# Aspherical Lenses

## Product Information

Due to the unique profile, aspherical lenses eliminate monochromatic aberrations (e. g. spherical aberrations) and lead to a better overall image quality. They are increasingly used to replace multi-spherical element assemblies resulting in a weight reduction as well as in a more compact design.

## Advantages

- SCHOTT masters the entire value chain from raw glass to aspherical coated lenses
- Custom designed products at competitive prices
- 1 piece to series production levels
- Coating: all lenses can be coated to a specific custom design

## Materials

- All types of optical glass
- Fused silica
- Other materials on request

## Applications

- High power laser lenses collimation
- Focusing optics for Head Up Displays
- Endoscopy
- Microscopy
- Digital projection, camera, binocular

| Attribute | CNC machining and polishing | | | Molded (Low Tg glasses only) |
|---|---|---|---|---|
| | Commercial | Precision | High Precision | |
| Diameter | 15 – 180 mm | 15 – 160 mm | 15 – 140 mm | 1.5 – 35 mm |
| Diameter tolerance* | ± 0.1 mm | ± 0.05 mm | ± 0.02 mm | ± 0.05 mm |
| Center thickness* | 3 – 40 mm | 3 – 40 mm | 5 – 40 mm | 0.5 – 10 mm |
| Radius of curvature convex* | > 10 mm | > 20 mm | > 30 mm | > 3 mm |
| Radius of curvature concave* | On request | On request | On request | > 5 mm |
| Tolerance on radius of curvature* | ± 0.5 % | ± 0.1 % | ± 0.05 % | ± 0.5 % |
| Surface flatness (PV, asph. side)* | 2 µm | 0.5 µm | 0.2 µm | < 0.5 µm |
| Irregularity (PV, spherical side)* | 1 µm | 0.2 µm | 0.1 µm | < 0.5 µm |
| Tilt from asph. side to other side* | < 6 arc min | < 3 arc min | < 1 arc min | < 1 arc min |
| Surface roughness – Rq* | < 5 nm | < 3 nm | < 1.5 nm | < 15 nm |
| Surface quality (scratch & dig) (5/NxA)* | 60/40 5/6 x 0.25 | 40/20 5/3 x 0.25 | 10/5 5/3 x 0.025 | 40/20 5/3 x 0.16 |
| Typical volume* | From 1 piece to series production | | | > 200 pcs |

*Depending on customer's specifications. Please call sales representative.

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