

ASPHERES

Precision Polished

ABOUT US

Tian Optics is committed to delivering customer-oriented solutions, consistently striving for excellence. Our cutting-edge, self-developed CNC aspheric polishing technology, combined with world-class measurement equipment and rigorous quality control measures, ensures that we provide superior aspheric design, fabrication, and assembly services to over 200 customers globally. With a monthly production capacity of up to 12,000 units, we can meet the need of most demanding projects.

PRODUCTS & SERVICES

- Products: Aspheric & Spherical Lenses
- Services: Optical Design & Assembly

CORE COMPETENCIES

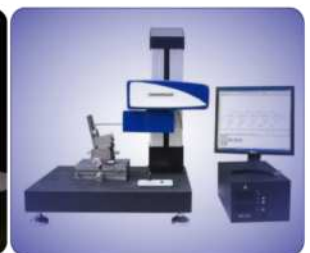
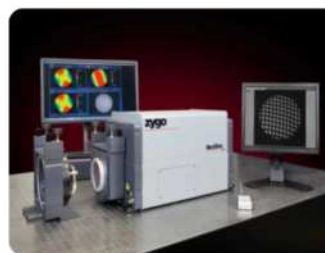
- Volume Production
- Competitive Pricing
- Uncompromising Quality
- Extensive Experience in Asphere Fabrication with Thousands of Product Types

EQUIPMENT

- 3rd Generation CNC Aspheric Polishing Machines: 24x
- ZYGO Interferometer
- Taylor-Hobson Profilometers
- Lens Centration Measurement System

APPLICATIONS

- High-Power Industrial Lasers
- Medical Instruments
- Remote Sensing
- Imaging



HIGH-POWER INDUSTRIAL LASERS



MEDICAL INSTRUMENTS



REMOTE SENSING



IMAGING

Capability of Custom Asphere Fabrication

ITEMS	CAPABILITY	Tolerances		
		(A) Silver Grade	(B) Gold Grade	(C) Platinum Grade
Outer Diameter (mm)	4-300	± 0.10	± 0.05	± 0.01
Center Thickness (mm)	> = 1	± 0.10	± 0.05	± 0.02
Wedge (mm,TIR)	~0.002	0.100	0.050	0.020
Asphericity (@50mm dia)	up to 5	< 1	1	> 2
Surface Figure, PV@633nm	$\lambda/10$	> 1.5 λ	~ λ	< λ
Surface Figure, RMS@633nm	$\lambda/80$	> $\lambda/4$	~ $\lambda/6$	< $\lambda/8$
Slope Error@0.5mm Spacing	3	N/A	25	10
Surface Roughness (nm RMS)	0.5	> 2	1	0.5
Surface Quality	—	60 – 40	40 – 20	20 – 10 and 10 – 5

Stock Aspheric Lenses — Precsion Polished

Parameters	Capability	Notes
Substrate Material	S-LAH64, L-BAL35, Fused Silica, N-BK7, ...	For further details, please scan the QR Code below: 
Shape	Plano-Convex, Convex-Convex	
Design Wavelength	1064nm, 780nm, 633nm, 588nm, ...	
Clear Aperture	> 90%-95% of Diameter	
Diameter Tolerance	0/-0.1 mm	
Center Thickness Tolerance	± 0.05 mm	
Surface Irregularity	≤ 0.1-0.75um (RMS)	
Surface Quality	60-40	
Coating	Uncoated	

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