

AOM300 Series

Motorized Optical Mounts

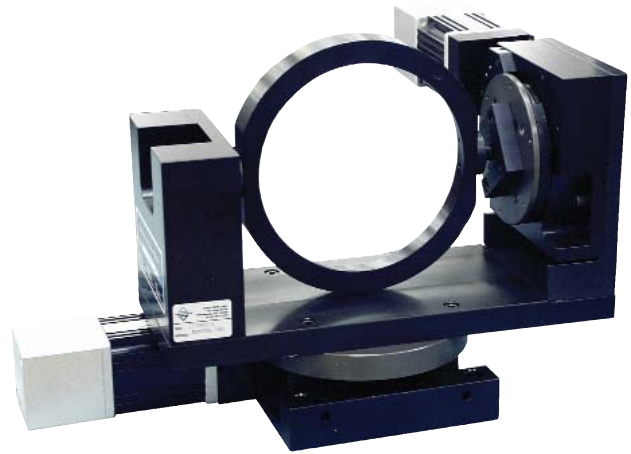
Compact two-axis azimuth and elevation design

Continuous 360° elevation range; $\pm 180^\circ$ azimuth range

Choice of high resolution microstepping or servomotors

Rectangular and circular cell models

Custom precision mounting designs are available for centering non-circular payloads on the gimbal



Aerotech's AOM300 series of motorized optical mounts offer extended rotation in the elevation and azimuth axes. The larger AOM300 models offer 360° in the elevation axis, but are limited to $\pm 180^\circ$ in the azimuth axis.

This extended travel provides the user with the capability of automatically controlling AZ/EL through out the full 360° of travel. This makes the AOM300 ideal for experimental tracking applications.

The AOM300-150 and -200 models can handle heavier loads and are available with DC brush, brushless servomotors, and stepping motors.

The AOM300 has a large number of encoder options so the user can select the system that is right for them.

All AOM300 optical mounts are equipped with accurate home marker references to facilitate accurate and repeatable positioning.

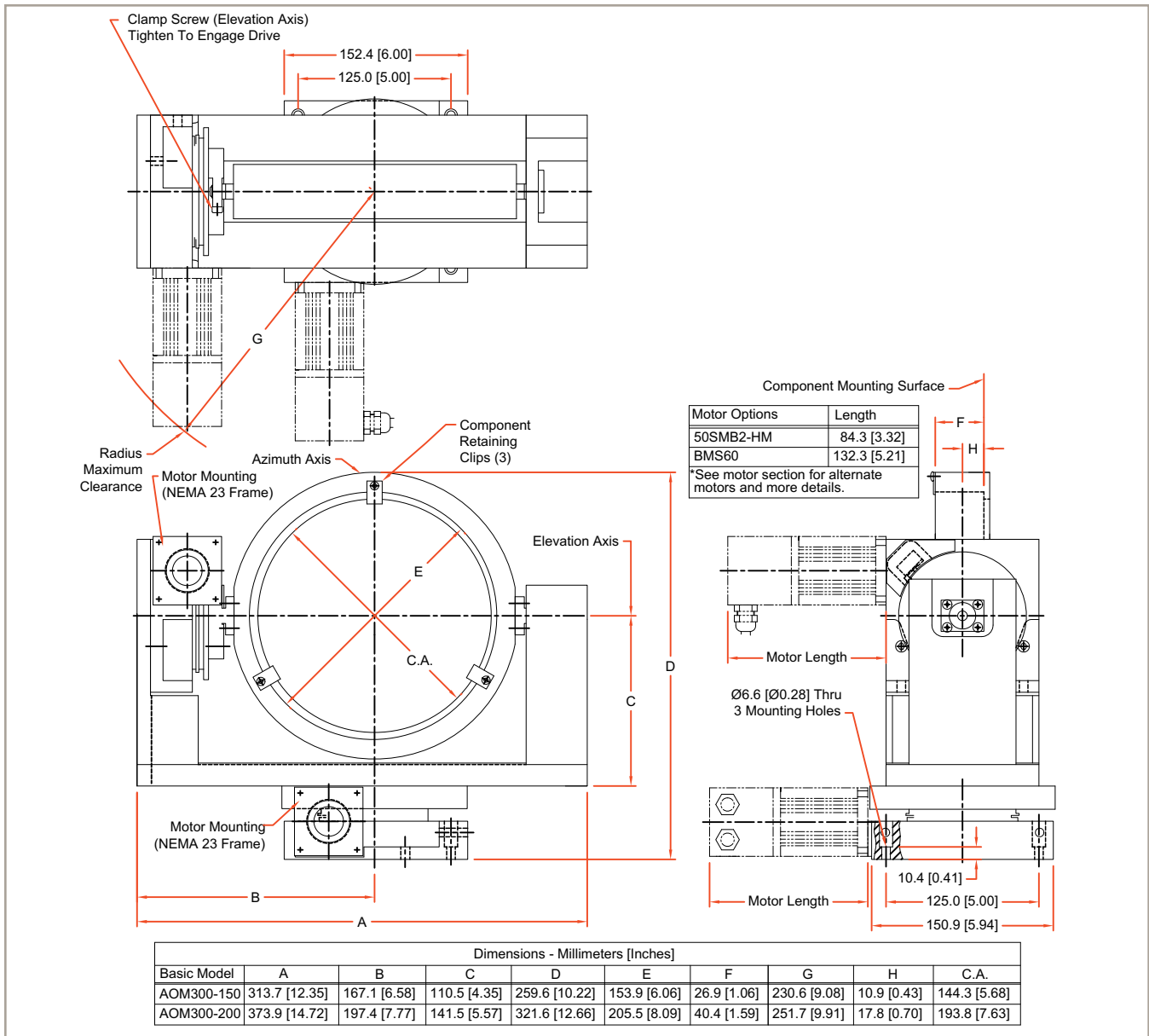
The standard AOM300 cell configuration is designed for circular optics. Special configurations, however, are available to accommodate non-circular optics, cameras, sensors, and larger diameter optics. Special larger cells up to 300 mm (12 in) can be supplied. Please contact us with your requirements.

