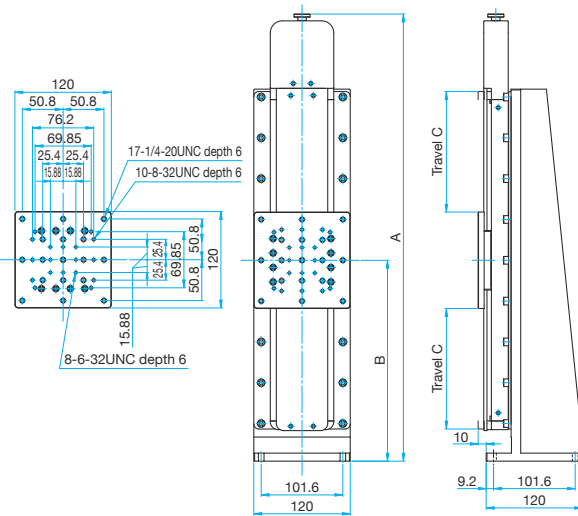
Part Number	A	B	C
OSMS26-50(Z)	306	125	25
OSMS26-100(Z)	356.5	150	50
OSMS26-200(Z)	463	200	100
OSMS26-300(Z)	556.5	250	150

OSMS26-*(Z)-M6 Hexagon socket head cap screw M4x8...6 screws



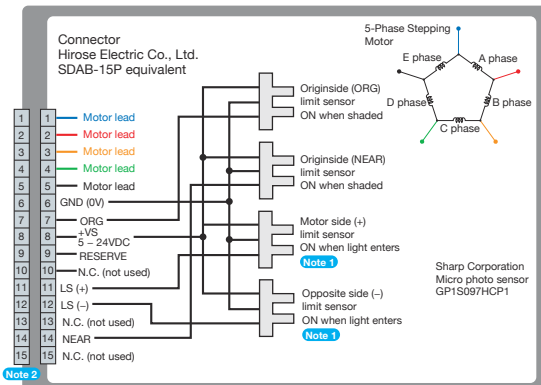
Part Number	A	B	C
OSMS26-50(Z)-M6	306	125	25
OSMS26-100(Z)-M6	356.5	150	50
OSMS26-200(Z)-M6	463	200	100
OSMS26-300(Z)-M6	556.5	250	150

OSMS26-*(Z)-INCH Hexagon socket head cap screw M4x8...6 screws



Part Number	A	B	C
OSMS26-50(Z)-INCH	305.6	124.6	25
OSMS26-100(Z)-INCH	356.5	150	50
OSMS26-200(Z)-INCH	463	199.2	100
OSMS26-300(Z)-INCH	556.5	250	150

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

Controller	Cable	Stage
<ul style="list-style-type: none"> GSC-01 [1 axis] GSC-02 [2 axes] SHOT-702 [2 axes] GIP-101 [1 axis] SHOT-302GS [2 axes] SHOT-304GS [4 axes] HIT-M/HIT-S [8 axes] PGC-04 [4 axes] 	<p>D15D15A-CA Reference > G108</p>	<ul style="list-style-type: none"> OSMS26-50(Z) OSMS26-100(Z) OSMS26-200(Z) OSMS26-300(Z)
<ul style="list-style-type: none"> Drivers 	<p>DAC-SG Reference > G108</p>	

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40mm

60mm

80mm

85mm

100mm

120mm

Others

Precision Motorized Stages with Built-in Compact Scale | OSMS(CS)26-(X) Stage size □100mm



The dedicated stage controllers (SHOT-302GS/304GS, HIT series) offer a full closed loop system with high precision and high reliability.



- The stages enable high stiffness and high precision positioning because their structure, which is strong against momentum and combined load, is less susceptible to pitching, rolling and yawing.
- A compact scale is built in, but the installation space is the same as that of other OSMS series when the travel is the same.

Guide

- ▶ Contact our International Sales Division for replacement of motors or for stabilizing (drop-preventing) mechanism.
Reference ▶ G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. **Reference** ▶ G110
- ▶ Contact our International Sales Division to use the stage as an XY axis or a Z axis stage.

Specifications

Part Number		OSMS(CS)26-100(X)	OSMS(CS)26-200(X)	
Part Number (-M6)		OSMS(CS)26-100(X)-M6	OSMS(CS)26-200(X)-M6	
Part Number (-INCH)		OSMS(CS)26-100(X)-INCH	OSMS(CS)26-200(X)-INCH	
Mechanical Specifications	Travel [mm]	100	200	
	Table Size [mm] (M6, INCH)	100×100 (120×120)	100×100 (120×120)	
	Feed Screw	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	
	Positioning Slide	Outer rail structure	Outer rail structure	
	Stage Material	Aluminum	Aluminum	
	Finish	Black anodized	Black anodized	
	Weight [kg]	3.2	4.3	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	4	4
		(Half) [μm/pulse]	2	2
	MAX Speed [mm/sec]	40	40	
	Positioning Accuracy [μm]	10	15	
	Positional Repeatability [μm]	2	3	
	Load Capacity [N]	117 (12.0kgf)	117 (12.0kgf)	
	Moment Stiffness	Pitch [°/N·cm]	0.23	0.23
		Yaw [°/N·cm]	0.12	0.12
		Roll [°/N·cm]	0.2	0.2
	Lost Motion [μm]	3	5	
	Backlash [μm]	3	3	
	Parallelism [μm]	50	50	
	Running Parallelism [μm]	10	10	
	Pitch [°] / Yaw [°]	25/20	30/25	
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF (Sharp Corporation)		
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped	Equipped	
	Proximity Origin Sensor	Equipped	Equipped	
Scale head	Resolution [μm]	0.5	0.5	

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK525HPB-C4 (□28mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V±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)
Scale head	Power Voltage / Current Consumption	DC5V±25% / 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

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□40mm

□60mm

□80mm

□85mm

□100mm

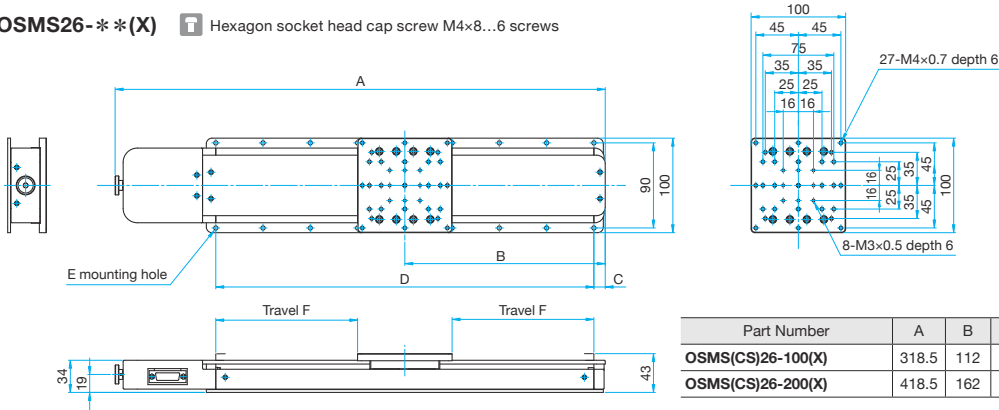
□120mm

Others



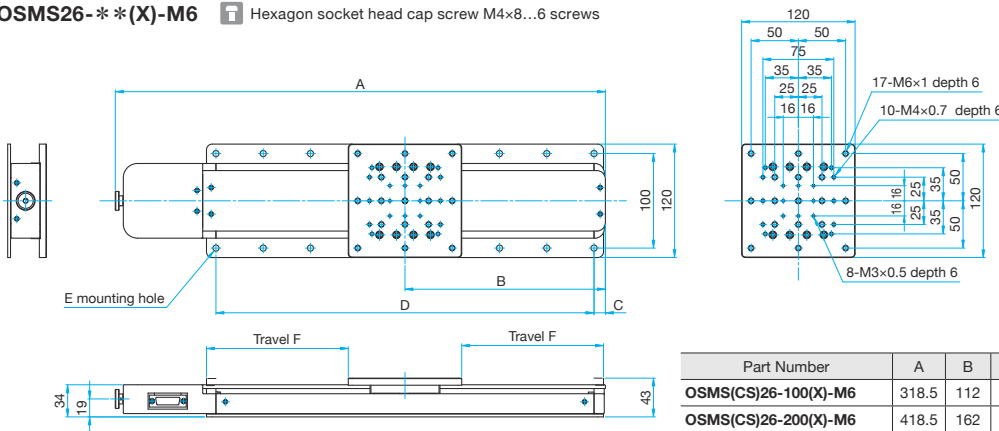
Outline Drawing

OSMS26-*(X) Hexagon socket head cap screw M4x8...6 screws



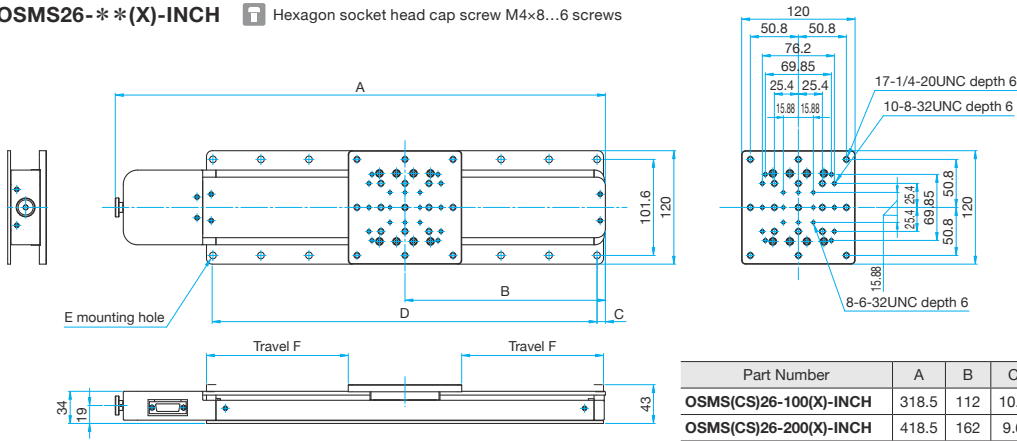
Part Number	A	B	C	D	E	F
OSMS(CS)26-100(X)	318.5	112	12	200 (50x4)	10-φ4.5	50
OSMS(CS)26-200(X)	418.5	162	12	300 (50x6)	14-φ4.5	100

OSMS26-*(X)-M6 Hexagon socket head cap screw M4x8...6 screws



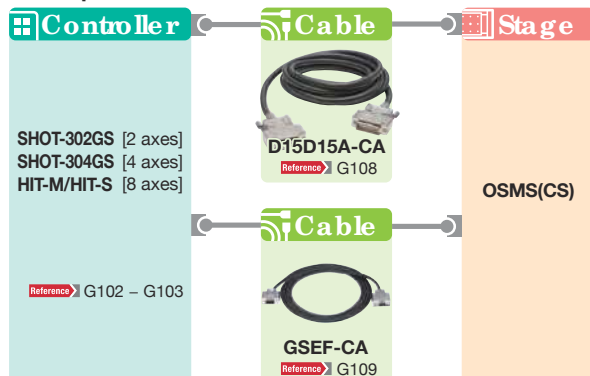
Part Number	A	B	C	D	E	F
OSMS(CS)26-100(X)-M6	318.5	112	12	200 (50x4)	10-φ4.5	50
OSMS(CS)26-200(X)-M6	418.5	162	12	300 (50x6)	14-φ4.5	100

OSMS26-*(X)-INCH Hexagon socket head cap screw M4x8...6 screws



Part Number	A	B	C	D	E	F
OSMS(CS)26-100(X)-INCH	318.5	112	10.4	203.2 (50.8x4)	10-φ7	50
OSMS(CS)26-200(X)-INCH	418.5	162	9.6	304.8 (50.8x6)	10-φ7	100

Compatible Controllers / Drivers and Cables



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Options

- 40mm
- 60mm
- 80mm
- 85mm
- 100mm
- 120mm

Others

OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor

OSMS33-(X) Stage size □120mm

RoHS

CE

Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc.
Reference ▶ G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. Reference ▶ G110
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

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Options

□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

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	
	Table 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]	7.0	8.6	
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	Equipped	
	Proximity Origin Sensor	Equipped	Equipped	

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°
Sensor	Power Voltage	DC5 - 24V±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)

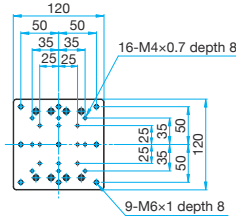
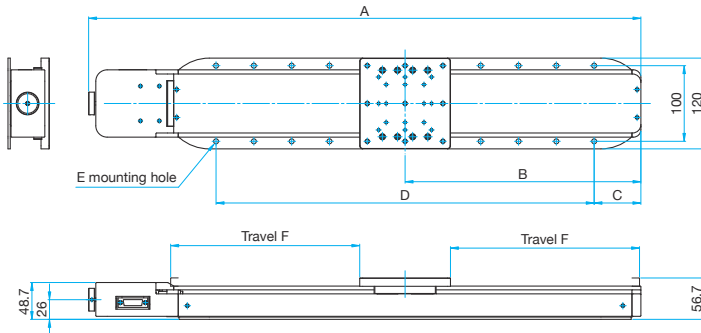
Compatible Driver / Controller

Control System	Compatible Driver	SG-55M, SG-55MA, SG-514MSC, MC-7514PCL
	Compatible Controller	SHOT-702, SHOT-302GS, SHOT-304GS, HIT-M·HIT-S, PGC-04



