

# D1384-XY-aQ170-7



## UV Dual Axis AO Deflector (248nm)

2822

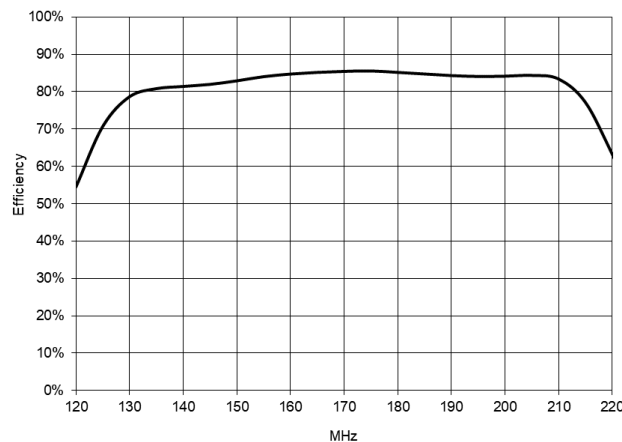
The D1384-XY offers high speed dual axis scanning at 248nm. This deflector consists of two 7mm active aperture AO deflectors mounted orthogonally in one assembly, with independent fine thread Bragg angle adjustment. Subject to availability, a half wave plate is included to rotate the input polarization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

- Material Processing
- Drilling
- Surface texturing
- Micro machining

### SPECIFICATIONS

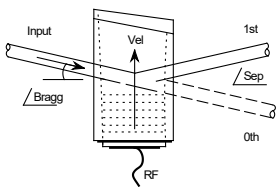
Operating Wavelength:	248nm (contact Isomet for other UV wavelengths)
Interaction Material:	Quartz
Active Aperture:	7mmH x 7mmW max.
Centre Frequency ( $x=f_c$ ):	170MHz (+/-10% for maximum bandwidth)
Sweep Bandwidth:	70MHz minimum, 80MHz typical
Diffraction Efficiency (DE) at $f_c$ :	> 80%, 85% typical per axis
Diffraction Efficiency across scan:	> 75%, 80% typical per axis
RF Power for max' DE	< 10 Watts total per axis
Static Insertion Loss:	< 5%
Bragg Angle, 248nm:	3.7 mrad
Separation Angle at $f_c$ :	7.4 mrad
Scan Angle:	3.5 mrad (80MHz 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 5 x 5mm beam
Total XY Efficiency	~60% across 80MHz scan
Access Time:	0.9µsec
Resolution:	70 x 70 <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  
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**Quality Assured.**  
 In-house: Crystal Growth,  
 Optical Polishing,  
 A/R coating, Vacuum Bonding



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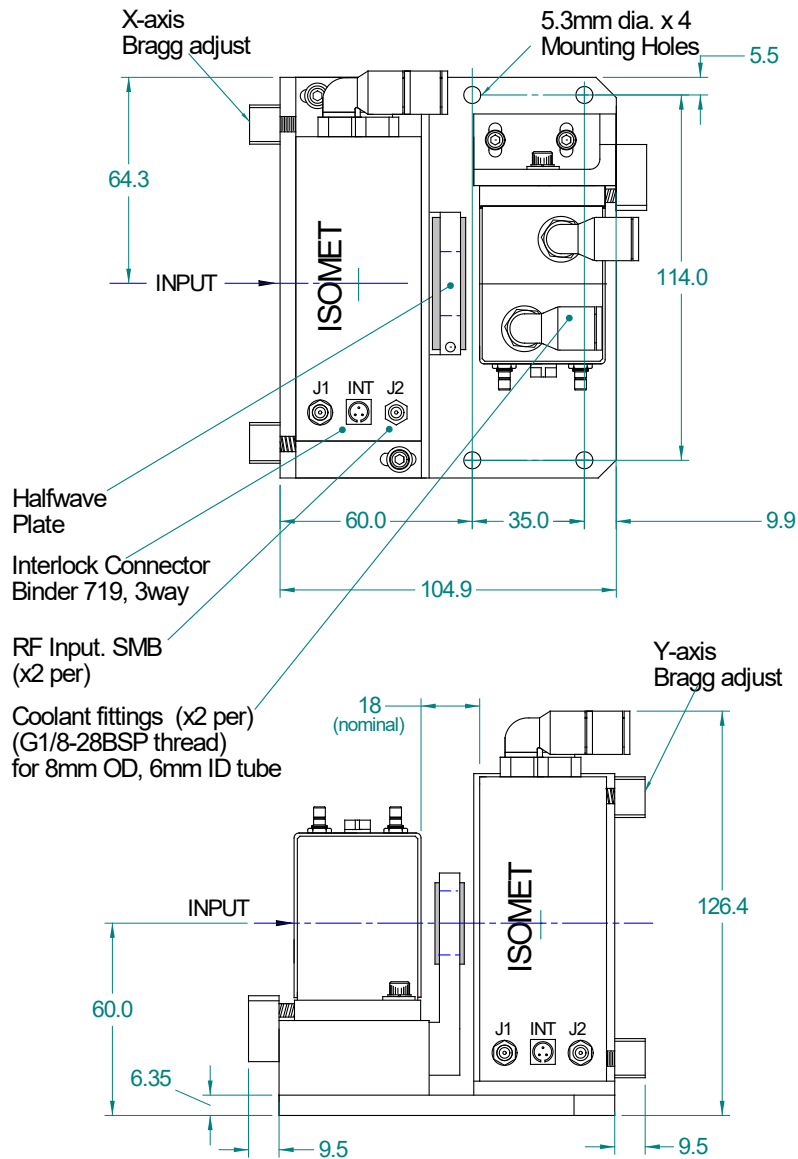
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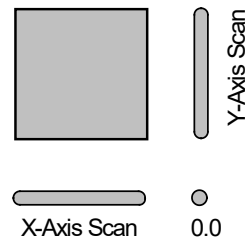
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### OUTLINE DRAWING

Dim'n: mm

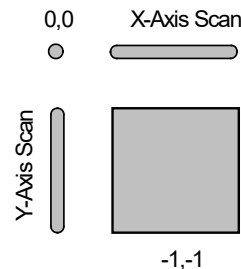


**Output Beams  
+1st orientation  
+1,+1**



← Mounting plane →

**Output Beams  
-1st orientation**



← 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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