PRODUCT DATASHEET

TC12M016-F

High resolution telecentric lenses, magnification 1.918, WD 42.0

OPTO ENGINEERING

SPECIFICATIONS

Magnification	(x)	1.918
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)	9.61 x 9.61
with APS-C CMV12000 28.16 mm diagonal w x h 22.53 x 16.90	(mm x mm)	11.75 x 11.75
with line - 4k detector 4k x 7 µm 28.67	(mm)	14.95
with APS-H PYTHON 32.58 mm diagonal w x h 23.4 x 23.4	(mm x mm)	12.01 x 12.01
with APS-H KAI-16050 32.58 mm diagonal w x h 26.93 x 17.95	(mm x mm)	14.04 x 9.36

Optical specifications

Working distance **(1)**	(mm)	42.0
wF/# **(2)**		17
Telecentricity typical (max) **(3)**	(deg)	<0.08 (0.10)
Distortion typical (max) **(4)**	(%)	<0.08 (0.10)
Field depth **(5)**	(mm)	0.4
CTF@ 50 lp/mm	(%)	> 40

Mechanical specifications

Mount **(6)**		F
Phase adjustment		Yes
Length **(7)**	(mm)	218.0
Diameter	(mm)	64
Mass	(g)	621

NOTES

1. 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.
2. Working F/#: the real F/# of a lens when used as a macro. Lenses with smaller apertures can be supplied on request.
3. 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.
4. Percent deviation of the real image compared to an ideal, undistorted image: typical (average production) values and maximum (guaranteed) values are listed.
5. 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.
6. 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.
7. Measured from the front end of the mechanics to the camera flange.