

Sigma Fine (Piezo) Stages (high stiffness type) XY Piezo Stages Aperture Type

SFS-H

SFS-120XY(WA)

RoHS

CE

RoHS

CE

Nanometer resolution high stiffness flexure stages.

SFS-H

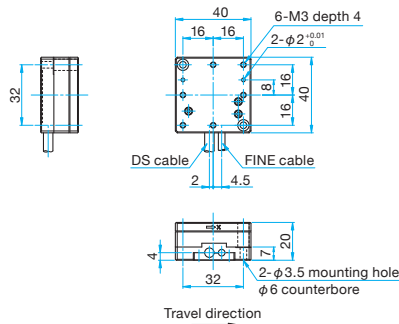


- These compact piezo stages offer high precision and high resolution positioning by utilizing full closed loop control with digital frequency based sensors.
- Using piezo element actuators, open loop travel between 90 μ m – 100 μ m is available, with minimum incremental motion as small as 1nm. Compared to the open-loop control, the maximum travel of closed-loop control will be less about 20%.
- Closed loop travel is 80% of the open loop maximum and closed loop resolution is 10nm.
- Recommended controllers are the FINE series controllers. [Reference](#) G129 Both digital and analog inputs are available.

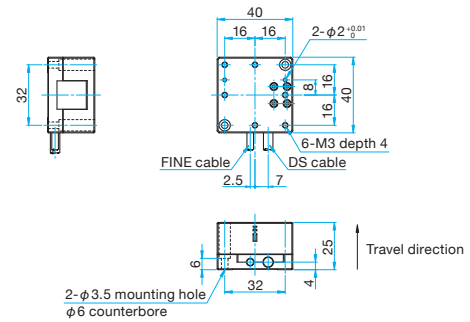


Outline Drawing

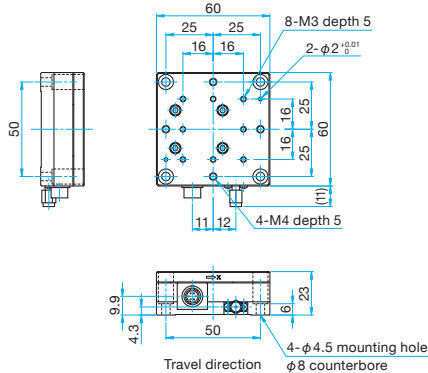
SFS-H40X(CL) Hexagon socket head cap screw M3 $\times$ 10...2 screws



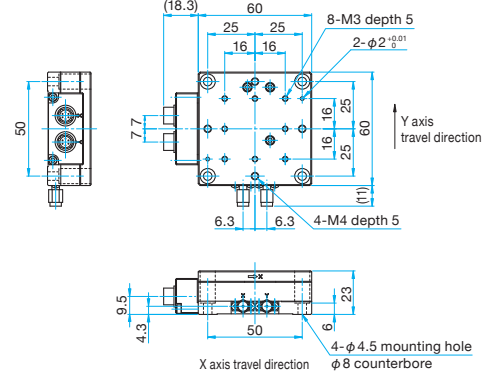
SFS-H40Z(CL) Hexagon socket head cap screw M3 $\times$ 10...2 screws



SFS-H60X(CL) Hexagon socket head cap screw M4 $\times$ 10...4 screws



SFS-H60XY(CL) Hexagon socket head cap screw M4 $\times$ 10...4 screws



Specifications

Part Number	SFS-H40X(CL)	SFS-H40Z(CL)	SFS-H60X(CL)	SFS-H60XY(CL)
Travel (at open-loop control)	90 μ m $\pm$ 15%	100 μ m $\pm$ 15%	100 μ m $\pm$ 15%	100 μ m $\pm$ 15%
Stage Size [mm]	40 $\times$ 40	40 $\times$ 40	60 $\times$ 60	60 $\times$ 60
Actuator	Piezo actuator	Piezo actuator	Piezo actuator	Piezo actuator
Weight [kg]	0.28	0.28	0.4	0.43
Theoretical Resolution (open-loop) [nm]	1	1	1	1
Resolution (closed-loop) [nm]	10	10	10	10
Linearity [%]	0.3 or lower	0.3 or lower	0.3 or lower	0.3 or lower
Perpendicularity (Horizontal Direction) [μ m]	1	1	1	1
Positional Repeatability [μ m]	0.1 or lower	0.1 or lower	0.1 or lower	0.1 or lower
Load Capacity [N]	9.8 (1.0kgf)	6.7 (0.7kgf)	19.6 (2.0kgf)	14.7 (1.5kgf)
Micro-displacement Sensor	Digital Sensor	Digital Sensor	Digital Sensor	Digital Sensor
Compatible Cable	Attached cable (2m)	Attached cable (2m)	FINE-CA-3: For piezo DS1-CA-3: For digital sensor	FINE-CA-3: For piezo DS1-CA-3: For digital sensor

