

# Naked Optics Corp.

(<http://nakedoptics.com>)

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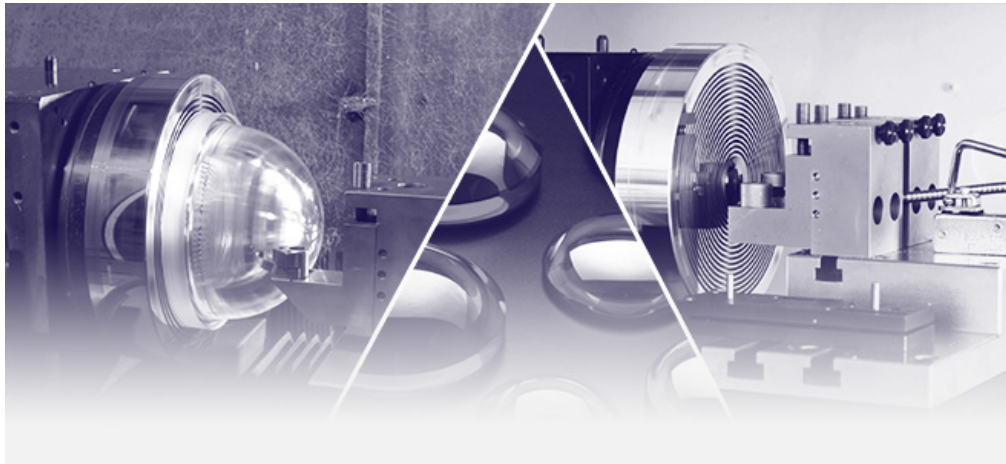
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## Diamond-Turning / IR Lenses



**Our partner Phoenix Optical Technologies Ltd diamond turning facility operates 5 single-point machines to support our customers' growing demands for innovation and quality.**

**This machining capacity is transformed into optical capability by a dedicated team of skilled technicians. We produce aspheric, free-form and diffractive surfaces in a variety of materials.**

### Materials Machined (partial list)

- Germanium
- Zinc Selenide, Zinc Sulfide & Cleartran®
- Silicon
- IR chalcogenide glass (GASIR®, AMTIR®, IG4, IG6)
- Acrylics, Zeonex® and polycarbonate
- CaF<sub>2</sub> & BaF<sub>2</sub>
- Aluminum & copper
- Ni-plated steel and Nibron

### Equipment & Capability

### Mailing Address

*Naked Optics Corp.  
1090 Delacroix Circle  
Nokomis, FL 34275*

### Telephone

**US East Sales Office:**

908-685-0352

**US West Sales Office:**

303-465-2630

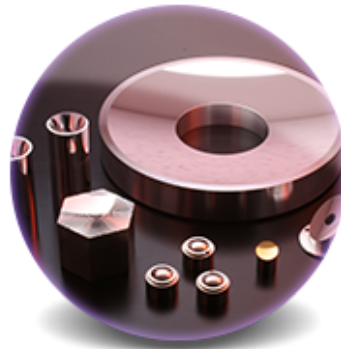
**Fax:**

908-325-0250

### Email

[sales@nakedoptics.com](mailto:sales@nakedoptics.com)  
(<mailto:sales@nakedoptics.com>)

We employ the latest slow-tool servo technology on our 3-axis machines enabling us to produce non-rotationally symmetric surfaces including toroids, cylinders and free-forms. We can produce bi-aspheric lenses 4mm in size to hemispherical domes up to 350mm in diameter. All our machines incorporate the latest hydrostatic slide-ways and linear motor technology. They are also fitted with heavy-duty spindles.

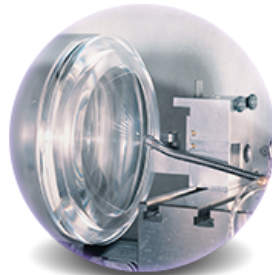
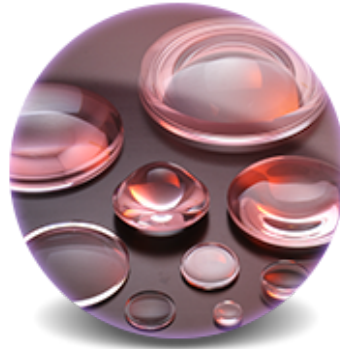


## Equipment (partial list)

- Precitech Nanoform 200 (Hi-Speed)
- Precitech Nanoform 350
- Moore Nanotech 250 with Slow-Tool Servo (x2)
- Precitech 250 Ultra with Slow-Tool Servo
- Schneider SLG-120 CNC Generator
- Schneider SLP-120 CNC Polisher
- LOH C-2SL & C-2 CNC Edging Systems



We have extensive metrology to ensure the demanding characterization of aspheric and hybrid surfaces. Surface profilometry is performed with our Talysurf PGI Series 2 and PGI 1240 instruments. Mild-departure aspheric surfaces can also be directly characterized using our Fisba phase-shifting interferometer. Our Talysurf CCI 3000A white light interferometer provides non-contact measurement of surface quality and diffractive features. The diamond-turning facility is supported by the in-house capabilities of Phoenix Optical Technologies to generate blanks, produce custom tooling and polish non-diamond-turned surfaces.



The combination of equipment stability and skilled machinists lead to vastly improved form control and surface finishes on all materials. Phoenix is ISO 9001:2000 certified since 1997. We hold the following typical form and roughness tolerances. This table is meant only as a rough guide as actual specifications are strongly dependent upon component geometry:

We hold the following typical form and roughness tolerances. This table is meant only as a rough guide as actual specifications are strongly dependent upon component geometry:

The following typical Roughness (ra) and Surface Form (um) as a rough guide as actual specifications are strongly dependent upon component geometry:

Material	Roughness (ra)	Surface Form (um)
ZnS or Cleartran®	4 nm	0.25 to 0.6
ZnSe	5 nm	0.25 to 0.6
Germanium	3 nm	0.25 to 0.6
Silicon	< 12 nm	0.4 to 0.6
Chalcogenide Glass	5 nm	0.25 to 0.6
CaF <sub>2</sub> & BaF <sub>2</sub>	< 10 nm	< 0.4
Acrylic	5 nm	0.3+
Zeonex ®	8 nm	0.3+
Polycarbonate	< 10 nm	0.4+
Aluminum	< 8 nm	0.125 to 1.0
Other Metals	3 to 8 nm	0.3 to 1.0

*Values based on measurements performed with our Talysurf CCI white light interferometer.*

For additional information please visit <http://phoenixopticaltechnologies.co.uk/>  
(<http://phoenixopticaltechnologies.co.uk/>)

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