Technical Datasheet 530

optoSiC+ XY30G

ultra-high performance 30mm aperture generic scanning mirrors

optoSiC® XY30G generic scanning mirrors are designed using optoSiC GmbH's protected spine and rib structure as a one-size-fits-all approach for either left- or right-handed laser scanning systems using a symmetrical Y (or second) mirror at <30.0mm aperture.

These mirrors are manufactured from optoSiC+ grade Silicon Carbide to give optimum stiffness, dynamic flatness and high resonant frequencies under high torque loadings while offering very low Moment of Inertia for all scanning applications where processing speed and performance is paramount.

optoSiC® XY30G generic scanning mirrors are available polished at either 1/4λ PV @632.8nm flatness* and either coated with UltraMAX R for CO_2, opto-1064 R for 1064nm Nd:YAG, opto-HR Visible 390-710nm, opto-532 R for 532nm, opto-355 R for 355nm or Dualband opto-1064/532 R for 1064/532nm.

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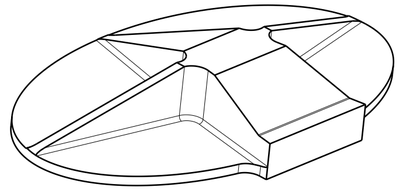
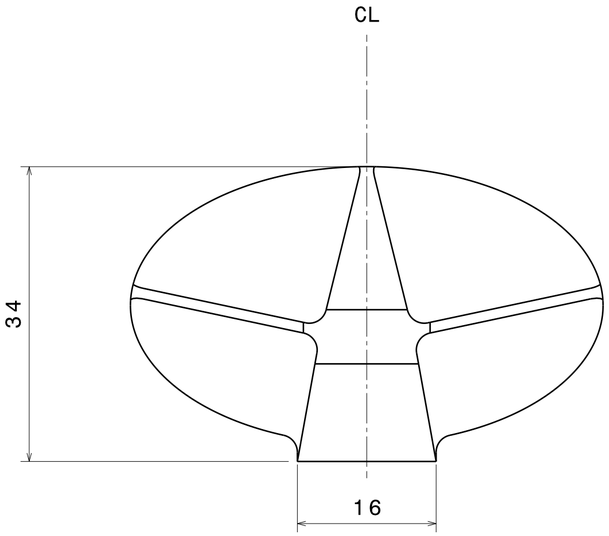
optoSiC+ XY30G Generic Scanning Mirror Specifications:

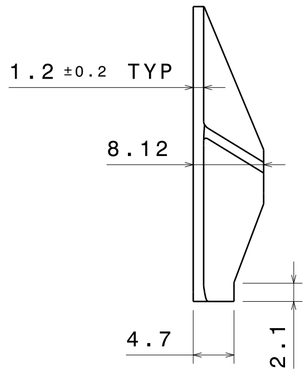
Density	>3.16g/cm^3		
Flexural Strength	510 Mpa (DIN EN 843-1)		
Compressive Strength	2200 MPa		
Young's Modulus [E]	420 Gpa (DIN EN 843-2)		
Poisson's Ratio	0.17 n		
Surface Roughness	Ra. ≥0.3273nm (pre-coated)		
CTE	4.1 α [10^{-6}/°K] 20-500°C (DIN EN 821-1)		
	X	Y	
Mass (g)**	11.120	16.402	
Moment of Inertia (g*cm.2)**	12.035	12.036	
Resonant Frequency (kHz)**	10.626	4.196	*(1st bending)*
	13.175	9.467	*(1st twisting)*
Dynamic Flatness (λ)**	<1/16	<1/8	
	(at λ = 632.8nm per 10,000 rad/sec^2)		
Central Angle of Incidence (°)	45	37.5	
X-Y Separation	37.0mm		
X-Tilt	-15°		
Mechanical Scan Angle	±10°		
Aperture	30.0mm full beam (collimated)		

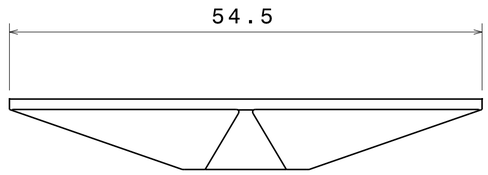
**Over 90% of the reflective surface from the centre point* ***Modelled using CATIA, Patran and ANSYS softwares*

