

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 72.52
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 32.4 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)	180.0
Mass	(g)	5138

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

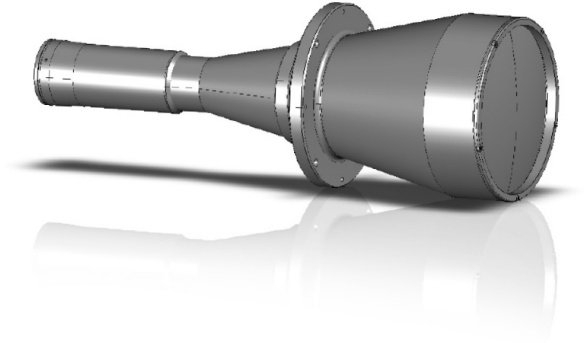
Despite the efforts made to generate an error-free compatibility list, we always recommend to consult the Opto Engineering® technical support department before purchasing a compatible product. Opto Engineering® shall not be liable for any damage or malfunctioning caused by the incorrect selection of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



LTCLHP series

High-performance telecentric illuminators

LTCLHP120-R	Telecentric HP illuminator, beam diameter 150 mm, red
LTCLHP120-G	Telecentric HP illuminator, beam diameter 150 mm, green
LTCLHP120-W	Telecentric HP illuminator, beam diameter 150 mm, white



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.

LTCLHP144-R	Telecentric HP illuminator, beam diameter 180 mm, red
LTCLHP144-G	Telecentric HP illuminator, beam diameter 180 mm, green



LTCLHP CORE series

Ultra compact telecentric illuminators

LTCLCR120-R	Telecentric CORE illuminator, beam dimensions $\varnothing = 156$, x = 130, red, 630 nm
LTCLCR120-G	Telecentric CORE illuminator, beam dimensions $\varnothing = 156$, x = 130, green, 520 nm
LTCLCR120-W	Telecentric CORE illuminator, beam dimensions $\varnothing = 156$, x = 130, white



LTRNST series

LED ring illuminators - straight type

LTRN120RD	Ring LED illuminator, inner diameter 180 mm, straight type, red 630 nm
LTRN120GR	Ring LED illuminator, inner diameter 180 mm, straight type, green 525 nm
LTRN120BL	Ring LED illuminator, inner diameter 180 mm, straight type, blue 470 nm
LTRN120NW	Ring LED illuminator, inner diameter 180 mm, straight type, white



CMHO series

Clamping mechanics

CMHO120	Clamping mechanics for TCxx110, TCxx120 lenses and LTCLHP120-X illuminators
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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