

Products

Ultra-precision machined components



Free-form surfaces

Diamond-turned optics

Ultra-precision machined optics

Sample specifications	Min	Typical	Max
On- & off- axis parts < Ø100 mm:			
Form accuracy, fringes	<1/5	<1/2	
Free-form parts < Ø 700 mm			
Form accuracy, µm	< 5	< 10	
General:			
Roughness (RMS), nm	< 3	< 5	



World-leading aspheric and free-form machining

Based on a four-axis ultra-precision machine center and proprietary control software, Kaleido can machine free-form parts up to Ø700 mm with absolutely no need for post-polishing. Customers are thus enabled to realize even very large free-form mirrors with wavelength precision.

Kaleido offers on-axis lenses and mirrors, off-axis parts, as well as entirely free-form surfaces using slow-tool machining, which offers much larger free-form strokes as well as reduced machining time compared to any other free-form technology. This enables customers to design free-form optics for next-generation applications without having to worry about manufacturability and cost.

Wide material selection

Machining technology includes both single-point diamond-turning and deterministic grinding. This means that Kaleido offers machining of a wide range of materials including metals, crystals, ceramics, glass, and hard metals. Customers may use their material of choice to get the right reflectivity or refraction for their unique application.

The smoothest surfaces around

Kaleido Technology has developed a proprietary machine control software to offer the smoothest possible surface of even very large free-form parts. This means that Kaleido offers surface slope accuracies better than 70 µrad, in order to ensure customers that not only form but also waviness is controlled to extreme measures.



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