



# optoSiC+ XY15G

## *ultra-high performance generic scanning mirrors*

optoSiC® XY15G 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 <15.0mm aperture.

These mirrors are manufactured from the optoSiC+ grade of 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 is paramount.

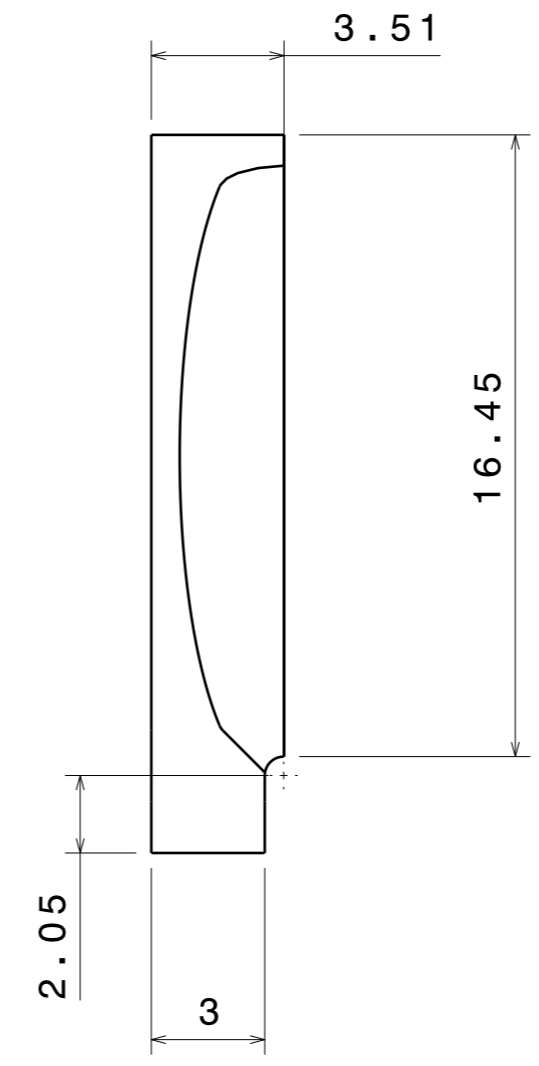
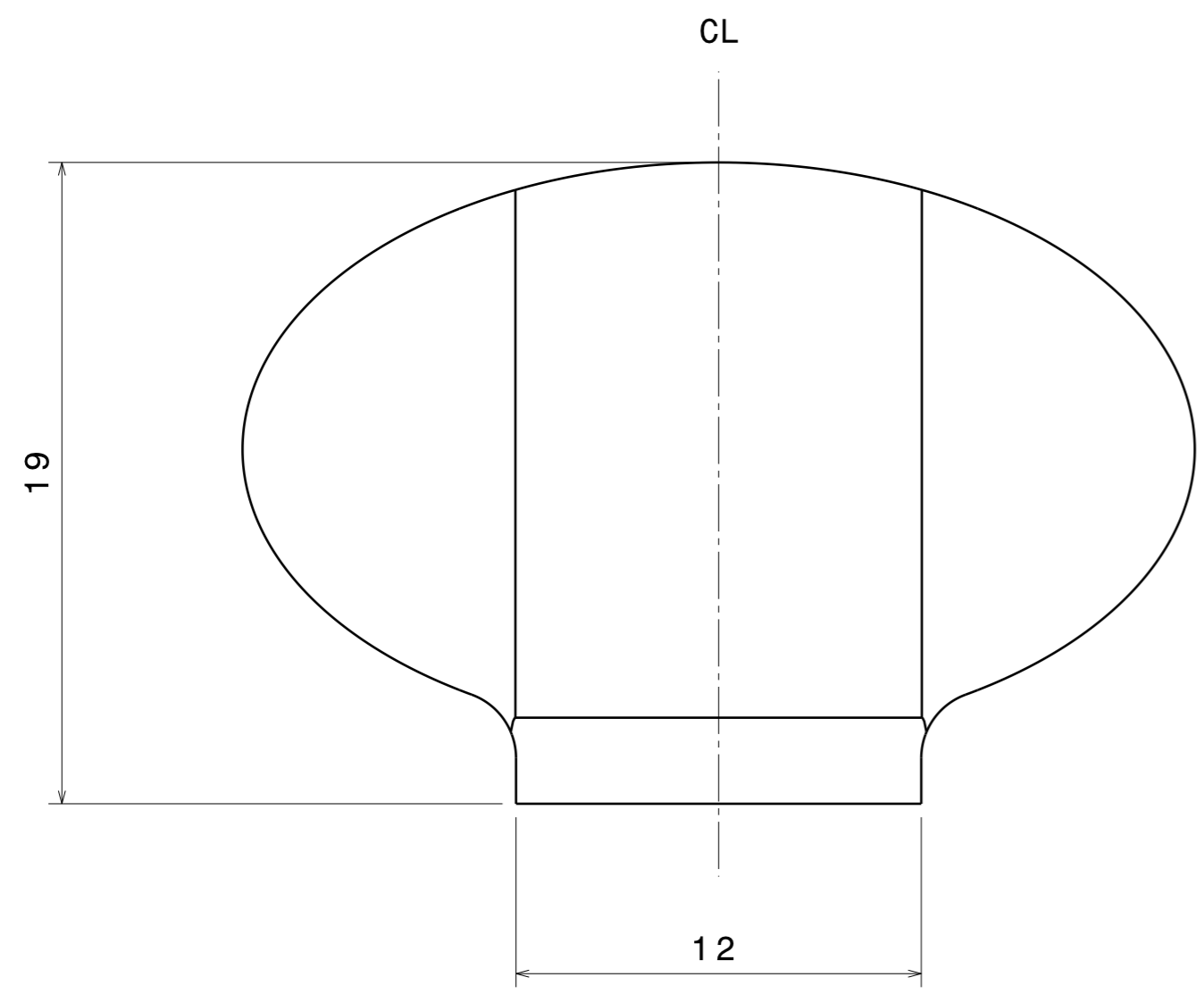
