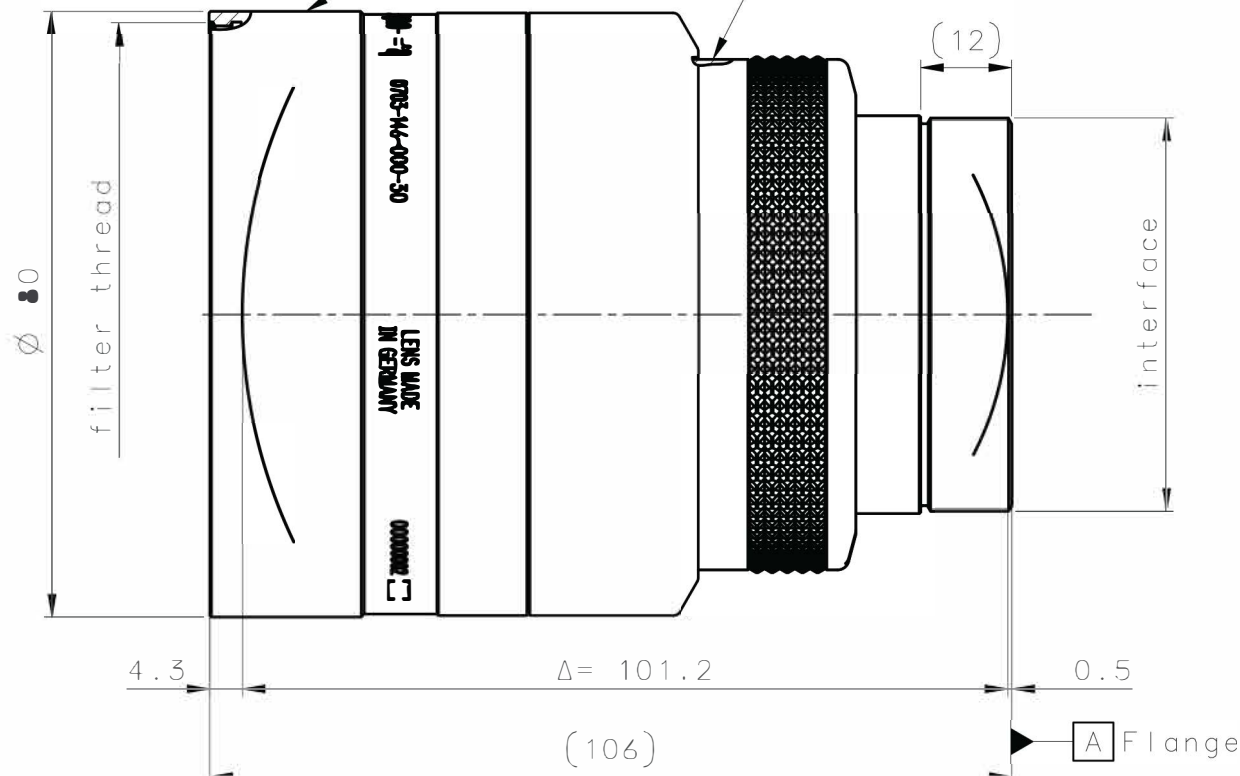
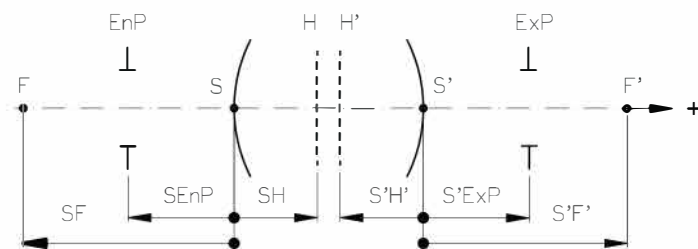


|                 |                          |
|-----------------|--------------------------|
| order number    | lens name                |
| 0703-146-000-30 | d.fine HR-M 2.8/80 0.09x |

