

# TC2MHR080-F

High resolution bi-telecentric lens for 1" detectors, magnification 0.160x, F-mount

## SPECIFICATIONS

Magnification	(x)	0.160
Image circle Ø	(mm)	16.9

### Object field of view 8

with KAI-2020 14.8 mm diagonal w x h 11.84 x 8.88	(mm x mm)	74.0 x 55.5
with KAI-04050 16 mm diagonal w x h 12.8 x 9.6	(mm x mm)	80.0 x 60.0
with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2	(mm x mm)	Ø=95.0
with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6(7)	(mm x mm)	Ø=85.0

### Optical specifications

Working distance (1)	(mm)	226.76
f/# (2)		16
Telecentricity typical (max) (3)	(deg)	< 0.04 (0.08)
Distortion typical (max) (4)	(%)	< 0.05 (0.10)
Field depth (5)	(mm)	46
CTF@ 50 lp/mm	(%)	> 40

### Mechanical specifications

Mount		F
Length (6)	(mm)	295.0
Diameter	(mm)	116
Mass	(g)	1652



## NOTES

1. 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.
2. Working F-number: the real F-number of a lens when used as a macro. Lenses with smaller apertures can be supplied on request.
3. 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.
4. Percent deviation of the real image compared to an ideal, undistorted image: typical (average production) values and maximum (guaranteed) values are listed.
5. 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 µm.
6. Measured from the front end of the mechanics to the camera flange.
7. With KAI-08050 (22.6 mm diagonal) detectors, the FOV of TC4MHR yyy lenses may show some vignetting at the image corners, as these lenses are optimized for 1.2" detectors (21.5 mm diagonal).
8. For the fields with the indication "Ø =", the image of a circular object of such diameter is fully inscribed into the detector.

## COMPATIBLE PRODUCTS



LTCLHP080-G  
Telecentric HP illuminator, beam diameter 100 mm, green



CMHO080  
Clamping mechanics for TCxx072, TCxx080, LTCLHP080-X illuminators and PCxx030XS



LTRN080NW  
Ring LED illuminator, white