

TC12120

Bi-telecentric lens for 1/2" detectors, magnification 0.052 x, C-mount

SPECIFICATIONS

Magnification	(x)	0.052
Image circle Ø	(mm)	8.0

Object field of view (8)

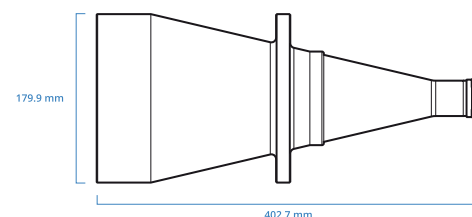
with 1/3" detector (4.8 x 3.6 mm)	(mm x mm)	92.1 x 69.1
with 1/2.5" detector (5.70 x 4.28 mm)	(mm x mm)	109.4 x 82.0
with 1/2" detector (6.4 x 4.8 mm)	(mm x mm)	122.8 x 92.1
with 1/1.8" detector (7.13 x 5.37 mm) (7)	(mm x mm)	136.7 x 103.0
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm x mm)	Ø = 135.5

Optical specifications

Working distance (1)	(mm)	334.5
wF/# (2)		8
Telecentricity typical (max) (3)	(deg)	< 0.06 (0.08)
Distortion typical (max) (4)	(%)	< 0.04 (0.10)
Field depth (5)	(mm)	247
CTF @ 70 lp/mm	(%)	> 45

Dimensions

Mount		C
Length (6)	(mm)	402.7
Diameter	(mm)	180
Mass	(g)	5300



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 millirad, 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 very 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 1/1.8" (9 mm diagonal) detectors, the FOV of TC12yyy lenses may show some vignetting at the image corners, as these lenses are optimized for 1/2" detectors (8 mm diagonal).
- For the fields with the indication "Ø =", the image of a circular object of such diameter is fully inscribed into the detector.

COMPATIBLE PRODUCTS

LTCLHP120-G	Telecentric HP illuminator, beam diameter 150 mm, green
CMHO120	Clamping mechanics for TCxx110, TCxx120 lenses and LTCLHP120-X illuminators
LTRN120NW	Ring LED illuminator, inner diameter 180 mm, straight type, white
Optical filters	Lens filters and mounting accessory