

TC12M120-F

High resolution telecentric lenses, magnification 0.233, WD 303.9

SPECIFICATIONS

Magnification	(x)	0.233
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)	79.11 x 79.11
with APS-C CMV12000 28.16 mm diagonal w x h 22.53 x 16.90	(mm x mm)	96.69 x 96.69
with line - 4k detector 4k x 7 µm 28.67	(mm)	123.05
with APS-H PYTHON 32.58 mm diagonal w x h 23.4 x 23.4	(mm x mm)	98.88 x 98.88
with APS-H KAI-16050 32.58 mm diagonal w x h 26.93 x 17.95	(mm x mm)	115.57 x 77.05

Optical specifications

Working distance (1)	(mm)	303.9
wF/# (2)		8
Telecentricity typical (max) (3)	(deg)	<0.08 (0.10)
Distortion typical (max) (4)	(%)	<0.08 (0.10)
Field depth (5)	(mm)	12.2
CTF@ 50 lp/mm	(%)	> 55

Mechanical specifications

Mount (6)		F
Phase adjustment		Yes
Length (7)	(mm)	508.7
Diameter	(mm)	180
Mass	(g)	5138

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.

