

Application Systems

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Piezo Stage

Precision Linear MS

High Speed MS

Motorized Goniometer

Motorized Rotation

Multiaxis Motorized

Industrial Robot

Controller & Driver & Cable

Custom-Built MS

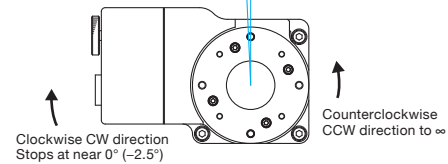
Stepping motor driven rotation stages fitted with bearing guide and worm gear feed mechanism.



- Motorized stages suitable for positioning for measuring, inspection and evaluation instruments.

Guide

- Rotation Range Minus limit sensor : -2.5° Scale : 0°



- Homing of rotation motorized stages is performed using the CW limit sensor as the origin sensor.
- Origin detection is adjusted so that the stage stops at 0 degree when homing is performed in the MINI system at half step.

Attention

- Attention is required when mounting in upside down orientation or on a vertical plane.
- Precision and load capacity specifications may be partly not satisfied depending on the mounting orientation.

Specifications			ARMS-80	ARMS-120	ARMS-160	ARMS-120-W
Part Number						
Mechanical Specifications	Rotation Range		Move in the counterclockwise CCW direction to ∞ , and stop at near 0 degree (-2.5°) in the clockwise CW direction.			
	Table Size [mm]		$\phi 80$	$\phi 120$	$\phi 160$	$\phi 120$
	Travel Mechanism (reduction ratio)		Worm gear (1:144)	Worm gear (1:144)	Worm gear (1:144)	Worm gear (1:144)
	Positioning Slide		Bearing method	Crossed roller	Crossed roller	Crossed roller
	Stage Material		Aluminum / Aluminum bronze	Aluminum / Aluminum bronze	Aluminum / Aluminum bronze	Aluminum / Aluminum bronze
	Weight [kg]		1.1	2.0	2.5	5.5
Accuracy Specifications	Resolution	(Full) [$^\circ$ /pulse]	0.005	0.005	0.005	0.005
		(Half) [$^\circ$ /pulse]	0.0025	0.0025	0.0025	0.0025
	MAX Speed [$^\circ$ /sec]		30	30	30	30
	Positioning Accuracy [$^\circ$]		0.15	0.1	0.1	—
	Positional Repeatability [$^\circ$]		0.02	0.02	0.02	0.02
	Load Capacity [N]		98 (10.0kgf)	196 (20.0kgf)	196 (20.0kgf)	196 (20.0kgf)
	Moment Stiffness [$^\circ$ /N·cm]		0.2	0.1	0.1	—
	Lost Motion [$^\circ$]		0.05	0.05	0.05	—
	Backlash [$^\circ$]		0.08	0.08	0.08	0.08
	Parallelism [μ m]		50	50	60	—
	Concentricity [μ m]		30	30	30	—
Wobble [mm]		0.02	0.02	0.02	—	
Sensor	Sensor Part Number		Micro Photoelectric Sensor: PM-F24 (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	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	C9865-90215P ($\square 28$ mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V $\pm 10\%$
	Current Consumption	15mA or lower
	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	SD-5M, SD-5MA, SD-55M, SD-55MA, SD-514MSC, SD-5151, SD-525M
	Compatible Controller	ASC-702, ASCG-101, ASC-302GS, ASC-304GS, ESC-M/ESC-S

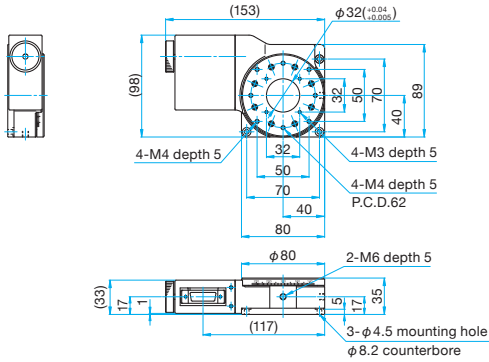
Rotation Motorized Stages

ARMS

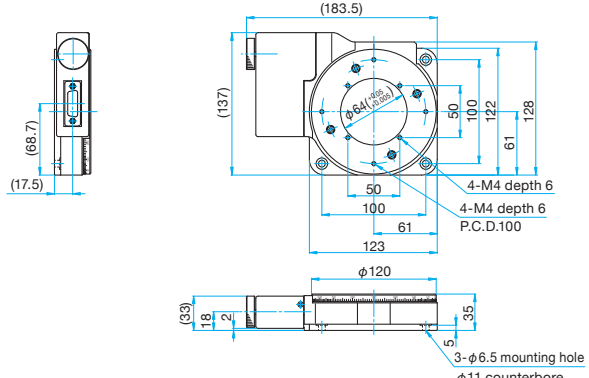


Outline Drawing

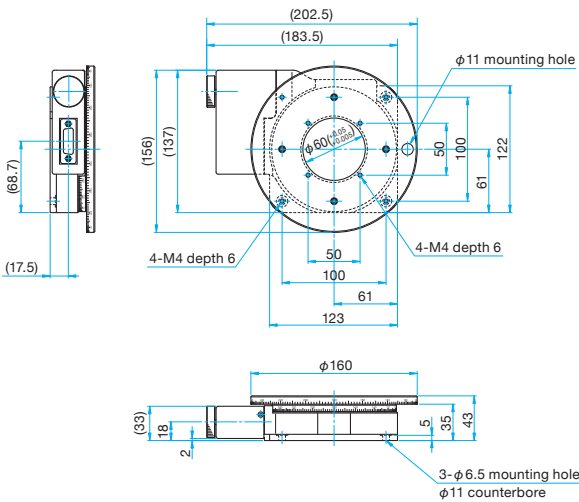
ARMS-80 Hexagon socket head cap screw M4×10...3 screws



