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Magnifying telecentric lenses

MK series - |ß'| = 1 up to 10

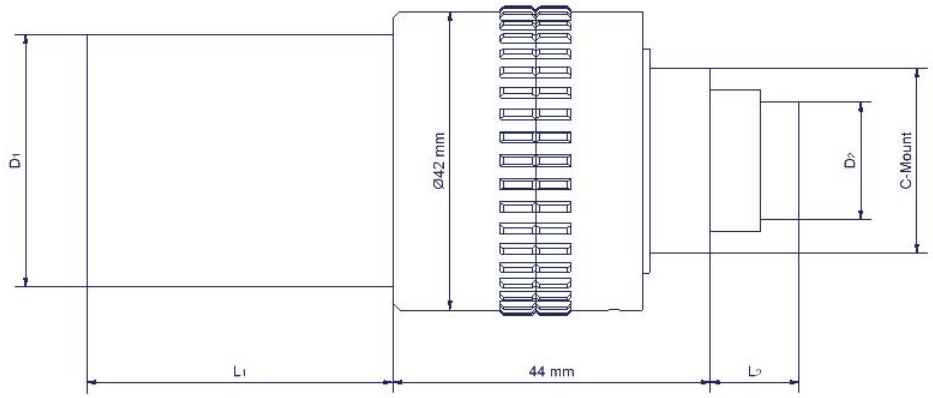
Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 21.4 mm*
- Maximum object field diameter 21.5 mm
- High resolution
- Low distortion
- Low telecentric error (less than 0,2 mrad)
- Fixed aperture
- Thread connection M26 x 0.75
- Robust industrial design: dust-proof, shock-proof

* The microscope lenses can be used in combination with the microscope tube MK190 for C-mount cameras only.

Options

Engineering drawing



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Up to 1.2" imager

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Magnifying telecentric lenses

MK series - |ß'| = 1 up to 10

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm (only in combination with microscope tube MK190)

Environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*	Field of view for 1.2" sensor (mm²)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
Telec. microscope-lens 10x	2-05-110	-10 : 1	0.02 (0.005)	1.5 × 1.5	1.3 × 1.0	0.88 × 0.66	0.71 × 0.54	0.64 × 0.48	0.48 × 0.36
Telec. microscope-lens 5x	2-05-111	-5 : 1	0.06 (0.015)	3.0 × 3.0	2.6 × 1.9	1.76 × 1.32	1.42 × 1.08	1.28 × 0.96	0.96 × 0.72
Telec. microscope-lens 3x	2-05-112	-3 : 1	0.15 (0.037)	5.1 × 5.1	4.2 × 3.2	2.93 × 2.20	2.37 × 1.80	2.13 × 1.60	1.60 × 1.20
Telec. microscope-lens 1x	2-05-113	-1 : 1	1.3 (0.3)	15.2 × 15.2	12.8 × 9.6	8.8 × 6.6	7.1 × 5.4	6.4 × 4.8	4.8 × 3.6

*Object side depth of field at a circle of confusion 40 (10) µm.
Size of imaging device:
1.2" - 15.16 x 15.16 mm² | 1" - 12.8 x 9.6 mm² | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 4.8 x 3.6 mm² (Data only valid in combination with microscope tube MK190.)

Mechanical data

Name	Order no.	Max. object field diagonal	Object side aperture (fixed)	Working distance	Length L1	Length L2	Diameter D1	Diameter D2	Weight
Telec. microscope-lens 10x	2-05-110	2.1 mm	0.2	50 mm	42.5 mm	13.5 mm	35.5 mm	16.5 mm	200 g
Telec. microscope-lens 5x	2-05-111	4.3 mm	0.13	64 mm	25.8 mm	14.4 mm	34 mm	19.5 mm	170 g
Telec. microscope-lens 3x	2-05-112	7.2 mm	0.09	76 mm	14.8 mm	22.7 mm	34 mm	19.5 mm	155 g
Telec. microscope-lens 1x	2-05-113	21.4 mm	0.03	79 mm	10.6 mm	31.5 mm	34 mm	16.4 mm	135 g

(Data only valid in combination with microscope tube MK190.)

Important advice

Protection glass

High-quality front lens of the objective can be protected against impurities and damages by means of UV-filter with socket joint. The filter be attached from the front (object side) to the 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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Magnifying telecentric lenses

MK series - |ß'| = 1 up to 10

Accessories

Order no.	Name	Description
2-05-120	MK190	microscope tube for microscope lenses
2-05-133	MK190-EBL-IR	microscope tube with beam- splitter for LED lighting, IR
2-05-132	MK190-EBL-R/V	microscope tube with beam-splitter for LED-lighting , red, controlled
2-05-134	MK190-EBL-IR/V	microscope tube with beam- splitter for LED lighting, IR, controlled
2-25-116	PSO 90-10	beam-deflection unit (90°) for lens-systems with diameter d = 35.5 mm
2-25-110	PSO 90-45	beam-deflection unit (90°) for lens-systems with diameter d = 34 mm
2-91-128	UV-filter with socket joint	d=34 for telecentric lens-systems
2-91-127	UV-filter with socket joint	d = 35.5 mm for telecentric lens-systems
2-91-138	IR-cutting-filter with socket	joint d = 34 mm for telecentric lens-systems
2-91-137	IR-cutting-filter with socket	joint d = 35.5 mm for telecentric lens-systems
2-91-158	Neutral density-filter(4x)with	socket joint d = 34 mm for telecentric lens-systems
2-91-157	Neutral density-filter(4x)with	socket joint d = 35.5 mm for telecentric lens-systems

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Magnifying telecentric lenses

vicotar® | T10 series - |ß'| = 7.4 | 9.7

Product features

- Object side telecentric light path
- Measuring lenses with long working distance
- Application for matrix and line cameras up to sensor diagonal/length 21.4 mm
- Maximum object field diameter 2.9 mm
- High resolution
- Low distortion
- Fixed aperture
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

Options

Engineering drawing

T10/7,4L

T10/9,7L

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Magnifying telecentric lenses

vicotar® | T10 series - |ß'| = 7.4 | 9.7

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm

Environmental temperature -10°C ... 50°C

Field of view for imager

	1.2" 15.2 x 15.2 mm²	1" 12.8 x 9.6 mm²	2/3" 8.8 x 6.6 mm²	1/1.8" 7.1 x 5.4 mm²	1/2" 6.4 x 4.8 mm²	1/3" 4.8 x 3.6 mm²
T10/7.4L	2.05 x 2.05	1.73 x 1.30	1.19 x 0.89	0.96 x 0.73	0.86 x 0.65	0.65 x 0.49
T10/9.7L	1.56 x 1.56	1.32 x 0.99	0.91 x 0.68	0.73 x 0.56	0.66 x 0.49	0.49 x 0.37

Optical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*
T10/9.7L	2-05-220	- 9.7 : 1	0.02 (0.005)
T10/7.4L	2-05-218	- 7.4 : 1	0.03 (0.008)

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

Mechanical data

Name	Order no.	Max. object field diagonal	Object side aperture (fixed)	Working distance	Total length	Max. diameter of lenses	Weight
T10/9.7L	2-05-220	2.21 mm	0.2	48 ± 0.5 mm	255 mm	38.5 mm	500 g
T10/7.4L	2-05-218	2.9 mm	0.17	49 ± 0.5 mm	210 mm	36 mm	243 g

Important advice

Protection glass

High-quality front lens of the objective can be protected against impurities and damages by means of UV-filter with socket joint. The filter can be attached from the front (object side) to the 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
2-25-116	PSO 90-10	beam-deflection unit (90°) for lens-systems with diameter d = 35.5 mm
2-90-124	OH 35.5	lens holder, d = 35.5 mm
2-91-127	UV-filter with socket joint	d = 35.5 mm for telecentric lens-systems
2-91-157	Neutral density-filter(4x)with	socket joint d = 35.5 mm for telecentric lens-systems
2-91-137	IR-cutting-filter with socket	joint d = 35.5 mm for telecentric lens-systems
1-29-156	RK613 adapter ring d35,5	to attach the RK613 to T10 series lenses, clamping diameter of 35.5 mm
1-10-022	RK1220 adapter ring d35.5	to attach the RK1220 to T10 series lenses