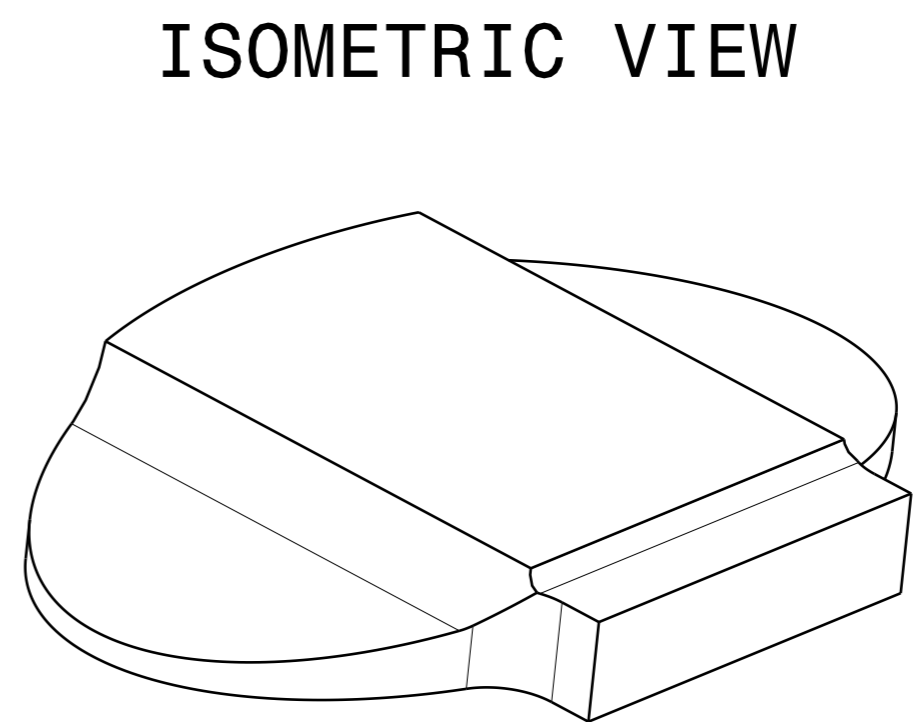
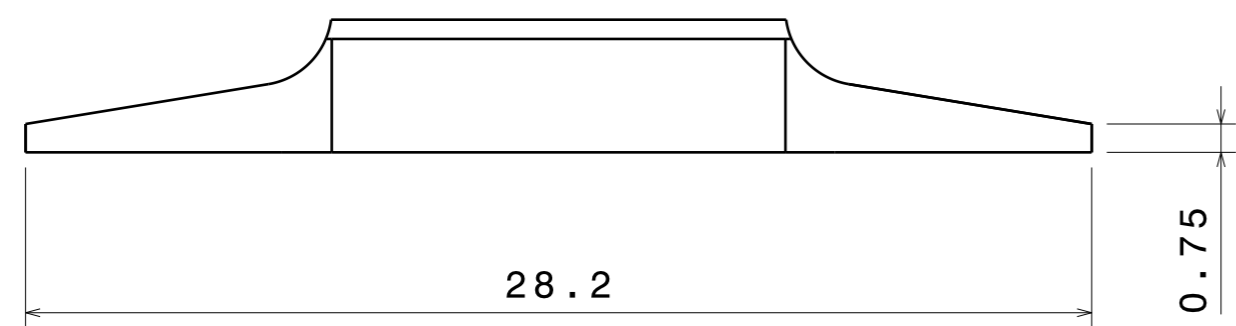
optoSiC® XY15G generic scanning mirrors are available polished at either 1/4, or 1/8λ PV @632.8nm flatness\* and either coated with UltraMAX R for CO<sub>2</sub>, opto-1064 R for 1064nm Nd:YAG, opto-HR Visible 390-710nm, opto-532 R for 532nm, opto-355 R for 355nm or Dualband opto-1064/532 R for 1064/532nm.