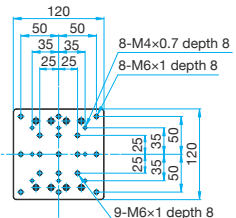
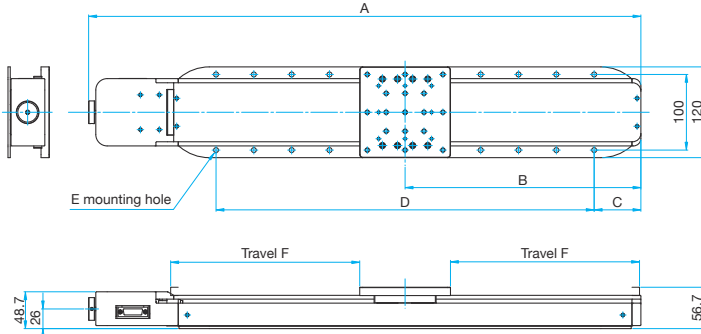
Outline Drawing

OSMS33-*(X) Hexagon socket head cap screw M5x10...4 screws



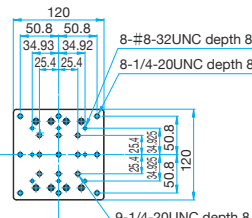
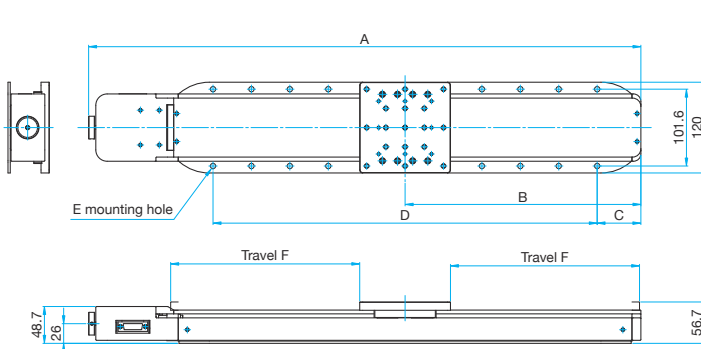
Part Number	A	B	C	D	E	F
OSMS33-300(X)	530.3	211.8	61.8	300 (50x6)	14-φ6.5	150
OSMS33-500(X)	730.3	311.8	61.8	500 (50x10)	22-φ6.5	250

OSMS33-*(X)-M6 Hexagon socket head cap screw M5x10...4 screws



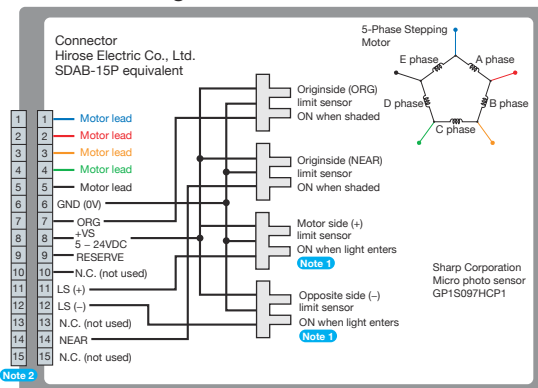
Part Number	A	B	C	D	E	F
OSMS33-300(X)-M6	530.3	211.8	61.8	300 (50x6)	14-φ6.5	150
OSMS33-500(X)-M6	730.3	311.8	61.8	500 (50x10)	22-φ6.5	250

OSMS33-*(X)-INCH Hexagon socket head cap screw M5x10...4 screws



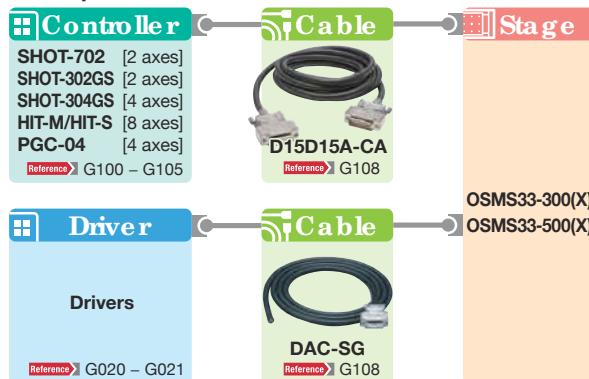
Part Number	A	B	C	D	E	F
OSMS33-300(X)-INCH	530.3	211.8	59.4	304.8 (50.8x6)	14-φ7	150
OSMS33-500(X)-INCH	730.3	311.8	57.8	508 (50.8x10)	22-φ7	250

Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor.
Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

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□ 40mm

□ 60mm

□ 80mm

□ 85mm

□ 100mm

□ 120mm

Others

OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor | OSMS33-(XY) Stage size □120mm



Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc.
Reference G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. **Reference** G110
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

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□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

Specifications

Part Number		OSMS33-300(XY)	OSMS33-500(XY)
Part Number (-M6)		OSMS33-300(XY)-M6	OSMS33-500(XY)-M6
Part Number (-INCH)		OSMS33-300(XY)-INCH	OSMS33-500(XY)-INCH
Mechanical Specifications	Travel [mm]	300	500
	Table 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]	14.0	17.2
Accuracy Specifications	Resolution	(Full) [μm/pulse]	20
		(Half) [μm/pulse]	10
	MAX Speed [mm/sec]	80	80
	Load Capacity [N]	156 (16.0kgf)	156 (16.0kgf)
	Backlash [μm]	3	3
	Orthogonality of Motion [μm]	5	5
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF(Sharp Corporation)	
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor	None	None
	Proximity Origin Sensor	None	None

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°
Sensor	Power Voltage	DC5 - 24V±10%
	Current Consumption	40mA 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)

(Reference) Precision Specifications of Single Axis Stage

Part Number		OSMS33-300(X)	OSMS33-500(X)	
Accuracy Specifications	Positioning Accuracy [μm]	15	20	
	Positional Repeatability [μm]	6	6	
	Moment Stiffness	Pitch [°/N·cm]	0.12	0.12
		Yaw [°/N·cm]	0.08	0.08
		Roll [°/N·cm]	0.08	0.08
	Lost Motion [μm]	5	5	
	Parallelism [μm]	50	50	
Running Parallelism [μm]	10	10		

Compatible Driver / Controller

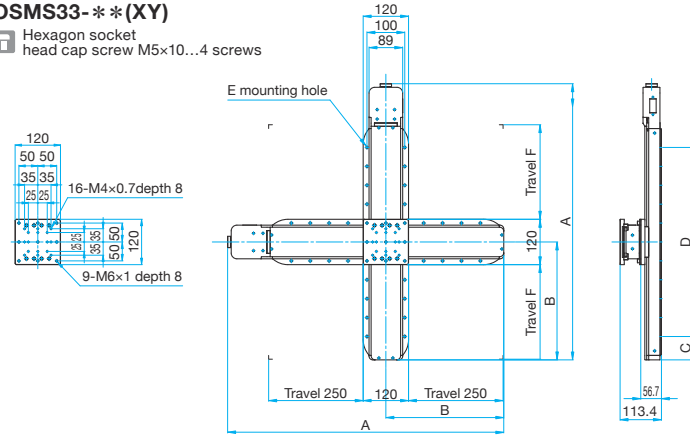
Control System	Compatible Driver	SG-55M, SG-55MA, SG-514MSC, MC-7514PCL
	Compatible Controller	SHOT-702, SHOT-302GS, SHOT-304GS, HIT-M·HIT-S, PGC-04



Outline Drawing

OSMS33-*(XY)

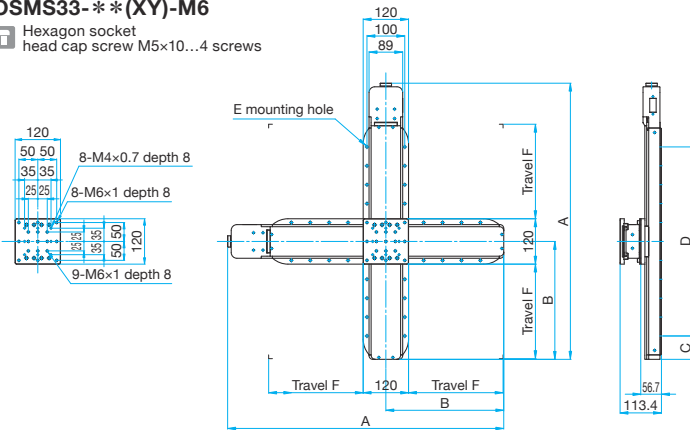
Hexagon socket head cap screw M5x10...4 screws



Part Number	A	B	C	D	E	F
OSMS33-300(XY)	530.3	211.8	61.8	300 (50×6)	14-φ7	150
OSMS33-500(XY)	730.3	311.8	61.8	500 (50×10)	22-φ7	250

OSMS33-*(XY)-M6

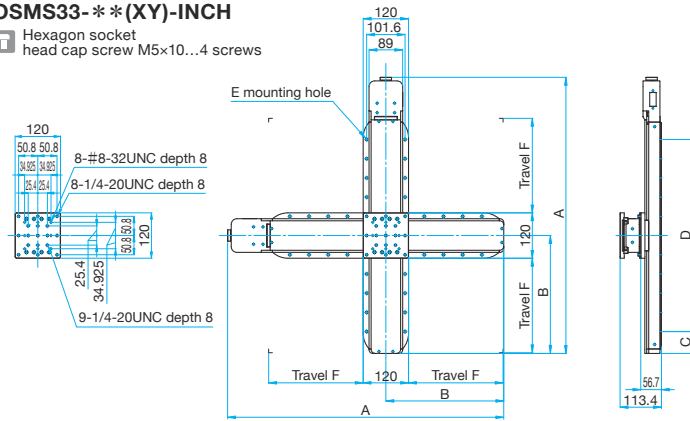
Hexagon socket head cap screw M5x10...4 screws



Part Number	A	B	C	D	E	F
OSMS33-300(XY)-M6	530.3	211.8	61.8	300 (50×6)	14-φ7	150
OSMS33-500(XY)-M6	730.3	311.8	61.8	500 (50×10)	22-φ7	250

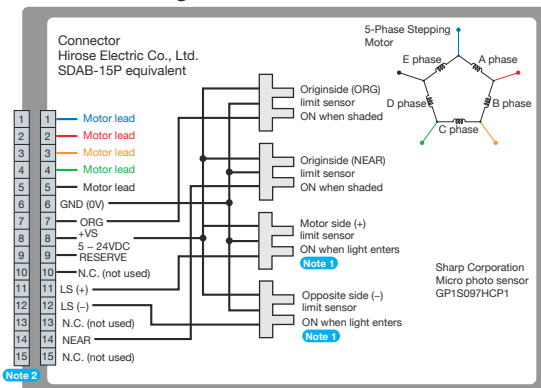
OSMS33-*(XY)-INCH

Hexagon socket head cap screw M5x10...4 screws



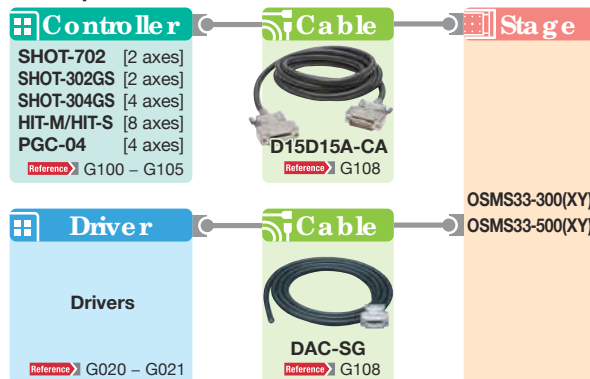
Part Number	A	B	C	D	E	F
OSMS33-300(XY)-INCH	530.3	211.8	59.4	304.8 (50.8×6)	14-φ7	150
OSMS33-500(XY)-INCH	730.3	311.8	57.8	508 (50.8×10)	22-φ7	250

Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor.
Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

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□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc.
[Reference](#) G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. [Reference](#) G110
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

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85mm

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120mm

Others

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	
	Table Size [mm]	120×120	120×120	
	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]	14.5	16.1	
Accuracy Specifications	Resolution	(Full) [μ m/pulse]	20	20
		(Half) [μ m/pulse]	10	10
	MAX Speed [mm/sec]	30	30	
	Positioning Accuracy [μ m]	50	50	
	Positional Repeatability [μ m]	6	6	
	Load Capacity [N]	68.6 (7.0kgf)	68.6 (7.0kgf)	
	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 [μ m]	5	5	
	Backlash [μ m]	3	3	
	Orthogonality of Motion [μ 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	None	None		
Proximity Origin Sensor	None	None		

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	40mA 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)

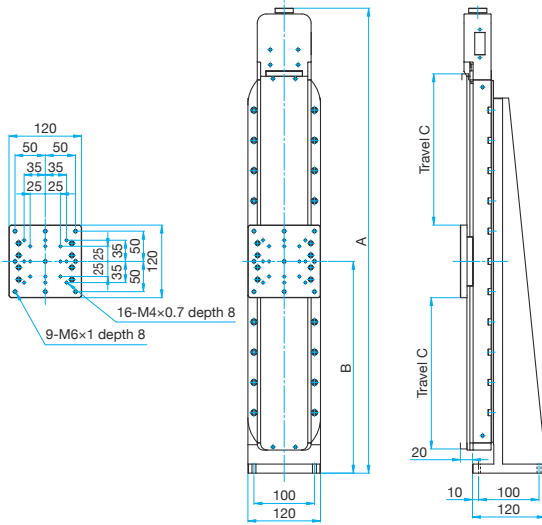
Compatible Driver / Controller

Control System	Compatible Driver	SG-55M, SG-55MA, SG-514MSC, MC-7514PCL
	Compatible Controller	SHOT-702, SHOT-302GS, SHOT-304GS, HIT-M·HIT-S, PGC-04



