



TC1MHR120-C

High resolution telecentric lens for 1/1.2" detectors, magnification 0.087x, C-mount

SPECIFICATIONS

Magnification	(x)	0.087
Image circle Ø	(mm)	13.3

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	130.40 x 81.91
with IMX255/IMX267 16.1 mm diag w x h 14.19 x 7.51	Ø = 86.32
with IMX253/IMX304 17.6 mm diag w x h 14.16 x 10.37	Ø = 119.21
with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2	Ø = 152.87
with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6 (7)	Ø = 152.87

Optical specifications

Working distance (1)	(mm)	334.6
wF/# (2)		8
Telecentricity typical (max) (3)	(deg)	<0.08 (0.10)
Distortion typical (max) (4)	(%)	<0.08 (0.10)
Field depth (5)	(mm)	79.3
CTF@ 50 lp/mm	(%)	> 55

Mechanical specifications

Mount		C
Phase adjustment (9)		Yes
Length (6)	(mm)	428.3
Diameter	(mm)	180
Mass	(g)	4707

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