### **optoSiC+ XY15G Generic Scanning Mirror Specifications:**

Density	>3.16g/cm <sup>3</sup>		
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 <sup>-6</sup> /°K] 20-500°C (DIN EN 821-1)		
	X	Y	
Mass (g)**	3.363	4.277	
Moment of Inertia (g*cm.2)**	1.061	1.061	
Resonant Frequency (kHz)**	19.049	7.898	(1 <sup>st</sup> bending)
	35.840	20.965	(1 <sup>st</sup> twisting)
Dynamic Flatness (λ)**	<1/18	<1/7	
	(at λ = 632.8nm per 100,000 rad/sec^2)		
Central Angle of Incidence (°)	45	37.5	
X-Y Separation	17.1mm		
X-Tilt	-15°		
Mechanical Scan Angle	±10°		
Aperture	15.0mm full beam (collimated)		

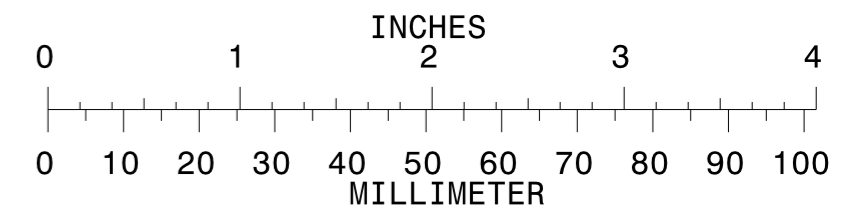
\*Over 90% of the reflective surface from the centre point

