

Motorized Stage (2-Phase Motor)

OSMS(RE)-(X)-M2 RoHS CE

Based on our CE-compliant OSMS Series Translation Motorized Stages, we have newly added a model equipped with a "2-phase stepping motor with rotary encoder" to our lineup.
A rotary encoder built into the motor enables "Step-out detection" with a dedicated controller.
Stepping motor stages compatible with versatile travel range between 35 to 500mm and can be used in any orientation.



- The product is equipped with a "2-phase bipolar stepping motor".
- Specifications of the stage main unit are equivalent to those of OSMS Series Translation Motorized Stages.

Guide

- Please purchase "D15D15A-CA" cable and "GSEF-CA-3" separately to connect to the Controller.
- When the step-out detection function is not used, "GSEF-CA-3" is not necessary.
*Please disable the step-out detection function on the controller side in that case.

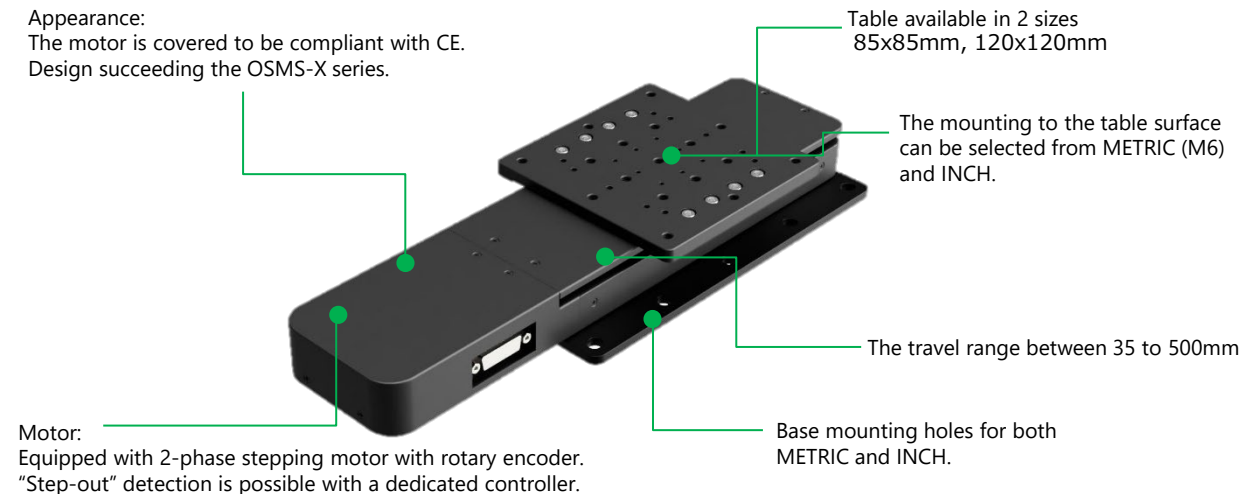
Attention

- Please use a controller for 2-phase stepping motors.
Other controllers will not operate properly.

Linear stage OSMS(RE)-(X)-M2 Series Lineup List

Part Number		Stage Size	Width	Stage Height	Travel	Load Capacity	Weight
METRIC	INCH						
OSMS(RE)20-35(X)-M6-M2	OSMS(RE)20-35(X)-INCH-M2	85x85mm	85mm	35.7mm	35mm	78.4N (8.0kgf)	1.3kg
OSMS(RE)20-85(X)-M6-M2	OSMS(RE)20-85(X)-INCH-M2	85x85mm	85mm	35.7mm	85mm	78.4N (8.0kgf)	1.5kg
OSMS(RE)26-50(X)-M6-M2	OSMS(RE)26-50(X)-INCH-M2	120x120mm	120mm	43mm	50mm	117N (12.0kgf)	3.0kg
OSMS(RE)26-100(X)-M6-M2	OSMS(RE)26-100(X)-INCH-M2	120x120mm	120mm	43mm	100mm	117N (12.0kgf)	3.4kg
OSMS(RE)26-200(X)-M6-M2	OSMS(RE)26-200(X)-INCH-M2	120x120mm	120mm	43mm	200mm	117N (12.0kgf)	4.5kg
OSMS(RE)26-300(X)-M6-M2	OSMS(RE)26-300(X)-INCH-M2	120x120mm	120mm	43mm	300mm	117N (12.0kgf)	5.5kg
OSMS(RE)33-300(X)-M6-M2	OSMS(RE)33-300(X)-INCH-M2	120x120mm	120mm	56.7mm	300mm	196N (20.0kgf)	7.4kg
OSMS(RE)33-500(X)-M6-M2	OSMS(RE)33-500(X)-INCH-M2	120x120mm	120mm	56.7mm	500mm	196N (20.0kgf)	10.2kg

