

Motorized Rotation Stage

(2-Phase Motor)

OSMS(RE)-YAW RoHS CE

Based on our CE-compliant OSMS-YAW Series Rotation 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.

- The product is equipped with a "2-phase bipolar stepping motor".
- Specifications of the stage main unit are equivalent to those of OSMS-YAW Series Rotation Motorized Stages.
- The "step-out detection function" of the dedicated controller can be used.



Guide

- Please purchase "D15H12A-RC-3" 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.

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

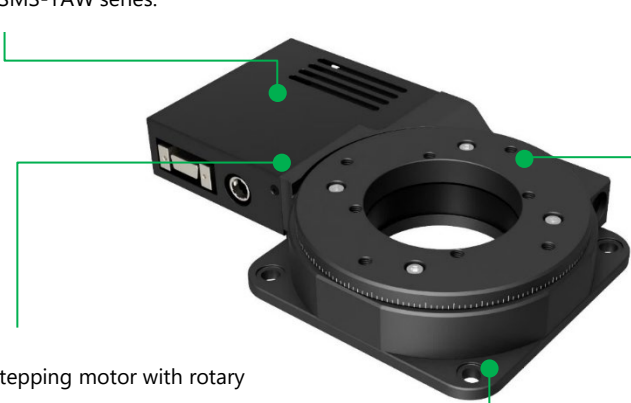
* The table can rotate infinitely in both direction.

OSMS(RE)-YAW Features at Glance

Appearance:
The motor is covered to be compliant with CE.
Design succeeding the OSMS-YAW series.

Table available in 5 sizes.
φ40・65・80・120・160mm

Motor:
Equipped with 2-phase stepping motor with rotary encoder.
"Step-out" detection is possible with a dedicated controller.



Mounting holes on the table:
Select from METRIC (M6) and INCH
φ40mm has M2 and M3 threaded hole.

Base mounting holes for both
METRIC and INCH.

- Table size can be selected from φ40, 65, 80, 120, and 160 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.

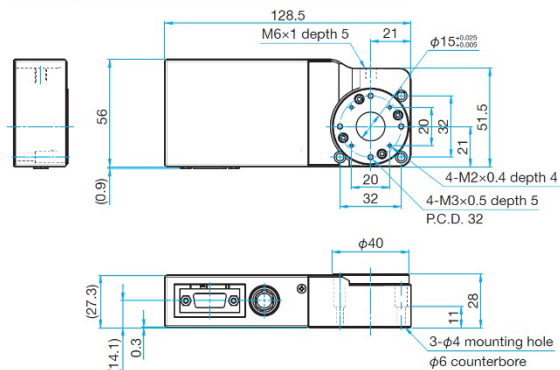


Specifications				
Part Number	METRIC	OSMS(RE)-40YAW-M2	OSMS(RE)-65YAW-M6-M2	OSMS(RE)-80YAW-M6-M2
	INCH	OSMS(RE)-40YAW-INCH-M2	OSMS(RE)-65YAW-INCH-M2	OSMS(RE)-80YAW-INCH-M2
Mechanical Specifications	Rotation Range [°]	360 (The table can rotate infinitely in both direction.)		
	Stage Size [mm]	φ40	φ65	φ80
	Travel Mechanism (reduction ratio)	Worm gear (1:144)		
	Positioning Slide	Bearing method	Bearing method	Bearing method
	Stage Material	Aluminum / Aluminum bronze		
	Finish	Black Anodized		
	Weight [kg]	0.4	0.6	1.2
Accuracy Specifications	Resolution [Full] [°/pulse]	0.0125		
	Resolution [Half] [°/pulse]	0.00625		
	MAX Speed [°/sec]	30		
	Positioning Accuracy [°]	0.1	0.1	0.15
	Positional Repeatability [°]	0.02	0.02	0.02
	Load Capacity [N]	19.6 (2.0kgf)	29.4 (3.0kgf)	98 (10.0kgf)
	Moment Stiffness [°/N・cm]	2	1	0.2
	Lost Motion [°]	0.05	0.05	0.05
	Backlash [°]	0.1	0.1	0.08
	Parallelism [μm]	50	50	50
	Concentricity [μm]	30	30	30
	Wobble [μm]	20	20	20
Sensor	Sensor Part Number	Micro Photoelectric Sensor: PM-F25 (SUNX Co., Ltd.)		
	Limit Sensor	None		
	Origin Sensor	Equipped (NORMAL OPEN)		
	Proximity Origin Sensor	None		
Motor / Sensor Specifications				
Motor	Type	2-phase stepping motor 0.5A/phase		2-phase stepping motor 1.2A/phase
	Motor Part Number	PKP213D05A-A3 (Oriental Motor Co., Ltd.)		PKP225D15A-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	15mA or lower		
	Control Output	NPN open collector output DC30V or lower, 50mA or lower		
	Output Logic	When shaded: Output transistor ON (conduction)		
Compatible Cable / Driver / Controller				
Compatible Cable	Driver Cable	D15H12A-RC-3		
	Encoder Cable	GSEF-CA-3		
Control System	Compatible Driver	-		
	Compatible Controller	HIT-MV・HIT-SA-M2		