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Telecentric lenses with adjustable aperture

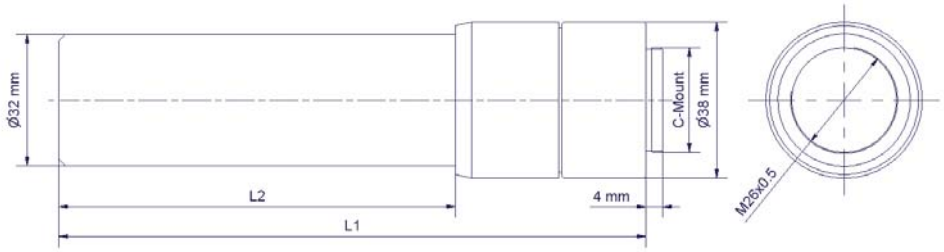
vicotar® | T100 series

Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 11 mm
- Maximum object field diameter 22 mm
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

Options

Engineering drawing



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Telecentric lenses with adjustable aperture

vicotar® | T100 series

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 38mm / focal filter thread M26 x 0.5 / 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 ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)	Field of view for ¼" sensor (mm²)
T100/0.7	2-05-280	-1 : 1.37	1.6 (0.4)	-	12.1 × 9.0	9.7 × 7.4	8.7 × 6.6	6.6 × 4.9	4.9 × 3.7
T100/0.6	2-05-281	-1 : 1.82	2.3 (0.6)	-	16.0 × 12.0	12.9 × 9.8	11.6 × 8.7	8.7 × 6.5	6.5 × 4.9
T100/0.48	2-05-282	-1 : 2.08	2.8 (0.7)	-	18.3 × 13.7	14.8 × 11.2	13.3 × 10.0	10.0 × 7.5	7.5 × 5.6
T100/0.39	2-05-283	-1 : 2.57	4.7 (1.2)	-	-	18.3 × 13.9	16.4 × 12.3	12.3 × 9.3	9.3 × 6.9
T100/0.36	2-05-284	-1 : 2.76	3.9 (1.0)	-	-	19.6 × 14.9	17.6 × 13.2	13.2 × 9.9	9.9 × 7.5

*Object side depth of field at a circle of confusion 40 (10) µm and a middle aperture setting.
T100/0,6 noticeable vignetting at sensor diagonal > 9 mm
T100/0,48 noticeable vignetting at sensor diagonal > 8 mm
T100/0,36 noticeable vignetting at sensor diagonal > 7 mm
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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 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	Weight
T100/0.7	2-05-280	15.0 mm	0.07 ... 0.025	41 ± 2 mm	42 ± 2 mm	162 mm	88 mm	280 g
T100/0.6	2-05-281	20.0 mm	0.09 ... 0.027	77 ± 2 mm	78 ± 2 mm	157 mm	96 mm	260 g
T100/0.48	2-05-282	22.9 mm	0.10 ... 0.025	103 ± 3 mm	104 ± 3 mm	150 mm	95 mm	290 g
T100/0.39	2-05-283	20.5 mm	0.09 ... 0.023	33 ± 2 mm	35 ± 2 mm	128 mm	88 mm	230 g
T100/0.36	2-05-284	22.0 mm	0.13 ... 0.028	72 ± 2 mm	75 ± 2 mm	143 mm	96 mm	270 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 M26 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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Telecentric lenses with adjustable aperture

vicotar® | T100 series

Accessories

Order no.	Name	Description
2-25-113	PSO 90-100/125	beam-deflection unit (90°) for lens-systems T100 / T125- series
2-90-122	OH 32	lens holder, d = 32 mm
2-91-131	IR M20.5 x 0.5	daylight suppression filter for telecentric lens-systems
2-91-123	UV M26 x 0,5	protection glass for telecentric lens-systems
5-10-111	JH 5	adjustment-help for 5mm depth of focus

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

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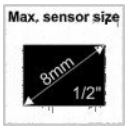
Magnifying telecentric lenses

vicotar® | T24 series

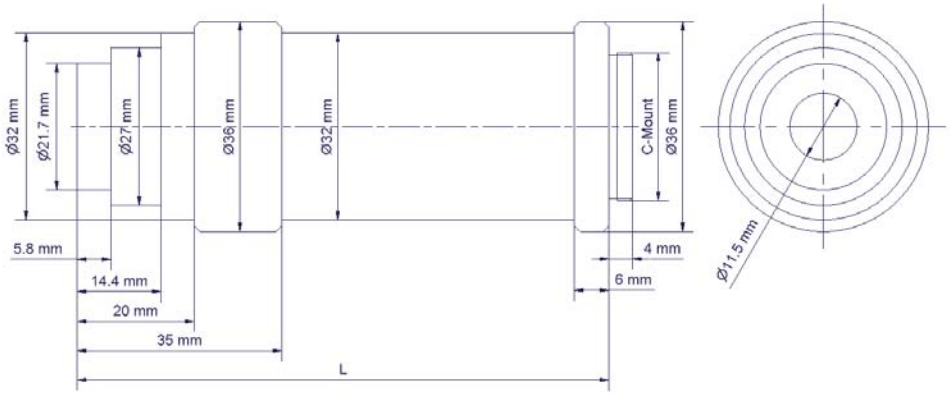
Features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 11 mm
- Maximum object field diameter 5.5 mm
- Low telecentric error (less than 0,2 mrad)
- Robust industrial design
- Manual operated iris aperture with fixing
- C-mount (thread connection)

Options



Engineering drawing



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Magnifying telecentric lenses

vicotar® | T24 series

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 36mm / 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 ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)	Field of view for ¼" sensor (mm²)
T24/3.0a	2-05-233	-3 : 1	0.16 (0.04)	--	2.9 × 2.2	2.4 × 1.8	2.1 × 1.6	1.6 × 1.2	1.2 × 0.9
T24/2,5a	2-05-234	-2.5 : 1	0.23 (0.06)	--	3.5 × 2.6	2.8 × 2.2	2.6 × 1.9	1.9 × 1.4	1.4 × 1.1
T24/2,0a	2-05-235	-2.0 : 1	0.22 (0.06)	--	4.4 × 3.3	3.6 × 2.7	3.2 × 2.4	2.4 × 1.8	1.8 × 1.4
T24/1,5a	2-05-236	-1.5 : 1	0.33 (0.08)	--	--	--	4.3 × 3.2	3.2 × 2.4	2.4 × 1.8

*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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 4.8 x 3.6 mm²

Mechanical data

Name	Order no.	Max. object field diagonal	Object side aperture (adjustable)	Working distance	Working distance with IR-filter*	Total length L	Weight
T24/3.0a	2-05-233	3.7 mm	0.12 ... 0.05	30 ± 0.5 mm	30 ± 0.5 mm	91 mm	150 g
T24/2,5a	2-05-234	4.4 mm	0.10 ... 0.04	38 ± 0.5 mm	38 ± 0.5 mm	78 mm	125 g
T24/2,0a	2-05-235	5.5 mm	0.15 ... 0.03	34 ± 0.5 mm	34 ± 0.5 mm	66 mm	110 g
T24/1,5a	2-05-236	5.3 mm	0.14 ... 0.02	39 ± 0.5 mm	39 ± 0.5 mm	53 mm	90 g

*A daylight suppression filter IR M20.5 x 0.5 can be screwed-on to the telecentric vicotar® lenses 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.