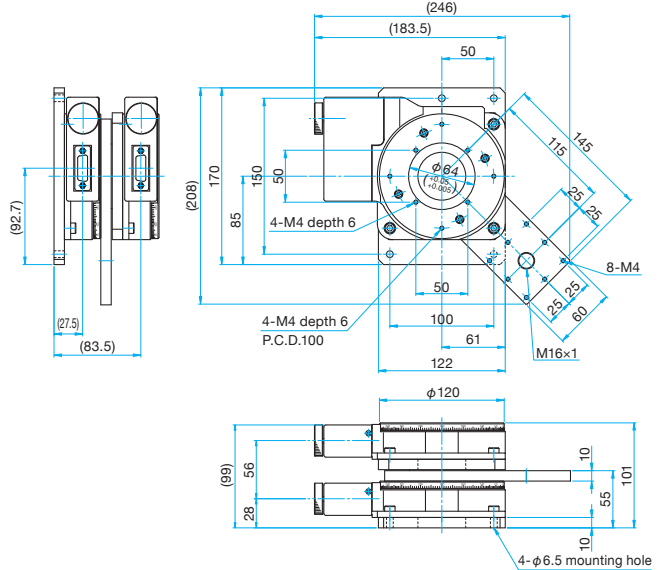
ARMS-120 Hexagon socket head cap screw M6×10...3 screws



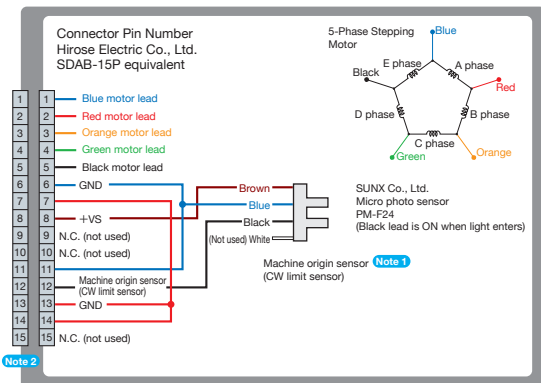
ARMS-160 Hexagon socket head cap screw M6×10...3 screws



ARMS-120-W Hexagon socket head cap screw M6×18...4 screws



Connection Diagram

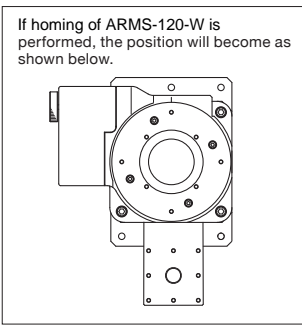
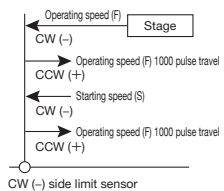


Note 1 When a travel command in the "+" direction is issued, the mounting table rotates to ∞ in the CCW (counterclockwise) direction viewed from the top surface, but it is stopped by the machine origin sensor (CW limit sensor) in the CW (clockwise) direction. Detect the machine origin using the method (MINI system) that detects the origin with a machine origin sensor (CW limit sensor).

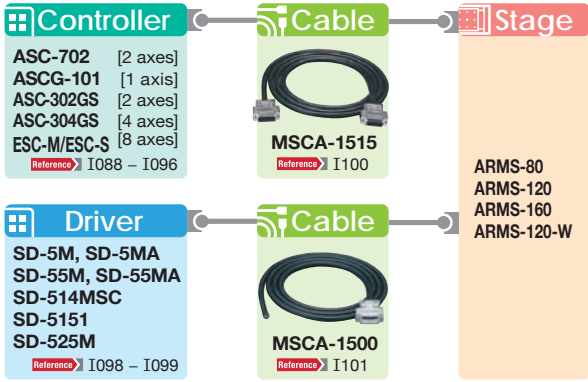
Note 2 Compatible cable connector: DDK Ltd. 17JE-13150

Machine Origin Detection

MINI System
 When the machine origin detection command is issued, the stage starts traveling in the CW (-) direction at the operating speed (F) set with the memory switch, and stops by the CW (-) side limit sensor. Then it travels in the CCW (+) direction at the operating speed (F) for 1000 pulses. After stop, it starts traveling in the CW (-) direction again at the starting speed (S), and stops by the CW (-) side limit sensor. After that, it travels in the CCW (+) direction at the operating speed (F) for 1000 pulses. This position is regarded as the machine origin.



Compatible Controllers / Drivers and Cables



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- High Speed MS
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