Outline Drawing

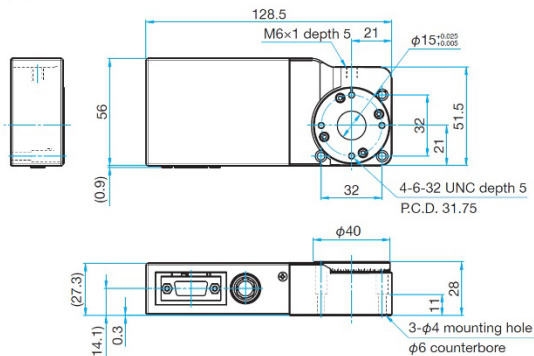
OSMS(RE)-40YAW-M2

Hexagonal socket head cap screw M3×15...3 screws



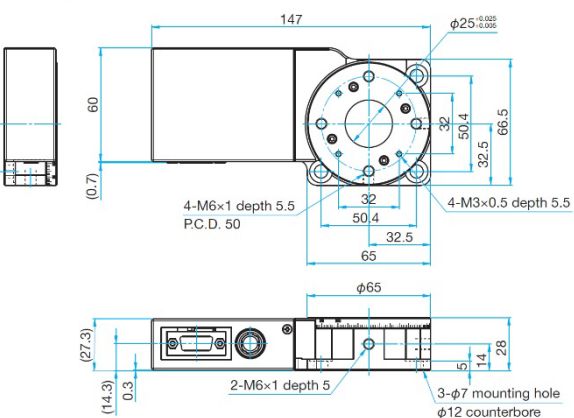
OSMS(RE)-40YAW-INCH-M2

Hexagonal socket head cap screw #6-32UNC×5/8...3 screws



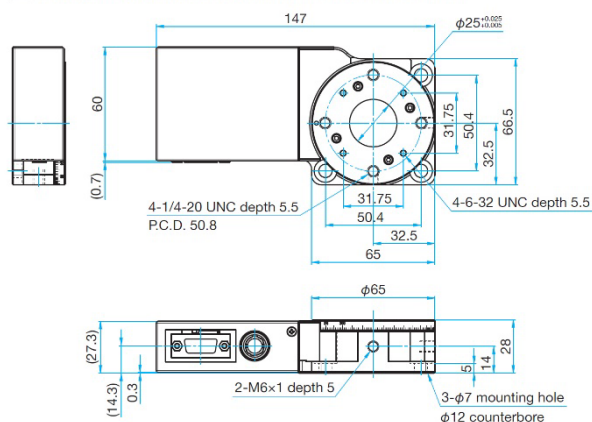
OSMS(RE)-65YAW-M6-M2

Hexagonal socket head cap screw M6×10...3 screws



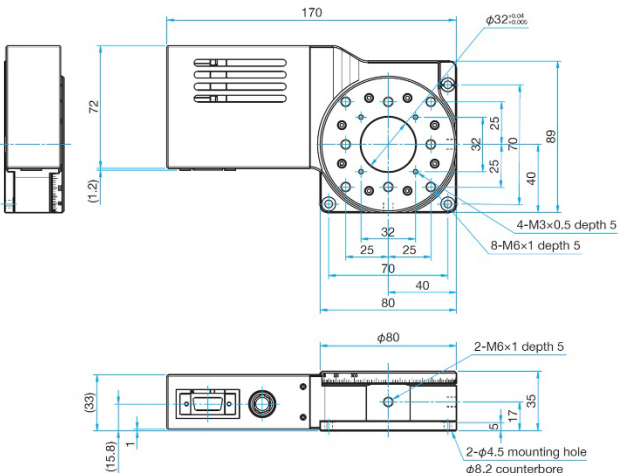
OSMS(RE)-65YAW-INCH-M2

Hexagonal socket head cap screw 1/4-20UNC×3/8...3 screws



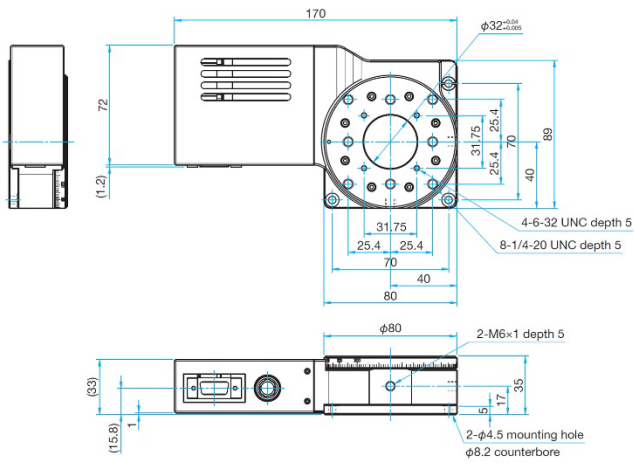
OSMS(RE)-80YAW-M6-M2

Hexagonal socket head cap screw M4×10...3 screws



OSMS(RE)-80YAW-INCH-M2

Hexagonal socket head cap screw #8-32UNC×8/3...3 screws

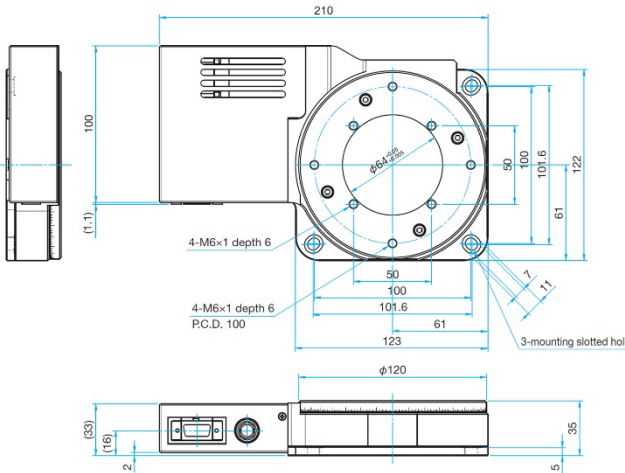




Specifications			
Part Number	METRIC	OSMS(RE)-120YAW-M6-M2	OSMS(RE)-160YAW-M6-M2
	INCH	OSMS(RE)-120YAW-INCH-M2	OSMS(RE)-160YAW-INCH-M2
Mechanical Specifications	Rotation Range [°]	360 (The table can rotate infinitely in both direction.)	
	Stage Size [mm]	φ120	φ160
	Travel Mechanism (reduction ratio)	Worm gear (1:144)	
	Positioning Slide	Crossed roller	Crossed roller
	Stage Material	Aluminum / Aluminum bronze	