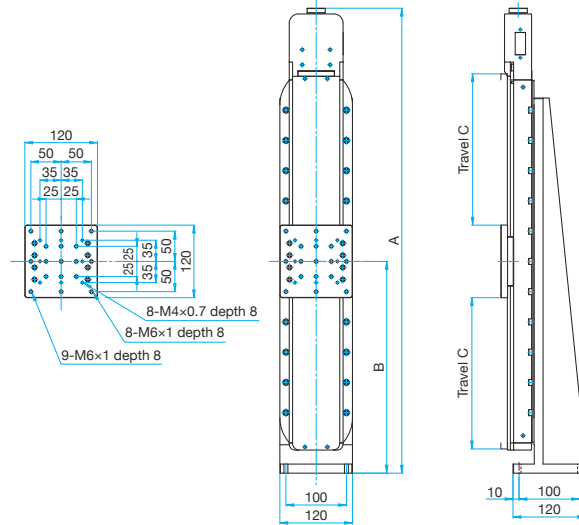
Outline Drawing

OSMS33-*(Z) Hexagon socket head cap screw M4x8...6 screws



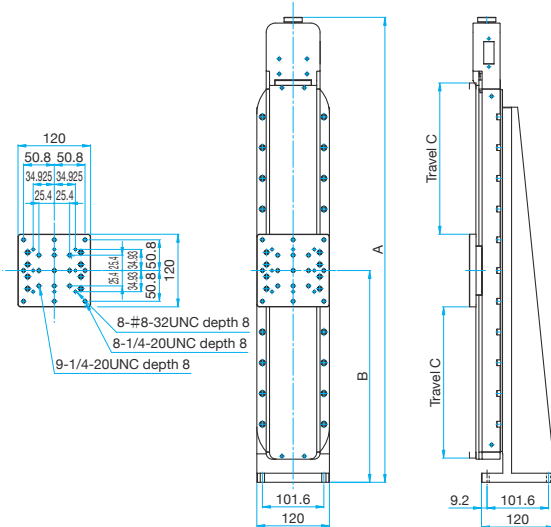
Part Number	A	B	C
OSMS33-300(Z)	620	250	150
OSMS33-500(Z)	768.5	350	250

OSMS33-*(Z)-M6 Hexagon socket head cap screw M4x8...6 screws



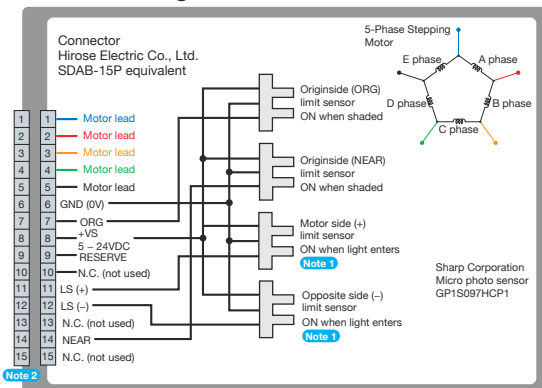
Part Number	A	B	C
OSMS33-300(Z)-M6	620	250	150
OSMS33-500(Z)-M6	768.5	350	250

OSMS33-*(Z)-INCH Hexagon socket head cap screw M4x8...6 screws



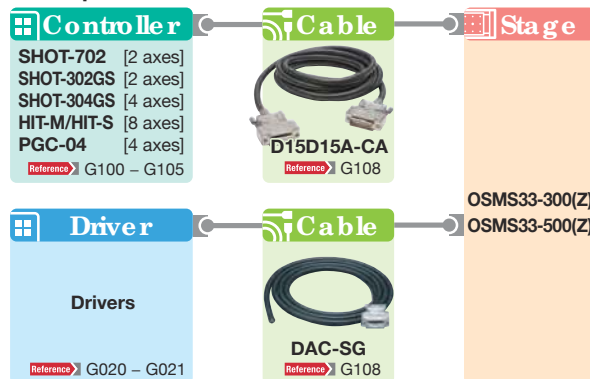
Part Number	A	B	C
OSMS33-300(Z)-INCH	620	248.4	150
OSMS33-500(Z)-INCH	768.5	350	250

Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor.
Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

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100mm

120mm

Others

Precision Motorized Stages with Built-in Compact Scale | OSMS(CS)33-(X) Stage size □120mm



The dedicated stage controllers (SHOT-302GS/304GS, HIT series) offer a full closed loop system with high precision and high reliability.



- The stages enable high stiffness and high precision positioning because their structure, which is strong against momentum and combined load, is less susceptible to pitching, rolling and yawing.
- A compact scale is built in, but the installation space is the same as that of other OSMS series when the travel is the same.

Guide

- ▶ Contact our International Sales Division for replacement of motors or for stabilizing (drop-preventing) mechanism.
Reference ▶ G017, G111 (Motorized Stage System Question Sheet)
- ▶ Grease change is optionally available. **Reference** ▶ G110
- ▶ 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	
	Table 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]	7.8	9.6	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	20	20
		(Half) [μm/pulse]	10	10
	MAX Speed [mm/sec]	100	100	
	Positioning Accuracy [μm]	25	25	
	Positional Repeatability [μm]	5	5	
	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	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	Equipped	
	Proximity Origin Sensor	Equipped	Equipped	
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	TS3667N43E967 (□42mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V±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)
Scale head	Power Voltage / Current Consumption	DC5V±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

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□40mm

□60mm

□80mm

□85mm

□100mm

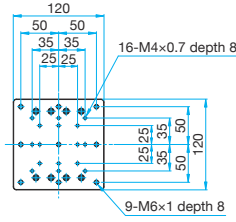
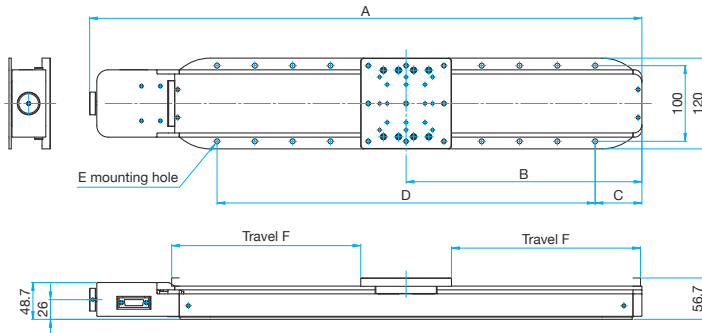
□120mm

Others



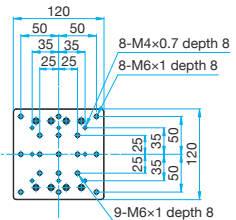
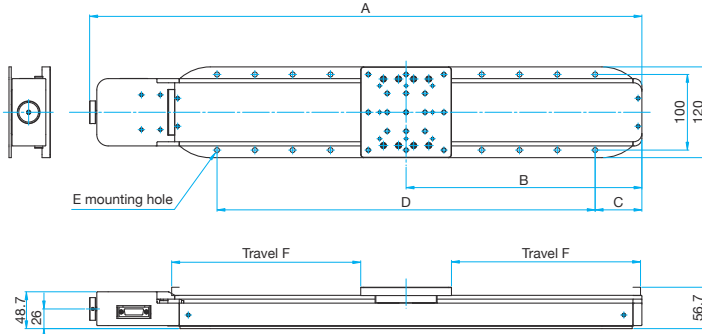
Outline Drawing

OSMS(CS)33-*(X) Hexagon socket head cap screw M5×10...4 screws



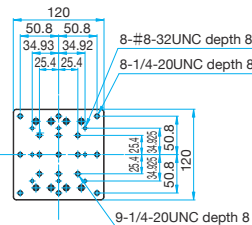
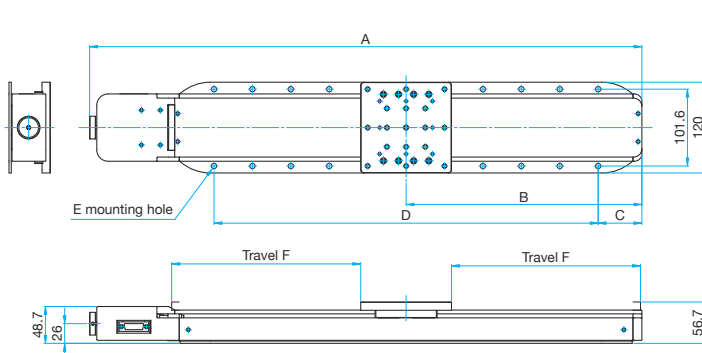
Part Number	A	B	C	D	E	F
OSMS(CS)33-300(X)	530.3	211.8	61.8	300 (50×6)	14-φ7	150
OSMS(CS)33-500(X)	730.3	311.8	61.8	500 (5×10)	22-φ7	250

OSMS(CS)33-*(X)-M6 Hexagon socket head cap screw M5×10...4 screws



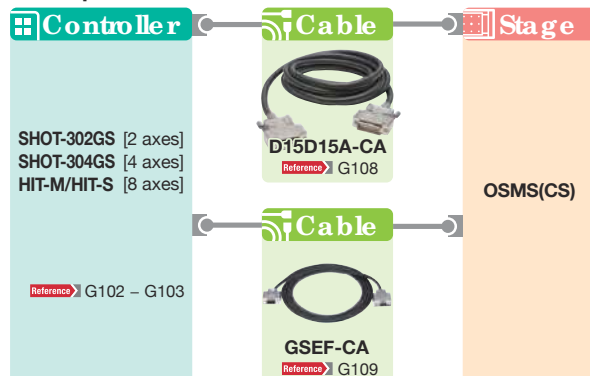
Part Number	A	B	C	D	E	F
OSMS(CS)33-300(X)-M6	530.3	211.8	61.8	300 (50×6)	14-φ7	150
OSMS(CS)33-500(X)-M6	730.3	311.8	61.8	500 (5×10)	22-φ7	250

OSMS(CS)33-*(X)-INCH Hexagon socket head cap screw M5×10...4 screws



Part Number	A	B	C	D	E	F
OSMS(CS)33-300(X)-INCH	530.3	211.8	59.4	304.8 (50.8×6)	14-φ7	150
OSMS(CS)33-500(X)-INCH	730.3	311.8	57.8	508 (50.8×10)	22-φ7	250

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Others

SGMV series Translation Motorized Stages - AC servo Motor

SGMV **RoHS**

High precision/high stiffness stages driven by AC servo motor.



- The stage structure unifies the functions of precision linear guide and precision ball screw, places the linear guide, inner block (table) and drive ball screw at the same position, and uses high stiffness U-shape outer rail for the guide to offer small footprint with large load rating.

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□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

Specifications			SGMV20-35(X)	SGMV20-80(X)	SGMV26-100(X)	SGMV26-200(X)	
Part Number							
Mechanical Specifications	Travel [mm]		35	80	100	200	
	Table Size [mm]		60×60	60×60	80×80	80×80	
	Feed Screw		Ball screw diameter φ6mm, 1mm lead	Ball screw diameter φ6mm, 1mm lead	Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead	
	Positioning Slide		Outer rail structure	Outer rail structure	Outer rail structure	Outer rail structure	
	Stage Material		Aluminum	Aluminum	Aluminum	Aluminum	
	Finish		Black anodized	Black anodized	Black anodized	Black anodized	
	Weight [kg]		0.7	1	1.7	2.5	
Accuracy Specifications	Resolution	(Full) [μm/pulse]	2	2	4	4	
		(Half) [μm/pulse]	1	1	2	2	
	MAX Speed [mm/sec]		35	80	130	130	
	Positioning Accuracy [μm]		7	10	10	15	
	Positional Repeatability [μm]		4	5	5	6	
	Load Capacity [N]		80 (8kgf)	80 (8kgf)	130 (13kgf)	130 (13kgf)	
	Moment Stiffness	Pitch [°/N·cm]		0.4	0.4	0.23	0.23
		Yaw [°/N·cm]		0.25	0.25	0.12	0.12
		Roll [°/N·cm]		0.35	0.35	0.2	0.2
	Lost Motion [μm]		2	2	2	2	
	Backlash [μm]		2	2	2	2	
	Parallelism [μm]		30	30	50	50	
	Running Parallelism [μm]		10	10	10	10	
Pitch [°] / Yaw [°]		30/20	30/20	30/20	30/25		
Sensor	Sensor Part Number		Micro photo sensor: PM-L24 (SUNX Co.,Ltd.)				
	Limit Sensor		Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor		None	None	None	None	
	Proximity Origin Sensor		None	None	None	None	

Motor / Sensor Specifications

Motor	Type	AC servo Motor 10W (YASKAWA Electric Corporation)
	Motor Part Number	SGMMV-A1E2A21 (□25mm)
	Step Angle	0.0318N·m
Sensor	Power Voltage	DC5 - 24V±10%
	Current Consumption	30mA or lower (15mA 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)