ISOMETRIC VIEW



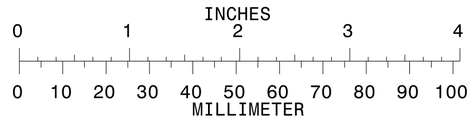






2. TOLERANCES NOT STATED:
   LENGTHS <50mm = ±0.2mm
   LENGTHS >50mm AND <75mm = ±0.3mm
   HOLE DIAMETERS <25mm = ±0.2mm

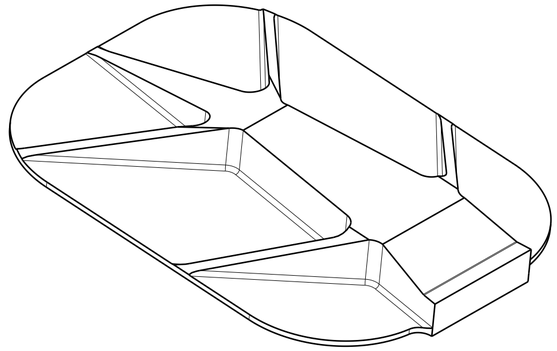
1. PART SYMMETRICAL AROUND CENTRE LINE

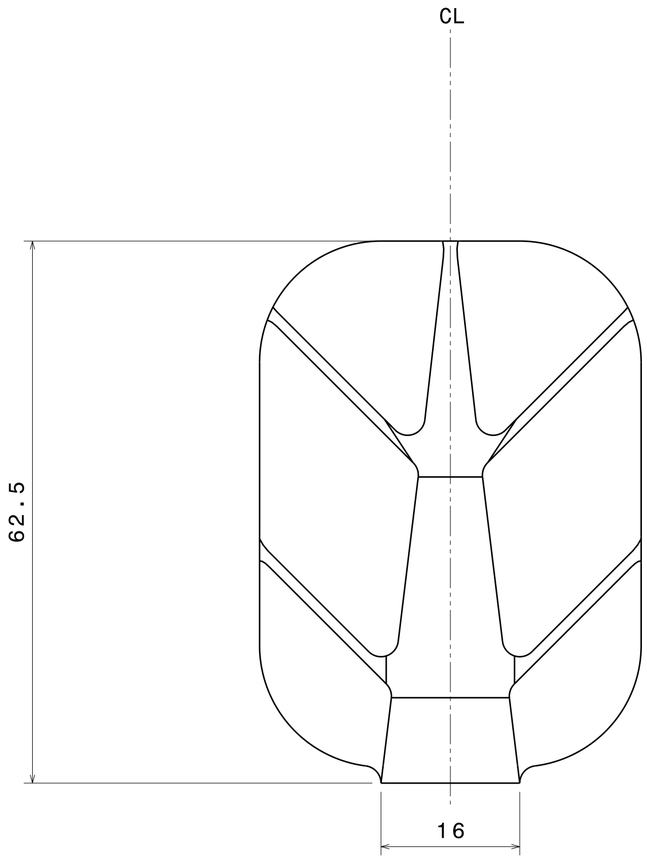


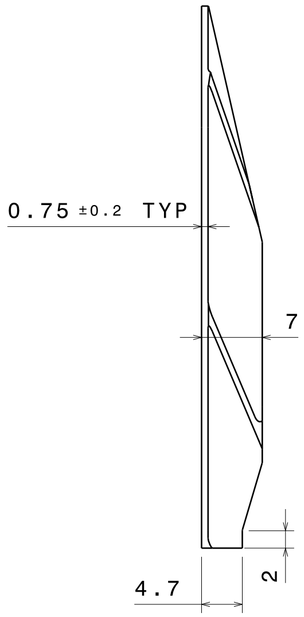
COMPUTER PRODUCED DRAWING USING CATIA V5. NO MANUAL ALTERATION

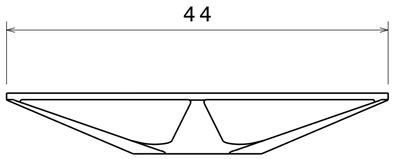
LIMITS NOT STATED: ISO 8015		SURFACE FINISH:		FIRST ANGLE PROJECTION	
		NAME	DATE	MATERIAL NUMBER:	
	DRAWN	ASPINDLE	10.08.2008	optoSiC+	
	STRESS	RATCLIFFE	10.08.2008	SCALE: 2:1	SIZE A2
	APPROVED	HASTINGS	14.08.2008	SHEET: 01 / 01	
TITLE: MIRROR X30				DRAWING NUMBER: X30G-001-080814	A (ISSUE)

ISOMETRIC VIEW









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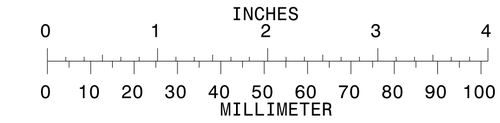

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