	Finish	Black Anodized	
	Weight [kg]	2.1	2.6
Accuracy Specifications	Resolution [Full] [°/pulse]	0.0125	
	Resolution [Half] [°/pulse]	0.00625	
	MAX Speed [°/sec]	30	
	Positioning Accuracy [°]	0.1	0.1
	Positional Repeatability [°]	0.02	0.02
	Load Capacity [N]	196 (20.0kgf)	196 (20.0kgf)
	Moment Stiffness [°/N・cm]	0.1	0.1
	Lost Motion [°]	0.05	0.05
	Backlash [°]	0.08	0.08
	Parallelism [μm]	50	60
	Concentricity [μm]	30	30
	Wobble [μm]	20	20
Sensor	Sensor Part Number	Micro Photoelectric Sensor: PM-F25 (SUNX Co., Ltd.)	
	Limit Sensor	None	
	Origin Sensor	Equipped (NORMAL OPEN)	
	Proximity Origin Sensor	None	
Motor / Sensor Specifications			
Motor	Type	2-phase stepping motor 1.2A/phase	
	Motor Part Number	PKP225D15A-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	15mA or lower	
	Control Output	NPN open collector output DC30V or lower, 50mA or lower	
	Output Logic	When shaded: Output transistor ON (conduction)	
Compatible Cable / Driver / Controller			
Compatible Cable	Driver Cable	D15H12A-RC-3	
	Encoder Cable	GSEF-CA-3	
Control System	Compatible Driver	-	
	Compatible Controller	HIT-MV・HIT-SA-M2	

