

# D1384-XY-aQ170-7

## Dual Axis AO Deflector (NUV)



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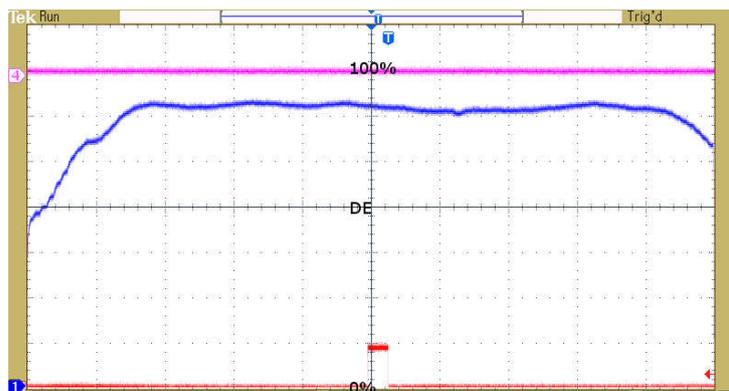
The D1384-XY offers high speed dual axis scanning at 343nm or 355nm. This deflector consists of two 7mm active aperture AO deflectors mounted orthogonally in one assembly, with independent fine thread Bragg angle adjustment. Subject to availability, a half wave plate is included to rotate the input polarization between AO deflectors. Applications include:

- Material Processing
- Drilling
- Surface texturing
- Micro machining

### SPECIFICATIONS

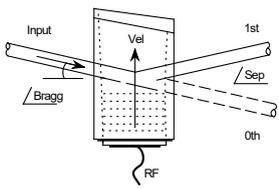
Operating Wavelength:	343nm or 355nm (please specify)	
Interaction Material:	Quartz	
Active Aperture:	7mmH x 7mmW max.	
Centre Frequency ( $x=f_c$ ):	170MHz (+/-10% for maximum bandwidth)	
3dB Sweep Bandwidth:	70MHz minimum, 80MHz typical.	
Diffraction Efficiency (DE) at $f_c$ :	>80%, 85% typical per axis	
DE across 70MHz scan:	>70%, 80% typical per axis	
RF Power for max' DE	<12 Watts total per axis	
Static Insertion Loss:	<5%	
Bragg Angle, 355nm:	<b>343nm</b>	<b>355nm</b>
Separation Angle at $f_c$ :	5.1 mrad	5.3 mrad
Scan Angle, 70MHz sweep:	10.2 mrad	10.6 mrad
Input Laser Polarization:	4.2 mrad	4.4 mrad
Water Cooling (Minimum):	Linear, Vertical w.r.t. to X-axis (Half waveplate included between X & Y axis) > 2 Liter/Min. @ < 23°C	
Deflector Performance:	Using 5 x 5mm beam	
Total XY Efficiency	>60% across 70MHz scan	
Access Time:	0.9µsec	
Resolution:	60 x 60 <u>resolvable</u> spots >1000 x 1000 non-resolvable points	

**Typical 80MHz Sweep Response per AXIS**



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 ISOMET CORP, 10342 Battlevue Parkway, Manassas, VA 20109, USA.  
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**Quality Assured.**  
 In-house: Crystal Growth,  
 Optical Polishing,  
 A/R coating, Vacuum Bonding



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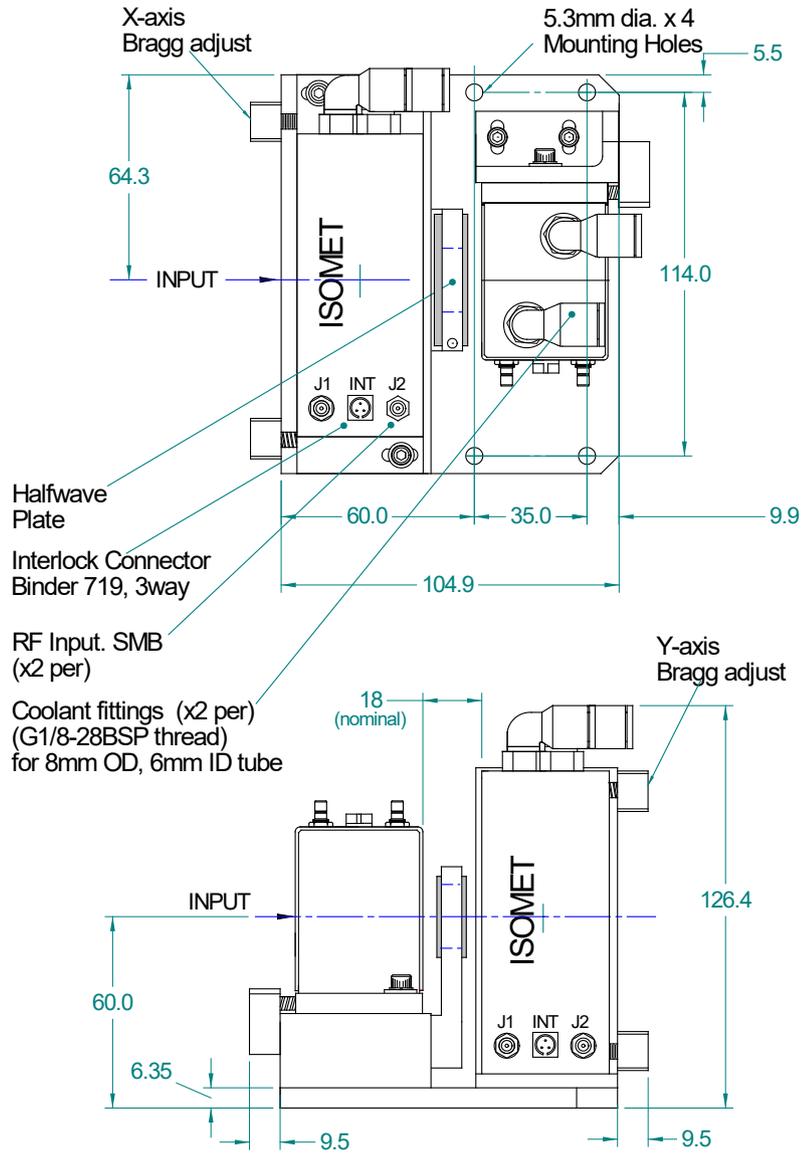
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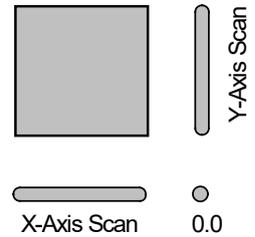
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### OUTLINE DRAWING

Dim'n: mm

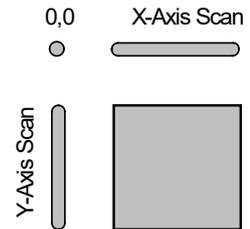


**Output Beams  
+1st orientation  
+1,+1**



← Mounting plane →

**Output Beams  
-1st orientation**



← Mounting plane →

Refer application note AN1906 regarding Coolant Specification

### DRIVERS

Synthesizer based: iMS4-P programmable synthesizer + (1off) RFA0170-4-15 amplifier.

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