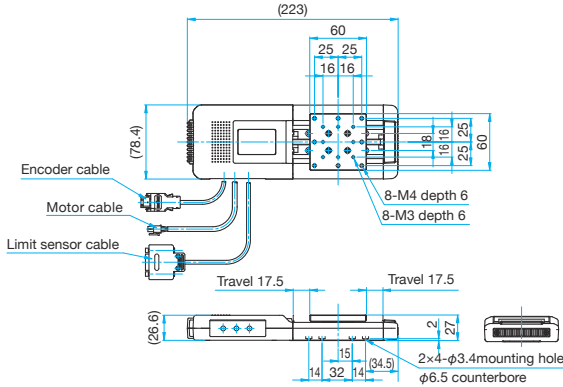
Compatible Driver / Controller

Control System	Compatible Driver	SGDV-2R9EP1A
	Compatible Controller	PGC-04

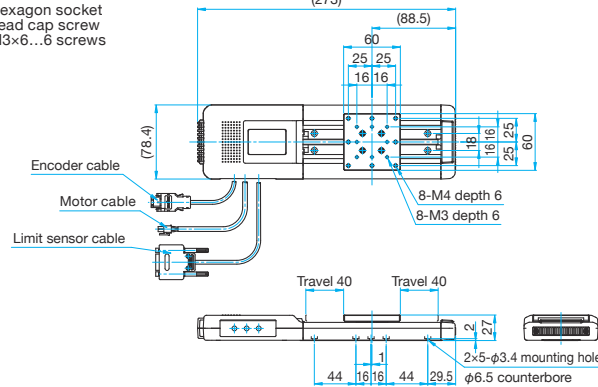


Outline Drawing

SGMV20-35(X) Hexagon socket head cap screw M3×6...6 screws

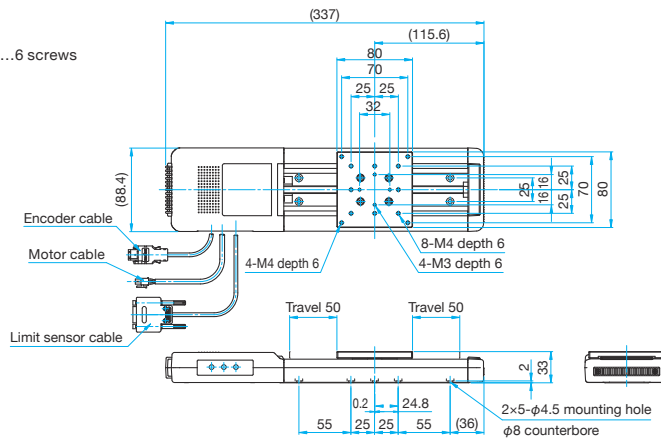


SGMV20-80(X) Hexagon socket head cap screw M3×6...6 screws



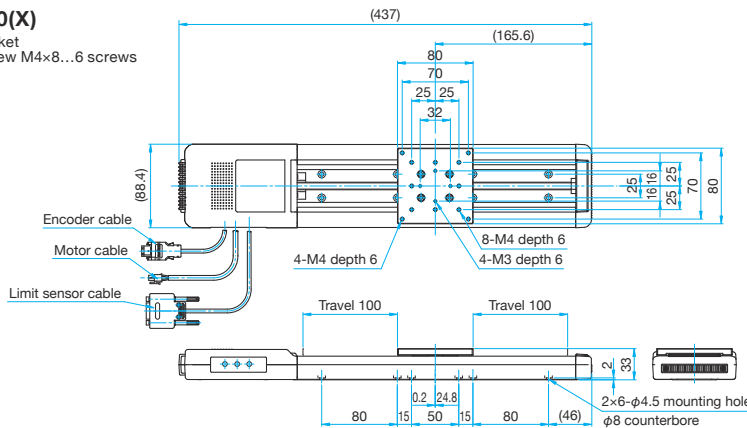
SGMV26-100(X)

Hexagon socket head cap screw M4×8...6 screws



SGMV26-200(X)

Hexagon socket head cap screw M4×8...6 screws



Encoder cable*2
Cable Length ≈280mm
Plug: 55102-0600 (Molex Japan Co., Ltd.)

Motor cable*2
Cable Length ≈280mm
Receptacle: 43025-0400 (Molex Japan Co., Ltd.)

Limit sensor cable
Cable Length ≈280mm
D-sub9Pin (JAE)
Connector DE-9P-NR
Hood DE-C8-J9-F1-1R

*2 Servo Pack SGD2V-2R9EP1A

Controller / Servo Pack

Part Number	Products Name
PGC-04	Pulus Generating Controller
SGDV-2R9EP1A	Servo Packs for Driving Servo Motor



PGC-04

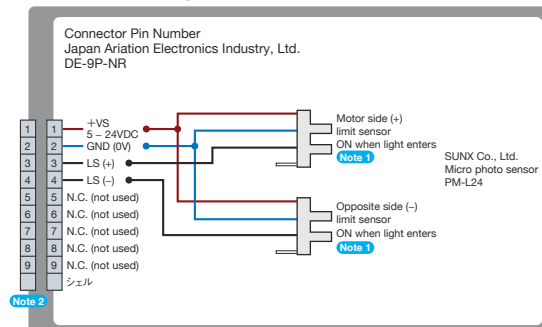


SGDV-2R9EP1A

Cable

Part Number	Controller Side	Stage Side	Servo Pack Side	Cable Length [m]
PGC-ACS-2	10126-3000PE	DE-957S-NR	10126-3000PE	2
JZSP-CF1M00-03E	-	-	-	3
JZSP-CMP00-03E	-	-	-	3
JZSP-CF1G00-01-E	-	-	-	1

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- Options
- 40mm
- 60mm
- 85mm
- 100mm
- 120mm
- Others

Thin Long Travel Stage | **KLSA/KLSS**

RoHS

These stages are thin but ensure long travel.
These thin motorized stages can minimize the stage height even when used in combination.



- Four linear guide blocks are located at optimal positions to improve positional repeatability.
- To place importance on price, KLSA which has an aluminum body is recommended. To place importance on rigidity, KLSS which has a steel body is recommended.

Guide

- ▶ Please contact us when assembled into XYZ axis or use in reversion on the ceiling or vertical direction.
- ▶ Opposite model or various motor changes are optionally available.
Reference G030

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Options

 40mm 60mm 80mm 85mm 100mm 120mm

Others

Specifications

Part Number		KLSA-100X	KLSS-100X	KLSA-200X	KLSS-200X	
Mechanical Specifications	Travel [mm]	100	100	200	200	
	Table Size [mm]	80×80	80×80	120×120	120×120	
	Feed Screw	Ball screw diameter ϕ 8mm, 2mm lead	Ball screw diameter ϕ 8mm, 2mm lead	Ball screw diameter ϕ 10mm, 5mm lead	Ball screw diameter ϕ 10mm, 5mm lead	
	Positioning Slide	Liner guide	Liner guide	Liner guide	Liner guide	
	Stage Material	Aluminum	Steel	Aluminum	Steel	
	Finish	Black anodized	Black chromium oxide	Black anodized	Black chromium oxide	
	Weight [kg]	2.2	3.5	5.1	7.7	
Accuracy Specifications	Resolution	(Full) [μ m/pulse]	4	4	10	10
		(Half) [μ m/pulse]	2	2	5	5
	MAX Speed [mm/sec]	30	30	50	50	
	Positioning Accuracy [μ m]	15	15	20	20	
	Positional Repeatability [μ m]	\pm 1	\pm 1	\pm 1	\pm 1	
	Load Capacity [N]	147 (15kgf)	147 (15kgf)	294 (30kgf)	294 (30kgf)	
	Moment Stiffness	Pitch [$^{\circ}$ /N·cm]	0.05	0.05	0.02	0.02
		Yaw [$^{\circ}$ /N·cm]	0.05	0.05	0.02	0.02
		Roll [$^{\circ}$ /N·cm]	0.1	0.1	0.02	0.02
	Lost Motion [μ m]	4	4	4	4	
	Backlash [μ m]	1	1	1	1	
	Parallelism [μ m]	50	50	50	50	
	Orthogonality of Motion [μ m]	10	10	10	10	
Pitch [$^{\circ}$] / Yaw [$^{\circ}$]	20/15	20/15	40/20	40/20		
Sensor	Sensor Part Number	Micro photo sensor: PM-L24 (SUNX Co.,Ltd.) Limit sensor, origin sensor				
	Limit Sensor	Equipped	Equipped	Equipped	Equipped	
	Origin Sensor	Equipped	Equipped	Equipped	Equipped	
	Proximity Origin Sensor	None	None	None	None	

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK545-NBW (\square 42mm)
	Step Angle	0.72 $^{\circ}$
Sensor	Power Voltage	DC+5V - +24V
	Current Consumption	45mA or lower (15mA or lower per sensor)
	Control Output	NPN open collector output 50mA
	Output Logic	In the case of light shielded ,output transistor OFF (No conduction): Limit sensor In the case of light shielded ,output transistor ON (Conduction): Origin sensor

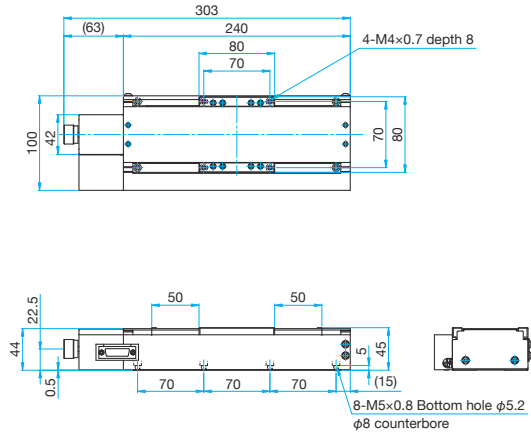
Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, SG-55M, SG-514MSC, MC-7514PCL
	Compatible Controller	SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04

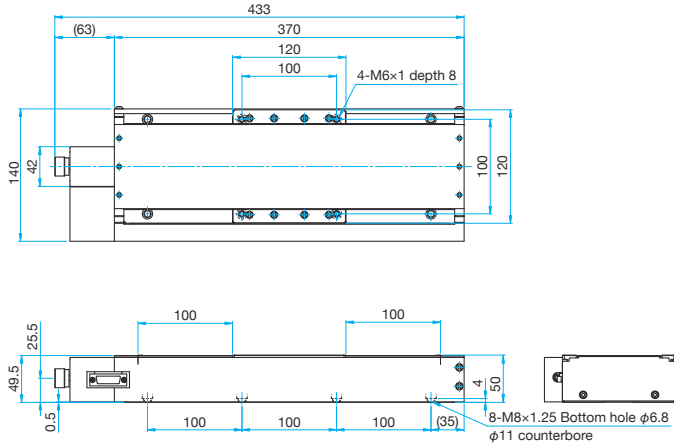


Outline Drawing

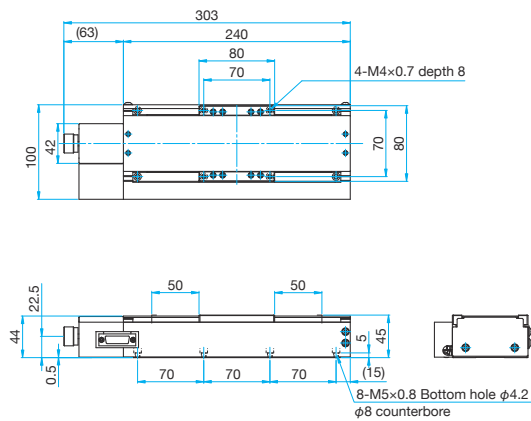
KLSS-100X Hexagon socket head cap screw M4x8...6 screws



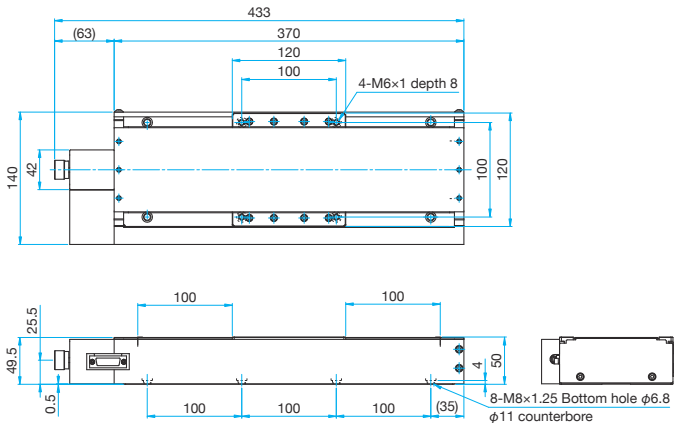
KLSS-200X Hexagon socket head cap screw M4x8...6 screws



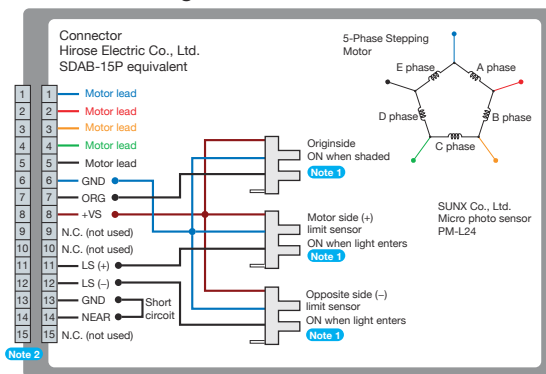
KLSS-100X Hexagon socket head cap screw M4x8...6 screws



KLSS-200X Hexagon socket head cap screw M4x8...6 screws

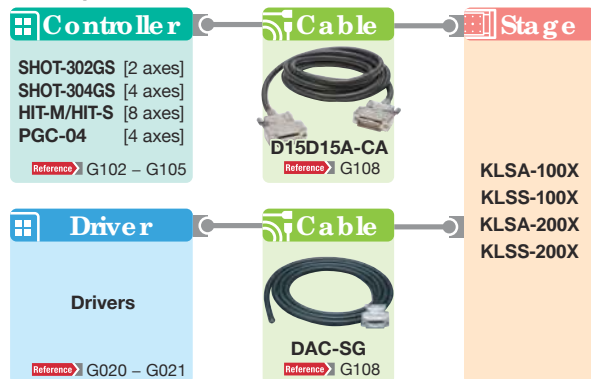


Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with origin and proximity origin sensors.
Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

Compatible Controllers / Drivers and Cables



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40mm

60mm

80mm

85mm

100mm

120mm

Others

Aluminum Crossed Roller Guide Motorized Stage

TAMM Stage size □40/□60/□100mm

RoHS

Motorized crossed roller stages that combine compactness, low-profile and high durability.



- Linear motorized stages fitted with anti-creep crossed roller guide and special nut-shape ball screw configuration, offering low-profile and high durability.
- Aluminum is used as a main material to achieve light-weight, compact and slim body, effective for spacesaving.

