

Vacuum Compatible Motorized Rotation Stage

Stage Size ϕ 60 mm / ϕ 120 mm

VSGSP-YAW

RoHS

Motorized SGSP-YAW rotation stages modified for use in high vacuum.

- The ϕ 60mm size is best suited for use in smaller chambers.
- The ϕ 120mm size has a high load capacity due the larger bearing and larger motor.



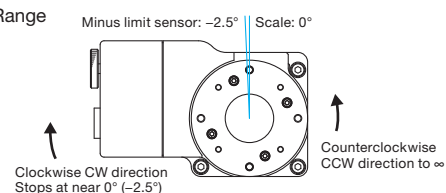
Guide

- ▶ Includes 1m teflon coated cables to connect the vacuum motor and vacuum limit switches to the chamber feedthrough connector.
- ▶ Origin detection is adjusted so that the stage stops at 0 degrees when homing is performed in the MINI system at half step.



Guide

▶ Rotation Range



- ▶ 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 degrees when homing is performed in the MINI system at half step.
- ▶ ϕ 60mm rotation stage does not include a limit sensor.

Specifications

Part Number		VSGSP-60YAW	VSGSP-120YAW
Mechanical Specifications	Rotation Range	In the CW or CCW direction to ∞	Counterclockwise CCW direction to ∞ , Clockwise CW direction stops at near 0 degree (-2.5°)
	Stage Size [mm]	ϕ 60	ϕ 120
	Feed Screw	Worm and worm wheel	Worm and worm wheel
	Positioning Slide	Bearing	Crossed roller
	Stage Material	Aluminum	Aluminum / Stainless steel
	Finish	None	None
	Weight [kg]	0.45	1.7
Accuracy Specifications	Resolution	(Full) [$^\circ$]	0.005
		(Half) [$^\circ$]	0.0025
	MAX Speed [$^\circ$ /sec]	20	20
	Positional Repeatability [$^\circ$]	0.02	0.02
	Load Capacity [N]	29.4 (3.0kgf)	98.0 (10.0kgf)
Sensor	Lost Motion [$^\circ$]	0.05	0.05
	Type	None	GN-STM35A-1 (Metrol Co., Ltd.)
	Limit Sensor	None	Vacuum touch sensor (NORMAL OPEN)
	Origin Sensor	None	None
	Proximity Origin Sensor	None	None

Motor / Sensor Specifications

	Type	Vacuum compatible 5-phase stepping motor 0.75A/phase (Tamagawa Seiki Co., Ltd.)	Vacuum compatible 5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)
Motor	Motor Part Number	TS3664N5 (\square 24mm)	PK543V-NB (\square 42mm)
	Step Angle	0.72°	0.72°
	Control Output	—	Contact type
Sensor	Output Logic	—	NORMAL OPEN

Compatible Driver / Controller

Control System	Compatible Driver	SG-5M, MC-S0514ZU, SG-514MSC, MC-7514PCL
	Compatible Controller	GSC-01, GSC-02, SHOT-702, GIP-101, HSC-103, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04-U

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Options

40 x 40 mm

60 x 60 mm

80 x 80 mm

85 x 85 mm

100 x 100 mm

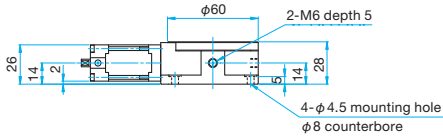
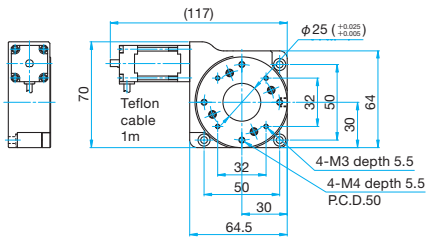
120 x 120 mm

Others

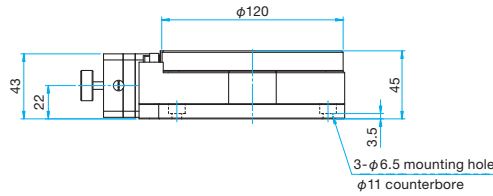
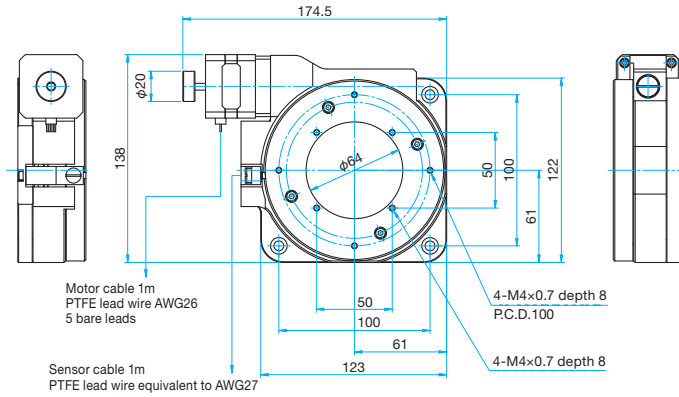


Outline Drawing

VSGSP-60YAW Hexagonal socket head cap screw M4x10...3 screws



VSGSP-120YAW Hexagon socket head cap screw M6x10...3 screws

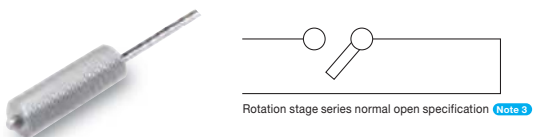


Wiring of Vacuum Stages

The vacuum compatible stepping motor TS3664N5 used for vacuum stages has five bare lead wires. For wiring, they correspond to the motor lead colors shown in the wiring diagrams of driver or cable as follows. (The motor leads shown in the connection diagrams of driver or cable indicate wiring of stepping motors used for normal stages.)

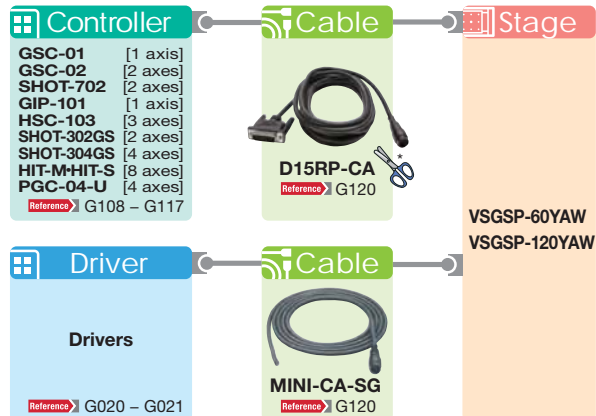
	Vacuum stage motor lead color	Motor lead color shown in driver or cable connection diagram
Corresponding connection	1	Blue
	2	Red
	3	60YAW: Red White 120YAW: Orange
	4	60YAW: Yellow 120YAW: Green
	5	Black
	Vacuum compatible stage motor connection diagram	5-phase stepping motor connection diagram (SGSP series)

Limit Sensor (high vacuum compatible switch): VSGSP-120YAW



Note 3 Set the controller of vacuum compatible motorized rotation stages to normal open.

Compatible Controllers / Drivers and Cables



* Make the cable into bare wire specification after purchase.

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