Piezo Actuator for Objective Lens | SFS-OBL (Upright)/SFAI-OBL

RoHS CE (SFS-OBL-1 only) Catalog Code W9056

Objective lens actuators for upright inverted microscope employing piezo element actuator and digital sensor for feedback.

- Compact package for smooth integration into existing microscopes.
- Designed for high-speed, high-resolution positioning.
- Open loop travel is 100µm, closed loop travel is 80µm. Compared to the open-loop control, the maximum travel of closed-loop control will be less about 10%.
- Each model can be installed on a variety of upright or inverted microscopes. Thread inserts make it easy to integrate with different manufacturer's standard threads.
- As in the case of the Sigma fine stage series, these actuators can be driven with the controller (FINE-01γ/503(CL)). Recommended controllers are the FINE series controllers.

WEB Reference Catalog Code W9057

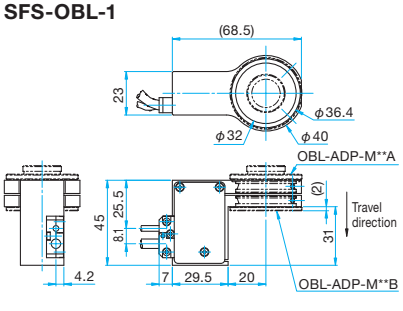
Guide

- Threaded inserts compatible with a variety of manufacturers' objective lenses are also available(Reference OBL-ADP).
- The SFS-OBL-2 uses a metal enclosure type piezo actuator for higher duty cycles and longer life in industrial environments.

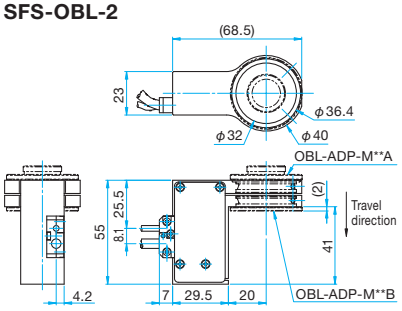
Outline Drawing

2D CAD 3D CAD

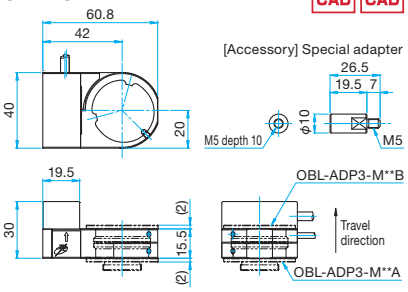
SFS-OBL-1



SFS-OBL-2



SFAI-OBL-1R



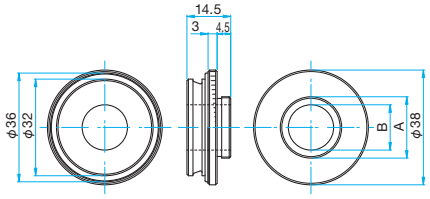
Specifications

Part Number	CE SFS-OBL-1	SFS-OBL-2	SFAI-OBL-1R
Travel (at open-loop control)	100µm±15%	100µm±15%	100µm±15%
Objective Lens Diameter [mm]	Diameter φ39 or less	Diameter φ39 or less	Diameter φ39 or less
Dimensions [mm]	(W)75.5 × (H)45 × (D)40	(W)75.5 × (H)55 × (D)40	(W)60.8 × (H)30 × (D)40
Actuator	Piezo element	Piezo element	Piezo element
Weight [kg]	0.15	0.24	0.15
Theoretical Resolution (open-loop) [nm]	1	1	about 0.8
Resolution (closed-loop) [nm]	10	10	10
Straightness (Xy Xz Yx Yz) [µm]	1 or lower	1 or lower	0.2 or lower
Positional Repeatability [µm]	0.1 or lower	0.1 or lower	0.1 or lower
Load Capacity [N]	—	—	4.9 (0.5kgf)
Micro-displacement Sensor	Digital sensor	Digital sensor	Digital sensor
Compatible Adapter	OBL-ADP-**	OBL-ADP-**	OBL-ADP3-**
Accessories	Cable (2m)	Cable (2m)	Cable (2m), four special lift spacers

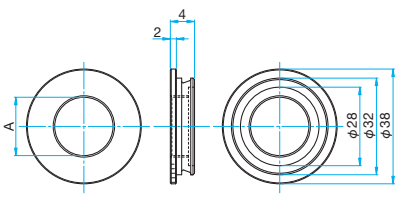
Objective Lens Adapters

Adapters to mount the Piezo Actuator for Objective Lens (SFS-OBL, SFAI-OBL) to a variety of microscopes and objectives.

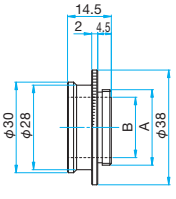
OBL-ADP-MA**



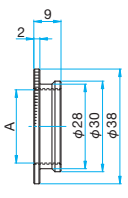
OBL-ADP-MB**



OBL-ADP3-MA**



OBL-ADP3-MB**



SFS-OBL Compatible Adapters

Part Number	Mounting Screw Size [mm]	A [mm]	B [mm]
OBL-ADP-M20.32A	Microscope side M20.32	M20.32 P=0.706 (W0.8×1/36)	15
OBL-ADP-M20.32B	Objective lens side M20.32	M20.32 P=0.706 (W0.8×1/36)	—
OBL-ADP-M25.0A	Microscope side M25.0	M25.0 P=0.75	20
OBL-ADP-M25.0B	Objective lens side M25.0	M25.0 P=0.75	—
OBL-ADP-M26.0A	Microscope side M26.0	M26.0 P=0.706 (W26.0×1/36)	21
OBL-ADP-M26.0B	Objective lens side M26.0	M26.0 P=0.706 (W26.0×1/36)	—

SFAI-OBL Compatible Adapters

Part Number	Mounting Screw Size [mm]	A [mm]	B [mm]
OBL-ADP3-M20.32A	Microscope side M20.32	M20.32 P=0.706 (W0.8×1/36)	15
OBL-ADP3-M20.32B	Objective lens side M20.32	M20.32 P=0.706 (W0.8×1/36)	—
OBL-ADP3-M25.0A	Microscope side M25.0	M25.0 P=0.75	20
OBL-ADP3-M25.0B	Objective lens side M25.0	M25.0 P=0.75	—
OBL-ADP3-M26.0A	Microscope side M26.0	M26.0 P=0.706 (W26.0×1/36)	21
OBL-ADP3-M26.0B	Objective lens side M26.0	M26.0 P=0.706 (W26.0×1/36)	—

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40 × 40 mm
60 × 60 mm
80 × 80 mm
85 × 85 mm
100 × 100 mm
120 × 120 mm
Others