

Vacuum Compatible Motorized Rotation Stage

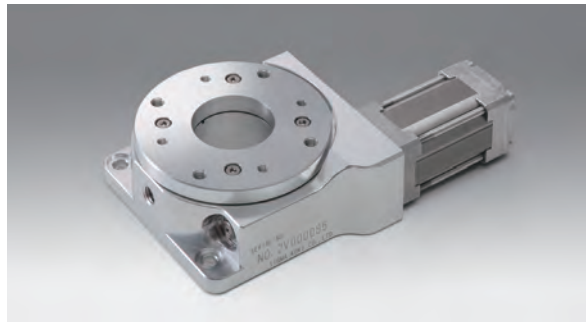
Stage Size ϕ 60 mm / ϕ 120 mm

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.



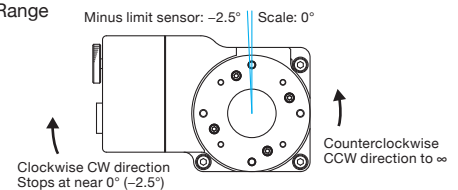
Guide

- 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	0.005
		(Half) [$^\circ$]	0.0025	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

Motor	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 Part Number	TS3664N5 ($\square$ 24mm)	PK543V-NB ($\square$ 42mm)
	Step Angle	0.72°	0.72°
Sensor	Control Output	—	Contact type
	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, HSC-103, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04-U

Application Systems

Optics & Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators & Adjusters

Motorized Stages

Light Sources & Laser Safety

Index

Guide

Controllers/Drivers

Softwares

Stepping Motor

AC Servo Motor

Cables

Piezo

X Translation

Theta Rotation

Goniometer

Vacuum

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

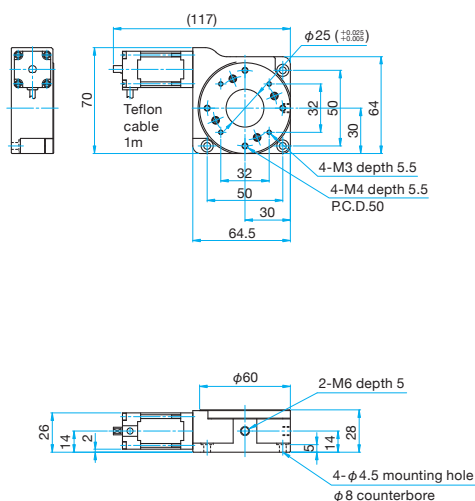
Others



Outline Drawing

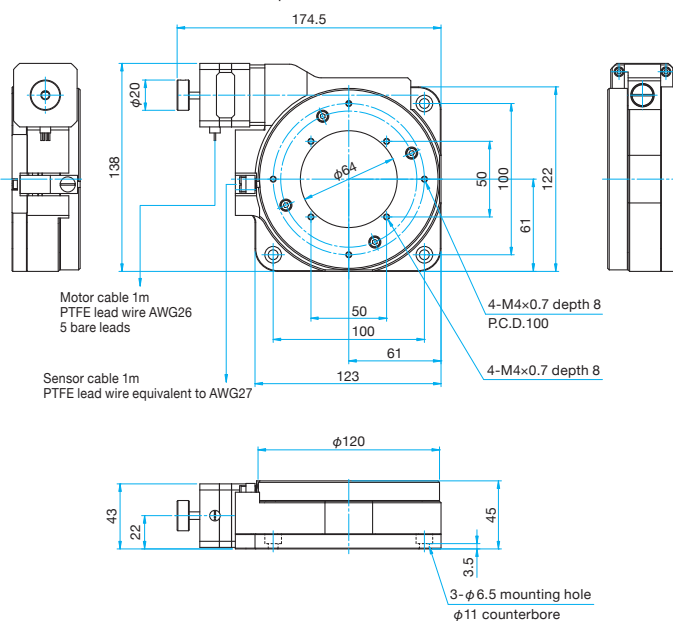
VSGSP-60YAW

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



VSGSP-120YAW

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



Wiring of Vacuum Stages

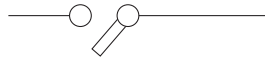
The vacuum compatible stepping motor TS3664N5 used for vacuum stages has five bare lead wires.

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
1	Blue	Blue
2	Red	Red
3	60YAW: Red White 120YAW: Orange	Orange
4	60YAW: Yellow 120YAW: Green	Green
5	Black	Black
	Vacuum compatible stage motor connection diagram (VSGSP-60YAW)	5-phase stepping motor connection diagram (SGSP series)

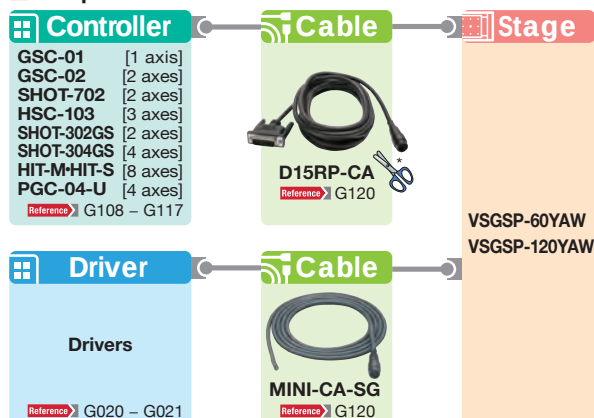
Limit Sensor (high vacuum compatible switch): VSGSP-120YAW



Rotation stage series normal open specification **Note 3**

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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Bases

Manual Stages

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Index

Guide

Controllers/Drivers

Softwares

Stepping Motor

AC Servo Motor

Cables

Piezo

X Translation

Theta Rotation

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