

# TC16M 144

Bi-telecentric lens for 35 mm detectors, magnification 0.245 x, F-mount

Magnification	(x)	0.245
Image circle	(mm)	43.3

### Object field of view

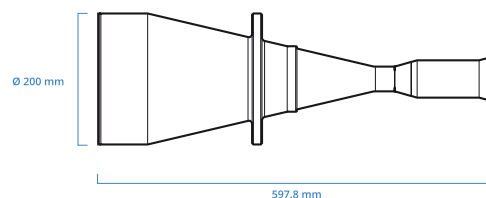
with 2k x 10 µm detector	(mm)	83.6
with 4k x 7 µm detector	(mm)	117.0
with 8k x 5 µm detector	(mm)	167.1
with 36 x 24 mm detector	(mm x mm)	146.9 x 97.9

### Optical specifications

Working distance (1)	(mm)	398.0
f/# (2)		16
Telecentricity typical (max) (3)	(deg)	< 0.05 (0.08)
Distortion typical (max) (4)	(%)	< 0.08 (0.20)
Field depth (5)	(mm)	19
CTF@ 70 lp/mm	(%)	> 40

### Mechanical specifications

Mount		F
Length (6)	(mm)	597.8
Diameter	(mm)	200
Mass	(g)	7000



### NOTES

- Working distance: distance between the front lens and the object. Set this distance within +/- 3% of the nominal value for maximum resolution and minimum distortion.
- Working F-number: 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 very sharp image, only half of the nominal field depth should be considered. Pixel size used for calculation is 4.8 µm.
- Measured from the front end of the mechanics to the camera flange.

### COMPATIBLE PRODUCTS



LTCLHP144-G  
Telecentric HP illuminator, beam diameter 180 mm, green



CMHO 144  
Clamping mechanics for TCxx130, TCxx144 lenses and LTCL144-X illuminators



LTRN 144 NW  
Ring LED illuminator, white