Guide

- ▶ A spacer is required when fixing the stage on a vibration isolator bench. It can be purchased separately. [Reference](#) D055 -
- ▶ After purchasing two X axis stages, to assemble them into an XY axis stage, assembly adjustment cost and performance inspection cost will be charged separately.
- ▶ Contact our International Sales Division if you desire to change motors, etc. Or, use the motorized stage system question sheet. [Reference](#) G111

Specifications

Part Number		TAMM40-10C	TAMM60-15C	TAMM100-50C	TAMM100-100C
Opposite ModelPart Number		TAMM40-10CR	TAMM60-15CR	TAMM100-50CR	TAMM100-100CR
Mechanical Specifications	Travel [mm]	10	15	50	100
	Table Size [mm]	40×40	60×60	100×100	100×175
	Feed Screw	Ball screw diameter φ4mm, 1mm lead	Ball screw diameter φ6mm, 1mm lead	Ball screw diameter φ8mm, 1mm lead	Ball screw diameter φ8mm, 1mm lead
	Positioning Slide	Crossed roller guide	Crossed roller guide	Crossed roller guide	Crossed roller guide
	Stage Material	Aluminum	Aluminum	Aluminum	Aluminum
	Finish	Black anodized	Black anodized	Black anodized	Black anodized
	Weight [kg]	0.33	0.48	1.9	2.9
Resolution	(Full) [μm/pulse]	2	2	2	2
	(Half) [μm/pulse]	1	1	1	1
Accuracy Specifications	MAX Speed [mm/sec]	10	10	10	10
	Positioning Accuracy [μm]	6	6	6	10
	Positional Repeatability [μm]	1	1	1	1
	Load Capacity [N]	29.4 (3.0kgf)	49 (5.0kgf)	98 (10.0kgf)	98 (10.0kgf)
	Moment Stiffness[$\frac{1}{N} \cdot \text{cm}$]	1.5	0.5	0.05	0.03
	Lost Motion [μm]	1	1	1	1
	Backlash [μm]	1	1	1	1
	Parallelism [μm]	30	30	30	30
	Running Parallelism [μm]	10	10	10	10
	Pitch [°] / Yaw [°]	25/25	20/20	20/15	20/15
Sensor	Sensor Part Number	Micro photo sensor: GP1S097HCZ (Sharp Corporation) Limit Sensor, Origin Sensor		Micro photo sensor: PM-L24 (SUNX Co.,Ltd.) Limit Sensor, Origin Sensor	
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
	Proximity Origin Sensor	None	None	None	None

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)	
	Motor Part Number	C9863-90215P (□28mm)	PK544NBW (□42mm)
	Step Angle	0.72°	
Sensor	Power Voltage	DC+5V - +24V	
	Current Consumption	60mA or lower (20mA or lower per sensor)	
	Control Output	NPN open collector output 50mA	
	Output Logic	In the case of light shielded ,output transistor OFF (No conduction): Limit sensor In the case of light shielded ,output transistor ON (Conduction): Origin sensor	

Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, SG-5MA, SG-55M, SG-55MA, SG-514MSC, MC-7514PCL	SG-5M, SG-55M, SG-514MSC, MC-7514PCL
	Compatible Controller	GSC-01, GSC-02, SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04	SHOT-702, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S

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□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

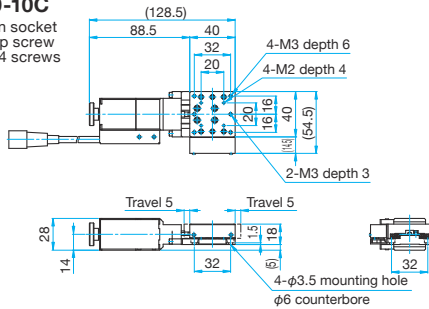
Others



Outline Drawing

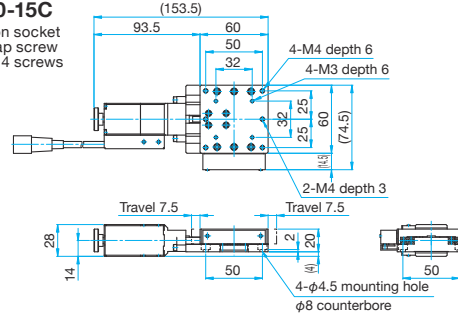
TAMM40-10C

Hexagon socket head cap screw M3x6...4 screws

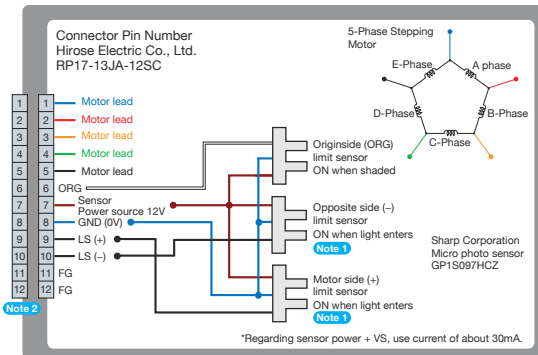


TAMM60-15C

Hexagon socket head cap screw M4x8...4 screws



Connection Diagram



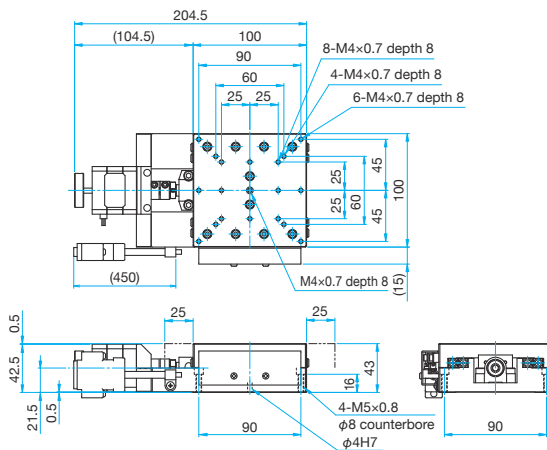
Note 1 The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with proximity origin sensors.
 Note 2 Compatible cable connector: Hirose Electric Co., Ltd. RP17-13PA-12PC/RP17-PC-122

Compatible Controllers / Drivers and Cables

Controller	Cable	Stage
GSC-01 [1 axis] GSC-02 [2 axes] SHOT-702 [2 axes] GIP-101 [1 axis] SHOT-302GS [2 axes] SHOT-304GS [4 axes] HIT-M/HIT-S [8 axes] PGC-04 [4 axes] Reference G098 - G105	D15RP-CA Reference G108	TAMM40-10C TAMM60-15C
Driver	Cable	Stage
Drivers Reference G020 - G021	MINI-CA-SG Reference G108	TAMM40-10C TAMM60-15C

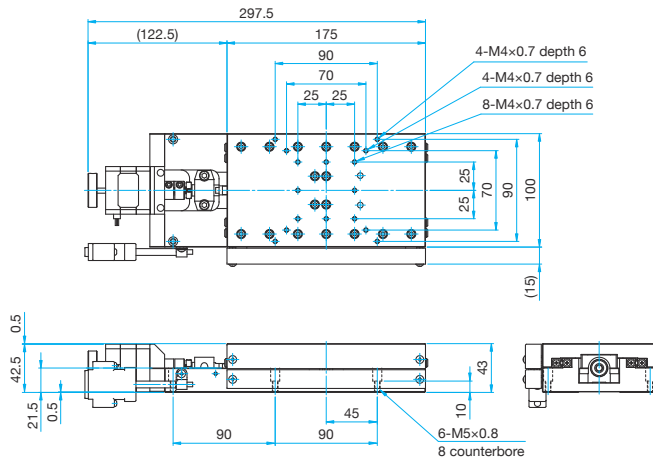
TAMM100-50C

Hexagon socket head cap screw M4x8...4 screws

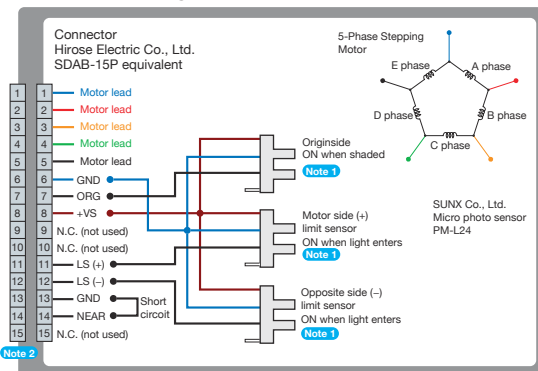


TAMM100-100C

Hexagon socket head cap screw M4x8...4 screws



Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with origin and proximity origin sensors.
 Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

Compatible Controllers / Drivers and Cables

Controller	Cable	Stage
SHOT-702 [2 axes] SHOT-302GS [2 axes] SHOT-304GS [4 axes] HIT-M/HIT-S [8 axes] Reference G100 - G103	D15D15A-CA Reference G108	TAMM100-50C TAMM100-100C
Driver	Cable	Stage
Drivers Reference G020 - G021	DAC-SG Reference G108	TAMM100-50C TAMM100-100C

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40mm

60mm

80mm

85mm

100mm

120mm

Others

Precision Motorized Stages - 5 Phase Stepping Motor

KST-X

RoHS

High precision X axis stages fitted with precision ball screws and precision crossed roller.



- Steel body offers excellent stiffness and high load capacity.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc. Or, use the motorized stage system question sheet.
Reference G111

Attention

- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

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Options

 40mm

 60mm

 80mm

 85mm

 100mm

 120mm

Others

Specifications					
Part Number		KST-50X	KST-100X	KST-200X	
Mechanical Specifications	Travel [mm]	50	100	200	
	Table Size [mm]	165×165	165×200	165×360	
	Feed Screw	Ball screw diameter ϕ 8mm, 1mm lead	Ball screw diameter ϕ 8mm, 1mm lead	Ball screw diameter ϕ 14mm, 2mm lead	
	Positioning Slide	Crossed roller	Crossed roller	Crossed roller	
	Stage Material	Steel (S50C)	Steel (S50C)	Steel (S50C)	
	Weight [kg]	8.6	10.2	20.0	
Accuracy Specifications	Resolution	(Full) [μ m/pulse]	2	2	4
		(Half) [μ m/pulse]	1	1	2
	MAX Speed [mm/sec]	10	10	20	
	Positioning Accuracy [μ m]	5	7	8	
	Positional Repeatability [μ m]	2	2	2	
	Load Capacity [N]	392 (40.0kgf)	392 (40.0kgf)	392 (40.0kgf)	
	Moment Stiffness	Pitch [$^{\circ}$ /N·cm]	0.01	0.01	0.01
		Yaw [$^{\circ}$ /N·cm]	0.01	0.01	0.01
		Roll [$^{\circ}$ /N·cm]	0.005	0.005	0.005
	Lost Motion [μ m]	1	1	1	
	Backlash [μ m]	1	1	1	
	Parallelism [μ m]	50	70	100	
	Running Parallelism [μ m]	10	10	20	
Pitch [$^{\circ}$] / Yaw [$^{\circ}$]	15/15	20/20	20/20		
Sensor	Sensor Part Number	Micro photo sensor: PM-L24 (SUNX Co., Ltd.): Limit sensor, origin sensor			
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Proximity Origin Sensor	None	None	None	

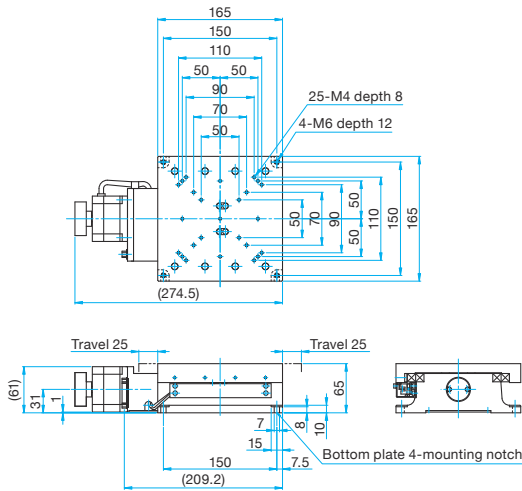
Motor / Sensor Specifications				
Motor	Type	5-phase stepping motor 1.4A/phase (Oriental Motor Co., Ltd.)		
	Motor Part Number	PK564-NBW (\square 60mm)	PK566-NBW (\square 60mm)	PK569-NBW (\square 60mm)
	Step Angle	0.72 $^{\circ}$		
Sensor	Power Voltage	DC5 - 24V \pm 10%		
	Current Consumption	45mA or lower (15mA or lower per sensor)		
	Control Output	NPN open collector output DC30V or lower, 50mA		
	Output Logic	When shaded: Output transistor OFF (no conduction)		

Compatible Driver / Controller		
Control System	Compatible Driver	SG-5M, SG-55M, SG-514MSC, SG-5151, KR-525M
	Compatible Controller	SHOT-302GS, SHOT-304GS

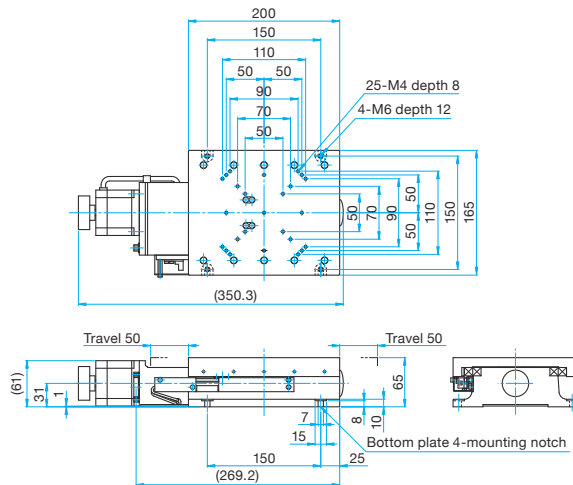


Outline Drawing

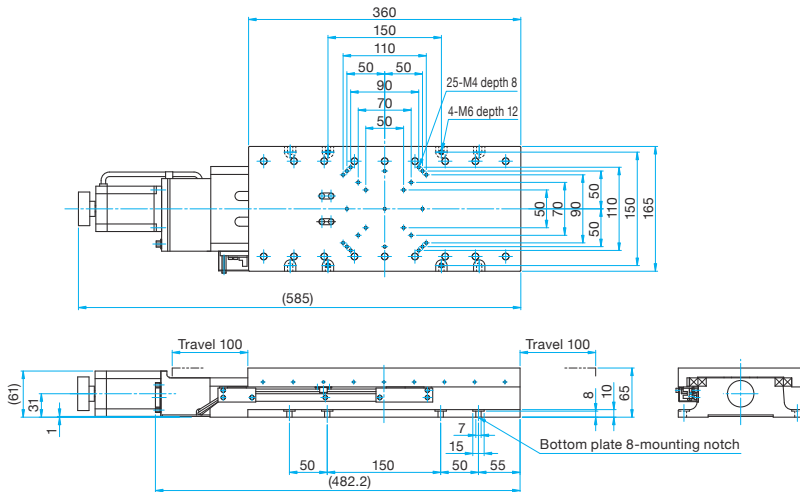
KST-50X Hexagon socket head cap screw M6×15...4 screws