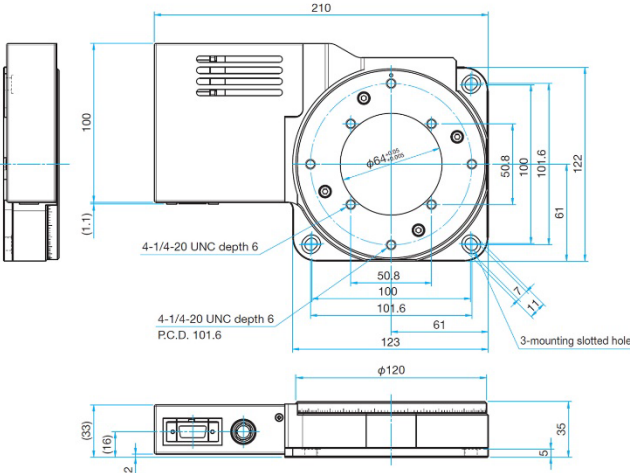
OSMS(RE)-120YAW-M6-M2

Hexagonal socket head cap screw M6×10...3 screws



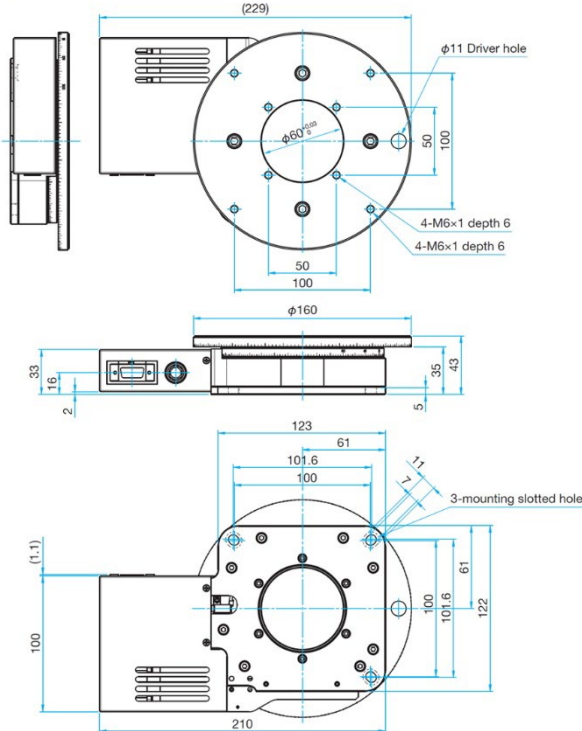
OSMS(RE)-120YAW-INCH-M2

Hexagonal socket head cap screw 1/4-20UNC×3/8...3 screws



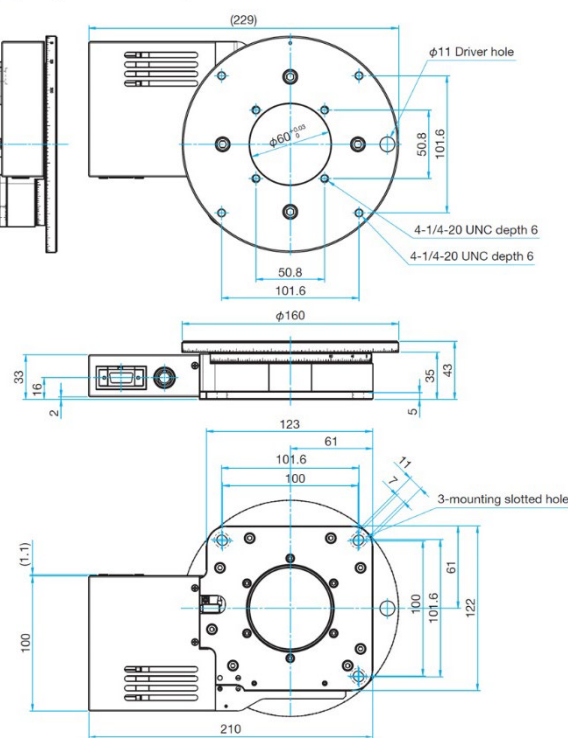
OSMS(RE)-160YAW-M6-M2

Hexagonal socket head cap screw M6×10...3 screws

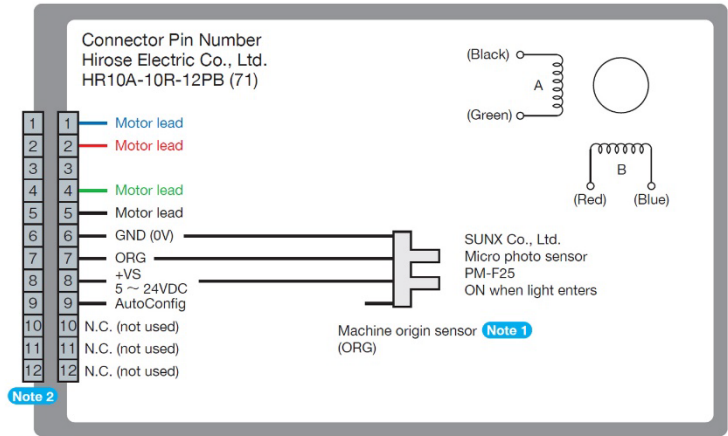


