

D1345-aQ120-5



Large Aperture Quartz Modulator

(PRELIMINARY SPEC)

0721

The D1345-aQ120-5 is a wide aperture quartz AO devices designed for signal processing and pulse shaping applications at N UV, visible and NIR wavelengths.

This device is designed for CW and duty cycled operation dependent on wavelength & drive power.

Water cooling is strongly recommended for average drive powers in excess of 5W.

In all circumstances the RF power must not exceed 20W average or 50W peak.

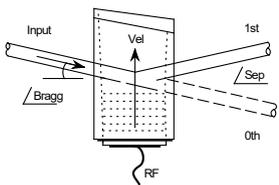
SPECIFICATIONS (Preliminary)

| | |
|-------------------------------|-------------------------------|
| A/R Coating options: | None, 300-500nm, 450-900nm, |
| Operating wavelength: | As A/R. Standard 450nm- 900nm |
| Interaction Material: | Quartz |
| Centre Frequency (fc): | 120MHz +/- 10% |
| 3dB RF Bandwidth: | 60MHz minimum, 80MHz goal |
| Diffraction Efficiency at fc: | > 80% peak (Bragg adjusted) |
| Maximum RF Power | < 50 Watts peak, 20W average |
| Static Insertion Loss: | No A/R < 10% BBAR < 3% |
| Optical Power Density (CW): | 100 Watts/cm ² |
| Bragg Angle at 0.633um: | 6.66 mrad. |
| Separation Angle at 0.633um: | 13.33 mrad. |
| Clear Aperture: | 8mmH x 62mmW |
| Active Aperture: | 5mmH x 57mmW |
| Access Time: | 10μsec |
| Laser Polarization: | Linear, Vertical w.r.t. base |
| Cooling: | Water |
| Drive Electronics**: | RFA0120-1-20 |

| Wavelength | Nominal peak RF power (20W average max) | Max' CW efficiency at fc |
|------------|--|-----------------------------|
| 374nm | 12W | > 80% |
| 488nm | 21W | > 80% |
| 532nm | 25W | > 75% |
| 633nm | 35W | > 65% |
| 830nm | 60W | > 45% |

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Quality Assured.
 In-house: Crystal Growth,
 Optical Polishing,
 A/R coating, Vacuum Bonding



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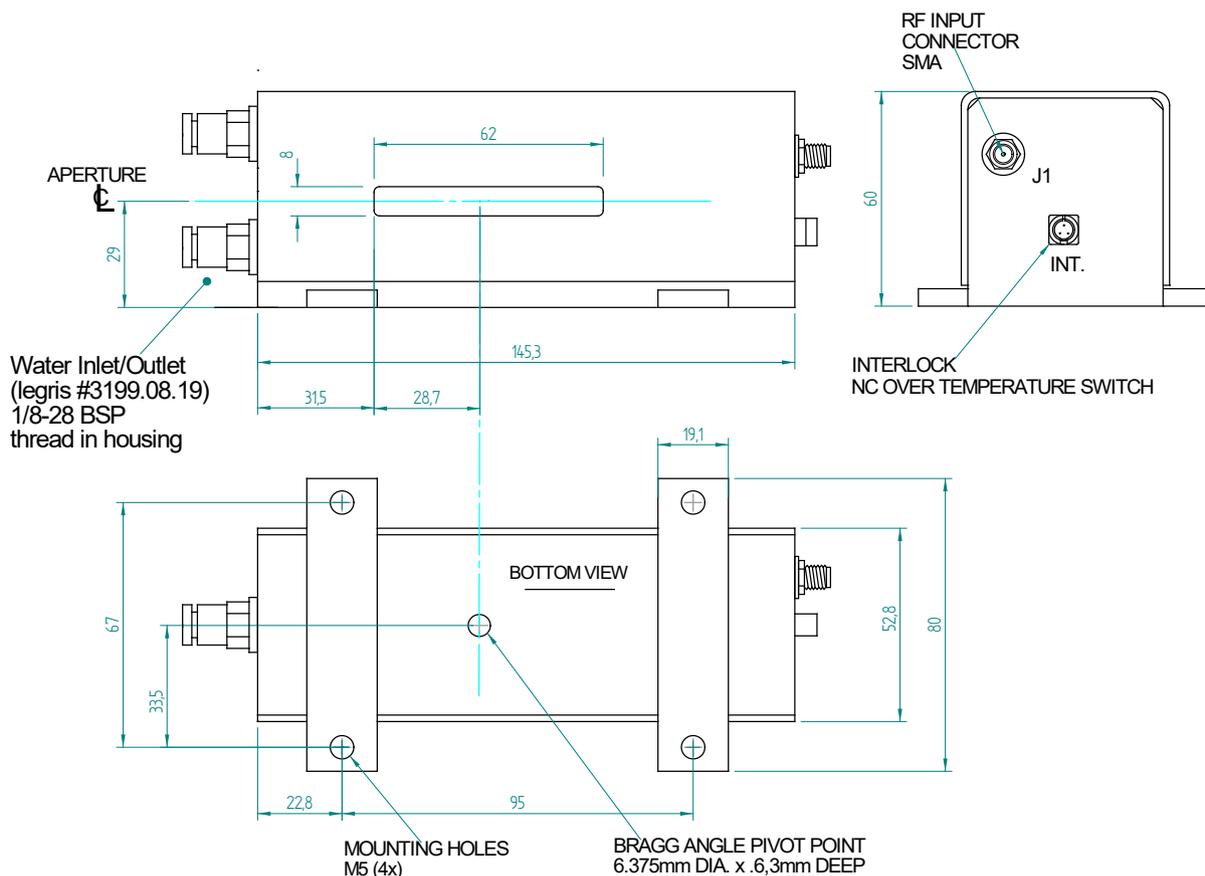


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OUTLINE (Preliminary)

Dimensions: mm



All case parts in contact with coolant are fabricated in Aluminium
Refer application note AN1906 regarding Coolant Specification

** The RFA0120-1-20 requires a frequency source such as the IMS4 programmable frequency synthesizer or customer supplied waveform generator.

Single RF input shown. Final design may use two for increased RF bandwidth.

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