

D1384-XY-aQ170-9



UV Dual Axis AO Deflector (248nm)

PRELIMINARY

1221

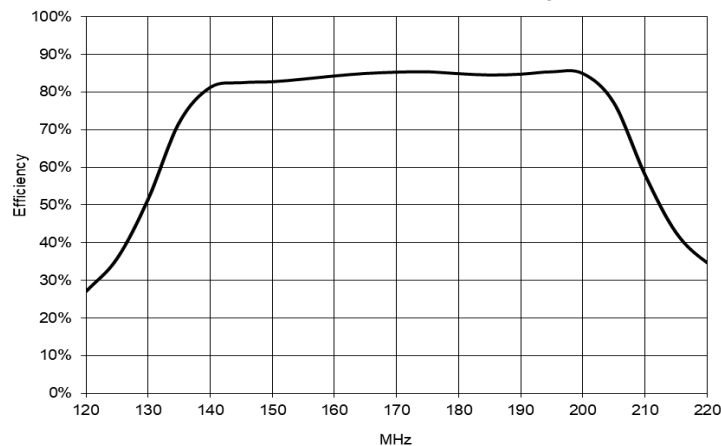
The D1384-XY offers high speed dual axis scanning at 248nm. This deflector consists of two 7mm active aperture AO deflectors mounted orthogonally in one assembly, with independent fine thread Bragg angle adjustment. Subject to availability, a half wave plate is included to rotate the input polarization between AO deflectors. Applications include:

- Material Processing
- Drilling
- Surface texturing
- Micro machining

SPECIFICATIONS

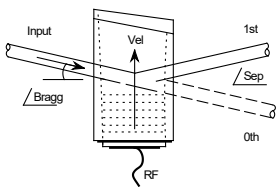
Operating Wavelength:	248nm (contact Isomet for other UV wavelengths)
Interaction Material:	Quartz
Active Aperture:	7mmH x 7mmW max.
Centre Frequency ($x=f_c$):	170MHz (+/-10% for maximum bandwidth)
Sweep Bandwidth:	50MHz minimum, 70MHz typical
Diffraction Efficiency (DE) at f_c :	> 80%, 85% typical per axis
Diffraction Efficiency across scan:	> 75%, 80% typical per axis
RF Power for max' DE	< 12 Watts total per axis
Static Insertion Loss:	< 5%
Bragg Angle, 248nm:	3.7 mrad
Separation Angle at f_c :	7.4 mrad
Scan Angle:	3.0 mrad (70MHz sweep).
Input Laser Polarization:	Linear, Vertical w.r.t. to X-axis (Half waveplate included between X & Y axis)
Water Cooling (Minimum):	> 2 Liter/Min. @ < 23°C
<u>Deflector Performance:</u>	Using 7 x 7mm beam
Total XY Efficiency	~60% across 70MHz scan
Access Time:	1.2µsec
Resolution:	80 x 80 <u>resolvable</u> spots >1000 x 1000 non-resolvable points

Estimated SCAN RESPONSE per AXIS



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 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



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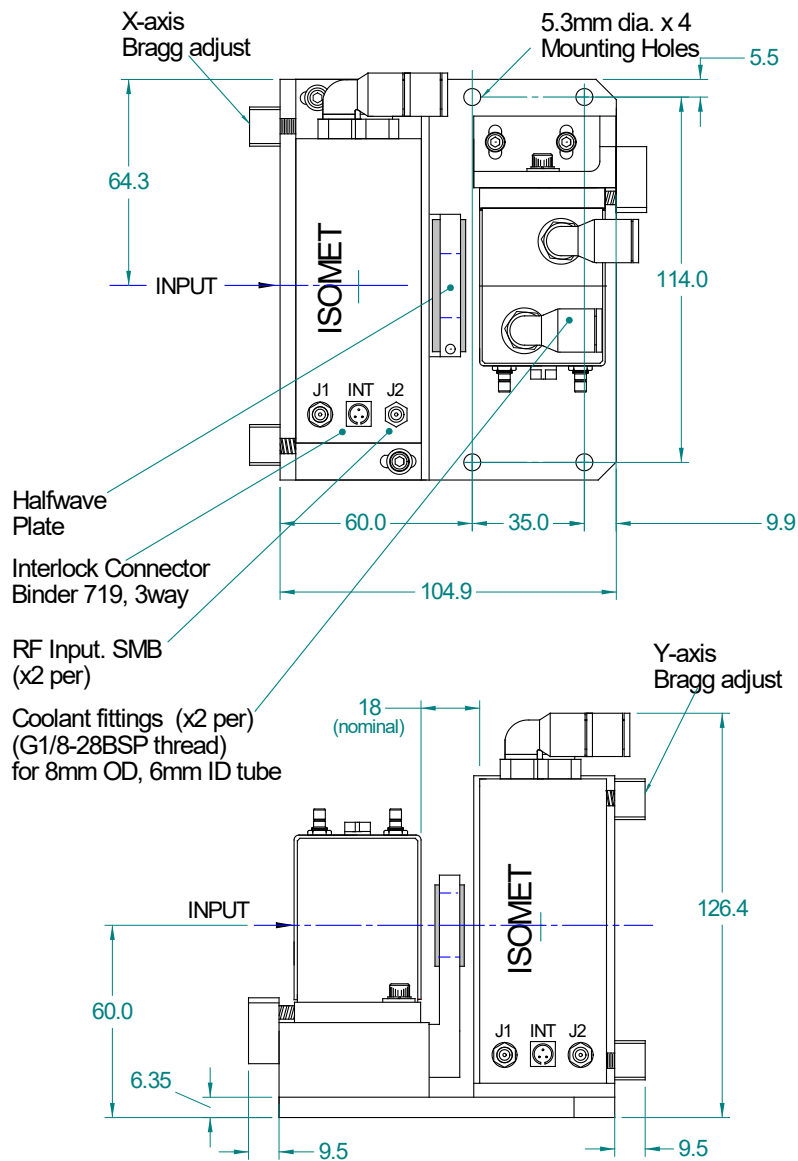
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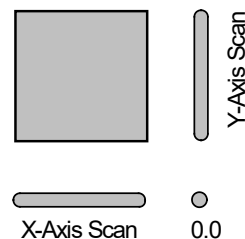
1221

OUTLINE DRAWING

Dim'n: mm

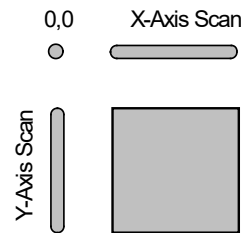


Output Beams
+1st orientation
+1,+1



← Mounting plane →

Output Beams
-1st orientation



-1,-1

← Mounting plane →

Refer application note AN1606 regarding Coolant Specification

DRIVERS

Synthesizer based: iMS4-L (or -P) programmable synthesizer + (1off) RFA0170-4-10 amplifier

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