OSMS(RE)-M2 Features at Glance



OSMS(RE)20-(X)-M2



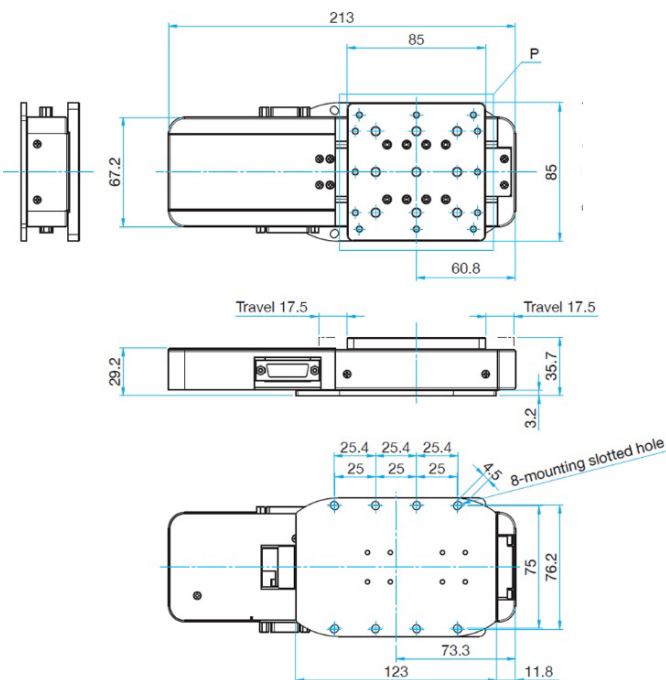
- The Stage size is 85x85 mm.
- You can choose from travel of 35 and 85 mm.
- The product main body are the same for the METRIC and INCH type stages.
- METRIC and INCH types are available for mounting on the table for each size.

Specifications				
Part Number	METRIC		OSMS(RE)20-35(X)-M6-M2	OSMS(RE)20-85(X)-M6-M2
	INCH		OSMS(RE)20-35(X)-INCH-M2	OSMS(RE)20-85(X)-INCH-M2
Mechanical Specifications	Travel [mm]		35	85
	Stage Size [mm]		85x85	85x85
	Feed Screw [mm]		Ball screw diameter φ6mm, 1mm lead	Ball screw diameter φ6mm, 1mm lead
	Positioning Slide		Outer rail structure	
	Stage Material		Aluminum	
	Finish		Black anodized	
	Weight [kg]		1.3	1.5
Accuracy Specifications	Resolution	Full [μm/pulse]	5	5
		Half [μm/pulse]	2.5	2.5
	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: GP1S097HCZ0F(Sharp Corporation)	
	Limit Sensor		Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor		Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
	Proximity Origin Sensor		None	Equipped (NORMAL OPEN)
Motor / Sensor Specifications				
Motor	Type		2-phase stepping motor 0.5A/phase	
	Motor Part Number		PKP213D05A-A3 (Oriental Motor Co., Ltd.)	
	Step Angle (°)		1.8	
	Resolution of Rotary Encoder (P/R)		500	
	Rotary Encoder Power Voltage /Current Consumption		DC5V±10% / 50mA	
Sensor	Power Voltage		DC5 - 24V±5%	
	Current Consumption		60mA or lower (20mA or lower per sensor)	80mA or lower (20mA or lower per sensor)
	Control Output		NPN open collector output DC30V or lower, 50mA or lower	
	Output Logic		When shaded: Output transistor OFF (no conduction) : Limit Sensor When shaded: Output transistor OFF (conduction) : Origin Sensor, Proximity Origin Sensor	
Compatible Cable / Driver / Controller				
Compatible Cable	Driver Cable		D15D15A-CA	
	Encoder Cable		GSEF-CA-3	
Control System	Compatible Driver		-	
	Compatible Controller		HIT-MV ・ HIT-SA-M2	

Outline Drawing

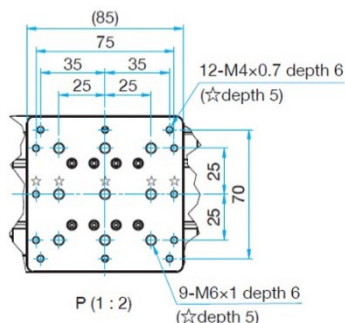
OSMS(RE)20-35(X)-M6-M2 / OSMS(RE)20-35(X)-INCH-M2

 Hexagonal socket head cap screw M4x8...8 screws  Hexagonal socket head cap screw #8-32UNCx5/16...8 screws