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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Magnifying telecentric lenses

vicotar® | T24 series

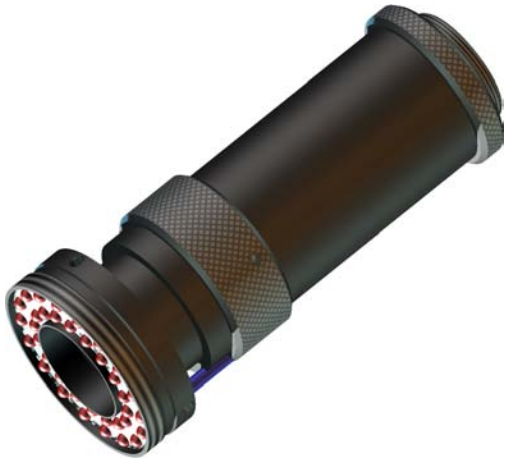
Accessories

Order no.	Name	Description
2-90-122	OH 32	lens holder, d = 32 mm
2-91-131	IR M20.5 x 0.5	daylight suppression filter for telecentric lens-systems
2-91-259	RF M20,5 x 0,5	red filter

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

Intended use for accessories

T24 with ring light RK1220



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Product line Magnifying telecentric lenses

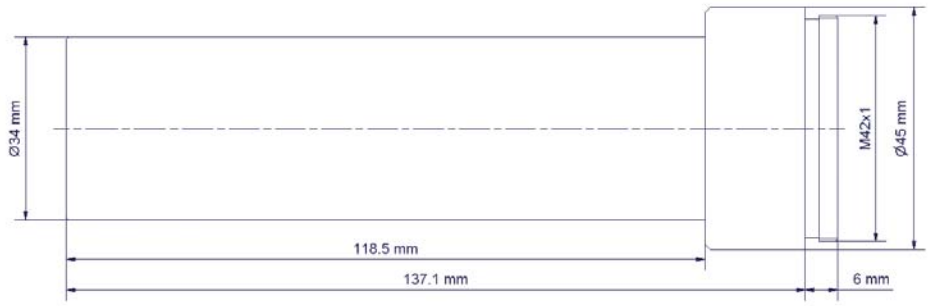
vicotar® | T42 series - |ß'| = 1.4

Product features

- Object side telecentric light path
- Measuring lenses with long working distance
- Application for matrix and line cameras up to sensor diagonal/length 22.4 mm
- Maximum object field diameter 16 mm
- High resolution
- Low distortion
- Fixed aperture
- Robust industrial design: dust-proof, shock-proof
- M42 thread connection

Options

Overview drawing



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Up to 1.4" imager

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Product line Magnifying telecentric lenses

vicotar® | T42 series - |ß'| = 1.4

Properties

Optical properties

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

Mechanical properties

Flange focal distance 9.9 mm

Environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*	Field of view for 1.2" sensor (mm²)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
T42/1.4	2-05-237	-1.4 : 1	0.4 (0.1)	10.8 × 10.8	9.1 × 6.9	6.3 × 4.7	5.1 × 3.9	4.6 × 3.4	3.4 × 2.6

*Object side depth of field at a circle of confusion 40 (10) µm.
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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 4.8 x 3.6 mm²

Name	Order no.	Max. object field diagonal	Object side aperture (fixed)	Working distance	Total length	Max. diameter of lenses	Weight
T42/1.4	2-05-237	16 mm	0.09	102 ± 1 mm	137 mm	45 mm	255 g

Important advice

Protection glass

High-quality front lens of the objective can be protected against impurities and damages by means of UV-filter with socket joint. The filter be attached from the front (object side) to the 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
2-25-110	PSO 90-45	beam-deflection unit (90°) for lens-systems with diameter d = 34 mm
2-90-123	OH 34	lens holder, d = 34 mm
2-91-128	UV-filter with socket joint	d=34 for telecentric lens-systems
2-91-138	IR-cutting-filter with socket	joint d = 34 mm for telecentric lens-systems

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Magnifying telecentric lenses

vicotar® | T43 series

Product features

- Object side telecentric light path
- Measuring lenses with long working distance
- Application for matrix and line cameras up to sensor diagonal/length 21.4 mm
- Maximum object field diameter 15.3 mm
- High resolution
- Low distortion
- Fixed aperture
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

Options

Overview drawing

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Up to 1.2" imager

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Magnifying telecentric lenses

vicotar® | T43 series

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53 mm

Environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*	Field of view for 1.2" sensor (mm²)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
T43/1,4	2-05-239	-1.4 : 1	0.4 (0.1)	10.8 × 10.8	9.1 × 6.9	6.3 × 4.7	5.1 × 3.9	4.6 × 3.4	3.4 × 2.6

*Object side depth of field at a circle of confusion 40 (10) µm.
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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 4.8 x 3.6 mm²

Mechanical data

Name	Order no.	Max. object field diagonal	Object side aperture (fixed)	Working distance	Total length	Max. diameter of lenses	Weight
T43/1,4	2-05-239	15.3 mm	0.09	102 ± 1 mm	130 mm	36 mm	240 g

Important advice

Protection glass

High-quality front lens of the objective can be protected against impurities and damages by means of UV-filter with socket joint. The filter be attached from the front (object side) to the 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
2-25-110	PSO 90-45	beam-deflection unit (90°) for lens-systems with diameter d = 34 mm
2-90-123	OH 34	lens holder, d = 34 mm
2-91-128	UV-filter with socket joint	d=34 for telecentric lens-systems
2-91-138	IR-cutting-filter with socket	joint d = 34 mm for telecentric lens-systems

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Magnifying telecentric lenses

vicotar® | T45 series

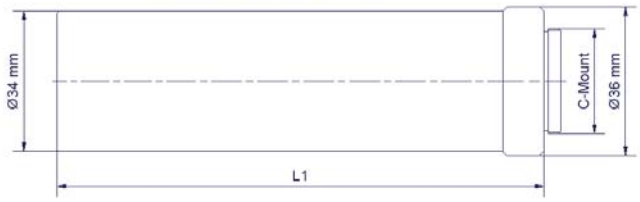
Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 21.4 mm
- Maximum object field diameter 10.7 mm
- Measuring lenses with long working distance
- High resolution
- Low distortion
- Fixed aperture
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

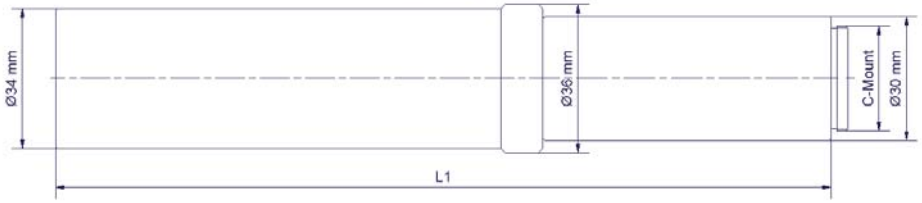
Options

Engineering drawing

T45/2,0L and T45/5,0L



T45/4,0L



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Magnifying telecentric lenses

vicotar® | T45 series

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 36mm / environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*	Field of view for 1.2" sensor (mm²)	Field of view for 1." sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
T45/5.0L	2-05-251	-5 : 1	0.06 (0.015)	3.0 × 3.0	2.6 × 1.9	1.8 × 1.3	1.4 × 1.1	1.28 × 0.96	0.96 × 0.72
T45/4.0L	2-05-252	-4 : 1	0.08 (0.02)	3.8 × 3.8	3.2 × 2.4	2.2 × 1.7	1.8 × 1.4	1.6 × 1.2	1.2 × 0.9
T45/2.0L	2-05-250	-2 : 1	0.2 (0.05)	7.6 x 7.6	6.4 × 4.8	4.4 × 3,3	3.6 × 2.7	3.2 × 2.4	2.4 × 1.8

*Object side depth of field at a circle of confusion 40 (10) µm.
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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 4.8 x 3.6 mm²

Mechanical data

Name	Order no.	Max. object field diagonal	Object side aperture (fixed)	Working distance	Total length	Max. diameter of lenses	Weight
T45/5.0L	2-05-251	4.3 mm	0.13	64 ± 1 mm	236 mm	36 mm	440 g
T45/4.0L	2-05-252	5.4 mm	0.12	67 ± 1 mm	188 mm	36 mm	330 g
T45/2.0L	2-05-250	10.7 mm	0.1	77 ± 1 mm	118 mm	36 mm	240 g

Important advice

Protection glass

High-quality front lens of the objective can be protected against impurities and damages by means of UV-filter with socket joint. The filter be attached from the front (object side) to the 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.