\*\*Modelled using CATIA, Patran and ANSYS softwares



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

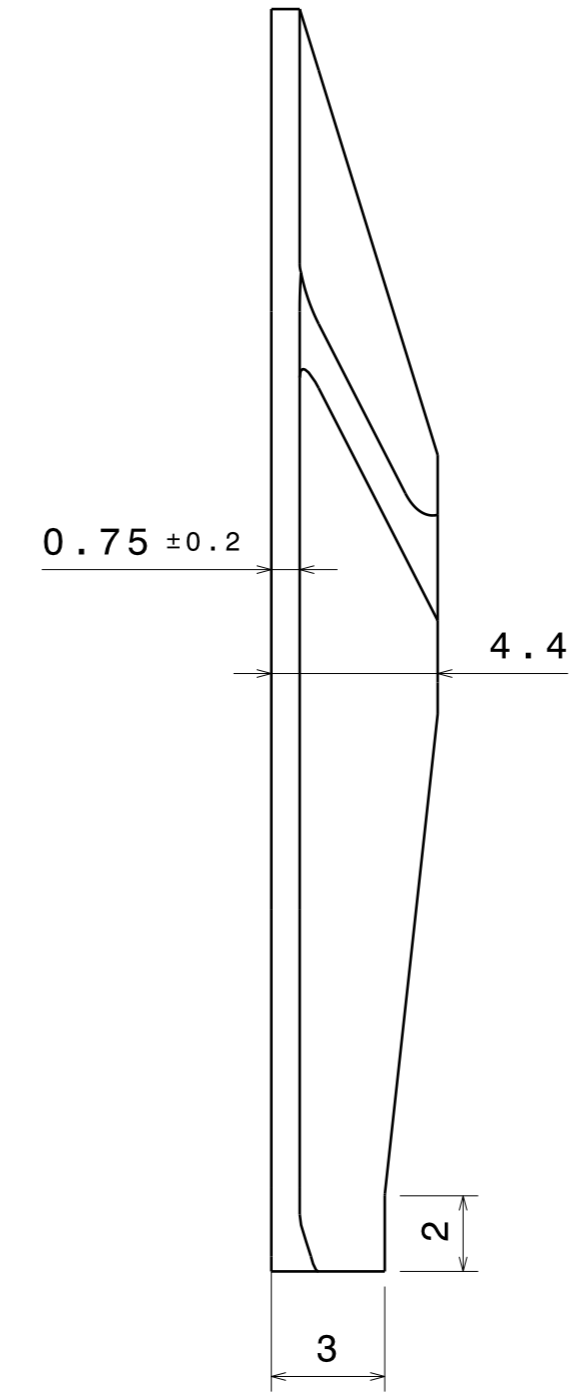
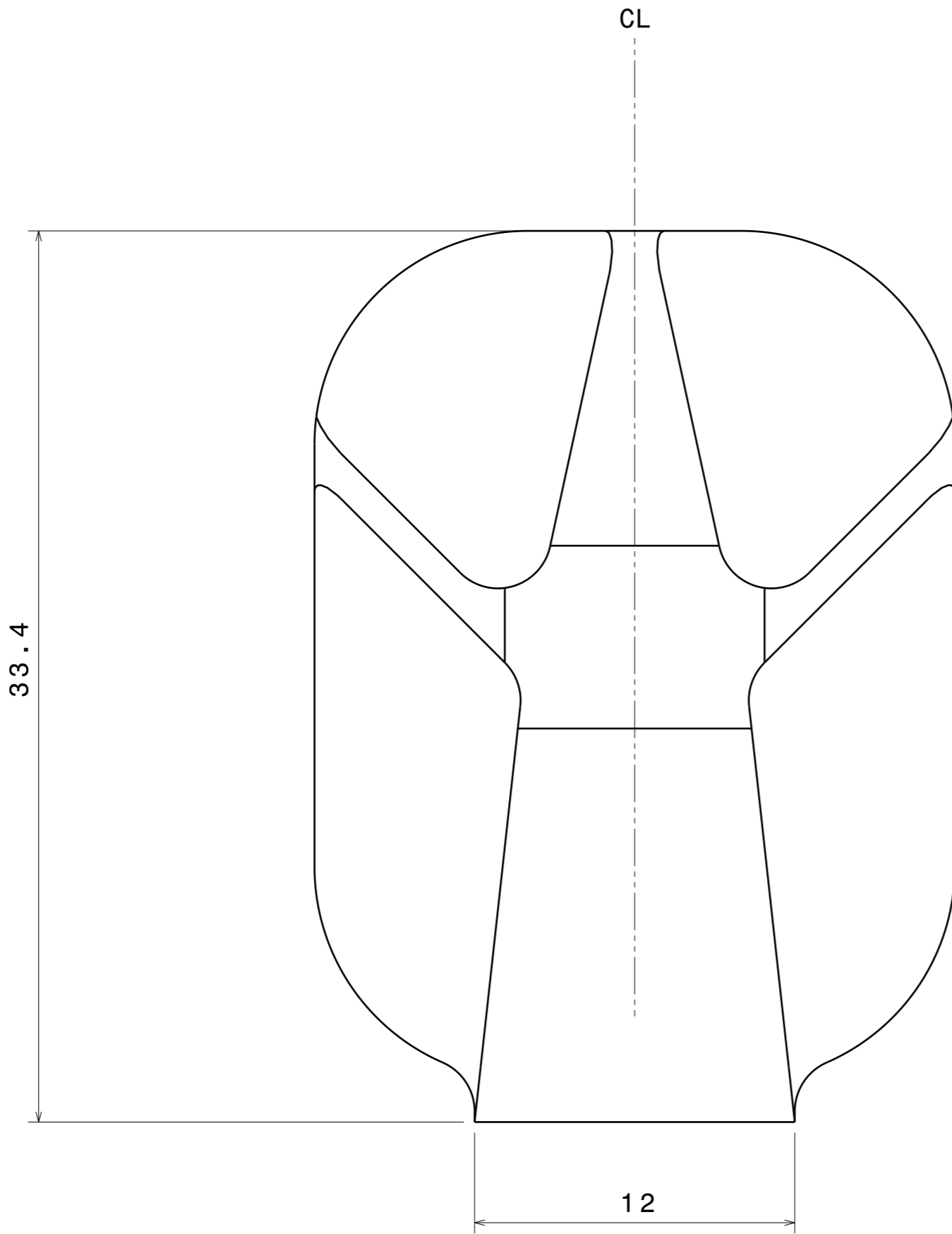
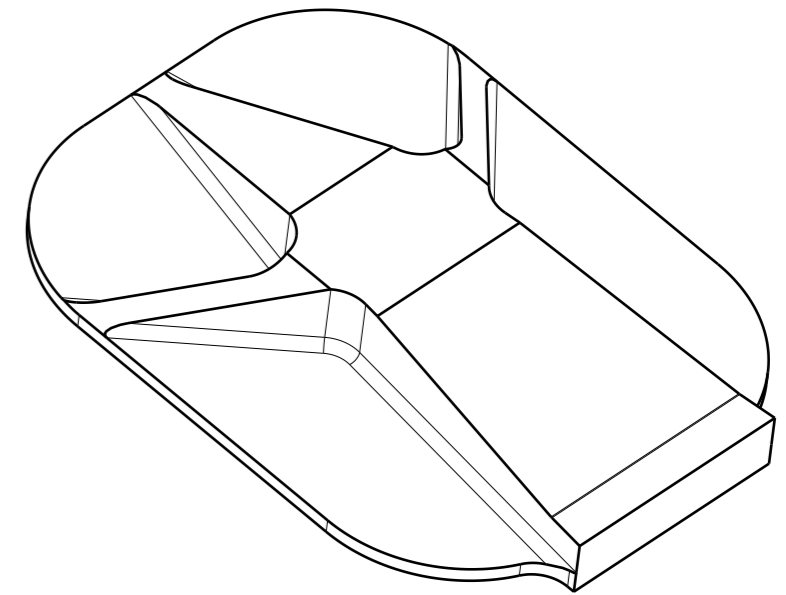
1. PART SYMMETRICAL AROUND CENTRE LINE