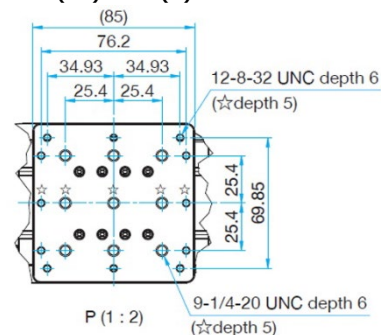


Mounting hole pattern of a top plate

OSMS(RE)20-35(X)-M6-M2

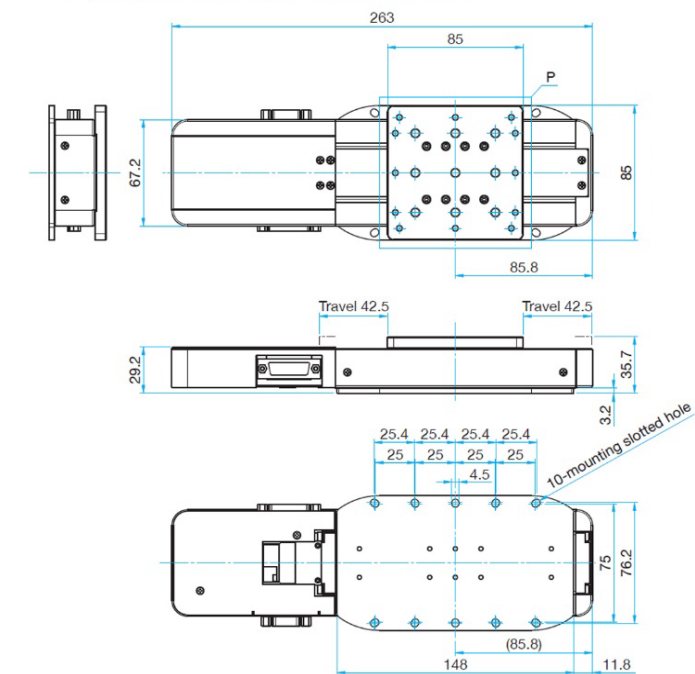


OSMS(RE)20-35(X)-INCH-M2



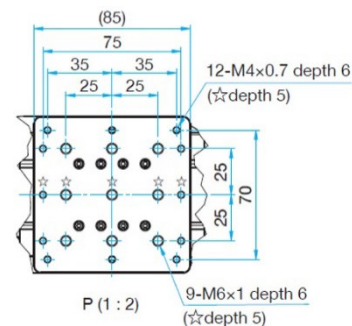
OSMS(RE)20-85(X)-M6-M2 / OSMS(RE)20-85(X)-INCH-M2

 Hexagonal socket head cap screw M4x8...10 screws  Hexagonal socket head cap screw #8-32UNCx5/16...10 screws

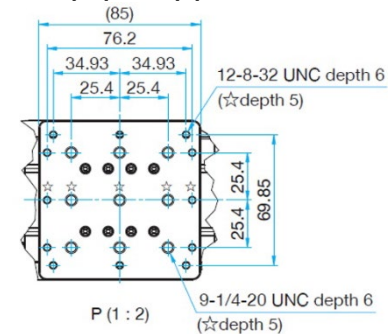


Mounting hole pattern of a top plate

OSMS(RE)20-85(X)-M6-M2



OSMS(RE)20-85(X)-INCH-M2

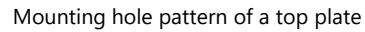
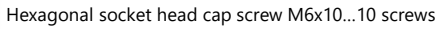


OSMS(RE)26-(X)-M2

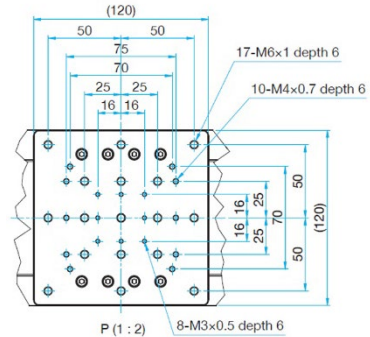


- The Stage size is 120x120 mm.
- You can choose from travel of 50, 100, 200, and 300 mm.
- The product main body are the same for the METRIC and INCH type stages.
- METRIC and INCH types are available for mounting on the table for each size.