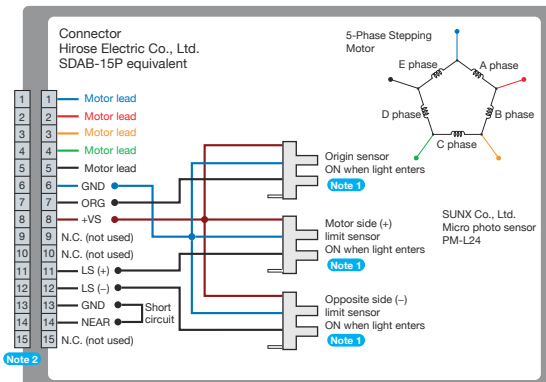
KST-100X Hexagon socket head cap screw M6×15...4 screws



KST-200X Hexagon socket head cap screw M6×15...8 screws

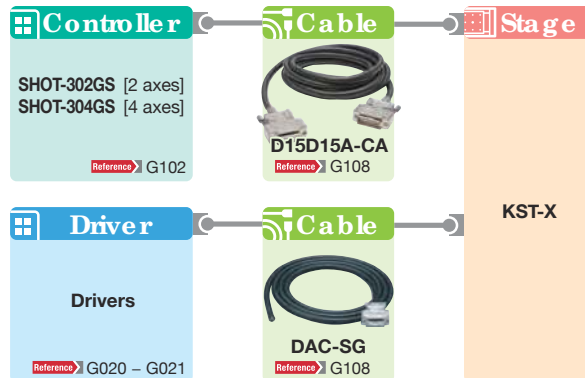


Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor. KST-50/100/200 is fitted with an origin sensor.
Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

Compatible Controllers / Drivers and Cables



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40mm

60mm

80mm

85mm

100mm

120mm

Others

Precision Motorized Stages with built in Glass-scale Encoder

KST(GS) **RoHS**

Linear scales consist of “scales” used as a ruler and a “detector” which obtains positional information from the scales.



- Linear scales are used in indispensable processes in many fields, and mainly used in equipment for manufacturing electronic devices such as semiconductors, flat panel displays (FPD), and printed wiring boards, electronic component mounting machine, machine tools, and carrier machine.

Guide

- ▶ Theoretical resolution of the glass scale is set to 0.05 μ m.
- ▶ Contact our International Sales Division for resolutions not listed in the catalog.

Attention

- ▶ When operating the KST(GS) series with closed loop control, in order to use it within the specifications listed in the catalog, the number of motor divisions of the controller is recommended to be set to 100 or higher (travel per pulse is 0.05 μ m or less).

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Options

 40mm 60mm 80mm 85mm 100mm 120mm

Others

Specifications

Part Number		KST(GS)-50X	KST(GS)-100X	KST(GS)-200X	
Mechanical Specifications	Travel [mm]	50	100	200	
	Table Size [mm]	165×165	165×200	165×360	
	Feed Screw	Ball screw diameter ϕ 8mm, 1mm lead	Ball screw diameter ϕ 8mm, 1mm lead	Ball screw diameter ϕ 14mm, 2mm lead	
	guide	Crossed roller guide	Crossed roller guide	Crossed roller guide	
	Stage Material	Steel	Steel	Steel	
	Weight [kg]	9.2	14.3	19.4	
Accuracy Specifications	Resolution	(Full) [μ m/pulse]	2	2	4
		(Half) [μ m/pulse]	1	1	2
	MAX Speed [mm/sec]	10	10	20	
	Positioning Accuracy [μ m]	3	4	5	
	Positional Repeatability [μ m]	0.5	0.5	0.8	
	Load Capacity [N]	392 (40.0kgf)	392 (40.0kgf)	392 (40.0kgf)	
	Moment Stiffness	Pitch [$^{\circ}$ /N·cm]	0.01	0.01	0.01
		Yaw [$^{\circ}$ /N·cm]	0.01	0.01	0.01
		Roll [$^{\circ}$ /N·cm]	0.005	0.005	0.005
	Lost Motion [μ m]	0.5	0.5	0.5	
	Backlash [μ m]	1	1	1	
	Parallelism [μ m]	50	70	100	
	Running Parallelism [μ m]	10	10	20	
Pitch [$^{\circ}$] / Yaw [$^{\circ}$]	15/15	20/20	20/20		
Sensor Part Number	Micro photo sensor: PM-L24 (SUNX Co.,Ltd.) Limit sensor, origin sensor				
Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)		
Origin Sensor	None	None	None		
Proximity Origin Sensor	None	None	None		

Motor Specifications

Motor		5-phase stepping motor 1.4A/phase (Oriental Motor Co., Ltd.)		
Motor	Type	5-phase stepping motor 1.4A/phase (Oriental Motor Co., Ltd.)		
	Motor Part Number	PK564-NBW (\square 60mm)	PK566-NBW (\square 60mm)	PK569-NBW (\square 60mm)
	Step Angle	0.72 $^{\circ}$		

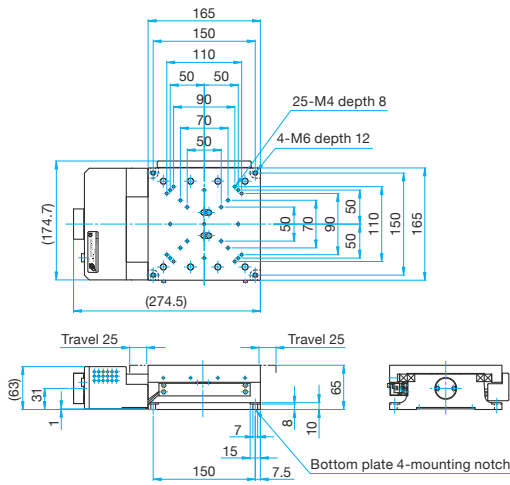
Compatible Controller

Compatible Controller	SHOT-302GS, SHOT-304GS
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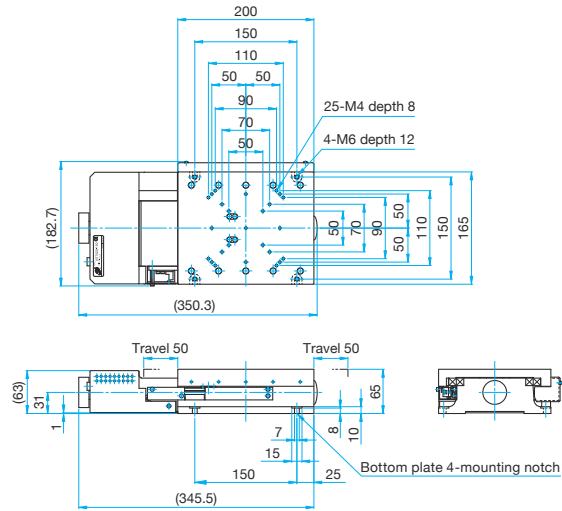


Outline Drawing

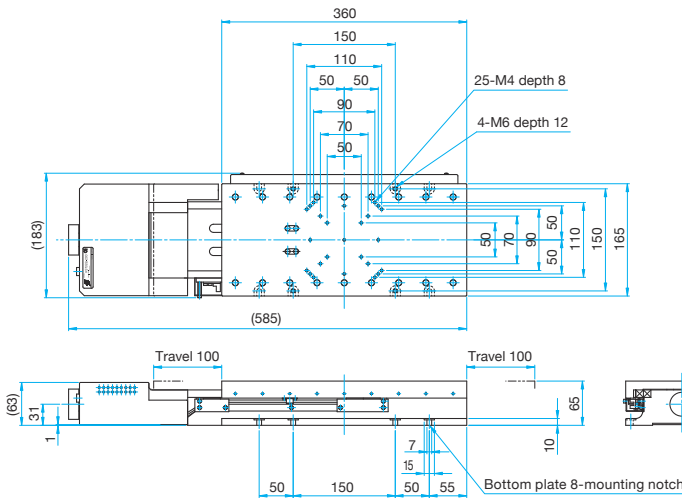
KST(GS)-50X Hexagon socket head cap screw M6×15...4 screws



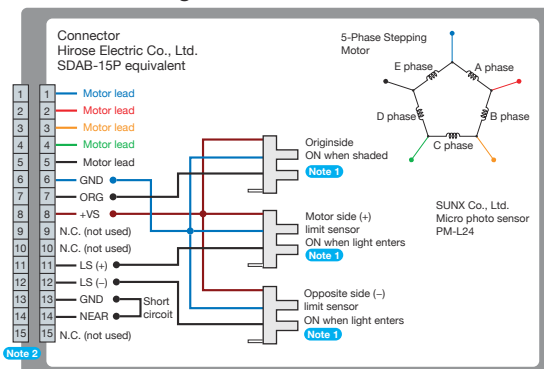
KST(GS)-100X Hexagon socket head cap screw M6×15...4 screws



KST(GS)-200X Hexagon socket head cap screw M6×15...8 screws

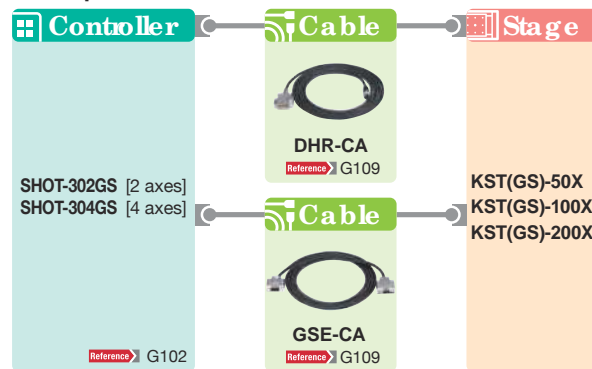


Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor. KST-50/100/200 is fitted with an origin sensor.
Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

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60mm

80mm

85mm

100mm

120mm

Others

Precision Motorized Stages - 5 Phase Stepping Motor

KST-XY

RoHS

High precision XY axis stages fitted with precision ball screws and precision crossed roller.



- Steel body offers excellent stiffness and high load capacity.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc. Or, use the motorized stage system question sheet. [Reference](#) G111
- ▶ We will assemble your X axis stage with a newly purchased X axis stage at a separate cost.

Specifications			KST-50XY	KST-100XY	KST-200XY
Part Number					
Mechanical Specifications	Travel [mm]		50	100	200
	Table Size [mm]		165×165	165×200	165×360
	Feed Screw		Ball screw diameter ϕ 8mm, 1mm lead	Ball screw diameter ϕ 8mm, 1mm lead	Ball screw diameter ϕ 14mm, 2mm lead
	Positioning Slide		Crossed roller	Crossed roller	Crossed roller
	Stage Material		Steel (S50C)	Steel (S50C)	Steel (S50C)
	Weight [kg]		17.2	20.4	40.0
Accuracy Specifications	Resolution	(Full) [μ m/pulse]	2	2	4
		(Half) [μ m/pulse]	1	1	2
	MAX Speed [mm/sec]		10	10	20
	Positioning Accuracy [μ m]		10	12	15
	Positional Repeatability [μ m]		2	2	2
	Load Capacity [N]		196 (20.0kgf)	196 (20.0kgf)	196 (20.0kgf)
	Lost Motion [μ m]		1	1	1
	Backlash [μ m]		1	1	1
	Orthogonality of Motion [μ m]		5	5	10
Sensor	Sensor Part Number		Micro photo sensor: PM-L24 (SUNX Co., Ltd.): Limit sensor, origin sensor		
	Limit Sensor		Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor		Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Proximity Origin Sensor		None	None	None

Motor / Sensor Specifications		
Motor	Type	5-phase stepping motor 1.4A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK564-NBW (□60mm) PK566-NBW (□60mm) PK569-NBW (□60mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 – 24V \pm 10%
	Current Consumption	45mA or lower (15mA or lower per sensor)
	Control Output	NPN open collector output DC30V or lower, 50mA
	Output Logic	When shaded: Output transistor OFF (no conduction)

(Reference) Precision Specifications of Single Axis Stage			KST-50X	KST-100X	KST-200X
Part Number					
Accuracy Specifications	Moment Stiffness	Pitch [$^{\circ}$ /N·cm]	0.01	0.01	0.01
		Yaw [$^{\circ}$ /N·cm]	0.01	0.01	0.01
		Roll [$^{\circ}$ /N·cm]	0.005	0.005	0.005
	Parallelism [μ m]		50	70	100
	Running Parallelism [μ m]		10	10	20

Compatible Driver / Controller		
Control System	Compatible Driver	SG-5M, SG-55M, SG-514MSC, SG-5151, KR-525M
	Compatible Controller	SHOT-302GS, SHOT-304GS

