

# D1384-XY-aQ120-9



## Dual Axis AO Deflector (NUV)

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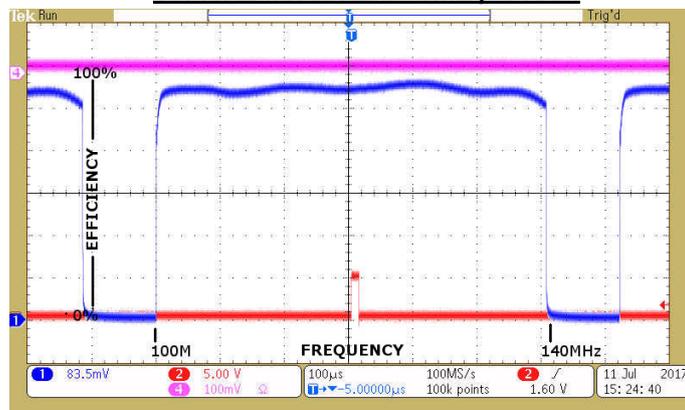
The D1384-XY offers high speed dual axis scanning at 343nm or 355nm. This deflector consists of two 9mm active aperture AO deflectors mounted orthogonally in one assembly, with independent fine thread Bragg angle adjustment. A half wave plate is included to rotate the input polarization between AO deflectors. Applications include:

- Material Processing
- Drilling
- Surface texturing
- Micro machining

### SPECIFICATIONS

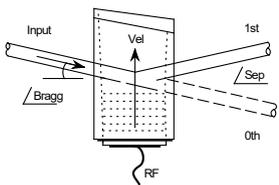
Operating Wavelength:	343nm or 355 nm (please specify)	
Interaction Material:	Quartz	
Active Aperture:	9mmH x 9mmW max.	
Centre Frequency ( $x=fc$ ):	120MHz	
Sweep Bandwidth:	40MHz	
Diffraction Efficiency (DE) at $fc$ :	> 85%, 90% typical per axis	
Diffraction Efficiency across scan:	> 75%, 80% typical per axis	
RF Power for max' DE	< 20 Watts total per axis	
Static Insertion Loss:	< 4%	
Bragg Angle:	<b>343nm</b>	<b>355nm</b>
Separation Angle at $fc$ :	3.6 mrad	3.7 mrad
Scan Angle, 40MHz sweep:	7.25 mrad	7.5 mrad
Input Laser Polarization:	2.4 mrad	2.5 mrad
Water Cooling (Minimum):	Linear, Vertical w.r.t. to X-axis (Half waveplate included between X & Y axis) > 2 Liter/Min. @ < 23°C	
<u>Deflector Performance:</u>	Using 7 x 7mm beam	
Total XY Efficiency	~60% across 40MHz scan	
Access Time:	1.5µsec	
Resolution:	50 x 50 <u>resolvable</u> spots >1000 x 1000 non-resolvable points	

### TYPICAL SCAN 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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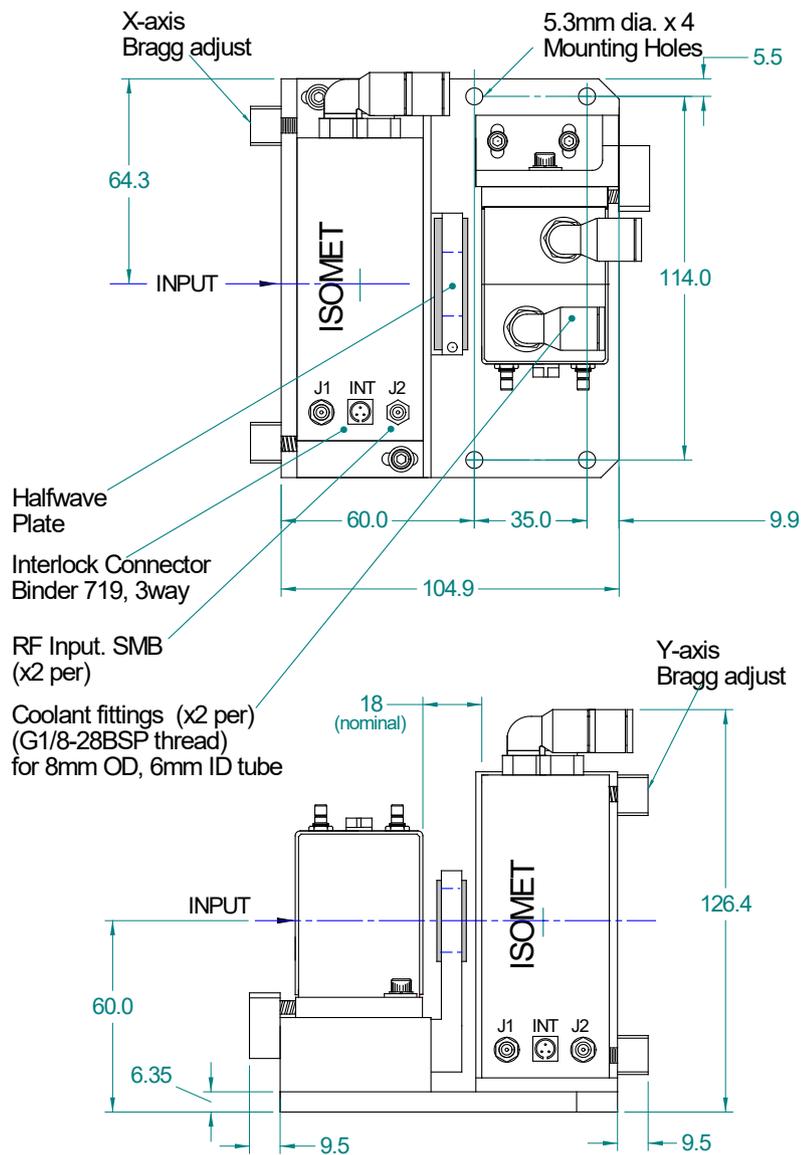
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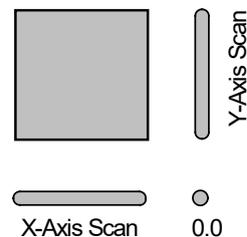
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### OUTLINE DRAWING

Dim'n: mm

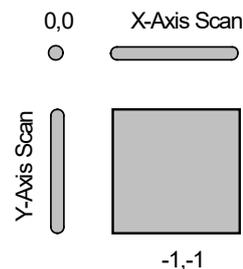


**Output Beams  
+1st orientation  
+1,+1**



← Mounting plane →

**Output Beams  
-1st orientation**



← Mounting plane →

Refer application note AN1606 regarding Coolant Specification

### DRIVERS

Synthesizer based: iMS4-P programmable synthesizer + (1off) RFA0120-4-15 amplifier.

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