OSMS(RE)-65YAW-INCH-M2

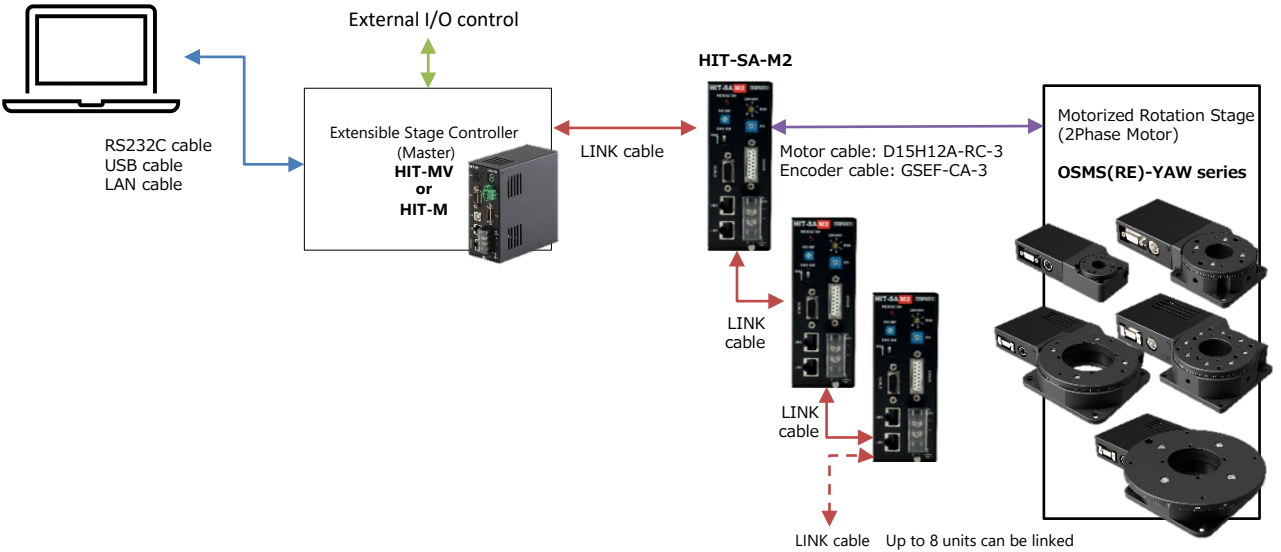
Hexagonal socket head cap screw 1/4-20UNC×3/8...3 screws



■ Connection Diagram



■ System Diagram



OSMS(RE)-(X)-M2 Motorized stage with rotary encoder (2-phase stepper motor)

The OSMS(RE)-(X)-M2 series motorized stage equipped with a 2-phase stepper motor with rotary encoder is also available.

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