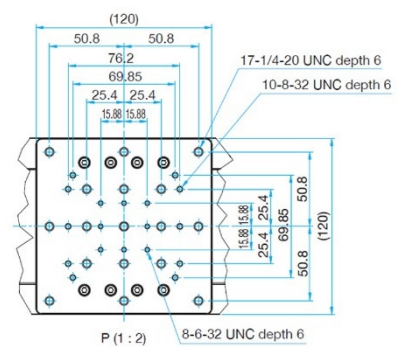
Specifications				
Part Number	METRIC		OSMS(RE)26-50(X)-M6-M2	OSMS(RE)26-100(X)-M6-M2
	INCH		OSMS(RE)26-50(X)-INCH-M2	OSMS(RE)26-100(X)-INCH-M2
Mechanical Specifications	Travel [mm]		50	100
	Stage Size [mm]		120x120	120x120
	Feed Screw [mm]		Ball screw diameter φ8mm, 2mm lead	Ball screw diameter φ8mm, 2mm lead
	Positioning Slide		Outer rail structure	
	Stage Material		Aluminum	
	Finish		Black anodized	
	Weight [kg]		3	3.4
Accuracy Specifications	Resolution	Full [μm/pulse]	10	10
		Half [μm/pulse]	5	5
	MAX Speed [mm/sec]		40	40
	Positioning Accuracy [μm]		5	10
	Positional Repeatability [μm]		3	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	3
	Backlash [μm]		3	3
	Parallelism [μm]		50	50
	Running Parallelism [μm]		10	10
	Pitch ["/]/Yaw ["/]		25/20	25/20
Sensor	Sensor Part Number		Micro photo sensor : GP1S097HCZ0F(Sharp Corporation)	
	Limit Sensor		Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor		Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
	Proximity Origin Sensor		Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
Motor / Sensor Specifications				
Motor	Type		2-phase stepping motor 1.5A/phase	
	Motor Part Number		PKP225D15A2-A1 (Oriental Motor Co., Ltd.)	
	Step Angle (°)		1.8	
	Resolution of Rotary Encoder (P/R)		500	
	Rotary Encoder Power Voltage /Current Consumption		DC5V±10% / 50mA	
Sensor	Power Voltage		DC5 - 24V±5%	
	Current Consumption		80mA or lower (20mA or lower per sensor)	
	Control Output		NPN open collector output DC30V or lower, 50mA or lower	
	Output Logic		When shaded: Output transistor OFF (no conduction) : Limit Sensor When shaded: Output transistor OFF (conduction) : Origin Sensor, Proximity Origin Sensor	
Compatible Cable / Driver / Controller				
Compatible Cable	Driver Cable		D15D15A-CA	
	Encoder Cable		GSEF-CA-3	
Control System	Compatible Driver		-	
	Compatible Controller		HIT-MV · HIT-SA-M2	



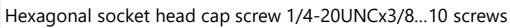
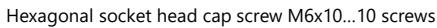
OSMS(RE)26-50(X)-M6-M2



OSMS(RE)26-50(X)-INCH-M2

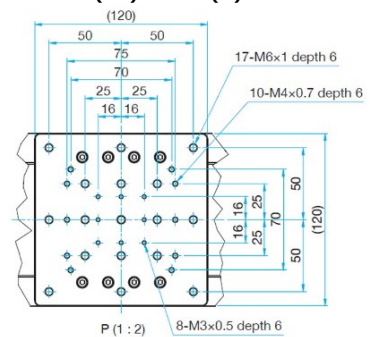


OSMS(RE)26-100(X)-M6-M2 / OSMS(RE)26-100(X)-INCH-M2

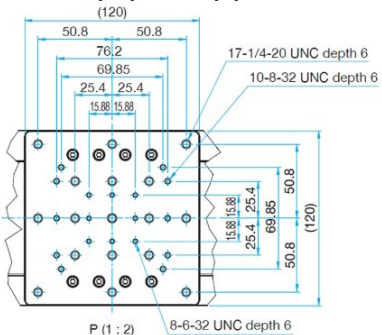


Mounting hole pattern of a top plate

OSMS(RE)26-100(X)-M6-M2



OSMS(RE)26-100(X)-INCH-M2



OSMS(RE)26-(X)-M2

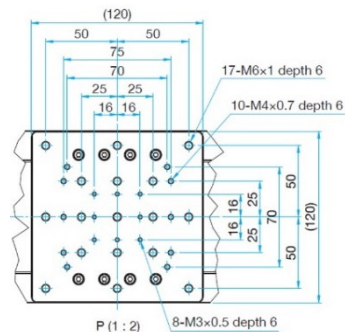
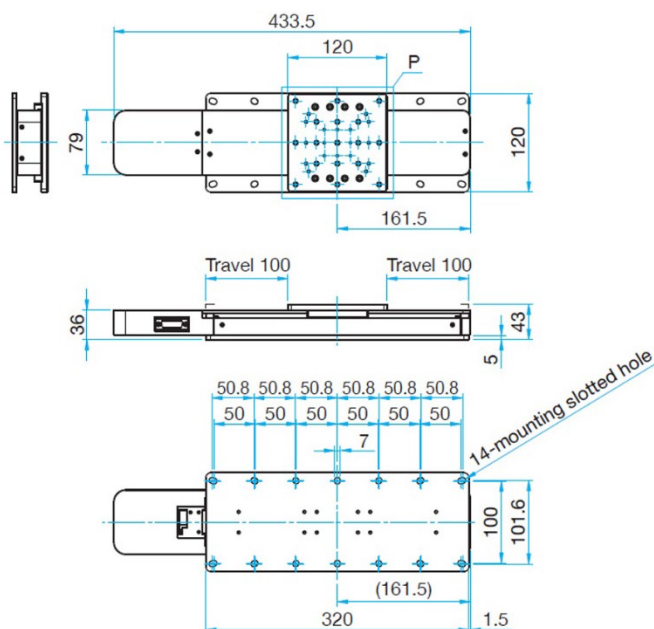
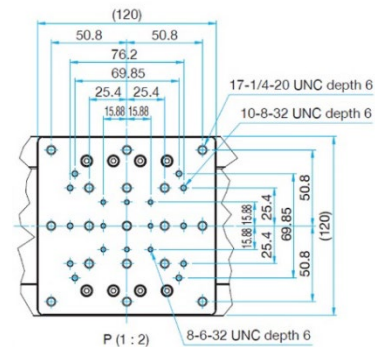