Product features

Order no.	Name	Description
2-25-110	PSO 90-45	beam-deflection unit (90°) for lens-systems with diameter d = 34 mm
2-90-123	OH 34	lens holder, d = 34 mm
2-91-128	UV-filter with socket joint	d=34 for telecentric lens-systems
2-91-138	IR-cutting-filter with socket	joint d = 34 mm for telecentric lens-systems

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

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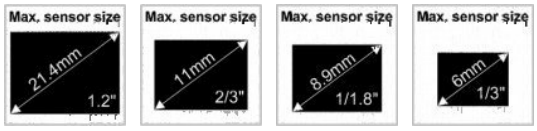
Telecentric measurement lenses with adjustable apertur

vicotar® | T107 series

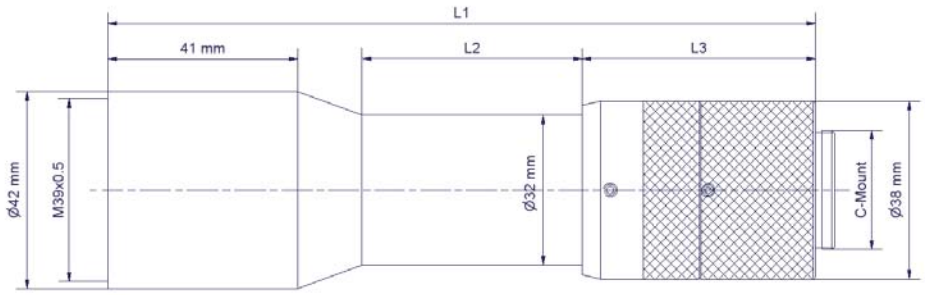
Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 11 mm
- Maximum object field diameter 34.4 mm
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

Options



Engineering drawing



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Telecentric measurement lenses with adjustable apertur

vicotar® | T107 series

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 42mm / focal filter thread M39 x 0.5 / environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*	Field of view for 1,2" sensor (mm²)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
T107/0.83	2-05-287	-1 : 1.2	1.3 (0.3)	18.2 × 18.2	15.4 × 11.6	10.6 × 7.9	8.5 × 6.5	7.7 × 5.8	5.8 × 4.3
T107/0.39	2-05-296	-1 : 2.56	3.6 (0.9)	--	--	22.5 × 16.9	18.2 × 13.8	16.4 × 12.3	12.3 × 9.2
T107/0.36	2-05-297	-1 : 2.75	3.9 (1.0)	--	--	24.2 × 18.2	19.5 × 14.9	17.6 × 13.2	13.2 × 9.9
T107/0.33	2-05-290	-1 : 3.12	4.3 (1.1)	--	--	27.5 × 20.6	22.2 × 16.9	20.0 × 15.0	15.0 × 11.2
T107/0.25L	2-05-295	-1 : 3,72	8.0 (2.0)	--	--	--	26.4 × 20.1	23.8 × 17.9	17.9 × 13.4
T107/0.25	2-05-291	-1 : 4.05	8.7 (2.2)	--	--	--	28.8 × 21.9	26.0 × 19.5	19.5 × 14.6
T107/0.2	2-05-292	-1 : 5.02	10.6 (2.7)	--	--	--	--	--	24.1 × 18.1
T107/0.2A	2-05-293	-1 : 5.11	11.0 (2.8)	--	--	--	--	--	24.5 × 18.4

*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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 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
T107/0.83	2-05-287	25.8 mm	0.06 ... 0.03	100 ± 2 mm	--	194 mm	47 mm	92 mm	332 g
T107/0.39	2-05-296	28.1 mm	0.12 ... 0.027	115 ± 2 mm	117 ± 2 mm	154 mm	47 mm	52 mm	250 g
T107/0.36	2-05-297	30.3 mm	0.13 ... 0.026	93 ± 2 mm	96 ± 6 mm	151 mm	47 mm	50 mm	240 g
T107/0.33	2-05-290	34.4 mm	0.15 ... 0.03	86 ± 2 mm	89 ± 2 mm	146 mm	47 mm	45 mm	250 g
T107/0.25L	2-05-295	29.8 mm	0.11 ... 0.029	105 ± 2 mm	--	143 mm	53 mm	34 mm	194 g
T107/0.25	2-05-291	32.3 mm	0.12 ... 0.03	83 ± 2 mm	--	143 mm	54 mm	34 mm	250 g
T107/0.2	2-05-292	30.1 mm	0.15 ... 0.04	56 ± 3 mm	--	138 mm	29 mm	54 mm	230 g
T107/0.2A	2-05-293	30.7 mm	0.15 ... 0.04	82 ± 3 mm	--	138 mm	29 mm	53 mm	230 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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Telecentric measurement lenses with adjustable apertur

vicotar® | T107 series

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 M39 x 0.5. 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
2-25-114	PSO 90-107	beam-deflection unit (90°) for lens-systems T107-series
2-90-122	OH 32	lens holder, d = 32 mm
2-91-131	IR M20.5 x 0.5	daylight suppression filter for telecentric lens-systems
2-91-130	IR M39 x 0.5	daylight cutting-filter for telecentric lens-systems
2-91-120	UV M39 x 0,5	protection glass for telecentric lens-systems
5-10-112	JH 10	adjustment-help for 10mm depth of focus
1-29-674	RK2036 adapter ring M39x0.5	to attach the RK2036 to lenses of T107 series, filter thread M39x0.5
1-29-771	RK3652 adapter ring M39x0.5	to attach the RK3652 to T107 series lenses, filter thread M39x0.5

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

Intended use for accessories

T107 with 90° beam-deflection

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Telecentric measurement lenses with adjustable apertur

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T107 with lens holder OH32

T107 with filter

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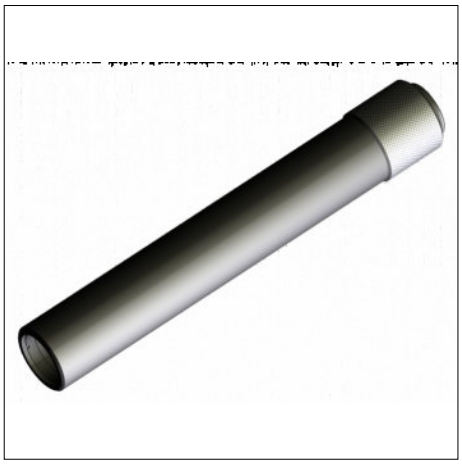
Telecentric measurement lenses

vicotar® | T125 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 15.5 mm
- Measuring lenses with long working distance
- Fixed aperture
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

Options

Engineering drawing

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Telecentric measurement lenses

vicotar® | T125 series

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 34mm / focal filter thread M26 x 0.5 / environmental temperature -10°C ... 50°C

Technical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)	Field of view for ¼" sensor (mm²)
T125/0.7L	2-05-310	-1 : 1.41	2.7 (0.7)	--	12.4 × 9.3	10.0 × 7.6	9.0 × 6.8	6.8 × 5.1	5,1 × 3,8

*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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 4.8 x 3.6 mm²

Name	Order no.	Max. object field diagonal	Image side aperture (fixed)	Working distance	Total length L	Weight
T125/0.7L	2-05-310	15.5 mm	0.03	197 ± 2 mm	208 mm	300 g

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 M26 x 0.5. 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
2-25-113	PSO 90-100/125	beam-deflection unit (90°) for lens-systems T100 / T125- series
2-90-122	OH 32	lens holder, d = 32 mm
2-91-123	UV M26 x 0,5	protection glass for telecentric lens-systems
2-91-131	IR M20.5 x 0.5	daylight suppression filter for telecentric lens-systems
5-10-111	JH 5	adjustment-help for 5mm depth of focus

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

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Enlarging telecentric lenses with adjustable aperture

