

Asphere Metrology

For High Performance Optics

**MANUFACTURING
THE FUTURE**



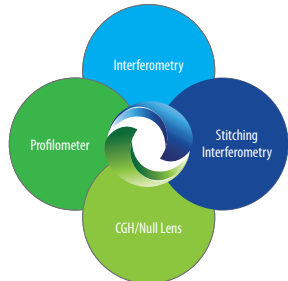
OPTIMAX[®]

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Asphere Decision Tree

If we can measure it, we can make it.

ASPHERE		Types	Departure from best fit sphere	Diameter (mm)	Cost of Measurement			
					*Achievable Measurement Limit	\$	\$\$	\$\$\$
					1 μm	λ/10	λ/20	λ/50
					Profilometry	Interferometry	Stitching	CGH/Null Lens
ASPHERE	Concave	Small departure	<10 μm	<200	X	X	X	X
				>200	X	X	X	X
		Medium departure	<600 μm	<200	X		X	X
				>200	X		X	X
		Large departure	>600 μm	<200	X			X
				>200	X			X
	Convex	Small departure	<10 μm	<150	X	X	X	X
				>150-200	X		X	
				>200	X		X	
		Medium departure	<600 μm	<150	X		X	X
				>150-200	X		X	
				>200	X		X	
Large departure	>600 μm	<150	X			X		
		>150-200	X					
Gullwing	Small departure	<10 μm	<200	X			X	
			>200	X			X	
	Medium & Large departure	>10 μm	<200	X			X	
			>200	X			X	



Fine Finishing, Overlapping Accuracy

- Profilometer** Most flexibility
- Interferometry** Higher precision
- Stitching Interferometry** Expanded range of coverage
- Computer Generated Holograms (CGH)/Null Lens** Custom characterization

*These are overall guidelines and not applicable in all cases.




For more information visit www.optimaxsi.com/aspheres

Metrology Methods

If we can measure it, we can make it. This is why Optimax offers multiple asphere metrology methods which can be used separately or in combination to meet your testing and inspection needs.

Our metrology must match the sophistication of our manufacturing technology. Optimax offers state-of-the-art metrology, including surface profilers and interferometers, to characterize aspheric surfaces. Testing options are form specific; use our asphere decision tree to decide where your asphere fits best.

Optimax can manufacture and test a wide range of aspheres to best fit your needs.

Type of Asphere	Pros/Cons
 Convex	Easy to manufacture Hard to measure
 Concave	Hard to manufacture Easy to measure
 Gullwing	Hard to manufacture Hard to measure Does more optically

Complexity

Optimax Capabilities

Optimax manufactures the optics behind breakthrough technologies in aerospace, defense, semiconductor and medical devices. Our advanced manufacturing systems allow us to test and deliver highly complex optics with the speed and performance your programs require.



Aspheres



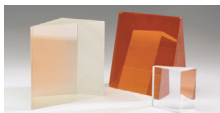
Coatings



Cylinders



Freeforms



Prisms



Spheres / Flats

For more information visit

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