PRODUCT DATASHEET

TCCR12056

Bi-telecentric CORE lens for 1/2" detectors, magnification 0.114 x, C-mount

OPTO ENGINEERING

SPECIFICATIONS

Part number **(8)**		TCCR12056
Magnification	(x)	0.114
Image shape dimension **(9)**	(Ø, x mm)	Ø=8.1, x=7.1
Phase adjustment **(7)**		Yes

Object field of view (6)

with 1/3" detector (4.8 x 3.6 mm)	(mm × mm)	42.0 x 31.5
with 1/2.5" detector (5.70 x 4.28 mm)	(mm × mm)	49.9 x 37.4
with 1/2" detector (6.4 x 4.8 mm)	(mm × mm)	56.0 x 42.0
with 1/1.8" detector (7.13 x 5.37 mm)	(mm × mm)	62.0 x 46.9
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm × mm)	Ø=71, x=62

Optical specifications

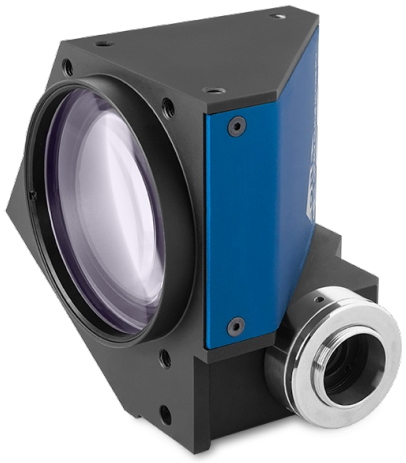
Working distance **(1)**	(mm)	157.8
wF/# **(2)**		8
Telecentricity typical (max) **(3)**	(deg)	< 0.04 (0.08)
Distortion typical (max) **(4)**	(%)	< 0.04 (0.10)
Field depth **(5)**	(mm)	51
CTF @ 70 lp/mm	(%)	> 50

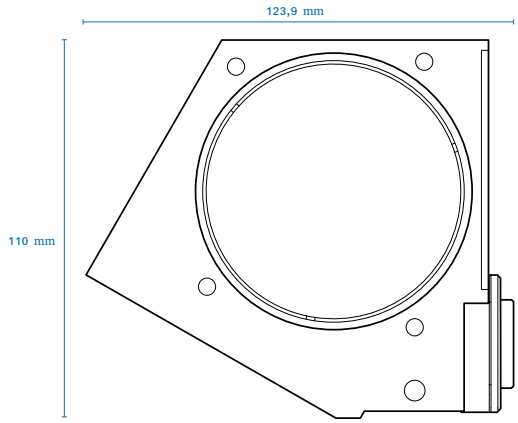
Dimensions

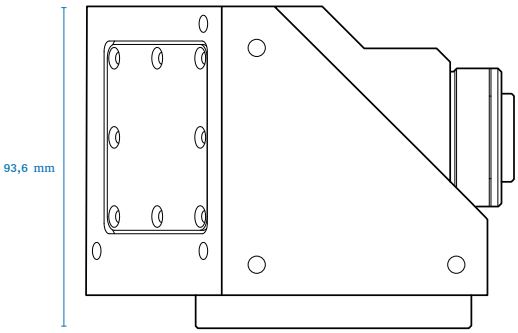
Mount		C
A	(mm)	94
B	(mm)	110
C	(mm)	125
Mass	(g)	1514

Compatibility

LTCLCR056-x, CMHOCR056, CMPTCR056, LTCLHP056-x







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-number (wF/#): the real F-number 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 millirad, 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 perfectly sharp image, only half of the nominal field depth should be considered. Pixel size used for calculation is 5.5 µm.
6. In case the of vignetting, FOV dimensions are indicated with "Ø = , x= ", where "Ø =" stands for diameter and "x=" indicates the nominal FOV height and length (see **Tech Info** for related drawing).
7. Indicates the availability of an integrated camera phase adjustment feature.
8. Due to the special shape of TCCR120xx it might be necessary to check the mechanical compatibility with your camera.
9. Indicates the dimensions and shape of image, where "Ø =" stands for diameter and "x=" indicates the nominal image height and length (**Tech Info** for related drawing).

COMPATIBLE PRODUCTS

LTCLHP056-R	Telecentric HP illuminator, beam diameter 70 mm, red
LTCLHP056-G	Telecentric HP illuminator, beam diameter 70 mm, green

LTCLHP056-B	Telecentric HP illuminator, beam diameter 70 mm, blue
LTCLHP056-W	Telecentric HP illuminator, beam diameter 70 mm, white

LTCLCR056-R	Telecentric CORE illuminator, beam dimensions Ø = 74; x = 66, red
LTCLCR056-G	Telecentric CORE illuminator, beam dimensions Ø = 74; x = 66, green
LTCLCR056-W	Telecentric CORE illuminator, beam dimensions Ø = 74; x = 66, white

CMHOCR056	Clamping mechanics for CORE telecentric lenses and illuminators TCCRxx56 and LTCLCR056-x

CMPTCR056	Mechanical components designed for CORE telecentric lenses and illuminators Ø 56mm