TC4MHR056-C

High resolution bi-telecentric lens for 1.2″ detectors, magnification 0.314x, C-mount

SPECIFICATIONS

Magnification	(x)	0.314
Image circle Ø	(mm)	21.6

Object field of view 8		
with KAI-2020 14.8 mm diagonal w x h 11.84 x 8.88	(mm x mm)	37.7 x 28.3
with KAI-04050 16 mm diagonal w x h 12.8 x 9.6	(mm x mm)	40.8 x 30.6
with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2	(mm x mm)	48.4 x 48.4
with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6(7)	(mm x mm)	57.6 x 43.3

Optical specifications		
Working distance (1)	(mm)	157.8
f/# (2)		16
Telecentricity typical (max) (3)	(deg)	< 0.05 (0.10)
Distortion typical (max) (4)	(%)	< 0.04 (0.10)
Field depth (5)	(mm)	12.0
CTF@ 50 lp/mm	(%)	> 40

Mechanical specifications		
Mount		C
Length (6)	(mm)	280.7
Diameter	(mm)	80
Mass	(g)	1048

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

LTCLHP056-G
Telecentric HP illuminator, beam diameter 70 mm, green

CMHO056
Clamping mechanics for TCxx056 lenses and LTCLHP056-X illuminators

LTRN056NW
Ring LED illuminator, white