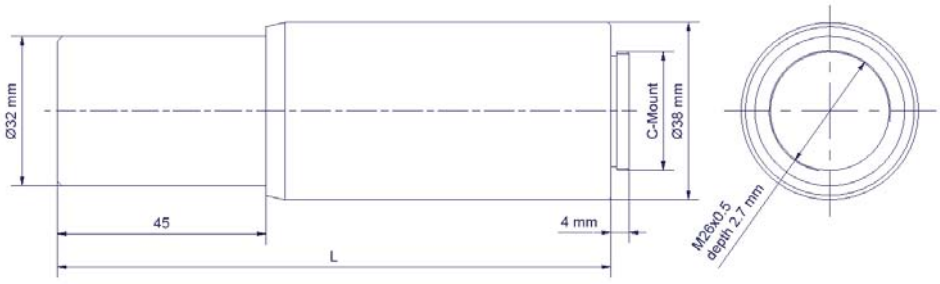
vicotar® | T51 series

Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 11 mm
- Manual operated iris aperture with fixing
- Robust industrial design
- C-mount (thread connection)

Options

Engineering drawing



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Enlarging telecentric lenses with adjustable aperture

vicotar® | T51 series

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 38mm / focal filter thread M26 x 0.5 / environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*	Field of view for 1.2" sensor (mm²)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
T51/1.7	2-05-272	-1.7 : 1	0.4 (0.1)	8.8 × 8.8	7.4 × 5.6	5.1 × 3.8	4.1 × 3.1	3.7 × 2.8	2.8 × 2.1
T51/1.4	2-05-265	-1.4 : 1	0.52 (0.13)	--	--	6.3 × 4.8	5.1 × 3.9	4.6 × 3.5	3.5 × 2.6
T51/1.2	2-05-266	-1.2 : 1	0.68 (0.17)	--	--	7.3 × 5.5	5.9 × 4.5	5.3 × 4.0	4.0 × 3.0
T51/1.0	2-05-267	-1 : 1	1.68 (0.42)	--	--	--	7.1 × 5.4	6.4 × 4.8	4.8 × 3.6
T51/0.8	2-05-268	-1 : 1.22	1.72 (0.43)	--	--	--	8.7 × 6.6	7.9 × 5.9	5.9 × 4.4
T51/0.7	2-05-269	-1 : 1.47	1.44 (0.36)	--	--	--	10.4 × 7.9	9.4 × 7.1	7.1 × 5.3

*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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 4.8 x 3.6 mm²

Mechanical data

Name	Order no.	Max. object field diagonal	Object side aperture (adjustable)	Working distance	Working distance with IR-filter*	Total length L	Weight
T51/1.7	2-05-272	12.5 mm	0.06 ... 0.01	49 ± 2 mm	49 ± 2 mm	114 mm	230 g
T51/1.4	2-05-265	7.9 mm	0.05 ... 0.01	28 ± 2 mm	28 ± 2 mm	119 mm	225 g
T51/1.2	2-05-266	9.2 mm	0.06 ... 0.01	34 ± 2 mm	34 ± 2 mm	109 mm	203 g
T51/1.0	2-05-267	8.9 mm	0.07 ... 0.01	42 ± 2 mm	42 ± 2 mm	99 mm	181 g
T51/0.8	2-05-268	11 mm	0.07 ... 0.01	52 ± 2 mm	52 ± 2 mm	90 mm	160 g
T51/0.7	2-05-269	11.8 mm	0.10 ... 0.01	63 ± 2 mm	64 ± 2 mm	84 mm	147 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 M26 x 0.5. You shall be screw-on first lens (object side).

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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Enlarging telecentric lenses with adjustable aperture

vicotar® | T51 series

Accessories

Order no.	Name	Description
1-18-300	DL30x30-R633/M5	area light, red, diffuse, lf-size = 30 mm x 30 mm, static/switchable
2-25-113	PSO 90-100/125	beam-deflection unit (90°) for lens-systems T100 / T125- series
2-90-122	OH 32	lens holder, d = 32 mm
2-91-131	IR M20.5 x 0.5	daylight suppression filter for telecentric lens-systems
2-91-121	UV M20,5 x 0,5	protection glass for telecentric lens-systems
2-91-123	UV M26 x 0,5	protection glass for telecentric lens-systems
5-10-110	JH 2,7	adjustment-help for 2,7mm depth of focus

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

Intended use for accessories

Koaxial reflective system with pictor® T,
STE30x30, DL 30x30 and T51

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Telecentric measurement lenses with adjustable apertur

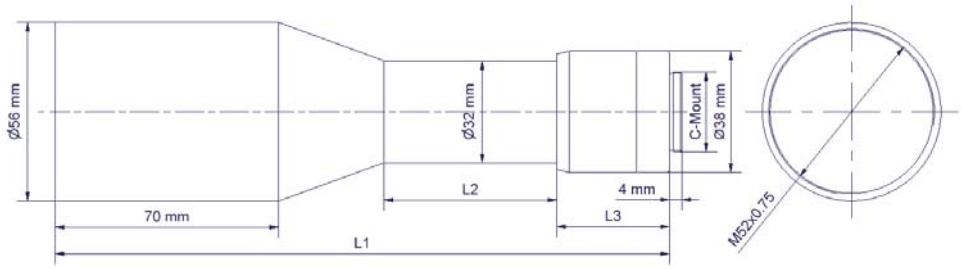
vicotar® | T150 series

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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Telecentric measurement lenses with adjustable apertur

vicotar® | T150 series

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 ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)	Field of view for ¼" 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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 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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Telecentric measurement lenses with adjustable apertur

vicotar® | T150 series

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.

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Magnifying telecentric lenses

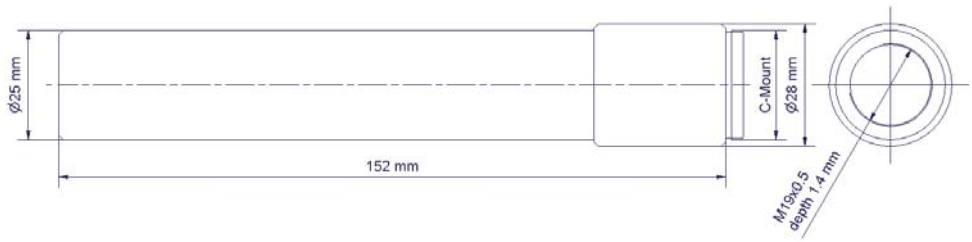
vicotar® | T80 series - |ß'| = 1.0

Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 11 mm
- Maximum object field diameter 11.1 mm
- Measuring lenses with long working distance
- Fixed aperture
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

Options

Engineering drawing



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Magnifying telecentric lenses

vicotar® | T80 series - |ß'| = 1.0

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm / focal filter thread M19 x 0.5 / 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 ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)	Field of view for ¼" sensor (mm²)
T80/1.0L	2-05-270	-1 : 0.99	1.0 (0.25)	--	8.9 × 6.7	7.0 × 5.4	6.5 × 4.9	4.9 × 3.6	3.6 × 2.7

*Object side depth of field at a circle of confusion 40 (10) µm.
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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 4.8 x 3.6 mm²

Name	Order no.	Max. object field diagonal	Object side aperture (fixed)	Working distance	Total length	Max. diameter of lenses	Weight
T80/1.0L	2-05-270	11.1 mm	0.04	115 ± 3 mm	152 mm	28 mm	150 g

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 M19 x 0.5. You shall be screw-on first lens (object side).

