Asphere Decision Tree

If we can measure it, we can make it.

**Types**
- Convex
- Concave
- Gullwing

**Departure from best fit sphere**
- Small departure
  - <10 μm
- Medium departure
  - <600 μm
- Large departure
  - >600 μm

**Diameter (mm)**
- <10 μm
- >10 μm
- >600 μm

**Metrology options**
- Profilometry
- Interferometry
- Stitching
- Computer Generated Holograms (CGH)/Null Lens

**Cost of Measurement**

<table>
<thead>
<tr>
<th>Achievable Measurement Limit</th>
<th>Profilometry</th>
<th>Interferometry</th>
<th>Stitching</th>
<th>CGH/Null Lens</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1 μm</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>λ/10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>λ/20</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>λ/50</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

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

For more information visit www.optimaxsi.com/aspheres
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.

<table>
<thead>
<tr>
<th>Type of Asphere</th>
<th>Pros/Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convex</td>
<td>Easy to manufacture</td>
</tr>
<tr>
<td></td>
<td>Hard to measure</td>
</tr>
<tr>
<td>Concave</td>
<td>Hard to manufacture</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>Does more optically</td>
</tr>
</tbody>
</table>
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
www.optimaxsi.com/aspheres