

TC4MHR056-E

High resolution telecentric lens for 1.2" detectors, magnification 0.314x, mount M42X1 FD=16

SPECIFICATIONS

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

Object field of view 8

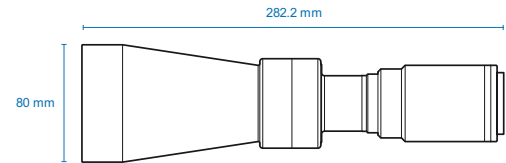
with KAI-2020 14.8 mm diagonal w x h 11.84 x 8.88	(mm x mm)	37.7 x 28.3
with KAI-04050 16 mm diagonal w x h 12.8 x 9.6	(mm x mm)	40.8 x 30.6
with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2	(mm x mm)	48.4 x 48.4
with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6 (7)	(mm x mm)	57.6 x 43.3

Optical specifications

Working distance (1)	(mm)	157.8
wF/# (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		M42x1
Length (6)	(mm)	282.2
Diameter	(mm)	80
Mass	(g)	1109



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 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 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.

COMPATIBLE PRODUCTS







LTCLHP series
High-performance telecentric illuminators

LTCLHP056-R	Telecentric HP illuminator, beam diameter 70 mm, red
LTCLHP056-G	Telecentric HP illuminator, beam diameter 70 mm, green
LTCLHP056-B	Telecentric HP illuminator, beam diameter 70 mm, blue
LTCLHP056-W	Telecentric HP illuminator, beam diameter 70 mm, white



LTRN series
LED ring illuminators

LTRN056RD	Ring LED illuminator, inner diameter 80 mm, straight type, red 630 nm
LTRN056GR	Ring LED illuminator, inner diameter 80 mm, straight type, green 525 nm

LTRN056BL	Ring LED illuminator, inner diameter 80 mm, straight type, blue 470 nm
LTRN056NW	Ring LED illuminator, inner diameter 80 mm, straight type, white
	CMBS series 45° beam splitters
CMBS056	45° beam splitter with mount for 80 mm clamping diameter optics
	CMMR series 45° first surface mirrors
CMMR056	45° first surface mirror for 80 mm clamping diameter optics
	WI series Protective windows
WI056	Protective window for 80 mm clamping diameter optics
	CMHO series Clamping mechanics
CMHO056	Clamping mechanics for TCx056 lenses and LTCLHP056-X illuminators