AOM300 Series SPECIFICATIONS and DIMENSIONS

Basic Model	AOM300-150	AOM300-200
Travel	± 180° AZ; 360° Continuous EL	
Clear Aperture Diameter	144.3 mm (5.68 in)	193.8 mm (7.63 in)
Mechanical Drive System	Precision Worm Gear with Servo or Stepping Motor	
Accuracy	0.05° AZ/EL	
Repeatability ⁽²⁾	0.0033° AZ/EL	
Maximum Rotary Speed	60°/s	
Resolution ⁽¹⁾	29.1 μrad (6 arc sec) at 4000 steps/rev	
	14.6 μrad (3 arc sec) at 8000 steps/rev	
Maximum Load Capability	9.1 kg (20 lb)	
Axis Wobble	0.0056° AZ/EL	
Standard Finish	Black Anodize	
Max Component Diameter	152.4 mm (6.0 in)	203.2 mm (8.0 in)
Max Component Thickness	30.0 mm (1.18 in)	31.0 mm (1.22 in)
Mass (With Motors)	12.3 kg	13.2 kg

Notes:

- Resolution at given steps per motor rev. Requires suitable microstepping driver.
- Unidirectional.



AOM300 Series ORDERING INFORMATION

Ordering Example

AOM300	-150	-U	-2	(Opt.)/
	Cell Diameter	Mounting and Grid Pattern	Motor	Stage & Assembly Options
	150	M	SM	-VAC3
	200	U	BMS	-VAC6
		NM		

AOM300 Series Optical Mount

AOM300-150	Azimuth/Elevation motorized optical mount. Holds 150 mm (6.0 in) maximum diameter optics.
AOM300-200	Azimuth/Elevation motorized optical mount. Holds 200 mm (8.0 in) maximum diameter optics.

Mounting and Grid Pattern

-M	Metric-dimension mounting pattern and holes
-U	English-dimension mounting pattern and holes

Motor

-SM	Two stepping motors 50SMB2 with connector
-BMS	Two brushless servo motors BMS60-A-D25-E1000H with connector
-NM	No motor or encoder installed

Stage & Assembly Options

-VAC3*	Vacuum preparation to 10^{-3} mbar
-VAC6*	Vacuum preparation to 10^{-6} mbar

Note: See "Vacuum Preparation" in the stage application section.