

D1384-aQ170-7 (MUV)



High Power Acousto-Optic Deflector

0923

The D1384-aQ170 is high speed, high efficiency AO deflector developed specifically for industrial mid-UV laser applications. Also available in a dual axis X-Y configuration.

- Material Processing
- Drilling
- Surface texturing
- Micro machining

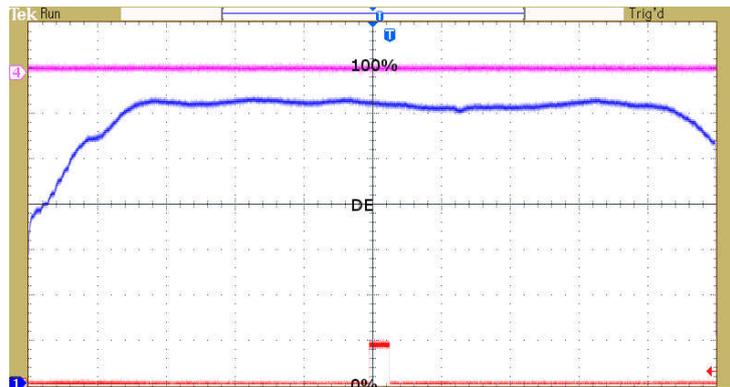
SPECIFICATIONS

| | |
|------------------------------|--|
| Operating Wavelength: | 248nm or 266nm, as specified. |
| Centre Frequency (fc): | 170MHz (+/- 5% for best scan response) |
| RF Bandwidth: | 70MHz min, 80MHz typical |
| Diffraction Efficiency (DE): | >80% at fc |
| DE across 70MHz scan: | >70%, 80% typical per axis |
| Input Impedance: | 50Ω(Nominal) |
| Input VSWR: | <1.5:1 @ 170MHz |
| Active Aperture: | 7mm max, optimal for 5mm beam |
| Optical Insertion Loss: | <3% (<2% typical) |
| Reflectivity: | <0.5%/Surface |
| DC Contrast Ratio: | >1000:1 min (2000:1 typical) |
| Laser Polarization: | Vertical, Perpendicular to scan |
| Water Cooling (Min): | 2L/minute @ 25deg C |

PERFORMANCE vs. WAVELENGTH

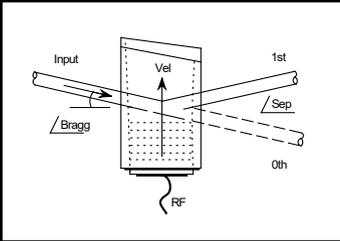
| Wavelength: | <u>248nm</u> | <u>266nm</u> |
|---------------------------|----------------------------------|-----------------------------|
| Total RF Drive Power: | ~10.0W | ~12.0W |
| Bragg Angle: | 3.7mrad | 4.0mrad |
| Separation Angle (at fc): | 7.4mrad | 7.9mrad |
| Scan Angle (65MHz sweep): | 2.8mrad | 3.0mrad |
| Resolution, 5mm beam: | Up to 60 <u>resolvable</u> spots | >1000 non-resolvable points |

Typical 80MHz Sweep Response



ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
 ISOMET CORP, 10342 Battlevue Parkway, Manassas, VA 20109, USA.
 Tel: (703) 321 8301 Fax: (703) 321 8546
 E-mail: ISOMET@ISOMET.COM Web Page: WWW.ISOMET.COM

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



D1384-aQ170-7 (MUV)