<b>COMPUTER PRODUCED DRAWING USING CATIA V5. NO MANUAL ALTERATION</b>					
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LIMITS NOT STATED: ISO 8015		SURFACE FINISH: ✓		FIRST ANGLE PROJECTION	
	NAME	DATE	MATERIAL NUMBER: optoSiC+		
	DRAWN	ASPINDLE	08.09.2008		
	STRESS	RATCLIFFE	08.09.2008	SCALE: 5:1	SIZE A2
	APPROVED	HASTINGS	09.09.2008	SHEET: 01 / 01	
TITLE			DRAWING NUMBER		
<b>MIRROR X15</b>			X15G-001-080909		
					<b>A</b>
					ISSUE

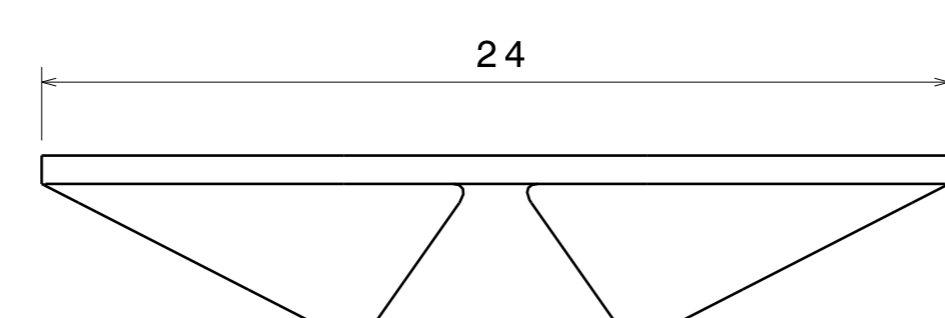
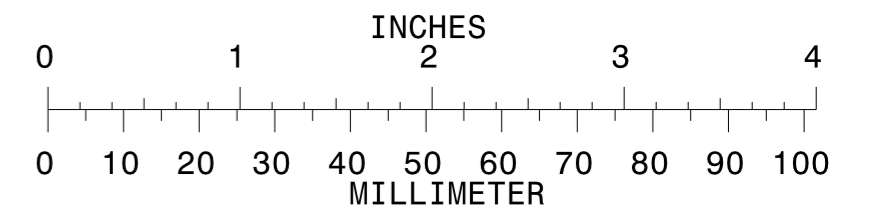
# ISOMETRIC VIEW

NOT TO SCALE



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TITLE		DRAWING NUMBER	
MIRROR Y15		Y15G-001-080909	
		<b>A</b>	
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