

Telecentric measurement lenses with adjustable aperture

vicotar®

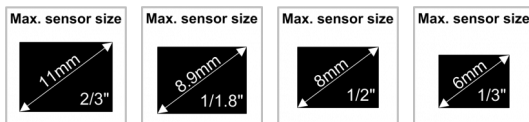
T150 series

Product features

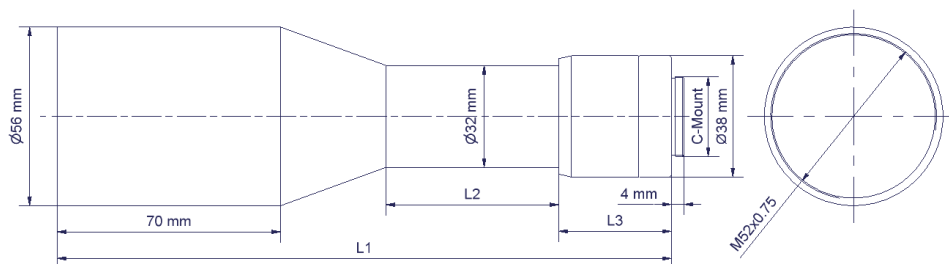
- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 11 mm
- Maximum object field diameter 47.3 mm
- Lenses with short and long working distance
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof



Options



Engineering drawing



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Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 56mm / focal filter thread M52 x 0.75 / environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*	Field of view for 1" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ⅓" sensor (mm²)	Field of view for ¼" sensor (mm²)	Field of view for ⅛" sensor (mm²)
T150/0.25	2-05-320	-1 : 4.16	8.1 (2.0)	--	36.6 × 27.4	29.5 × 22.5	26.6 × 20.0	20.0 × 15.0	15.0 × 11.2
T150/0.24L	2-05-319	-1 : 4.16	8.1 (2.0)	--	36.6 × 27.4	29.5 × 22.5	26.6 × 20.0	20.0 × 15.0	15.0 × 11.2
T150/0.19L	2-05-324	-1 : 5.34	10.9 (2.7)	--	--	37.9 × 28.8	34.2 × 25.6	25.6 × 19.2	19.2 × 14.4
T150/0.19	2-05-321	-1 : 5.35	15.3 (3.8)	--	--	38.0 × 28.9	34.2 × 25.7	25.7 × 19.3	19.3 × 14.4
T150/0.17L	2-05-323	-1 : 5.91	17.5 (4.4)	--	--	--	37.8 × 28.4	28.4 × 21.3	21.3 × 16.0
T150/0.14	2-05-322	-1 : 7.23	22.0 (5.5)	--	--	--	--	34.7 × 26.0	26.0 × 19.5

*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 | ½" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ⅓" - 6.4 x 4.8 mm² | ¼" - 4.8 x 3.6 mm²

Mechanical data

Name	Order no.	Max. object field diagonal	Image side aperture (adjustable)	Working distance	Working distance with IR-filter*	Total length L1	Length L2	Length L3	Weight
T150/0.25	2-05-320	45.7 mm	0.14 ... 0.03	102 ± 3 mm	108 ± 3 mm	195 mm	47 mm	46 mm	410 g
T150/0.24L	2-05-319	45.7 mm	0.14 ... 0.03	156 ± 3 mm	162 ± 3 mm	197 mm	46 mm	48 mm	408 g
T150/0.19L	2-05-324	42.7 mm	0.18 ... 0.03	302 ± 3 mm	--	187 mm	46 mm	37 mm	347 g
T150/0.19	2-05-321	42.8 mm	0.12 ... 0.03	112 ± 2 mm	121 ± 2 mm	189 mm	34 mm	55 mm	400 g
T150/0.17L	2-05-323	47.3 mm	0.13 ... 0.03	287 ± 3 mm	--	177 mm	44 mm	29 mm	324 g
T150/0.14	2-05-322	43.4 mm	0.15 ... 0.04	71 ± 3 mm	--	183 mm	54 mm	29 mm	370 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.

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 M52 x 0.75. 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.

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Accessories

Order no.	Name	Description
2-25-115	PSO 90-150	beam-deflection unit (90°) for lens-systems T150- and T151/152-series
2-90-125	OH 150/200	lens holder for T150 / T151 T201 series, d = 32 mm
2-91-131	IR M20.5 x 0.5	daylight suppression filter for telecentric lens-systems
2-91-134	IR M52 x 0,75	daylight cutting-filter for telecentric lens-systems
2-91-124	UV M52 x 0,75	protection glass for telecentric lens-systems
5-10-114	JH 20	adjustment-help for 20mm depth of focus

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