azimuth marked  
vertical to best line

locking screw  
of f-stop change  
DIN913 M2.5x4

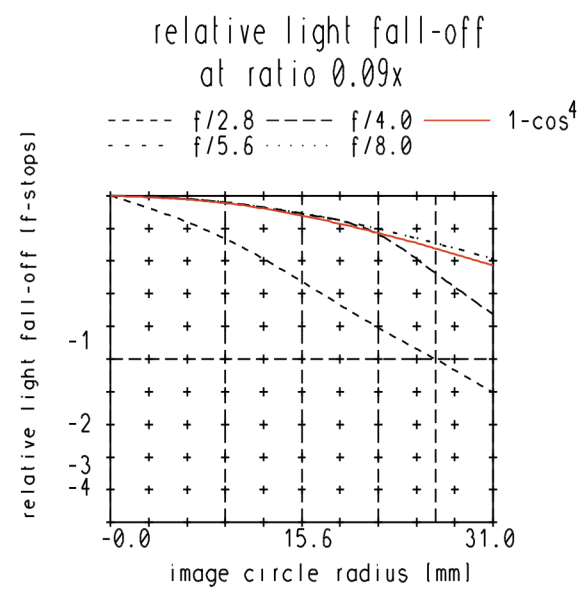
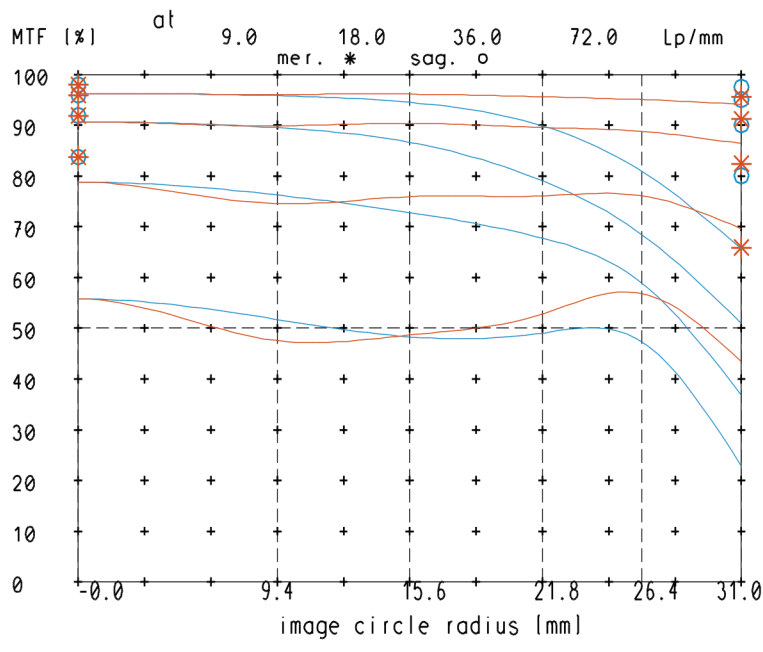


|                                                                                                                                       |                         |                                  |                 |                 |       |       |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------|-----------------|-----------------|-------|-------|
| Specification                                                                                                                         |                         | ON                               |                 | 7608-9211       |       |       |
| image circle max. (mm)                                                                                                                | 62.4                    | working distance (mm)            | 570 - 2003      |                 |       |       |
| focal length f' (mm)                                                                                                                  | 80.2                    | interface                        | M52 x0.5 ←→12mm |                 |       |       |
| magnification β' [range]                                                                                                              | -0.09 [-0.04 ... -0.14] | filter thread                    | M77 x0.75       |                 |       |       |
| spectral range λ (nm)                                                                                                                 | 400 - 750               | weight (g)                       | 800             |                 |       |       |
| <div>schematic diagram</div> <div>*) in air</div>  |                         | design includes CCD cover glass: |                 | yes 0.76mm D263 |       |       |
|                                                                                                                                       |                         | SF (mm)                          | 1.8             | f-stop          | Ø EnP | Ø ExP |
|                                                                                                                                       |                         | S'F' (mm) *)                     | 51.1            | 2.8             | 27.4  | 30.6  |
|                                                                                                                                       |                         | HH' (mm) *)                      | -6.3            | 4               | 19.9  | 22.2  |
|                                                                                                                                       |                         | SH (mm)                          | 78.4            | 5.6             | 14.2  | 15.8  |
|                                                                                                                                       |                         | S'H' (mm) *)                     | -29.1           | 8               | 10.0  | 11.1  |
|                                                                                                                                       |                         | SEnP (mm)                        | 70.1            | 11              | 7.2   | 8.0   |
| S'ExP (mm) *)                                                                                                                         | -38.3                   | 16                               | 5.0             | 5.5             |       |       |