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□40mm

□60mm

□80mm

□85mm

□100mm

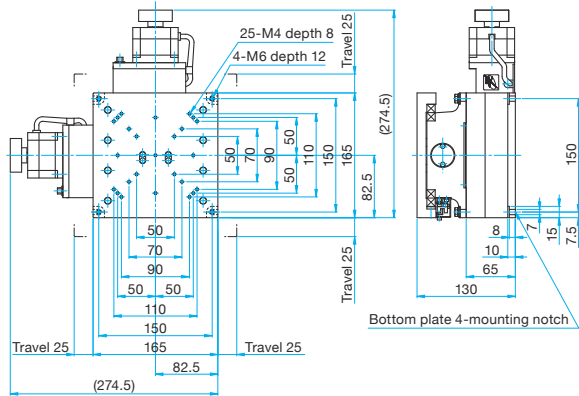
□120mm

Others

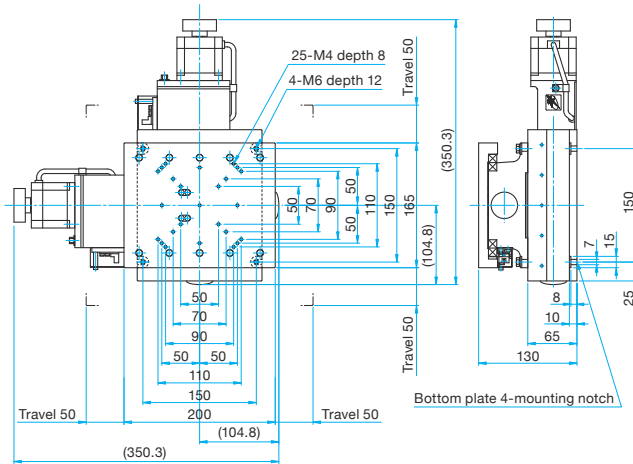


Outline Drawing

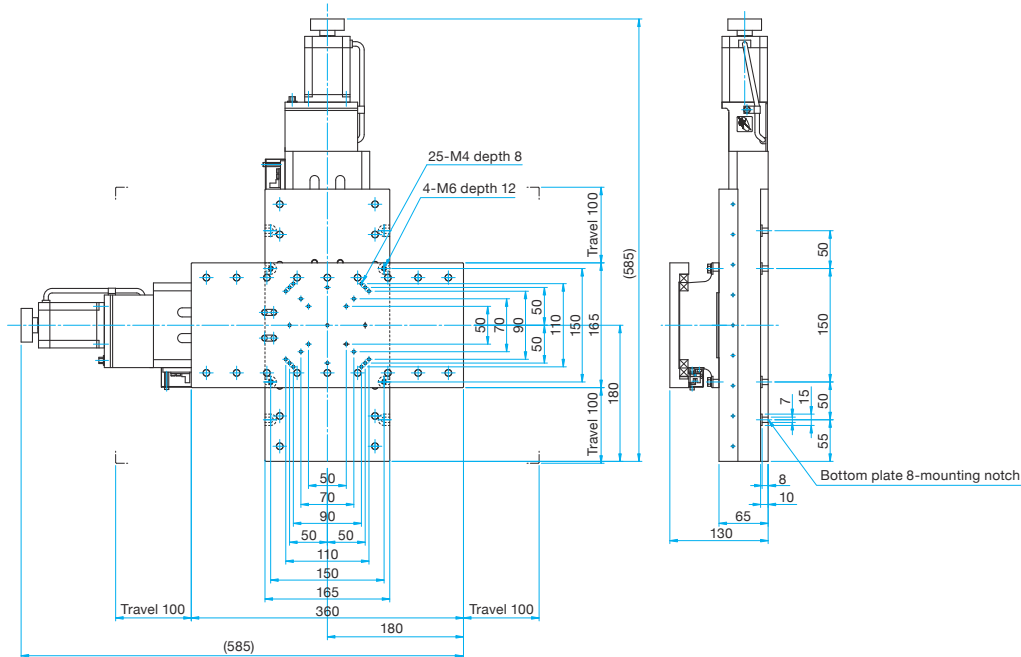
KST-50XY Hexagon socket head cap screw M6×15...4 screws



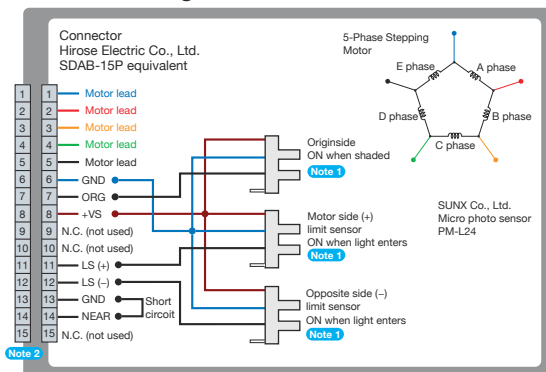
KST-100XY Hexagon socket head cap screw M6×15...4 screws



KST-200XY Hexagon socket head cap screw M6×15...8 screws

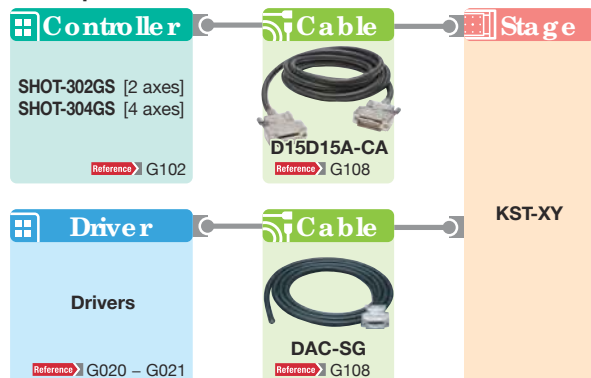


Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor. KST-50/100/200 is fitted with an origin sensor.
Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

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□ 40mm

□ 60mm

□ 80mm

□ 85mm

□ 100mm

□ 120mm

Others

Precision Motorized Stages - 5 Phase Stepping Motor

KST-Z

RoHS

High precision Z axis stages fitted with precision ball screws and precision crossed roller.



- Steel body offers excellent stiffness and high load capacity.

Guide

- Contact our International Sales Division if you desire to change motors, etc. Or, use the motorized stage system question sheet.

[Reference](#) G111

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 40mm

 60mm

 80mm

 85mm

 100mm

 120mm

Others

Specifications

Part Number		KST-50Z	KST-100Z	KST-200Z	
Mechanical Specifications	Travel [mm]	50	100	200	
	Table Size [mm]	165×165	165×200	165×360	
	Feed Screw	Ball screw diameter ϕ 8mm, 1mm lead	Ball screw diameter ϕ 8mm, 1mm lead	Ball screw diameter ϕ 14mm, 2mm lead	
	Positioning Slide	Crossed roller	Crossed roller	Crossed roller	
	Stage Material	Steel (S50C)	Steel (S50C)	Steel (S50C)	
	Weight [kg]	12.8	14.5	27.0	
Accuracy Specifications	Resolution	(Full) [μ m/pulse]	2	2	4
		(Half) [μ m/pulse]	1	1	2
	MAX Speed [mm/sec]	10	10	20	
	Positioning Accuracy [μ m]	5	7	8	
	Positional Repeatability [μ m]	2	2	2	
	Load Capacity [N]	98 (10.0kgf)	98 (10.0kgf)	98 (10.0kgf)	
	Moment Stiffness	Pitch [$^{\circ}$ /N·cm]	0.015 (Y pitch)	0.020 (Y pitch)	0.030 (Y pitch)
		Yaw [$^{\circ}$ /N·cm]	0.01 (X pitch)	0.015 (X pitch)	0.020 (X pitch)
		Roll [$^{\circ}$ /N·cm]	0.005	0.015	0.015
	Lost Motion [μ m]	1	1	1	
	Backlash [μ m]	1	1	1	
	Perpendicularity of Motion [μ m]	10	15	25	
	Pitch [$^{\circ}$] / Yaw [$^{\circ}$]	20/15	25/20	25/25	
Sensor	Sensor Part Number	Micro photo sensor: PM-L24 (SUNX Co., Ltd.): Limit sensor, origin sensor			
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Proximity Origin Sensor	None	None	None	

Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 1.4A/phase (Oriental Motor Co., Ltd.)		
	Motor Part Number	PK564-NBW (□60mm)	PK566-NBW (□60mm)	PK569-NBW (□60mm)
	Step Angle	0.72°		
Sensor	Power Voltage	DC5 - 24V \pm 10%		
	Current Consumption	45mA or lower (15mA or lower per sensor)		
	Control Output	NPN open collector output DC30V or lower, 50mA		
	Output Logic	When shaded: Output transistor OFF (no conduction)		

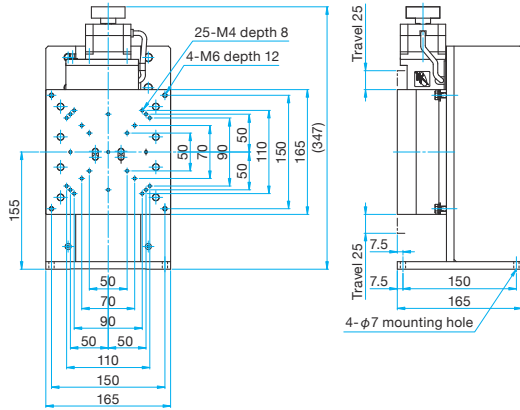
Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, SG-55M, SG-514MSC, SG-5151, KR-525M
	Compatible Controller	SHOT-302GS, SHOT-304GS

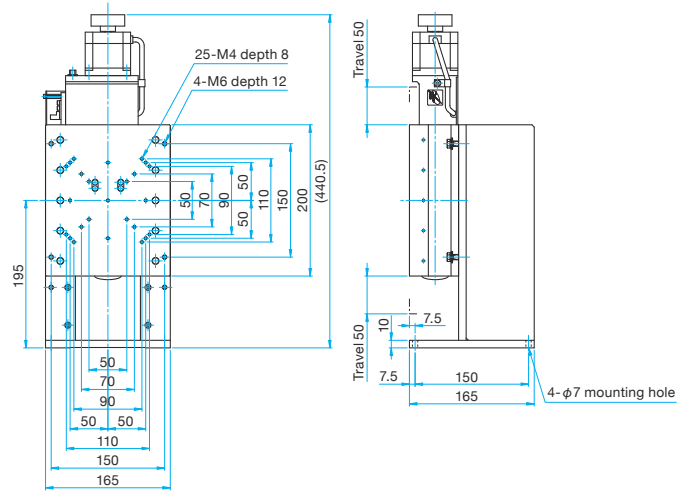


Outline Drawing

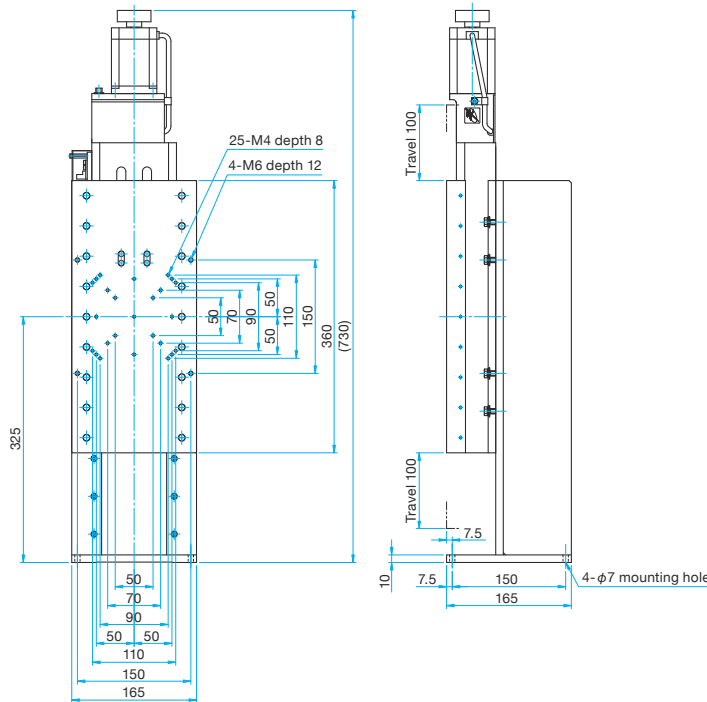
KST-50Z Hexagon socket head cap screw M6×20...4 screws



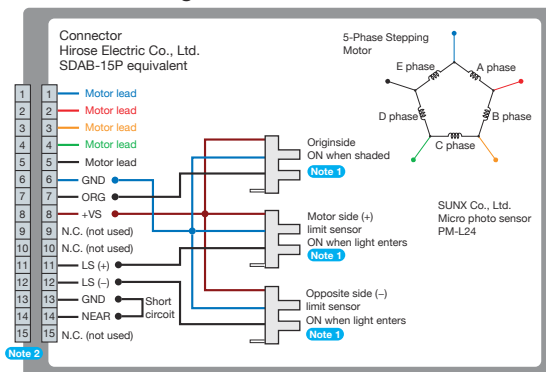
KST-100Z Hexagon socket head cap screw M6×20...4 screws



KST-200Z Hexagon socket head cap screw M6×20...4 screws



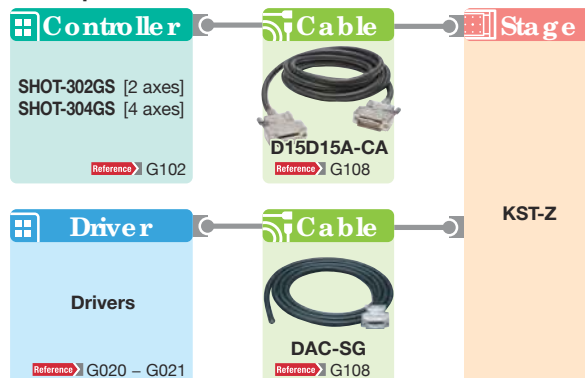
Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor.
KST-50/100/200 is fitted with an origin sensor.

Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

Compatible Controllers / Drivers and Cables



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□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

Translation Motorized Stages, Flat Z axis - 5 Phase Stepping Motor | OSMS-ZF Stage size □40/□60/□80mm



Z axis stepping motor driven stages for measurement and inspection, offering high stiffness and high precision.

The table that travels up and down is horizontal and offers smooth travel.



