

Dover Motion

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Features

- : : Thin cross-section with clear aperture
- : : Travels from 2" to 8"
- : : Anti-backlash friction nuts

Description

The OFS Series of inverted microscope XY stages combines low profile two-axis positioning with a clear aperture. These tables employ ball ways and feature a three-piece construction, which "machined-in" orthogonality. Since both motors are attached to the center section, they both move with the lower axis.

The 1.5" x 1.5" clear aperture allows these tables to be used in applications requiring transmitted light, or two-sided

access to the user's part. The use of side-mounted lead screws, with spring-loaded friction nuts, driven by 17 frame motors achieves a stage body thickness of only 1.5 inches. The motors include rear-shaft mounted knobs for manual control, and locking motor and limit/encoder connectors allow convenient attachment of cabling. Finally, 2000 and 4000 count per revolution rotary encoders are available.

Specifications

Specifications		OFS-4040	OFS-6060	OFS-8080	OFS-1010
Travel (inches)		2 x 2	4 x 4	6 x 6	8 x 8
Travel (mm)		50 x 50	100 x 100	150 x 150	200 x 200
Positional Accuracy (µm)	Commercial	45	65	75	80
	Precision	15	20	20	20
Bidirectional Repeatability (µm)	Commercial	10	10	10	10
	Precision	5	5	5	5
Flatness & Straightness, (µm TIR)		5	10	15	20
Orthogonality (arc-seconds)	Commercial	40	40	40	40
	Precision	20	20	20	20
Pitch & Yaw (arc-seconds)		30	40	50	60
Load Capacity (for all, kg) ²		2	5	7	10
Maximum Leadscrew Velocity(rps) ³		15	15	15	15
Moving Mass (kg)	Upper Axis	0.2	0.5	0.7	1.0
	Lower Axis	1.1	1.8	2.9	4.6
Total Mass (kg)		2.0	2.9	4.8	7.7

Configurations (Apply to all of the above models)²

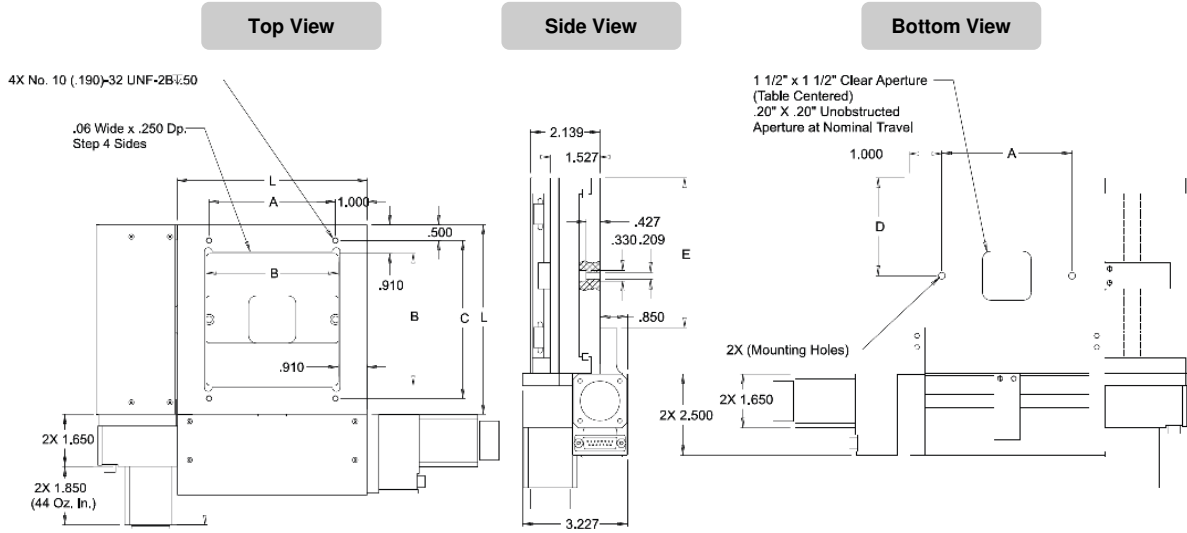
Leadscrew Lead	0.1 inch Standard, also available with 0.5 in, 0.4 in, 0.2 in, or 2 mm
Motor	200 step / rev Standard, also available with 400 step / rev or Servo
Encoder	Standard option has no encoder, options include: Rotary encoder with 2,000 or 4,000 counts/rev

¹ Stepper motor; open loop. Accuracy improves with encoder feedback or compensation.

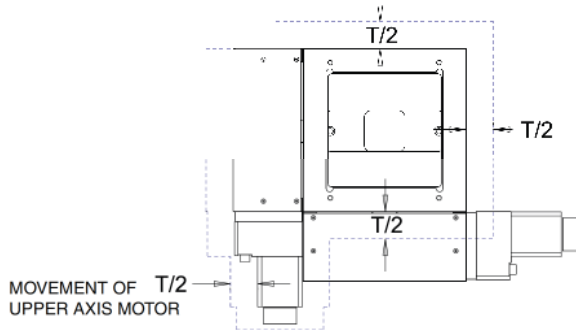
² Please contact our Applications Engineers for loads exceeding the specification.

³ Multiply leadscrew velocity by chosen lead to determine maximum linear velocity

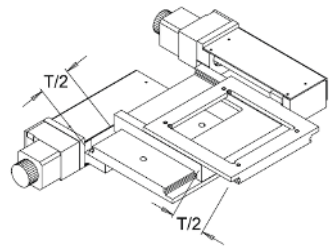
Dimensions



End View



Moving Envelope



Third Angle Projection
Note: All Dimensions in Inches

Model	Travel (T)	Length (L)	A	B	C	D	E
OFS-4040-SM	2.00	4.00	2.000	2.180	3.000	2.000	2.57
OFS-6060-SM	4.00	6.00	4.000	4.180	5.000	3.000	4.57
OFS-8080-SM	6.00	8.00	6.000	6.180	7.000	4.000	6.57
OFS-1010-SM	8.00	10.00	8.000	8.180	9.000	5.000	8.57

Measurements in inches

Wiring

Pin	Motor Connector (DE-9P)			Limit/Encoder Connector (DE-9S)
	Stepper	Servo		
		Brushless	Brush	
1	Coil A	Motor Phase 1	Motor +V	+5 Volts
2	Coil \bar{A}	Motor phase 2	Not connected	+ Limit Output ¹
3	Not connected	Ground	Not connected	- Limit Output
4	Coil B	Hall input 1	Not connected	Index Output ²
5	Coil \bar{B}	Hall input 2	Not connected	Ground
6	Coil A, center tap	Motor phase 3	Motor -V	Encoder Channel A
7	Not connected	+5 volts	Not connected	Encoder Channel B
8	Not connected	Motor Fault Input	Not connected	Encoder Channel \bar{A}
9	Coil B, center tap	Hall input 3	Not connected	Encoder Channel \bar{B}