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
2-25-112	PSO 90-80	beam-deflection unit (90°) for lens-systems T80-series
2-90-128	OH 25	lens holder, d = 25 mm
2-91-122	UV M19 x 0,5	protection glass for telecentric lens-systems
5-10-110	JH 2,7	adjustment-help for 2,7mm depth of focus

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

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Magnifying telecentric lenses

vicotar® | T80 series - |ß'| = 1.0

Intended use for accessories

T80 with adapter D=27 mm to M 19x0,5 and ring light RK 1220

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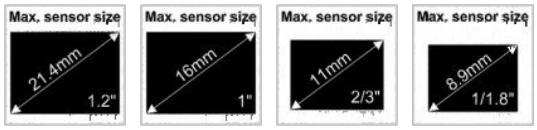
Telecentric measurement lenses with adjustable apertur

vicotar® | T151/152 series

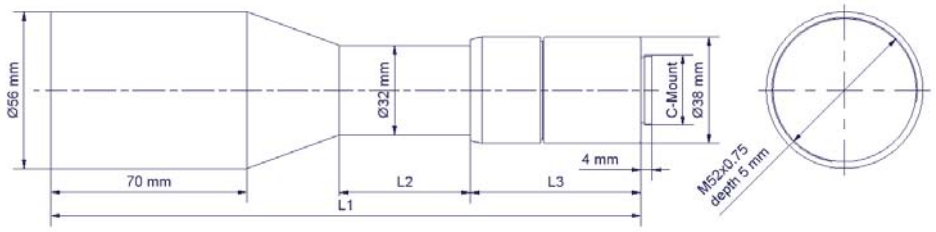
Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 21.4 mm
- Maximum object field diameter 49.3 mm
- Lenses with short and long working distance
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

Options



Engineering drawing



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Up to 1.2" imager

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Telecentric measurement lenses with adjustable apertur

vicotar® | T151/152 series

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 1.2" sensor (mm²)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
T151/0.44	2-05-327	-1 : 2.30	3.8 (1.0)	35.0 × 35.0	29.5 × 22.1	20.3 × 15.2	16.3 × 12.4	14.7 × 11.0	11.0 × 8.3
T151/0.39	2-05-326	-1 : 2.54	4.7 (1.2)	--	32.5 × 24.4	22.3 × 16.8	18.0 × 13.7	16.3 × 12.2	12.2 × 9.1
T152/0.36	2-05-329	-1 : 2.78	4.8 (1.2)	--	35.6 × 26.7	24.5 × 18.3	19.7 × 15.0	17.8 × 13.3	13.3 × 10.0
T151/0.30	2-05-325	-1 : 3.27	6.1 (1.5)	--	--	28.8 × 21.6	23.2 × 17.7	20.9 × 15.7	15.7 × 11.8
T151/0.26L	2-05-328	-1 : 3.88	8.0 (2.0)	--	--	--	27.5 × 21.0	24.8 × 18.6	18.6 × 14.0

*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:
1.2" - 15.16 x 15.16 mm² | 1" - 12.8 x 9.6 mm² | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 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
T151/0.44	2-05-327	36.8 mm	0.08 ... 0.03	200 ± 4 mm	--	210 mm	47 mm	60 mm	407 g
T151/0.39	2-05-326	40.6 mm	0.09 ... 0.03	223 ± 4 mm	225 ± 4mm	211 mm	47 mm	61 mm	404 g
T152/0.36	2-05-329	44.5 mm	0.10 ... 0.03	110 ± 3mm	113 ± 3mm	210 mm	47 mm	60 mm	390 g
T151/0.30	2-05-325	36.0 mm	0.11 ... 0.03	185 ± 4 mm	189 ± 4 mm	201 mm	47 mm	51 mm	372 g
T151/0.26L	2-05-328	31.0 mm	0.13 ... 0.02	277 ± 5 mm	282 ± 5 mm	194 mm	47 mm	44 mm	356 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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Telecentric measurement lenses with adjustable apertur

vicotar® | T151/152 series

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
5-10-112	JH 10	adjustment-help for 10mm depth of focus

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

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Telecentric measurement lenses with adjustable apertur

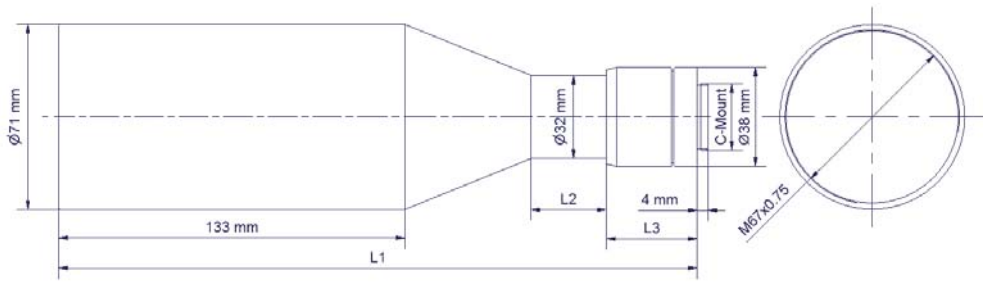
vicotar® | T201 series

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)

Options

Engineering drawing



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Telecentric measurement lenses with adjustable apertur

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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 71mm / focal filter thread M67 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 1,2" sensor (mm²)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
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:
1.2" - 15.16 x 15.16 mm² | 1" - 12.8 x 9.6 mm² | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 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
T201/0.42	2-05-345	51.3 mm	0.06 ... 0.02	210 ± 1 mm	--	292 mm	32 mm	82 mm	1150 g
T201/0.30	2-05-336	52 mm	0.08 ... 0.01	157 ± 4 mm	--	274 mm	32 mm	64 mm	1110 g
T201/0.28L	2-05-335	39 mm	0.07 ... 0.01	278 ± 5 mm	282 ± 5 mm	269 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	269 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	252 mm	29 mm	45 mm	1047 g
T201/0.19L	2-05-333	42 mm	0.07 ... 0.03	284 ± 5 mm	--	248 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	242 mm	29 mm	35 mm	1040 g
T201/0.13L	2-05-332	45 mm	0.09 ... 0.03	273 ± 5 mm	292 ± 5 mm	239 mm	29 mm	32 mm	1040 g
T201/0.12	2-05-339	52 mm	0.11 ... 0.03	135 ± 4 mm	--	239 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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Telecentric measurement lenses with adjustable apertur

vicotar® | T201 series

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 illunimation T200, T201, TZB 60, serie
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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T201 with lens holder OH150/200

T201 with filter

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Telecentric measurement lenses with adjustable apertur

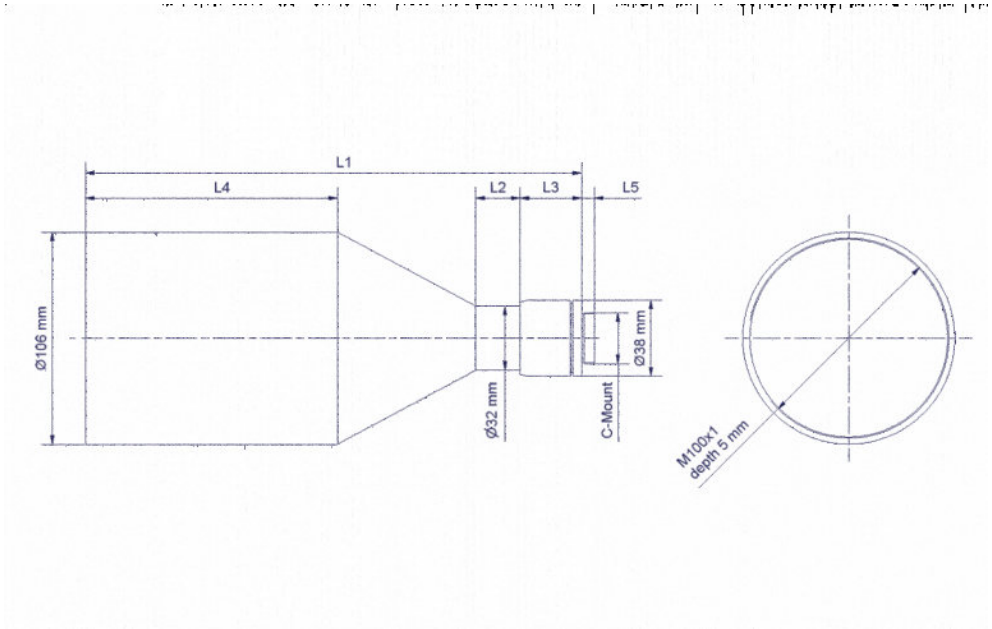
vicotar® | T240 series

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 (less than 0,2 mrad)
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

