

TC12M144-F

High resolution telecentric lenses, magnification 0.196, WD 358.5

SPECIFICATIONS

Magnification	(x)	0.196
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)	94.04 x 94.04
with APS-C CMV12000 28.16 mm diagonal w x h 22.53 x 16.90	(mm x mm)	114.94 x 86.20
with line - 4k detector 4k x 7 µm 28.67	(mm)	146.28
with APS-H PYTHON 32.58 mm diagonal w x h 23.4 x 23.4	(mm x mm)	117.55 x 117.55
with APS-H KAI-16050 32.4 mm diagonal w x h 26.93 x 17.95	(mm x mm)	137.39 x 91.59

Optical specifications

Working distance (1)	(mm)	358.5
wF/# (2)		8
Telecentricity typical (max) (3)	(deg)	<0.08 (0.10)
Distortion typical (max) (4)	(%)	<0.08 (0.10)
Field depth (5)	(mm)	17.2
CTF@ 50 lp/mm	(%)	> 55

Mechanical specifications

Mount (6)		F
Phase adjustment		Yes
Length (7)	(mm)	564.2
Diameter	(mm)	200.0
Mass	(g)	6266

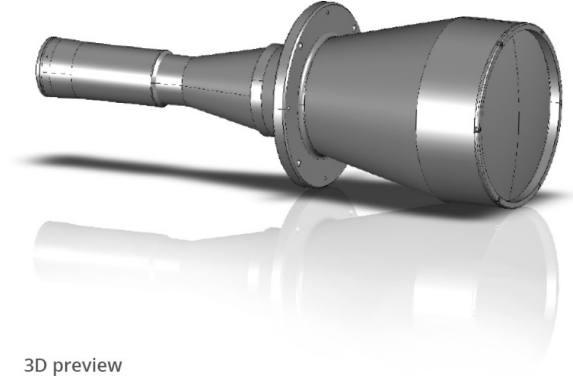
Last update: 2019-11-13

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.

COMPATIBLE PRODUCTS

Despite the efforts made to generate an error-free compatibility list, we always recommend to consult the Opto Engineering® technical support department before purchasing a compatible product. Opto Engineering® shall not be liable for any damage or malfunctioning caused by the incorrect selection of a compatible product.



3D preview

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures are for illustration purposes only.



LTRNST series

LED ring illuminators - straight type

LTRN144RD	Ring LED illuminator, inner diameter 200 mm, straight type, red 630 nm
LTRN144GR	Ring LED illuminator, inner diameter 200 mm, straight type, green 525 nm
LTRN144BL	Ring LED illuminator, inner diameter 200 mm, straight type, blue 470 nm

LTRN144NW Ring LED illuminator, inner diameter 200 mm, straight type, white



LTBC series

Continuous LED backlight

LTBC234234-W Continuous LED backlight, 234x234 illumination area, white

LTBC234234-G Continuous LED backlight, 234x234 illumination area, green



CMHO series

Clamping mechanics

CMHO144 Clamping mechanics for TCxx130, TCxx144 lenses and LTCLHP144-X illuminators



COE HR AS-X series

20MP, 26MP and 29MP area scan cameras for high-speed applications

COE-260-M-10GIGE-100-IR-F HR Area Scan camera PYTHON 25K, CMOS, 5120 × 5120, 26 MP, 4.5 pix, APS-H, Gray, 10GigE, 40 fps, F - mount, Glass filter

COE-260-M-10GIGE-100-IR-I HR Area Scan camera PYTHON 25K, CMOS, 5120 × 5120, 26 MP, 4.5 pix, APS-H, Gray, 10GigE, 40 fps, M58x0.75 - mount, Glass filter