Specifications				
Part Number	METRIC		OSMS(RE)26-200(X)-M6-M2	OSMS(RE)26-300(X)-M6-M2
	INCH		OSMS(RE)26-200(X)-INCH-M2	OSMS(RE)26-300(X)-INCH-M2
Mechanical Specifications	Travel [mm]		200	300
	Stage Size [mm]		120x120	120x120
	Feed Screw [mm]		Ball screw diameter ϕ8mm, 2mm lead	Ball screw diameter ϕ8mm, 2mm lead
	Positioning Slide		Outer rail structure	
	Stage Material		Aluminum	
	Finish		Black anodized	
	Weight [kg]		4.5	5.5
Accuracy Specifications	Resolution	Full [μm/pulse]	10	10
		Half [μm/pulse]	5	5
	MAX Speed [mm/sec]		40	40
	Positioning Accuracy [μm]		15	20
	Positional Repeatability [μm]		6	6
	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]		5	5
	Backlash [μm]		3	3
	Parallelism [μm]		50	50
	Running Parallelism [μm]		10	10
	Pitch ["/]/Yaw ["/]		30/25	30/25
Sensor	Sensor Part Number		Micro photo sensor : GP1S097HCZ0F(Sharp Corporation)	
	Limit Sensor		Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor		Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
	Proximity Origin Sensor		Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
Motor / Sensor Specifications				
Motor	Type		2-phase stepping motor 1.5A/phase	
	Motor Part Number		PKP225D15A2-A1 (Oriental Motor Co., Ltd.)	
	Step Angle (°)		1.8	
	Resolution of Rotary Encoder (P/R)		500	
	Rotary Encoder Power Voltage /Current Consumption		DC5V±10% / 50mA	
Sensor	Power Voltage		DC5 - 24V±5%	
	Current Consumption		80mA or lower (20mA or lower per sensor)	
	Control Output		NPN open collector output DC30V or lower, 50mA or lower	
	Output Logic		When shaded: Output transistor OFF (no conduction) : Limit Sensor When shaded: Output transistor OFF (conduction) : Origin Sensor, Proximity Origin Sensor	
Compatible Cable / Driver / Controller				
Compatible Cable	Driver Cable		D15D15A-CA	
	Encoder Cable		GSEF-CA-3	
Control System	Compatible Driver		-	
	Compatible Controller		HIT-MV • HIT-SA-M2	

OSMS(RE)26-200(X)-M6-M2 / OSMS(RE)26-200(X)-INCH-M2
 Hexagonal socket head cap screw M6x10...14 screws

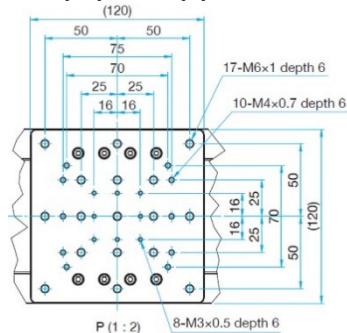
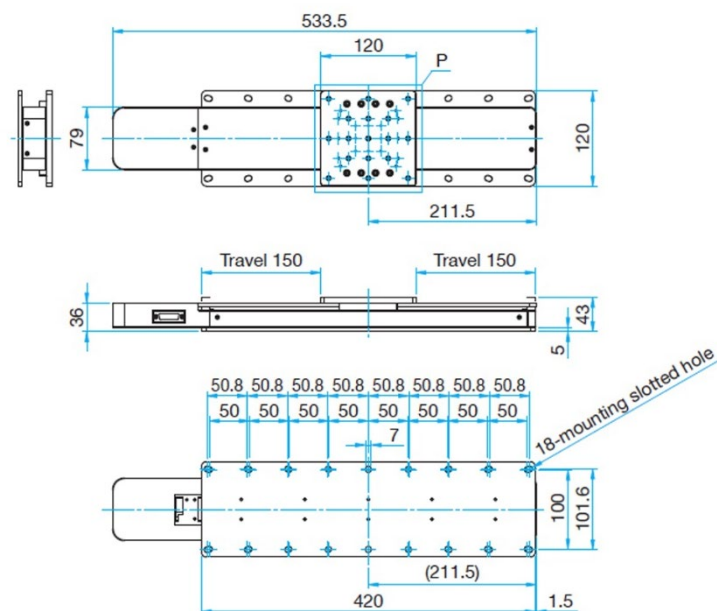
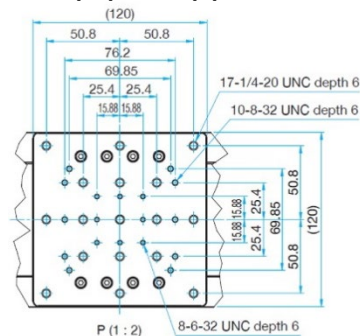
 Hexagonal socket head cap screw 1/4-20UNCx3/8...14 screws

