

# TC23016

Bi-telecentric lens for 2/3" detectors, magnification 0.528 x, C-mount

## SPECIFICATIONS

Magnification	(x)	0.528
Image circle Ø	(mm)	11.0

### Object field of view (8)

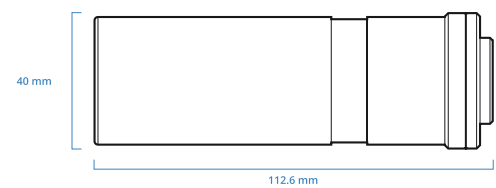
with 1/3" detector (4.8 x 3.6 mm)	(mm × mm)	9.09 x 6.82
with 1/2.5" detector (5.70 x 4.28 mm)	(mm × mm)	10.8 x 8.10
with 1/2" detector (6.4 x 4.8 mm)	(mm × mm)	12.1 x 9.09
with 1/1.8" detector (7.13 x 5.37 mm) (7)	(mm × mm)	13.5 x 10.2
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm × mm)	16.0 x 13.4

### Optical specifications

Working distance (1)	(mm)	43.1
wF/# (2)		8
Telecentricity typical (max) (3)	(deg)	< 0.06 (0.10)
Distortion typical (max) (4)	(%)	< 0.04 (0.07)
Field depth (5)	(mm)	2
CTF @ 70 lp/mm	(%)	> 30

### Dimensions


Mount		C
Length (6)	(mm)	112.7
Diameter	(mm)	37.7
Mass	(g)	300




## 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

 LTCLHP series  
High-performance telecentric illuminators

LTCLHP016-R	Telecentric HP illuminator, beam diameter 20 mm, red
LTCLHP016-G	Telecentric HP illuminator, beam diameter 20 mm, green
LTCLHP016-B	Telecentric HP illuminator, beam diameter 20 mm, blue
LTCLHP016-W	Telecentric HP illuminator, beam diameter 20 mm, white

 LTRN series  
LED ring illuminators

LTRN016RD	Ring LED illuminator, inner diameter 37 mm, straight type, red 630 nm
LTRN016GR	Ring LED illuminator, inner diameter 37 mm, straight type, green 525 nm

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures are for illustration purposes only.

LTRN016BL	Ring LED illuminator, inner diameter 37 mm, straight type, blue 470 nm
LTRN016NW	Ring LED illuminator, inner diameter 37 mm, straight type, white



CMHO series  
Clamping mechanics

CMHO016	Clamping mechanics for TCxx016 lenses and LTCLHP016-X illuminators
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Calibration patterns  
Accurate calibration of machine vision systems

PT016-024	Calibration pattern
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Optical filters  
Lens filters and mounting accessory

TCFILTER	Filter mount for telecentric lenses
COBP470D17.5	Blue (470 nm) bandpass filter, 17.5 mm diameter
COBP525D17.5	Green (525 nm) Bandpass filter, 17.5 mm diameter
COBP635D17.5	Red (635 nm) Bandpass filter. 17.5 mm diameter
COBP850D17.5	IR (850 nm) Bandpass filter, 17.5 mm diameter
COBP880D17.5	IR (880 nm) bandpass filter, 17.5 mm diameter
COLP920D17.5	IR (920 nm) Long-pass filter, 17.5 mm diameter
COPR032D17.5	Linear polarizer, 17.5 mm diameter