

AOD640 / AOD650 - H



High Power AO Deflector / Dual Spot AOM

0618

APPLICATIONS

- Material Processing
- Via Hole Drilling
- Surface texturing

The AOD6x0 high power IR deflectors have been designed to minimize thermal lensing and reduce beam degradation for CW and high duty cycle CO₂ laser applications.

SPECIFICATIONS (TYPICAL)

A/R Wavelength:	9.4μm, 9.6μm or 10.6μm (as specified)*
Interaction Material:	Germanium
Static Insertion Loss:	< 5%
Maximum Optical Power:	600 Watts, 7mm dia. Gaussian beam
Laser Polarization:	Linear, Horizontal
Water Cooling (minimum):	> 2 Liter/Min. @ < 20°C

Active Aperture: H=7	7mmH x 30mmW
H=8	8mmH x 30mmW
H=9	9mmH x 30mmW

VSWR < 2:1 at 60W per RF input

	AOM640-H	AOM650-H
Centre Frequency (fc):	40 MHz	50 MHz
Minimum RF Scan Bandwidth:	16 MHz	20 MHz

Combined RF Power for maximum Diffraction Efficiency:

Active Aperture	9.3μm	9.6μm	10.6μm
H=7 mm	105W	115W	140W
H=8 mm	120W	130W	160W
H=9 mm	135W	145W	180W

Angles	9.3μm		9.6μm		10.6μm	
	40MHz	50MHz	40MHz	50MHz	40MHz	50MHz
Centre Freq.	40MHz	50MHz	40MHz	50MHz	40MHz	50MHz
Bragg Angle, mrad	33.9	42.4	34.9	43.6	38.6	38.3
Separation Angle, mrad	67.7	84.8	69.8	87.3	77.1	96.5
Max. Scan Angle, mrad	27	33.8	28	34.9	30.8	38.6

AOD650-8 Deflector Performance for 7mm (H) x 30mm (W) beam

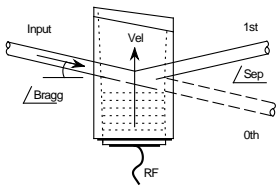
Diffraction Efficiency	> 80% across specified scan
Access Time:	5.5μsec
Resolution:	100
Deflector Drive Electronics: **	iMS4-L, RFA200-2 for scanning applications RFA4060-2K for dual spot modulation

* Optional designs are available for other wavelengths in the 2.5μm - 11.2μm range.

** The iMS4-L /RFA200-2 applies progressive phase shifting across the two RF input channels. This feature compensates for the variation in efficiency across the scan due to Bragg angle errors.

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
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Quality Assured.
In-house: Crystal Growth,
Optical Polishing,
A/R coating, Vacuum Bonding



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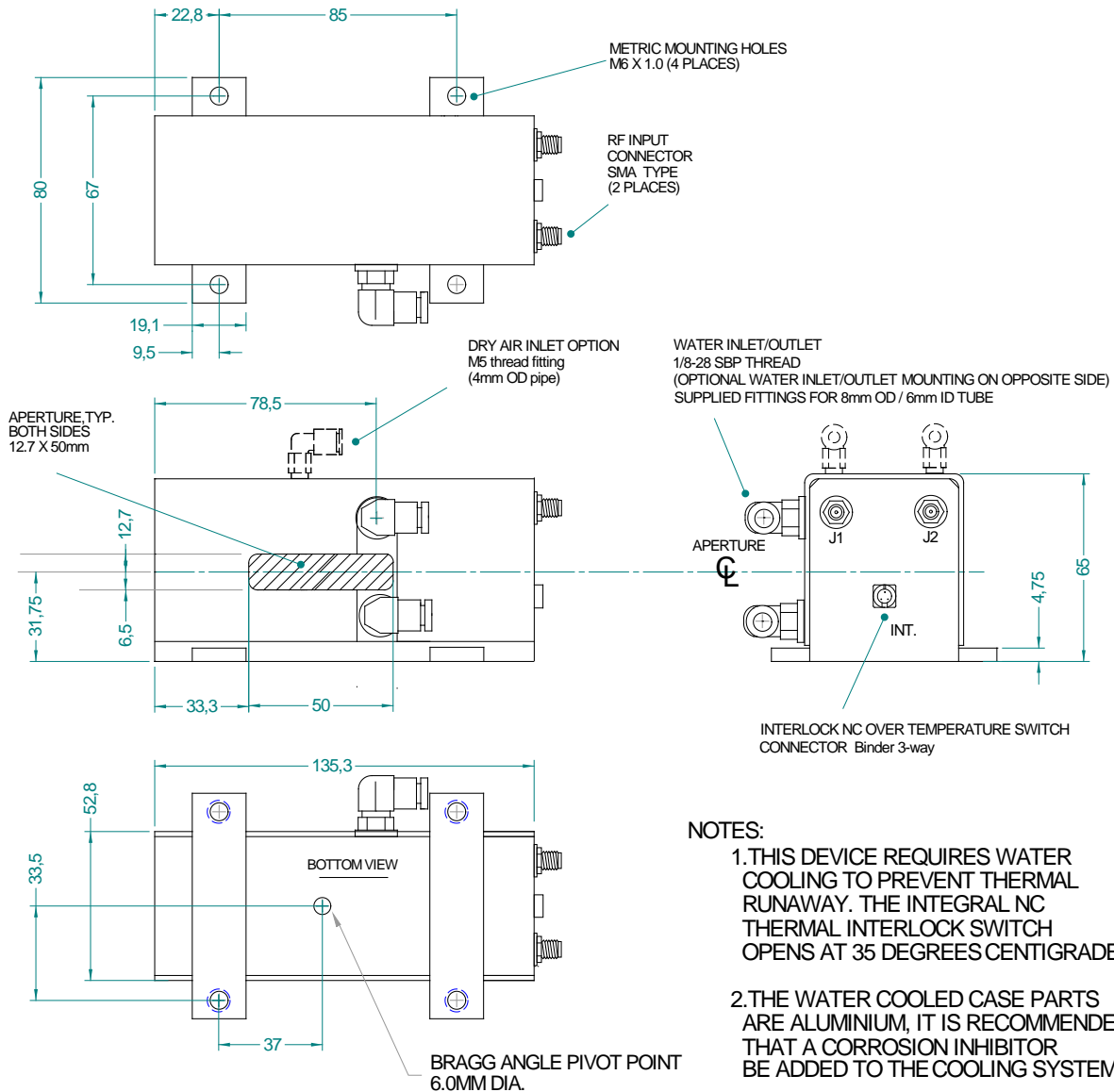


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OUTLINE DRAWING

Dimensions:
mm



NOTES:

1. THIS DEVICE REQUIRES WATER COOLING TO PREVENT THERMAL RUNAWAY. THE INTEGRAL NC THERMAL INTERLOCK SWITCH OPENS AT 35 DEGREES CENTIGRADE.
2. THE WATER COOLED CASE PARTS ARE ALUMINIUM, IT IS RECOMMENDED THAT A CORROSION INHIBITOR BE ADDED TO THE COOLING SYSTEM.

Refer application note AN1606 regarding Coolant Specification
Alternative low corrosion Brass case parts, add option '-BR'

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