Mounting hole pattern of a top plate

OSMS(RE)26-200(X)-M6-M2**OSMS(RE)26-200(X)-INCH-M2****OSMS(RE)26-300(X)-M6-M2 / OSMS(RE)26-300(X)-INCH-M2**
 Hexagonal socket head cap screw M6x10...18 screws

 Hexagonal socket head cap screw 1/4-20UNCx3/8...18 screws

Mounting hole pattern of a top plate

OSMS(RE)26-300(X)-M6-M2**OSMS(RE)26-300(X)-INCH-M2**

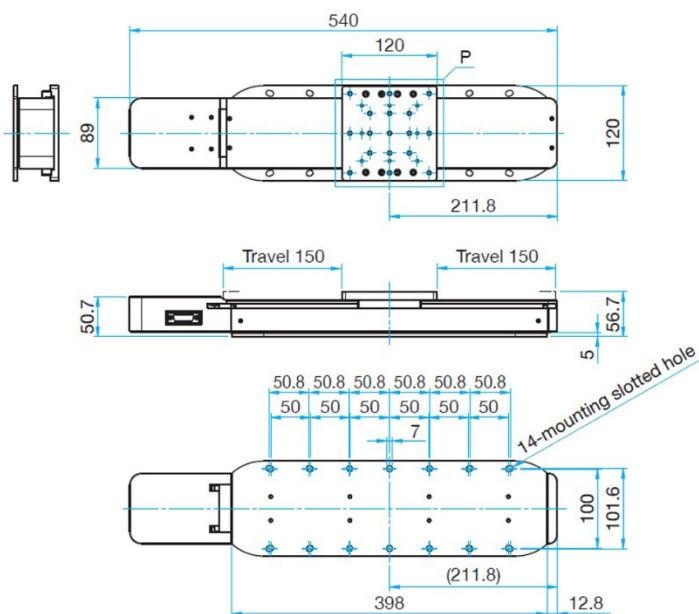
OSMS(RE)33-(X)-M2



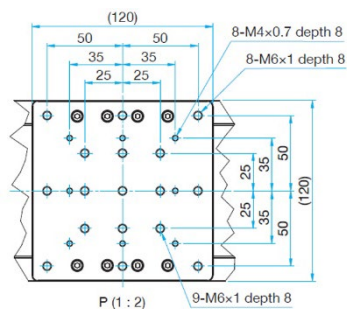
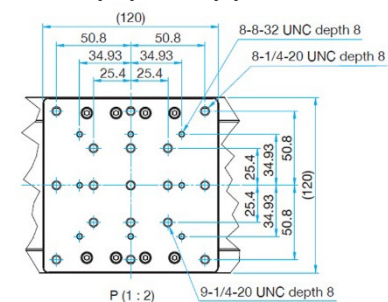
- The Stage size is 120x120 mm.
- You can choose from travel of 300 and 500 mm.
- The product main body are the same for the METRIC and INCH type stages.
- METRIC and INCH types are available for mounting on the table for each size.