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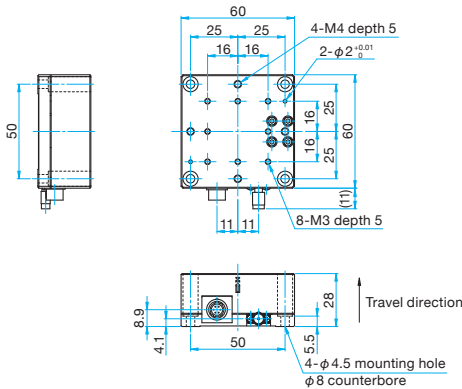
40 $\times$ 40 mm60 $\times$ 60 mm80 $\times$ 80 mm85 $\times$ 85 mm100 $\times$ 100 mm120 $\times$ 120 mm

Others

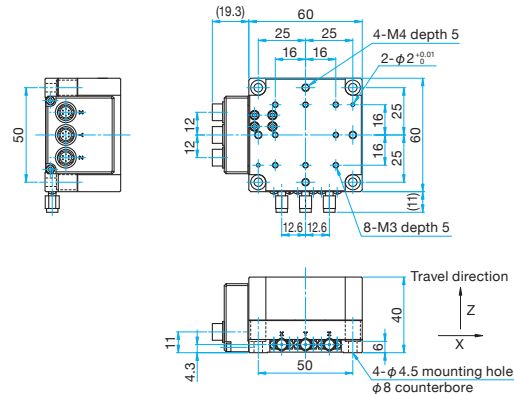


Outline Drawing

SFS-H60Z(CL) Hexagon socket head cap screw M4×10...4 screws



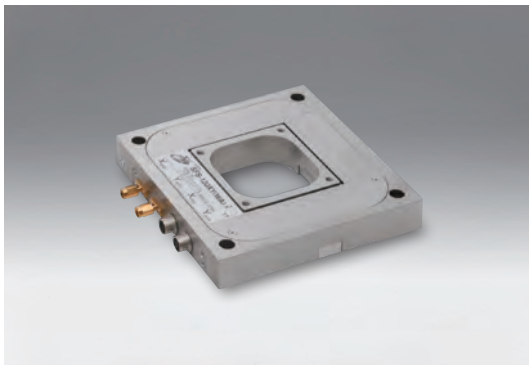
SFS-H60XYZ(CL) Hexagon socket head cap screw M4×10...4 screws



SFS-120XY(WA)

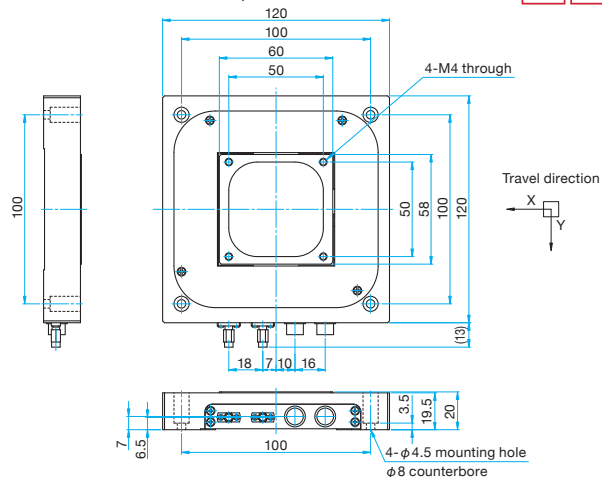
Two Axis Nanometer resolution high stiffness flexure stages with central aperture.

- High precision XY piezo stages offer high precision and high resolution positioning by utilizing full closed loop control with digital frequency based sensors.
- 50mm x 50mm aperture makes these stages ideal for microscopy applications
- Using piezo element actuators, open loop travel between 90μm – 100μm is available, with minimum incremental motion as small as 1nm.
- Closed loop travel is 80% of the open loop maximum and closed loop resolution is 10nm.
- Recommended controller is the FINE-503(**). [WEB Reference](#) W9057



Outline Drawing

SFS-120XY(WA) Hexagon socket head cap screw M4×8...4 screws



Specifications

Part Number	SFS-H60Z(CL)	SFS-H60XYZ(CL)	SFS-120XY(WA)
Travel (at open-loop control)	100μm±15%	100μm±15%	100μm±10%
Stage Size [mm]	60×60	60×60	120×120
Actuator	Piezo actuator	Piezo actuator	Piezo actuator
Weight [kg]	0.33	0.63	1.2
Theoretical Resolution (open-loop) [nm]	1	1	1
Resolution (closed-loop) [nm]	10	10	10
Linearity [%]	0.3 or lower	0.5 or lower	—
Perpendicularity (Horizontal Direction) [μm]	1	1	1 or lower
Positional Repeatability [μm]	0.1 or lower	0.15 or lower	0.1 or lower
Load Capacity [N]	9.8 (1.0kgf)	9.8 (1.0kgf)	19.6 (2.0kgf)
Micro-displacement Sensor	Digital sensor	Digital sensor	Digital sensor
Compatible Cable	FINE-CA-3: For piezo DS1-CA-3: For digital sensor	FINE-CA-3: For piezo DS1-CA-3: For digital sensor	FINE-CA-3: For piezo DS1-CA-3: For digital sensor

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Options

40 × 40 mm

60 × 60 mm

80 × 80 mm

85 × 85 mm

100 × 100 mm

120 × 120 mm

Others