

# M1199-G40-H



## High Power AO Modulator

0115

### APPLICATIONS

- Material Processing
- Via Hole Drilling
- Surface texturing
- Hole Perforation

### FEATURES

- Low loss
- High Optical Power
- All Solid-State

The M1199-G40 series is an alternative to the AOM740 series. Both models are designed to minimize thermal lensing and reduce beam degradation at high optical powers. The M1199 differs in that the coolant is not in direct contact with the Germanium block and is ideally suited to pulsed laser / duty cycled systems.

### SPECIFICATIONS (TYPICAL)

Operating Wavelength:	9.4um or 10.6um (specify)*	
Interaction Material:	Germanium	
Active Aperture:		
H=7	7mmH x 30mmW	
H=8	8mmH x 30mmW	
H=9	9mmH x 30mmW	
Centre Frequency (fc):	40MHz	
RF Bandwidth:	10MHz	
Diffraction Efficiency at fc:	> 85%, 90% typical	
RF Power for Max. D/E	< 180 Watts total (-9)	
Static Insertion Loss:	< 5%	
Maximum Optical Power:	600 Watts, 7mm dia. Gaussian beam	
Bragg Angle:	<u>9.3um</u>	<u>10.6um</u>
	33.9 mrad	38.6 mrad
Separation Angle:	67.7 mrad	77.1 mrad
Laser Polarization:	Linear, Horizontal	
Water Cooling (Minimum):	> 2 Liter/Min. @ < 20°C	
<u>Modulator performance :</u>		
Optical Rise Time	0.12usec / mm beam diameter	
Diffraction Efficiency	> 85%	
Modulator Drive Electronics:	RFA641 (40MHz)	
Options:		
-BR: Brass case parts		
* : other wavelengths in the 2.5µm - 11.2µm range.		

**ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE**

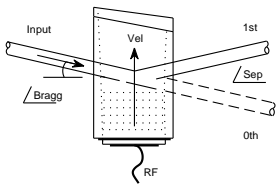
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**Quality Assured.**

**In-house: Crystal Growth,  
Optical Polishing,  
A/R coating, Vacuum Bonding**



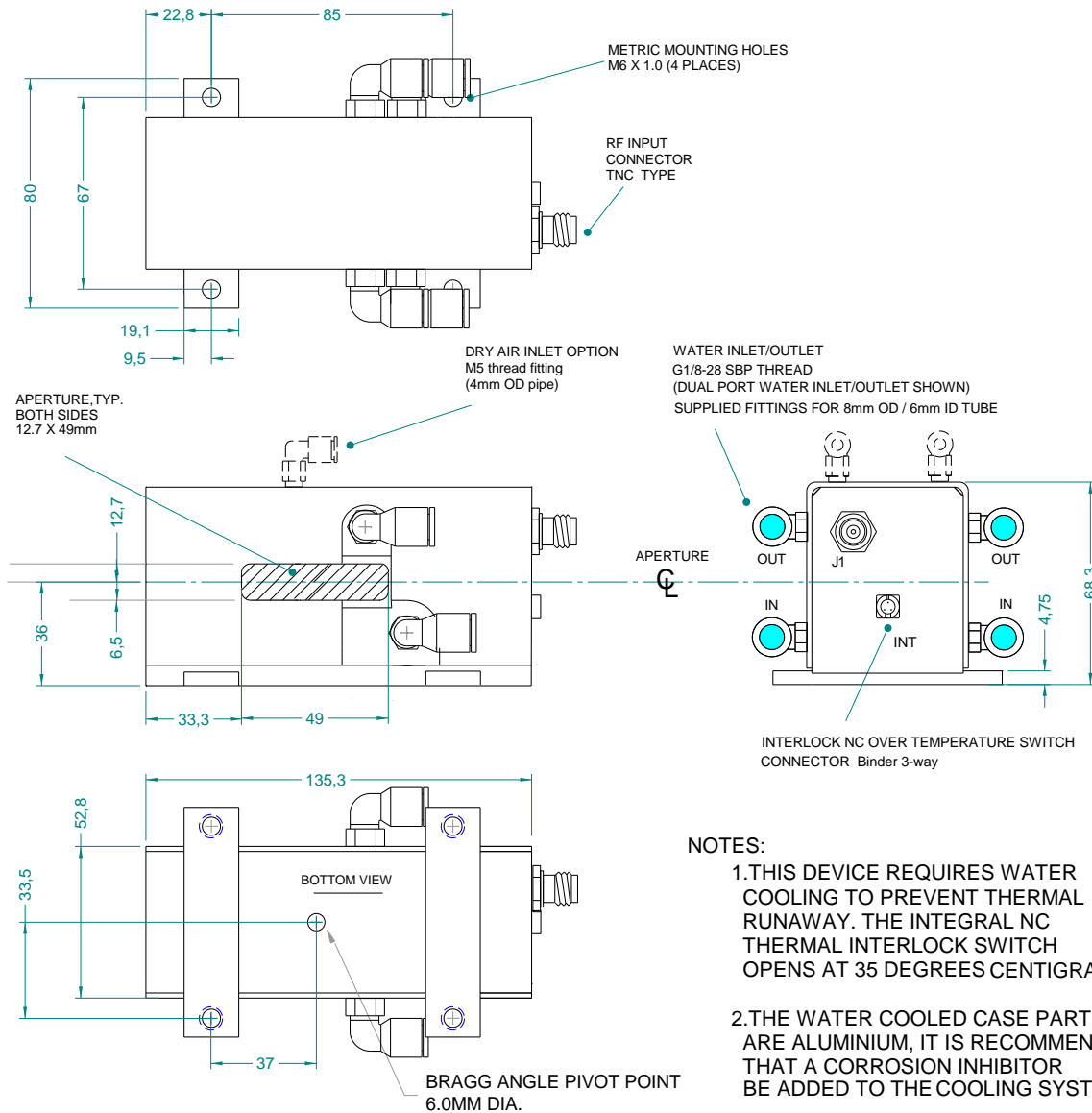
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### OUTLINE DRAWING



#### 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 AN0901 regarding Coolant Specification

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