



TC3MHR144-C

High resolution telecentric lens for 1.1" detectors, magnification 0.100x, C-mount

SPECIFICATIONS

| | | |
|----------------|------|-------|
| Magnification | (x) | 0.100 |
| Image circle Ø | (mm) | 17.6 |

| Object field of view 8 | (mm x mm or Ø) |
|--|-----------------|
| with IMX174/IMX249 13.3 mm diag w x h 11.35 x 7.13 | 113.45 x 71.26 |
| with IMX255/IMX267 16.1 mm diag w x h 14.19 x 7.51 | 141.90 x 75.10 |
| with IMX253/IMX304 17.6 mm diag w x h 14.16 x 10.37 | 141.59 x 103.71 |
| with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2 | Ø = 151.55 |
| with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6 (7) | Ø = 135.96 |

Optical specifications

| | | |
|---|-------|--------------|
| Working distance (1) | (mm) | 396.0 |
| wF/# (2) | | 8 |
| Telecentricity typical (max) (3) | (deg) | <0.08 (0.10) |
| Distortion typical (max) (4) | (%) | <0.08 (0.10) |
| Field depth (5) | (mm) | 60.0 |
| CTF@ 50 lp/mm | (%) | > 55 |

Mechanical specifications

| | | |
|-----------------------------|------|-------|
| Mount | | C |
| Phase adjustment (9) | | Yes |
| Length (6) | (mm) | 499.8 |
| Diameter | (mm) | 200 |
| Mass | (g) | 5847 |

NOTES

- Working distance: distance between the front end of the mechanics and the object. Set this distance within +/- 3% of the nominal value for maximum resolution and minimum distortion.
- Working F-number (wF/#): the real F-number of a lens when used as a macro. Lenses with smaller apertures (higher wF/#) can be supplied on request.
- Maximum slope of chief rays inside the lens: when converted to milliradians, it gives the maximum measurement error for any millimeter of object displacement. Typical (average production) values and maximum (guaranteed) values are listed.
- Percent deviation of the real image compared to an ideal, undistorted image: typical (average production) values and maximum (guaranteed) values are listed.
- At the borders of the field depth the image can be still used for measurement but, to get a perfectly sharp image, only half of the nominal field depth should be considered. Pixel size used for calculation is 5,5 µm.
- Measured from the front end of the mechanics to the camera flange.
- With KAI-08050 (22.6 mm diagonal) detectors, the FOV of TC4MHRyyy-x lenses may show some vignetting at the image corners.
- For the fields with the indication "Ø =", the image of a circular object of such diameter is fully inscribed into the detector.
- Indicates the availability of an integrated camera phase adjustment feature