Options

Engineering drawing



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Telecentric measurement lenses with adjustable apertur

vicotar® | T240 series

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

Optical data

Name	Order no.	Lateral magnification	Object side depth of field (mm)*	Field of view for 1.2" sensor (mm²)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
T240/0,27a	2-05-227	-0.274 = -1:3.652	10 (2)	56 × 56	47 × 35	32 × 24	26 × 20	23 × 18	18 × 13
T240/0,18a	2-05-226	-0,173 = -1:5.78	16 (4)	-	74 × 55	51 × 38	41 × 31	37 × 28	28 × 21
T240/0,13a	2-05-223	-0.131 = -1:7.633	23 (6)	-	-	67 × 51	54 × 41	49 × 37	37 × 27
T240/0,10a	2-05-225	-0.103 = -1:9.690	30 (8)	-	-	-	69 × 52	62 × 47	47 × 35
T240/0,08a	2-05-224	-0.089 = -1:11.23	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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 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
T240/0,27a	2-05-227	78 mm	0.08...0.029	287 ± 4 mm	-	283 mm	25 / 63 mm	126 / 4 mm	1680 g
T240/0,18a	2-05-226	92.5 mm	0.13...0.029	202 ± 4 mm	232 mm	261 mm	22 / 44 mm	126 / 4 mm	1600 g
T240/0,13a	2-05-223	83 mm	0.17...0.027	213 ± 4 mm	232 mm	252 mm	22 / 35 mm	126 / 4 mm	1600 g
T240/0,10a	2-05-225	86 mm	0.22...0.029	195 ± 3 mm	226 mm	248 mm	22 / 31 mm	126 / 4 mm	1600 g
T240/0,08a	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.

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.

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Telecentric measurement lenses with adjustable apertur

vicotar® | T240 series

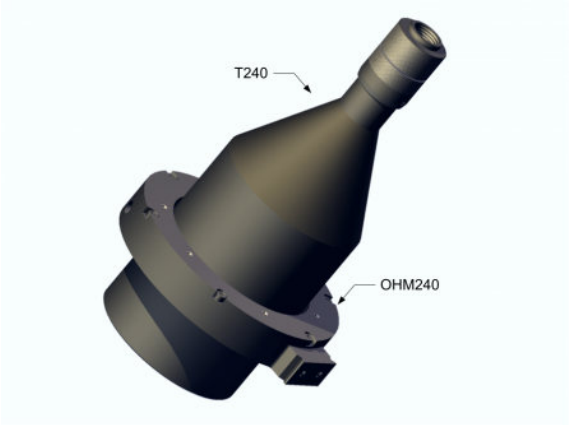
Accessories

Order no.	Name	Description
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



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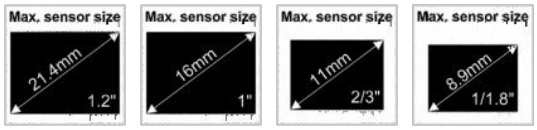
Telecentric measurement lenses

vicotar® | T360 series

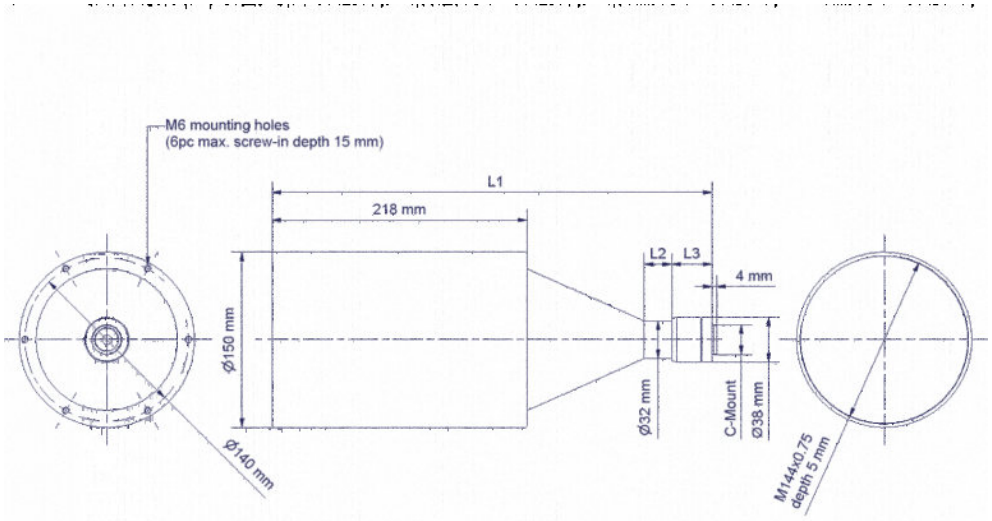
Product features

- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 16 mm
- Maximum object field diameter 126 mm
- Low telecentric error (less than 0,2 mrad)
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof
- C-mount (thread connection)

Options



Engineering drawing



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Up to 1.2" imager

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Telecentric measurement lenses

vicotar® | T360 series

Properties

Optical properties

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

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 150mm / focal filter thread M144 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 1.2" sensor (mm²)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
T360/0,19a	2-05-247	-0.189 = -1:5.291	21 (5)	81 × 81	68 × 50	47 × 35	38 × 29	34 × 25	25 × 19
T360/0,13a	2-05-246	-0.131 = -1:7.64	31 (8)	-	99 × 73	67 × 50	54 × 41	49 × 37	37 × 27
T360/0,09a	2-05-245	-0,089 = -1:11.22	50 (13)	-	-	99 × 74	80 × 61	72 × 54	54 × 40
T360/0,07a	2-05-244	-0.073 = -1:13.77	59 (15)	-	-	-	98 × 74	88 × 66	66 × 50

*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 | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 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	Length L3	Weight
T360/0,19a	2-05-247	113 mm	0.08...0.027	356 ± 4 mm	-	408 mm	26 mm	63 mm	4500 g
T360/0,13a	2-05-246	122 mm	0.12...0.029	205 ± 3 mm	-	392 mm	24 mm	44 mm	4400 g
T360/0,09a	2-05-245	123 mm	0.17...0.027	264 ± 3 mm	-	376 mm	24 mm	34 mm	4300 g
T360/0,07a	2-05-244	123 mm	0.21...0.028	194 ± 3mm	-	374 mm	24 mm	32 mm	4400 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.

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
2-91-131	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

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Telecentric widefield lenses with adjustable aperture

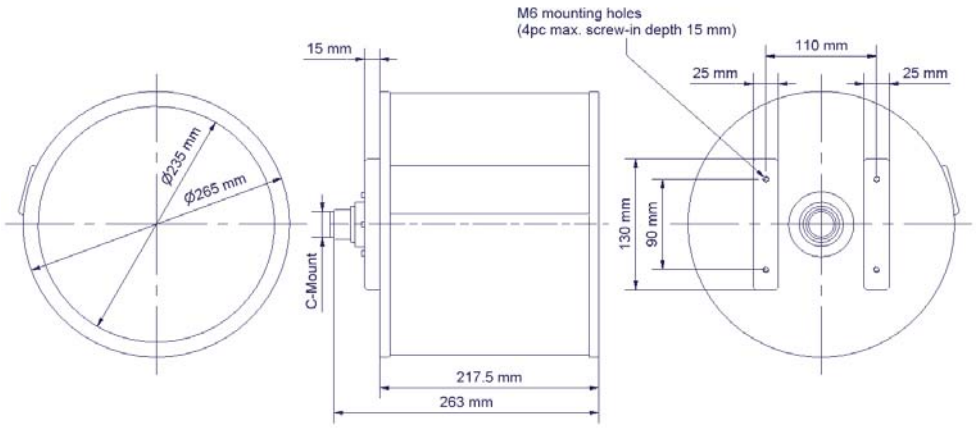
vicotar® | TL250 series

Product features

- Object side telecentric light path
- Application for matrix cameras up to sensor diagonal 6 mm
- Maximum object field diameter 228 mm
- Suitable for checking for the presence, special properties and nondimensional attributes of large objects
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof, us of plastic lenses
- C-mount (thread connection)
- Telecentric widefield lenses provide the best imaging results in conjunction with monochrome, diffuse vicolux®lighting units

