



# TC12M096-F

High resolution telecentric lenses, magnification 0.306, WD 256

## SPECIFICATIONS

|                |      |       |
|----------------|------|-------|
| Magnification  | (x)  | 0.306 |
| Image circle Ø | (mm) | 33.5  |

### Object field of view

|  |           |               |
|--|-----------|---------------|
| with PYTHON 26.07 mm diagonal w x h 18.43 x 18.43          | (mm x mm) | 60.24 x 60.24 |
| with APS-C CMV12000 28.16 mm diagonal w x h 22.53 x 16.90  | (mm x mm) | 73.62 x 73.62 |
| with line - 4k detector 4k x 7 µm 28.67                    | (mm)      | 93.69         |
| with APS-H PYTHON 32.58 mm diagonal w x h 23.4 x 23.4      | (mm x mm) | 75.29 x 75.29 |
| with APS-H KAI-16050 32.58 mm diagonal w x h 26.93 x 17.95 | (mm x mm) | 88.00 x 58.67 |

### Optical specifications

|                                  |       |              |
|----------------------------------|-------|--------------|
| Working distance (1)             | (mm)  | 256.0        |
| wF/# (2)                         |       | 8            |
| Telecentricity typical (max) (3) | (deg) | <0.08 (0.10) |
| Distortion typical (max) (4)     | (%)   | <0.08 (0.10) |
| Field depth (5)                  | (mm)  | 7.0          |
| CTF@ 50 lp/mm                    | (%)   | > 55         |

### Mechanical specifications

|                  |      |       |
|------------------|------|-------|
| Mount (6)        |      | F     |
| Phase adjustment |      | Yes   |
| Length (7)       | (mm) | 423.7 |
| Diameter         | (mm) | 143   |
| Mass             | (g)  | 2689  |



## 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/#: the real F/# 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 5.5 µm.
- FD stands for Flange Distance (in mm), defined as the distance from the mounting flange (the "metal ring" in rear part of the lens) to the camera detector plane.
- Measured from the front end of the mechanics to the camera flange.