

# TC13036

Bi-telecentric lens for 1/3" detectors, magnification 0.133 x, C-mount

## SPECIFICATIONS

|                |      |       |
|----------------|------|-------|
| Magnification  | (x)  | 0.133 |
| Image circle Ø | (mm) | 6.0   |

### Object field of view (8)

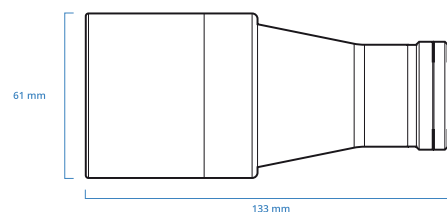
|  |           |             |
|--|-----------|-------------|
| with 1/3" detector (4.8 x 3.6 mm)          | (mm x mm) | 36.0 x 27.0 |
| with 1/2.5" detector (5.70 x 4.28 mm)      | (mm x mm) | Ø = 32.0    |
| with 1/2" detector (6.4 x 4.8 mm)          | (mm x mm) | Ø = 36.0    |
| with 1/1.8" detector (7.13 x 5.37 mm) (7)  | (mm x mm) | Ø = 40.2    |
| with 2/3" - 5 MP detector (8.45 x 7.07 mm) | (mm x mm) | -           |

### Optical specifications

|                                  |       |               |
|----------------------------------|-------|---------------|
| Working distance (1)             | (mm)  | 102.5         |
| wF/# (2)                         |       | 8             |
| Telecentricity typical (max) (3) | (deg) | < 0.04 (0.08) |
| Distortion typical (max) (4)     | (%)   | < 0.03 (0.08) |
| Field depth (5)                  | (mm)  | 38            |
| CTF @ 70 lp/mm                   | (%)   | > 50          |

### Dimensions

|            |      |       |
|------------|------|-------|
| Mount      |      | C     |
| Length (6) | (mm) | 133.0 |
| Diameter   | (mm) | 61    |
| Mass       | (g)  | 460   |



## 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

|             |  |
|-------------|--|
| LTCLHP036-G | Telecentric HP illuminator, beam diameter 45 mm, green             |
| CMHO036     | Clamping mechanics for TCxx036 lenses and LTCLHP036-X illuminators |
| LTRN036NW   | Ring LED illuminator, inner diameter 61 mm, straight type, white   |