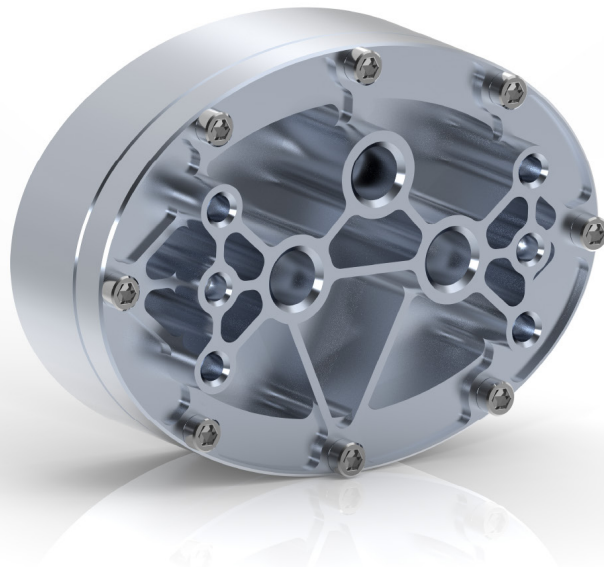


ALUMINUM VARIABLE RADIUS MIRRORS

The ability to water-cool aluminum mirrors allows for lighter-weight processing heads, enabling faster cutting and welding. Aluminum offers a significant reduction in weight and corrosion compared to equivalent copper parts. For 1 μm applications, aluminum mirrors can be post-polished to achieve sub-nanometer roughness in fold mirror configurations and deposited with a highly-reflective, dielectric coating for >20 kW power usage.

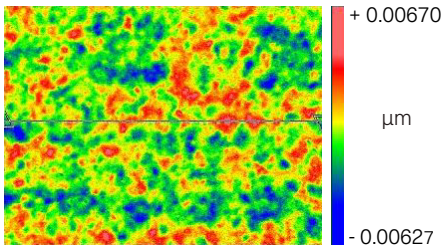


FEATURES

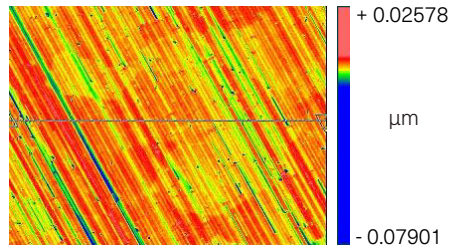
- Pressure Ranges: 0 - 11 bar
 - Radii: As short as 3 MCC - 3 MCX*
 - Angle of Incidence: 0° - 45°
 - Standard Usable Clear Apertures: 20 - 40 mm
 - Roughness: < 30 Å (lower roughness, polished surface available)
 - Irregularity: < 3 fr at maximum/minimum radius
 - Weight: Up to 82 % reduction in weight compared to similar copper designs
 - Lifetime: Up to 500 million cycles
 - Air and water actuation and cooling*
 - Up to 20 kW of laser power*
 - Oxide coatings available*
 - Light-weighted designs*
 - Face cooling options*
 - Reduction in galvanic corrosion potential
- * Custom designs available upon request

ALUMINUM VARIABLE RADIUS MIRRORS

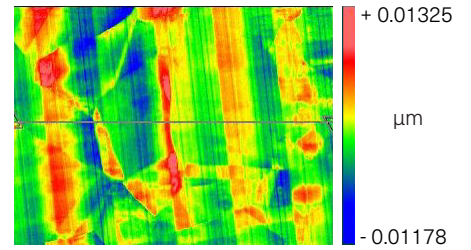
Roughness



Polished Aluminum
≤ 30 Å RMS



Standard Aluminum
≤ 70 Å RMS



Flycut Copper
≤ 80 Å RMS

Material Comparison

Properties	Aluminum	Copper
Galvanic Potential to AL-5083	0.04 V	0.59 V
Roughness	< 30 Å available upon request, < 70 Å with Standard Aluminum	< 80 Å
Weight Reduction	~ 82 % versus Copper	Nominal