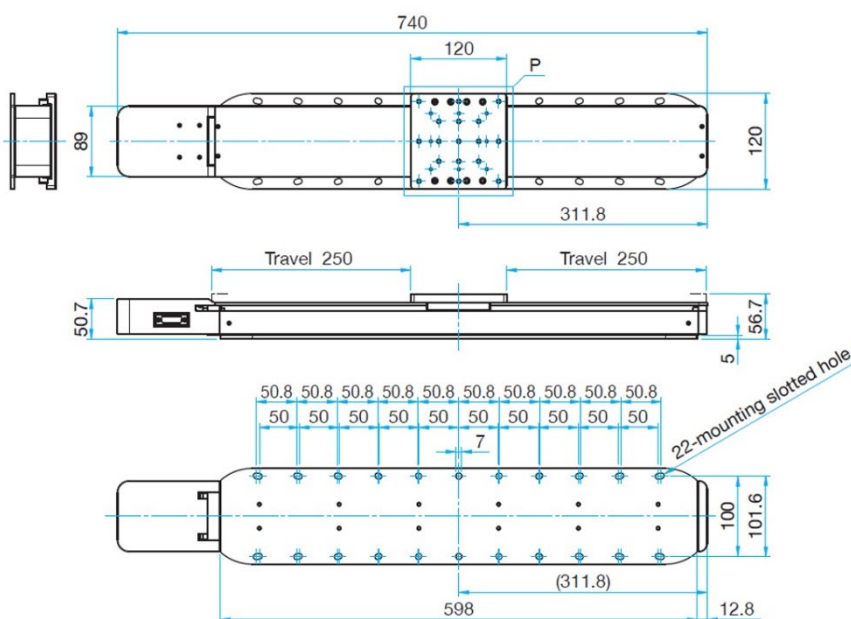
Specifications				
Part Number	METRIC		OSMS(RE)33-300(X)-M6-M2	OSMS(RE)33-500(X)-M6-M2
	INCH		OSMS(RE)33-300(X)-INCH-M2	OSMS(RE)33-500(X)-INCH-M2
Mechanical Specifications	Travel [mm]		300	500
	Stage Size [mm]		120x120	120x120
	Feed Screw [mm]		Ball screw diameter φ10mm, 10mm lead	Ball screw diameter φ10mm, 10mm lead
	Positioning Slide		Outer rail structure	
	Stage Material		Aluminum	
	Finish		Black anodized	
	Weight [kg]		7.4	10.2
Accuracy Specifications	Resolution	Full [μm/pulse]	50	50
		Half [μm/pulse]	25	25
	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			
	Limit Sensor		Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)
	Origin Sensor		Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
	Proximity Origin Sensor		Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)
Motor / Sensor Specifications				
Motor	Type		2-phase stepping motor 1.5A/phase	
	Motor Part Number		PKP245D15A2-A1 (Oriental Motor Co., Ltd.)	
	Step Angle (°)		1.8	
	Resolution of Rotary Encoder (P/R)		500	
	Rotary Encoder Power Voltage /Current Consumption		DC5V±10% / 50mA	
Sensor	Power Voltage		DC5 - 24V±5%	
	Current Consumption		80mA or lower (20mA or lower per sensor)	
	Control Output		NPN open collector output DC30V or lower, 50mA or lower	
	Output Logic		When shaded: Output transistor OFF (no conduction) : Limit Sensor When shaded: Output transistor OFF (conduction) : Origin Sensor, Proximity Origin Sensor	
Compatible Cable / Driver / Controller				
Compatible Cable	Driver Cable		D15D15A-CA	
	Encoder Cable		GSEF-CA-3	
Control System	Compatible Driver		-	
	Compatible Controller		HIT-MV · HIT-SA-M2	

OSMS(RE)33-300(X)-M6-M2 / OSMS(RE)33-300(X)-INCH-M2
 Hexagonal socket head cap screw M6x12...14 screws

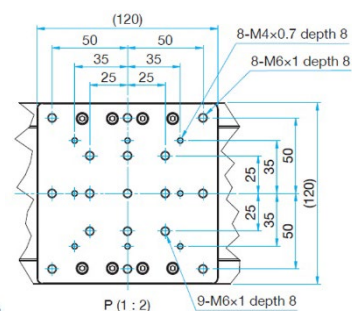
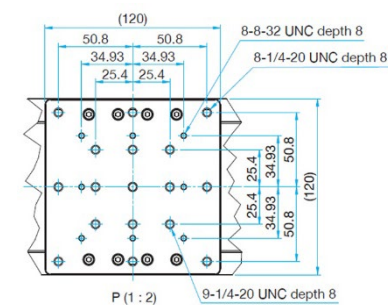
 Hexagonal socket head cap screw 1/4-20UNCx1/2...14 screws


Mounting hole pattern of a top plate

OSMS(RE)33-300(X)-M6-M2**OSMS(RE)33-300(X)-INCH-M2****OSMS(RE)33-500(X)-M6-M2 / OSMS(RE)33-500(X)-INCH-M2**
 Hexagonal socket head cap screw M6x12...22 screws

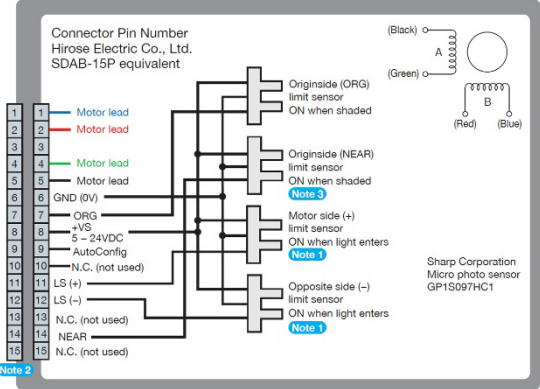
 Hexagonal socket head cap screw 1/4-20UNCx1/2...22 screws


