

## Telecentric measurement lenses with adjustable aperture

vicotar®

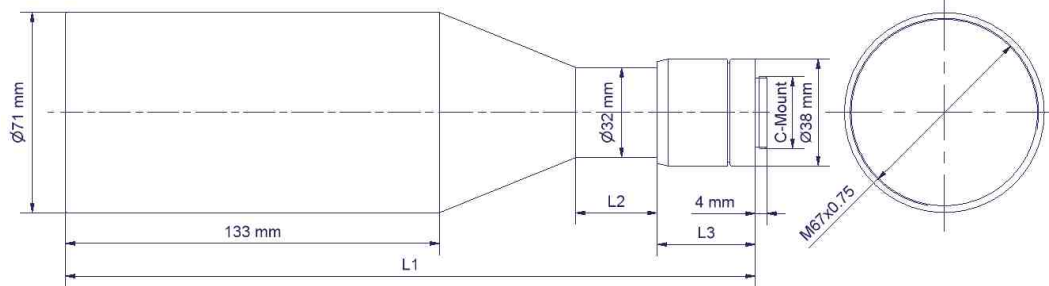
T201 series

### Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 16 mm
- Maximum object field diameter 57 mm
- Lenses with short and long working distance
- Low distortion
- Extremely 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



Up to 1.34" imager

### Properties

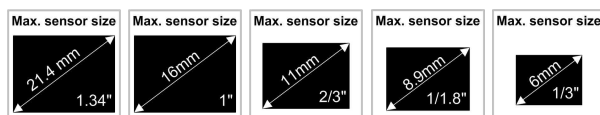
#### Optical properties

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

#### Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 71 mm / focal filter thread M67 x 0.75 / environmental temperature -10°C ... 50°C

### Options



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### Optical data

Name	Order no.	Lateral magnification	Object side depth of field [mm]*	Field of view for 1,34" sensor [mm <sup>2</sup> ]	Field of view for 1" sensor [mm <sup>2</sup> ]	Field of view for ¾" sensor [mm <sup>2</sup> ]	Field of view for 1/1,8" sensor [mm <sup>2</sup> ]	Field of view for ½" sensor [mm <sup>2</sup> ]	Field of view for ¼" sensor [mm <sup>2</sup> ]
T201/0.42	2-05-345	-1 : 2.39	5.3 (1.3)	36.3 × 36.3	30.6 × 23.0	21.0 × 15.8	17.0 × 12.9	15.3 × 11.5	11.5 × 8.6
T201/0.30	2-05-336	-1 : 3.25	9.4 (2.3)	--	42.0 × 31.5	28.9 × 21.7	23.1 × 17.6	21.0 × 15.8	15.8 × 11.8
T201/0.28L	2-05-335	-1 : 3.50	12.3 (3.1)	--	--	31.1 × 23.4	24.9 × 18.9	22.7 × 17.0	17.0 × 12.7
T201/0.26	2-05-337	-1 : 3.81	12.9 (3.2)	--	--	33.9 × 25.4	27.1 × 20.6	24.6 × 18.5	18.5 × 13.8
T201/0.19	2-05-334	-1 : 5.13	9.7 (2.4)	--	--	45.6 × 34.2	36.4 × 27.7	33.2 × 24.9	24.9 × 18.6
T201/0.19L	2-05-333	-1 : 5.19	21.5 (5.4)	--	--	--	36.9 × 28.0	33.6 × 25.2	25.2 × 18.9
T201/0.15	2-05-338	-1 : 6.71	30.0 (7.5)	--	--	--	47.6 × 36.2	43.5 × 32.7	32.6 × 24.5
T201/0.13L	2-05-332	-1 : 7.43	36.8 (9.2)	--	--	--	--	--	36.1 × 27.1
T201/0.12	2-05-339	-1 : 8.47	41.0 (10.2)	--	--	--	--	--	41.4 × 31.0

\*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:

1.34" - 15.16 x 15.16 mm<sup>2</sup> | 1" - 12.8 x 9.6 mm<sup>2</sup> | ¾" - 8.8 x 6.6 mm<sup>2</sup> | 1/1.8(=5/9)" - 7.1 x 5.4 mm<sup>2</sup> | ½" - 6.4 x 4.8 mm<sup>2</sup> | ¼" - 4.8 x 3.6 mm<sup>2</sup>

### 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
T201/0.42	2-05-345	51.3 mm	0.06 ... 0.02	210 ± 1 mm	212 ± 1 mm	296 mm	32 mm	82 mm	1150 g
T201/0.30	2-05-336	52 mm	0.08 ... 0.01	156 ± 4 mm	--	276 mm	32 mm	64 mm	1110 g
T201/0.28L	2-05-335	39 mm	0.07 ... 0.01	274 ± 5 mm	278 ± 5 mm	272 mm	32 mm	60 mm	1110 g
T201/0.26	2-05-337	42 mm	0.08 ... 0.01	130 ± 4 mm	135 ± 4 mm	272 mm	31 mm	60 mm	1090 g
T201/0.19	2-05-334	57 mm	0.09 ... 0.03	143 ± 4 mm	152 ± 4 mm	255 mm	29 mm	45 mm	1047 g
T201/0.19L	2-05-333	42 mm	0.07 ... 0.03	284 ± 5 mm	--	251 mm	29 mm	41 mm	1040 g
T201/0.15	2-05-338	54 mm	0.09 ... 0.03	136 ± 4 mm	151 ± 4 mm	248 mm	29 mm	35 mm	1040 g
T201/0.13L	2-05-332	45 mm	0.09 ... 0.03	291 ± 5 mm	310 ± 5 mm	242 mm	29 mm	32 mm	1040 g
T201/0.12	2-05-339	52 mm	0.11 ... 0.03	136 ± 4 mm	--	242 mm	29 mm	32 mm	1040 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 M67 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.

### Accessories

Order no.	Name	Description
2-25-124	PSO 90-200	90°-reflexion for telecentric lenses and illumination T200, T201, TZB 60, serie
2-15-122	ABE+TZB60 Mirror adapter	for T200/T201 objective with TZB60 lighting
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
2-91-135	IR M67 x 0,75	daylight cutting-filter for telecentric lens-systems
2-91-125	UV M67 x 0,75	protection glass for telec. lens/lighting 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.

### Intended use for accessories

T201 with 90° beam-deflection



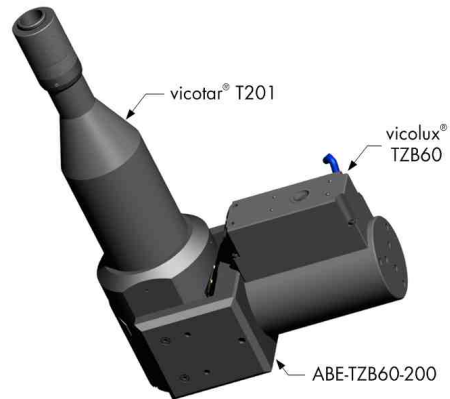
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### Intended use for accessories

T201 with telecentric coaxial incident lighting



T201 with lens holder OH150/200



T201 with filter

