



# TC12M056-F

High resolution telecentric lenses, magnification 0.531, WD 136.5

## SPECIFICATIONS

Magnification	(x)	0.531
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)	34.71 x 34.71
with APS-C CMV12000 28.16 mm diagonal w x h 22.53 x 16.90	(mm x mm)	42.43 x 42.43
with line - 4k detector 4k x 7 µm 28.67	(mm)	53.99
with APS-H PYTHON 32.58 mm diagonal w x h 23.4 x 23.4	(mm x mm)	43.39 x 43.39
with APS-H KAI-16050 32.58 mm diagonal w x h 26.93 x 17.95	(mm x mm)	50.71 x 33.81

### Optical specifications

Working distance (1)	(mm)	136.5
wF/# (2)		11
Telecentricity typical (max) (3)	(deg)	<0.08 (0.10)
Distortion typical (max) (4)	(%)	<0.08 (0.10)
Field depth (5)	(mm)	3.2
CTF@ 50 lp/mm	(%)	> 55

### Mechanical specifications

Mount (6)		F
Phase adjustment		Yes
Length (7)	(mm)	331.7
Diameter	(mm)	82
Mass	(g)	1201



## 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.