Mounting hole pattern of a top plate

OSMS(RE)33-500(X)-M6-M2**OSMS(RE)33-500(X)-INCH-M2**

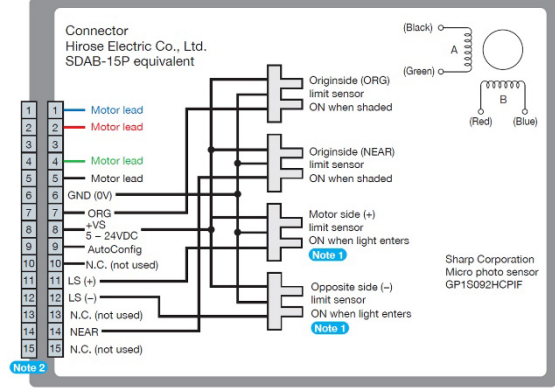
■ Connection Diagram

OSMS(RE)20-(X)-M2



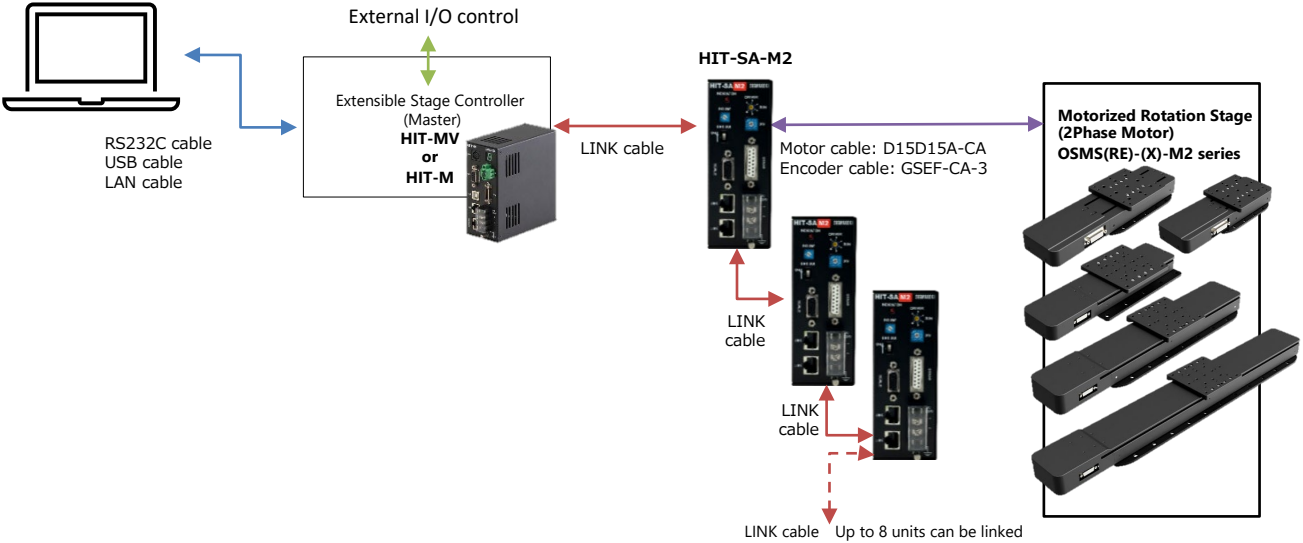
- Note 1 The motor side limit sensor is the + direction limit sensor.
Note 2 Compatible cable connector: DDK Ltd. 17JE-13150
Note 3 OSMS (RE) 20-35 is not fitted with proximity origin sensor. 6 and 14P are short-circuited

OSMS(RE)26-(X)-M2/ OSMS(RE)33-(X)-M2



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

■ System Diagram



OSMS(RE)-YAW

Motorized Rotation Stage (2-Phase Motor)

The OSMS(RE)-YAW series motorized stage equipped with a 2-phase stepper motor with rotary encoder is also available.



Lineup list of OSMS(RE)-YAW series rotating stages

Part Number		Stage Size	Rotation Range*	Load Capacity	Travel Mechanism (reduction ratio)	Positioning Slide	Stage Material	Weight
METRIC	INCH							
OSMS(RE)-40YAW-M2	OSMS(RE)-40YAW-INCH-M2	φ 40mm	360°	19.6N (2.0kgf)	Worm gear(1:144)	Bearing method	Aluminum / Aluminum bronze	0.4kg
OSMS(RE)-65YAW-M6-M2	OSMS(RE)-65YAW-INCH-M2	φ 65mm	360°	29.4N (3.0kgf)	Worm gear(1:144)	Bearing method	Aluminum / Aluminum bronze	0.6Kg
OSMS(RE)-80YAW-M6-M2	OSMS(RE)-80YAW-INCH-M2	φ 80mm	360°	98.0N (10.0kgf)	Worm gear(1:144)	Bearing method	Aluminum / Aluminum bronze	1.2kg
OSMS(RE)-120YAW-M6-M2	OSMS(RE)-120YAW-INCH-M2	φ 120mm	360°	196.0N (20.0kgf)	Worm gear(1:144)	Crossed roller	Aluminum / Aluminum bronze	2.1kg
OSMS(RE)-160YAW-M6-M2	OSMS(RE)-160YAW-INCH-M2	φ 160mm	360°	196.0N (20.0kgf)	Worm gear(1:144)	Crossed roller	Aluminum / Aluminum bronze	2.6kg