

Telecentric measurement lenses with adjustable aperture

vicotar®

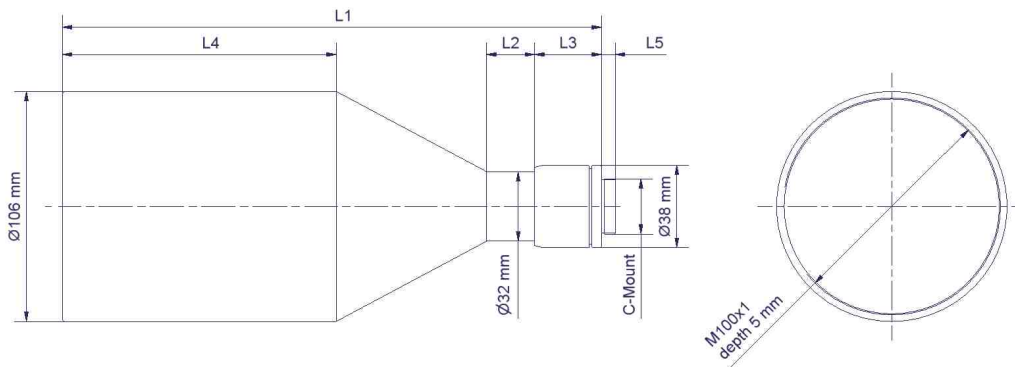
T240 series

Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 22.4 mm
- Maximum object field diameter 91 mm
- Low telecentric error
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)



Engineering drawing



Download Manual



Download CAD-File



Properties

Optical properties

Spectral range 380...900nm / colour-corrected / fast lenses

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 106 mm / focal filter thread M100 x 1.0 / environmental temperature -10°C ... 50°C

Options

Max. sensor size	Max. sensor size	Max. sensor size	Max. sensor size	Max. sensor size
21.4mm 1.2"	16mm 1"	11mm 2/3"	8.9mm 1/1.8"	6mm 1/3"

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Optical data

Name	Order no.	Lateral magnification	Object side depth of field [mm]*	Field of view for 1.2" sensor [mm ²]	Field of view for 1" sensor [mm ²]	Field of view for 2/3" sensor [mm ²]	Field of view for 1/1.8" sensor [mm ²]	Field of view for 1/2" sensor [mm ²]	Field of view for 1/3" sensor [mm ²]
T240/0,27 _a	2-05-227	-0.274 = -1:3.652	10 (2)	56 × 56	47 × 35	32 × 24	26 × 20	23 × 18	18 × 13
T240/0,18 _a	2-05-226	-0,173 = -1:5.78	16 (4)		74 × 55	51 × 38	41 × 31	37 × 28	28 × 21
T240/0,13 _a	2-05-223	-0.131 = -1:7.633	23 (6)			67 × 51	54 × 41	49 × 37	37 × 27
T240/0,10 _a	2-05-225	-0.103 = -1:9.690	30 (8)				69 × 52	62 × 47	47 × 35
T240/0,08 _a	2-05-224	-0.0766 = -1:13.05	32 (8)						54 × 40

*Object side depth of field at a circle of confusion 40 (10) μm and a middle aperture setting.

We provide technical information to the distortion or the telecentric error of a certain lens by our technical support upon request.

Size of imaging device::

1.2" - 15.16 x 15.16 mm² | 1" - 12.8 x 9.6 mm² | 2/3" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | 1/2" - 6.4 x 4.8 mm² | 1/3" - 4.8 x 3.6 mm²

Mechanical data

Name	Order no.	Max. object field diameter	Image side aperture (adjustable)	Working distance	Working distance with IR-filter*	Total length L1	Length L2 / L3	Length L4 / L5	Weight
T240/0,27 _a	2-05-227	78 mm	0.08...0.029	287 ± 4 mm		283 mm	25 / 63 mm	126 / 4 mm	1680 g
T240/0,18 _a	2-05-226	92.5	0.13...0.029	202 ± 4 mm	232 mm	261 mm	22 / 44 mm	126 / 4 mm	1600 g
T240/0,13 _a	2-05-223	83 mm	0.17...0.027	213 ± 4 mm	232 mm	252 mm	22 / 35 mm	126 / 4 mm	1600 g
T240/0,10 _a	2-05-225	86 mm	0.22...0.029	195 ± 3 mm	226 mm	248 mm	22 / 31 mm	126 / 4 mm	1600 g
T240/0,08 _a	2-05-224	67 mm	0,028...0,158	190 ± 5 mm		257 mm	22 / 29 mm	136 / 6,4 mm	1649 g

*A daylight suppression filter IR M20.5 x 0.5 can be screwed-on to the telecentric vicotar® objectives from camera side. Removing the IR suppression filter from camera effects alteration of working distance.

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Important advice

Anxiliary adjusting device

The optical axis must be aligned perpendicularly to object level / plane of measurement to realize exact measurement. This anxiliary adjusting device lower time and effort for setup. Please find further information in the corresponding data sheet.

Protection glass

High-quality front lens of the objective can be protected against impurities and damages by means of protection glass UV M100 x 1.0. You shall be screw-on first lens.

Care instruction

Clean easily dirty lens with an optics brush or cleaned air. Adherent contamination can be removed by using an optical cleaning tissue. Please use only alcohol as a solvent, do not use acetone or other chemicals.

Accessories

Order no.	Name	Description
2-90-116	OHM 240 attached	ring mounting for TZO 240 and TZB 95
2-90-129	OH 240	lens holder for T240-series, d 32 mm
2-91-131	IR M20.5 x 0.5	daylight suppression filter for telecentric lens-systems
5-10-114	JH 20	adjustment-help for 20mm depth of focus
2-91-126	UV M100 x 1	protection glass for telecentric lens-systems

You can find a multiplicity of filters in the chapter accessories. Please order the filters separately.

Intended use for accessories

T240 with modular holder system OHM240