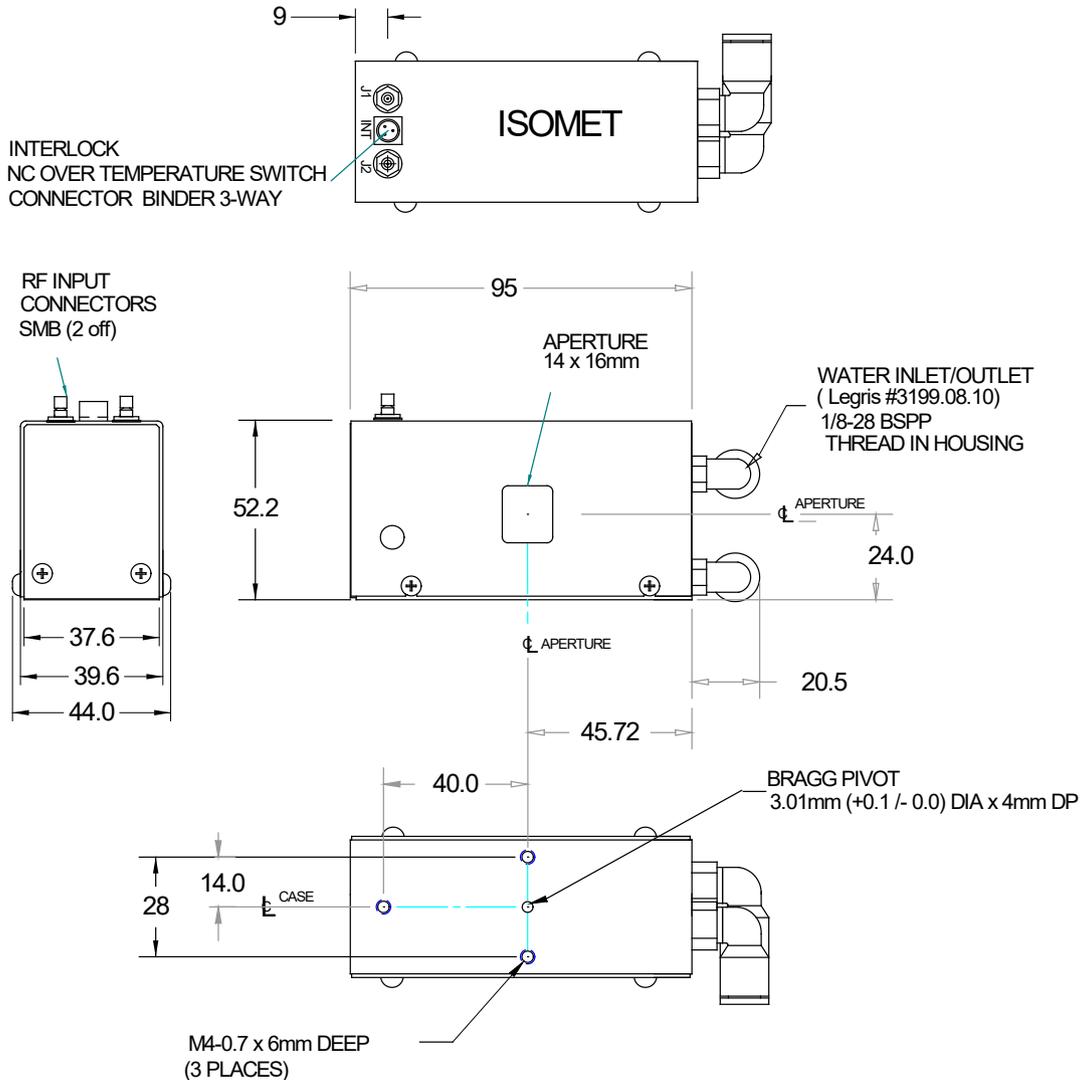


High Power Acousto-Optic Deflector

0923

OUTLINE DRAWING

Dim'n: mm



Water cooled case parts are Aluminium.

Refer application note AN1906 regarding Coolant Specification

DRIVERS

iMS4-P programmable synthesizer + RFA0170-2-15 amplifier

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
ISOMET CORP, 10342 Battlevue Parkway, Manassas, VA 20109, USA.
Tel: (703) 321 8301 Fax: (703) 321 8546
E-mail: ISOMET@ISOMET.COM Web Page: WWW.ISOMET.COM

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