

## Piezo Actuator for Objective Lens

## FPS-OBL (Upright)/FPS-OBL-R (Inverted)



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**Objective lens actuator for inverted microscope employing a piezo element as actuator and digital sensor for feedback.**

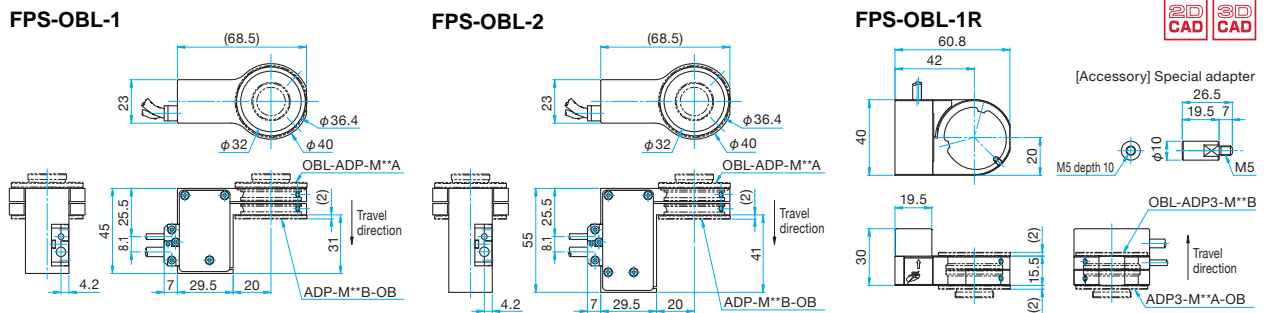


- Compact, and enabling high-speed high-resolution positioning.
- Travel is 100μm at open loop.
- Two types of erected model and inverted model are available for incorporation into various types of microscopes.
- As in the case of the Sigma fine stage series, these actuators can be driven with the controller (FPSC-01 /503). Since RS232C, GP-IB (FPSC-503 only) and USB interfaces are supported, position control can be performed easily from a PC using the software for positioning & measurement SGEMCSE, SGTERME and SGSFSXE.

### Guide

- ▶ Adapters compatible with screw sizes of other manufacturers' objective lenses are also available.
- ▶ FPS-OBL-2 uses a metal enclosure type piezo actuator to improve environment resistance such as humidity compared to FPS-OBL-1.

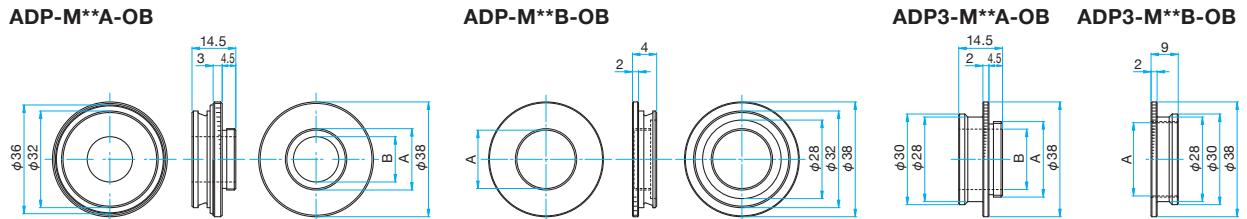
### Outline Drawing



### Specifications

Part Number	<b>CE</b> FPS-OBL-1	FPS-OBL-2	<b>NEW</b> FPS-OBL-1R
Travel	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



#### FPS-OBL Compatible Adapters

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

#### FPS-OBL-1R Compatible Adapters

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

### Piezo Stage

- Precision Linear MS
- High Speed MS
- Motorized Goniometer
- Motorized Rotation
- Multiaxis Motorized
- Industrial Robot
- Controller & Driver & Cable
- Custom-Built MS