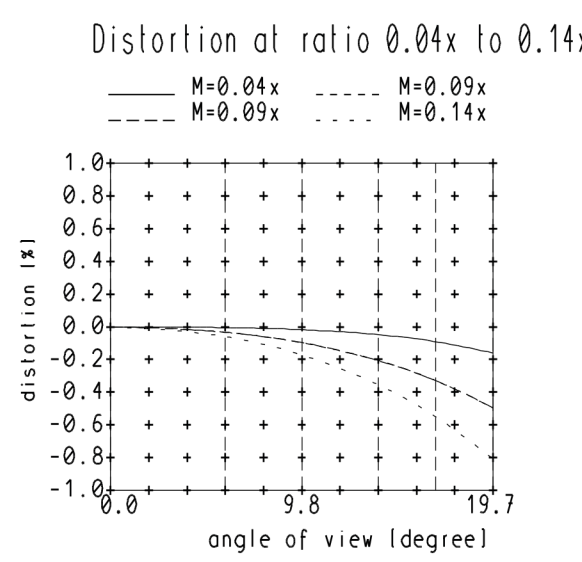
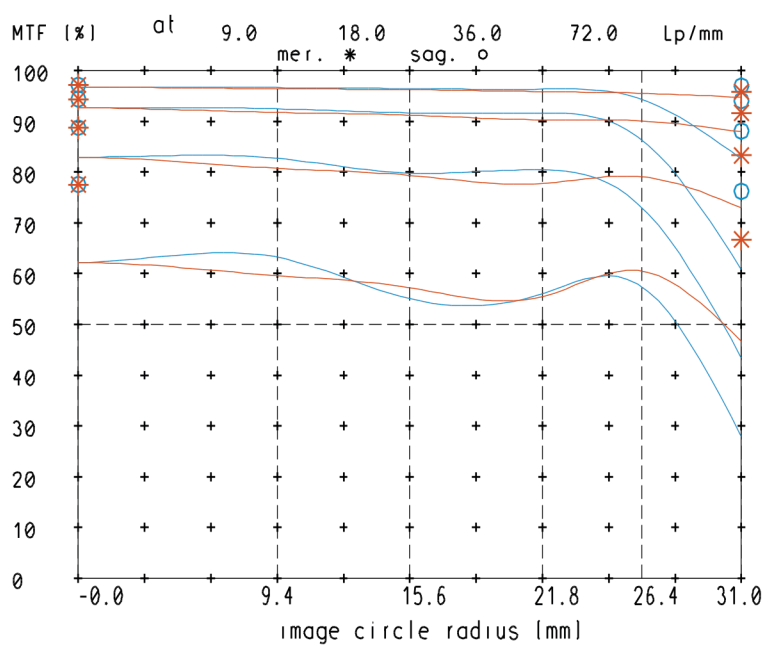
|                                                        |         |         |          |                       |                                                 |                                                                                     |                                   |             |                       |         |  |
|--------------------------------------------------------|---------|---------|----------|-----------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|-------------|-----------------------|---------|--|
| NX                                                     | EU-D    |         | AL-T1A   |                       | US-D                                            |                                                                                     | US-ML                             |             | not export controlled |         |  |
|                                                        |         |         |          |                       |                                                 |                                                                                     | PDM Status    Freigabe            |             | -                     |         |  |
| PROTECTIVE NOTE "DIN ISO 16016" TO BE OBSERVED         | REV     | ECC     | DATE     | APPROVED              | GENERAL TOLERANCE OF DIMENSION, FORM, POSITION. |                                                                                     | SCALE    1:1                      |             |                       |         |  |
|                                                        | a       | Neuhaus | 03.05.22 |                       |                                                 |                                                                                     | MATERIAL                          |             |                       |         |  |
|                                                        | b       | 22-0589 | 12.07.22 |                       |                                                 |                                                                                     |                                   |             |                       |         |  |
|                                                        | c       | 22-0991 | 28.10.22 |                       |                                                 |                                                                                     |                                   |             |                       |         |  |
|                                                        |         |         |          |                       | BASIC TOLERANCING PRINCIPLE ISO 8015            |                                                                                     | TITLE<br>d.fine HR-M 2.8/80 0.09x |             |                       |         |  |
|                                                        |         |         |          |                       |                                                 |                                                                                     |                                   |             |                       |         |  |
|                                                        |         |         |          |                       | FIRST                                           | DATE                                                                                |                                   |             | NAME                  |         |  |
|                                                        |         |         |          |                       | ISSUE                                           | 03.05.22                                                                            |                                   |             |                       |         |  |
|                                                        |         |         |          |                       | CHKD                                            | 12.05.22                                                                            |                                   |             |                       |         |  |
|                                                        | DIN A 4 |         |          |                       |                                                 |  |                                   | DRAWING NO. |                       | SHEET 1 |  |
| ALL DIMENSIONS ARE IN MM AND INCLUDE SURFACE TREATMENT |         |         |          | 0703-146-100-30-0001c |                                                 |                                                                                     |                                   | OF 1        |                       |         |  |
|                                                        |         |         |          |                       |                                                 | REPLACES                                                                            |                                   |             |                       |         |  |

ED= -0.060  
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H-Sys V8.60-Unix  
13.07.2022 18:30:09  
Us 33 Stauder

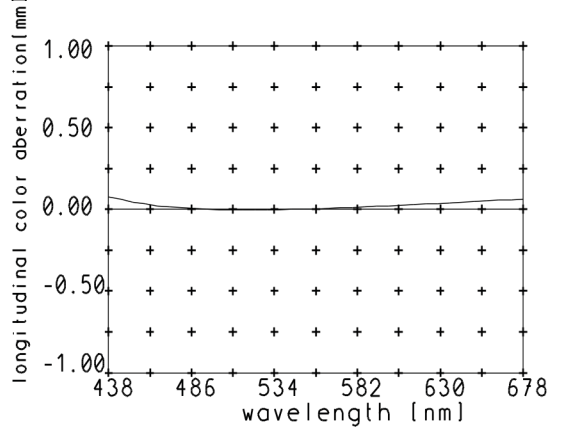
MTF at ratio 0.09x f/ 2.8



MTF at ratio 0.09x f/ 4



Longitudinal color aberration at ratio 0.09x



— sagittal, o Diffraction limited value  
— meridional, \* Diffraction limited value

Named frequencies (line pairs/mm) in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.