

Aspheric Glass Lenses

Aspheric lenses are used to correct spherical aberrations. Instead of having to use multiple lenses such aberrations can be reduced to a minimum by using a single aspheric lens.

Typical applications of these lenses include the collimation of laser diodes and the focusing of a collimated beam into an optical fiber. Since output power levels continue to increase, common plastic lenses can sometimes no longer be used. LASER COMPONENTS can now offer aspheric lenses made of glass.

Each lens' specification strongly depends on its design. Find below a selection of lenses for collimation.



| Lenstype | APX-3.0/2.0 aspherical | APX-6.0/4.6GL aspherical | APX-6.3/3.1GL aspherical | APX-6.3/4.0 aspherical | APX-6.3/4.5 aspherical |
|-----------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------|---|
| Outer dia [mm] | 3 | 6.0 | 6.33 | 6.325 | 6.33 |
| Clear aperture [mm] | 2.0/1.15 | 4.9/3.52 | 5.2/3.89 | 4.85/3.43 | 4.95/3.66 |
| Center thickness [mm] | 1.87 | 3.1 | 3.19 | 2.995 | 2.94 |
| N.A. | 0.5 | 0.53 | 0.68 | 0.6 | 0.55 |
| EFL [mm] | 2.0 | 4.6 | 3.1 | 4.02 | 4.51 |
| BFL * [mm] | 1.1 (0.25) | 2.7 (0.275) | 1.76 (0.25) | 2.39 (0.25) | 2.91 (0.25) |
| RMS wavefront | <0.061 waves | <0.065 waves | <0.088 waves | <0.05 waves | <0.05 waves |
| Surface quality | 60 – 40 | 60 – 40 | 60 – 40 | 60 – 40 | 60 – 40 |
| Wavelength [nm] | 400 – 600 nm 600 – 1050 nm | 400 – 600 nm 600 – 1050 nm | 400 – 600 nm 600 – 1050 nm | 400 – 600 nm | 400 – 600 nm 600 – 1050 nm 1050 – 1500 nm |

| Lenstype | APX-6.5/7.50 aspherical | APX-7.2/6.2 aspherical | APX-7.2/11.0 aspherical | APX-9.9/8.0 aspherical |
|-----------------------|---------------------------------|---|---|---------------------------|
| Outer dia [mm] | 6.51 | 7.2 | 7.2 | 9.94 |
| Clear aperture [mm] | 4.5/3.7 | 5.0/2.92 | 6.59/6.05 | 8.0/6.7 |
| Center thickness [mm] | 2.75 | 5.36 | 2.2 | 3.69 |
| N.A. | 0.3 | 0.4 | 0.3 | 0.5 |
| EFL [mm] | 7.5 | 6.24 | 11.0 | 8.0 |
| BFL * [mm] | 5.9 (0.25) | 3.4 (0.275) | 9.64 (0.275) | 5.9 (0.25) |
| RMS wavefront | <0.028 waves | <0.043 waves | <0.052 waves | <0.058 waves |
| Surface quality | 60 – 40 | 60 – 40 | 60 – 40 | 60 – 40 |
| Wavelength [nm] | 600 – 1050 nm 1050 – 1500 nm | 400 – 600 nm 600 – 1050 nm 1050 – 1500 nm | 400 – 600 nm 600 – 1050 nm 1050 – 1500 nm | 600 – 1050 nm |

- Low CTE glass
- RoHS compliant
- * the back focal length is calculated with cover glass BK7, thickness is mentioned in the brackets
- for use at other wavelengths please contact us