Instructions
Laser Beam Expanders with spatial filter

These instructions are for the following systems:

- 03 8654 000 16x
- 03 8655 000 25x
- 03 8657 000 50x
- 03 8663 000 75x

The beam expanders are pre-equilibrated for a wavelength of $\lambda = 633$ nm. If connected to laser systems a readjustment is necessary!

Caution: Never expose your eyes to direct laser radiation!

Please read these instructions carefully before using the instrument and keep them in a safe place. When handing out the instrument to other persons please include the instructions. LINOS cannot be made responsible for any damage in case these instructions are not followed or the product is modified. In these cases the warranty is lost. LINOS does not cover any damage to other systems caused by improper usage of the product.

The user is responsible following all safety regulations valid in the area of usage.

Adjusting the spatial filter:

1. Unmount the laser beam expander system into components A, B, and C (see figure).
2. Connect component A (beam entrance) with component C (beam exit).
3. Center the beam entrance component A to the laser beam by adjusting the screws A1 and A2 using the 2 mm Allen key (supplied with the system). A correct adjustment is recognized by a homogeneous distribution at the beam exit side (you might see irregular diffraction at this point).

Do not move the adjusting screws A1 and A2 after this procedure.

4. Unmount components A and C.
5. Connect components A and B (spatial filter). Turn the inner mount of the spatial filter by one turn using the tubular key
provided with the system. This can be either clockwise or counter clockwise (remember the direction). By observing the pinhole diaphragm from the side, a spot can be observed. Adjust for the maximum of brightness with the screws B1 and B2.

6. Adjust for the optimal focus by turning the inner mount in Z direction. Adjustment of the diaphragm is optimized by stepwise turning back the inner mount (see 5.) and readjusting with the screws B1 and B2. The pinhole diaphragm diameter is 10 µm for the 75x and 50x versions and 20 µm for the 25x and 16x versions.

7. The focus is optimal if no diffraction rings are observed any more. To check this, place a screen in front of the system.

8. As the spatial filter is optimally calibrated, mount component C. Only small final corrections in the XY plane with the screws B1 and B2 might be necessary at this last point.