- Originally designed horizontal plane Z axis stages in which a motor is incorporated in its main body for space-saving.
- Minimized protrusions make these stages ideal for system assembly

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□40mm

□60mm

□80mm

□85mm

□100mm

□120mm

Others

Specifications			OSMS40-5ZF	OSMS60-5ZF	OSMS60-10ZF	OSMS80-20ZF
Part Number						
Mechanical Specifications	Travel [mm]		5	5	10	20
	Table Size [mm]		40×40	60×60	60×60	80×80
	Feed Screw		Ball screw diameter φ5mm, 1mm lead	Ball screw diameter φ6mm, 1mm lead	Ball screw diameter φ6mm, 1mm lead	Ball screw diameter φ8mm, 2mm lead
	Positioning Slide		Outer rail structure	Outer rail structure	Outer rail structure	Outer rail structure
	Stage Material		Aluminum	Aluminum	Aluminum	Aluminum
	Finish		Black anodized	Black anodized	Black anodized	Black anodized
	Weight [kg]		0.35	0.6	0.6	1.6
Accuracy Specifications	Resolution	(Full) [μm/pulse]	1.0	2.0	2.0	0.2
		(Half) [μm/pulse]	0.5	1.0	1.0	0.1
	MAX Speed [mm/sec]		2	4	4	1
	Positional Repeatability [μm]		10	10	10	10
	Load Capacity [N]		19.6 (2.0kgf)	39.2 (4.0kgf)	39.2 (4.0kgf)	147 (15.0kgf)
	Moment Stiffness	Pitch [°/N·cm]	2.0	0.4	0.4	0.2
		Yaw [°/N·cm]	2.0	1.0	1.0	1.0
		Roll [°/N·cm]	1.0	1.0	1.0	1.0
	Lost Motion [μm]		5	5	5	5
	Parallelism [μm]		50	50	50	50
	Running Parallelism [μm]		15	15	15	15
	Pitch [°]		25	20	20	25
	Sensor	Sensor Part Number		Micro photo sensor: GP1S097HCZ0F (Sharp Corporation): Limit Sensor (60-5ZF/60-10ZF) Micro photo sensor: PM-U24 (SUNX Co.,Ltd.): Limit Sensor (40-5ZF/80-20ZF)		
Limit Sensor			Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
Origin Sensor			None	None	None	None
Proximity Origin Sensor			None	None	None	None

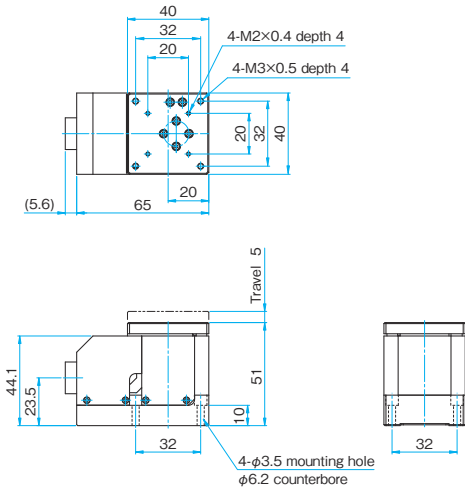
Motor / Sensor Specifications					
Motor	Type	5-phase stepping motor 0.35A/phase (Oriental Motor Co., Ltd.)	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)		
	Motor Part Number	PK513PA-C21 (□20mm)	PK523HPB-C12 (□28mm)	PK523HPB-C12 (□28mm)	A7177-90215KTG (□28mm)
	Step Angle	0.72°			
Sensor	Power Voltage	DC5 - 24V ±10% or lower			
	Current Consumption	30mA or lower (15mA 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)			

Compatible Driver / Controller				
Control System	Compatible Driver	SG-5MA, SG-55MA, SG-514MSC	SG-5M, SG-5MA, SG-55M, SG-55MA, SG-514MSC, MC-7514PCL	SG-55M, SG-55MA, SG-514MSC, MC-7514PCL
	Compatible Controller	GSC-01, GSC-02, SHOT-702, SHOT-302GS, SHOT-304GS, HIT-M·HIT-S, PGC-04		

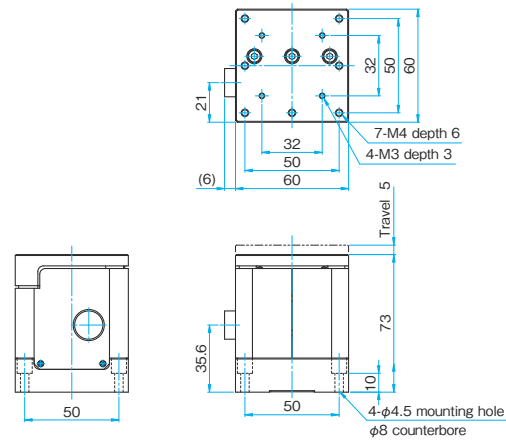


Outline Drawing

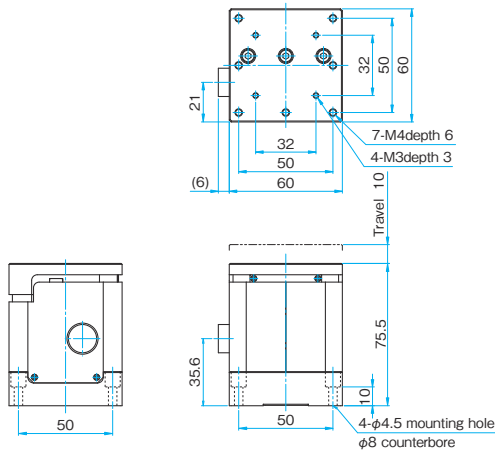
OSMS40-5ZF Hexagon socket head cap screw M3x15...4 screws



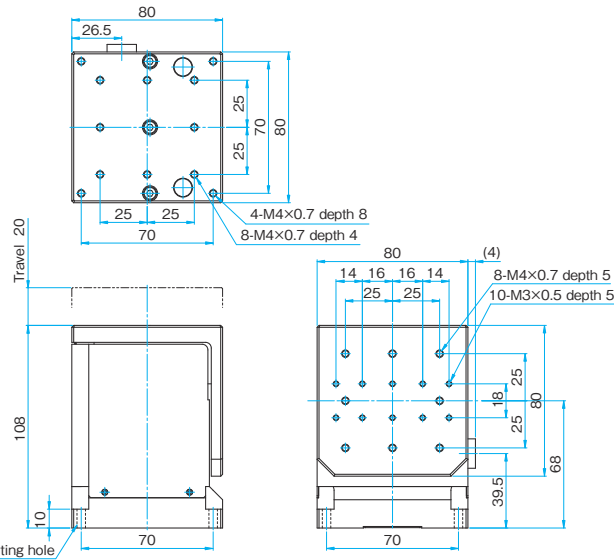
OSMS60-5ZF Hexagon socket head cap screw M4x15...4 screws



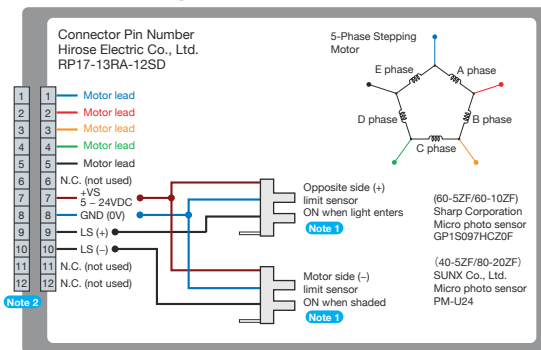
OSMS60-10ZF Hexagon socket head cap screw M4x15...4 screws



OSMS80-20ZF Hexagon socket head cap screw M4x15...4 screws

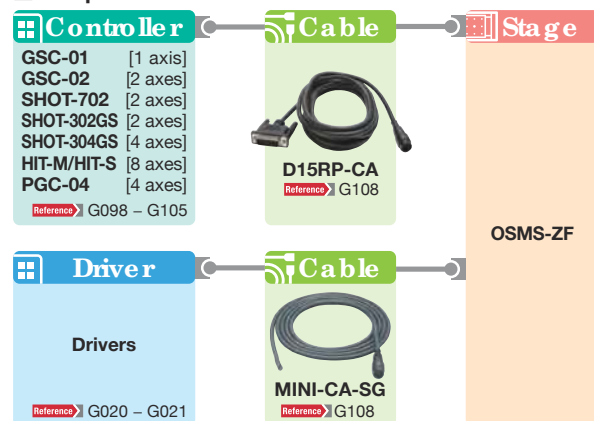


Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with proximity origin sensors. Limit sensors are used as origin detection sensors.
Note 2 Compatible cable connector: Hirose Electric Co., Ltd. RP17-13PA-12PC/RP17-PC-122

Compatible Controllers / Drivers and Cables



* Adaptation SG-5MA, only SG-55MA is (0.35A/phase) OSMS40-5ZF

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Others

Actuator for Objective Lenses (Stepper motor type)

SGSP-OBL

RoHS

Stepping motor type objective lens actuator compatible with long strokes.



- Since this actuator uses a stepping motor, it can be connected to our various controllers.
- It is compact and high resolution, best suited for incorporation into a microscope lens tube or an auto focus system.
- Can be used for upright type and inverted type microscopes.

Guide

- ▶ The dedicated adapters are available according to the microscope and screw size of objective lens of each manufacturer.

Attention

- ▶ The dedicated adapters are required for mounting the actuator on microscopes and objective lenses.

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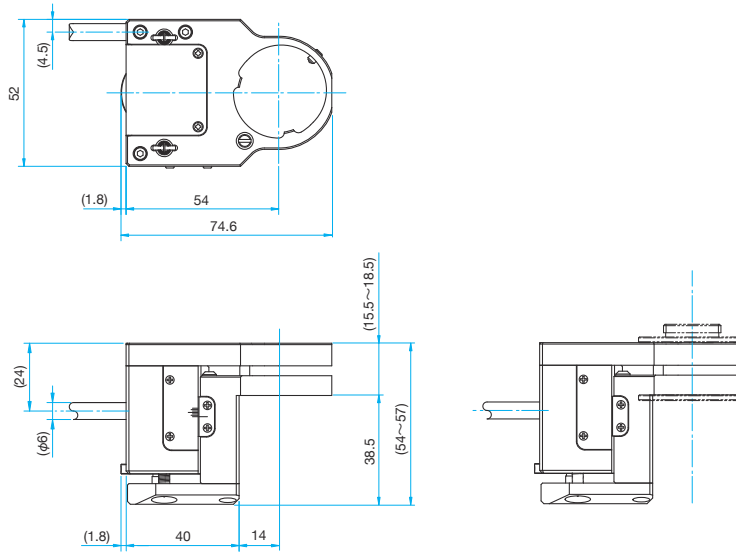
Others

Specifications			
Part Number		SGSP-OBL-3	
Mechanical Specifications	Travel [mm]	3	
	Table Size [mm]	(Mounted adapter)	
	Feed Screw	Precision ground screw ϕ 6mm, 0.5mm lead	
	Positioning Slide	Crossed roller guide	
	Stage Material	Aluminum	
	Finish	White anodized	
	Weight [kg]	0.4	
Accuracy Specifications	Resolution	(Full) [μ m/pulse]	1
		(Half) [μ m/pulse]	0.5
	MAX Speed [mm/sec]	1	
	Positioning Accuracy [μ m]	5	
	Positional Repeatability [μ m]	2	
	Load Capacity [N]	4.9 (0.5kgf)	
	Moment Stiffness[$^{\circ}$ /N·cm]	—	
	Lost Motion [μ m]	2	
	Backlash [μ m]	1	
	Parallelism [μ m]	—	
	Running Parallelism [μ m]	2	
	Pitch [$^{\circ}$] / Yaw [$^{\circ}$]	15/15	
	Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPI (Sharp Corporation)
Limit Sensor		Equipped (NORMAL CLOSE)	
Origin Sensor		None	
Proximity Origin Sensor		None	

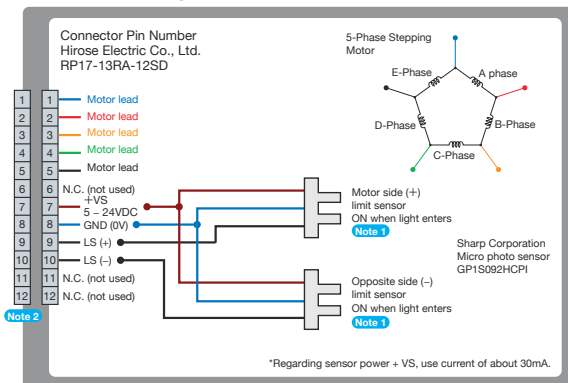
Motor / Sensor Specifications		
Motor	Type	5-phase stepping motor 0.35A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK513PA-C21 (□20mm)
	Step Angle	0.72 $^{\circ}$
Sensor	Power Voltage	DC - 5V - +24V \pm 10%
	Current Consumption	40mA or lower (20mA or lower per sensor)
	Control Output	NPN open collector output 50mA
	Output Logic	In the case of light shielded ,output transistor OFF (No conduction): Limit sensor

Compatible Driver / Controller		
Control System	Compatible Driver	SG-5MA, SG-55MA, SG-514MSC
	Compatible Controller	GSC-01, GSC-02, SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M·HIT-S

Outline Drawing



Connection Diagram

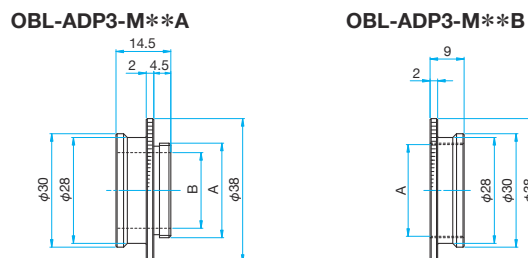


- Note 1: The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with proximity origin sensors. Limit sensors are used as origin detection sensors.
- Note 2: Compatible cable connector: Hirose Electric Co., Ltd. RP17-13PA-12PC/RP17-PC-122

Objective Lens Adapters



Outline Drawing



Specifications

Part Number	Mounting Screw Size [mm]	A [mm]	B [mm]
OBL-ADP3-M20.32A	Microscope side M20.32	M20.32 P=0.706 (W0.8×1/36)	15
OBL-ADP3-M20.32B	Objective lens side M20.32	M20.32 P=0.706 (W0.8×1/36)	—
OBL-ADP3-M25.0A	Microscope side M25.0	M25.0 P=0.75	20
OBL-ADP3-M25.0B	Objective lens side M25.0	M25.0 P=0.75	—
OBL-ADP3-M26.0A	Microscope side M26.0	M26.0 P=0.706 (W26.0×1/36)	21
OBL-ADP3-M26.0B	Objective lens side M26.0	M26.0 P=0.706 (W26.0×1/36)	—

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- 40mm
- 60mm
- 80mm
- 85mm
- 100mm
- 120mm
- Others