Variants

Engineering drawing



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Telecentric widefield lenses with adjustable aperture

vicotar® | TL250 series

Properties

Optical properties

Spectral range 380...900nm / fast lenses

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 265mm / environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Image side aperture (adjustable)	Object side depth of field (mm)*	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for ½" sensor (mm²)	Field of view for ⅓" sensor (mm²)
TL250/0,03	2-05-360	-1 : 38	0,3 ... 0	192 (48)	--	--	--	182 × 137

*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.
1" - 12,8 x 9,6 mm² | ⅔" - 8,8 x 6,6 mm² | ½" - 6,4 x 4,8 mm² | ⅓" - 4,8 x 3,6 mm²

Name	Order no.	Max. object field diameter	Working distance	Total length L	Mounting points	Weight
TL250/0,03	2-05-360	228 mm	220 mm	265 mm	4 × M6	3,8 kg

Important advice

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

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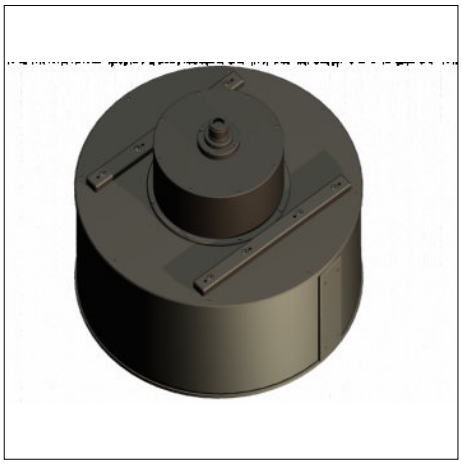
Telecentric widefield lenses

vicotar® | TL371 series

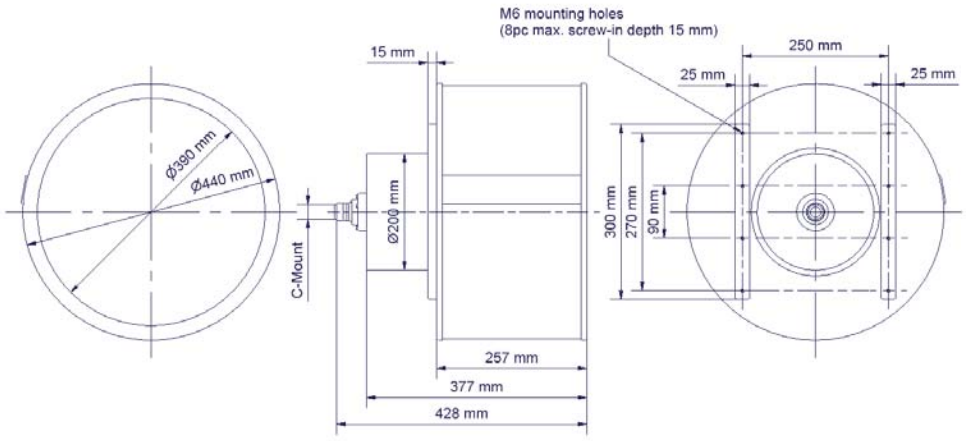
Product features



- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 11 mm
- Maximum object field diameter 374 mm
- Suitable for checking for the presence, special properties and nondimensional attributes of large objects
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof, us of plastic lenses
- C-mount (thread connection)
- Telecentric widefield lenses provide the best imaging results in conjunction with monochrome, diffuse vicolux®lighting units

Options

Engineering drawing



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Telecentric widefield lenses

vicotar® | TL371 series

Properties

Optical properties

Maximum distortion 3% / fast lenses

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 445mm / environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Image side aperture (adjustable)	Suppressed wavelength* (nm)	Field of view for 1" sensor (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)	Field of view for ½" sensor (mm²)
TL371/0.03-B	2-05-366	-1 : 31 ... -1 : 34	0.33 ... 0	480 ... 670	--	273 × 205 ... 300 × 224	220 × 167 ... 241 × 184	198 × 149 ... 218 × 163
TL371/0.03-R	2-05-364	-1 : 3 ... -1 : 34	0.33 ... 0	< 630	--	273 × 205 ... 300 × 224	220 × 167 ... 241 × 184	198 × 149 ... 218 × 163
TL371/0.03-IR	2-05-365	-1 : 31 ... -1 : 34	0.33 ... 0	< 830	--	273 × 205 ... 300 × 224	220 × 167 ... 241 × 184	198 × 149 ... 218 × 163
TL371/0.03-SG390	2-05-369	-1 : 31 ... -1 : 34	0.33 ... 0	--	--	273 × 205 ... 300 × 224	220 × 167 ... 241 × 184	198 × 149 ... 218 × 163
TL371/0.03-B-SG390	2-05-372	-1 : 31 ... -1 : 34	0.33 ... 0	480 ... 670	--	273 × 205 ... 300 × 224	220 × 167 ... 241 × 184	198 × 149 ... 218 × 163
TL371/0.03-R-SG390	2-05-370	-1 : 31 ... -1 : 34	0.33 ... 0	< 630	--	273 × 205 ... 300 × 224	220 × 167 ... 241 × 184	198 × 149 ... 218 × 163
TL371/0.03-IR-SG390	2-05-371	-1 : 31 ... -1 : 34	0.33 ... 0	< 830	--	273 × 205 ... 300 × 224	220 × 167 ... 241 × 184	198 × 149 ... 218 × 163

*Suppression of unwanted light by means of built-in filters.
We provide technical information to the depth of focus 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 mm² | 1" - 12.8 x 9.6 mm² | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm² | ½" - 6.4 x 4.8 mm² | ⅓" - 4.8 x 3.6 mm²

Mechanical data

Name	Order No.	Max. object field diagonal	Working distance*	Mounting points	Protection glass SG390**	Weight
TL371/0.03-B	2-05-366	374 mm	100 ... 750 mm	8 × M6	no	9 kg
TL371/0.03-R	2-05-364	374 mm	100 ... 750 mm	8 × M6	no	9 kg
TL371/0.03-IR	2-05-365	374 mm	100 ... 750 mm	8 × M6	no	9 kg
TL371/0.03-SG390	2-05-369	374 mm	100 ... 750 mm	8 × M6	yes	11.6 kg
TL371/0.03-B-SG390	2-05-372	374 mm	100 ... 750 mm	8 × M6	yes	11.6 kg
TL371/0.03-R-SG390	2-05-370	374 mm	100 ... 750 mm	8 × M6	yes	11.6 kg
TL371/0.03-IR-SG390	2-05-371	374 mm	100 ... 750 mm	8 × M6	yes	11.6 kg

*Working distance can be set to definite value on request.
**High-quality front lens of the objective can be protected against impurities and damages by means of protection glass SG390.

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Telecentric widefield lenses

vicotar® | TL371 series

Important advice

Protection glass

High-quality front lens of the objective can be protected against impurities and damages by means of protection glass SG390. You shall be screw-on the 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
2-91-119	SG 390	protection glass for telecentric objectives TL 370/371

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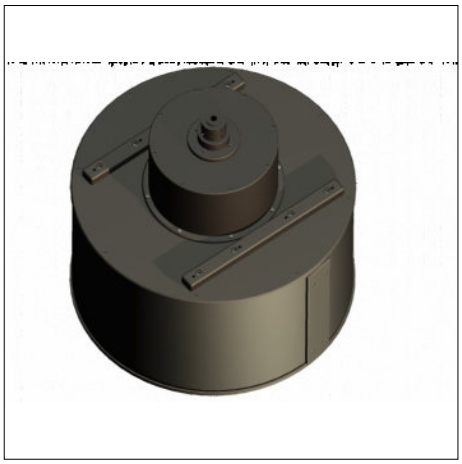
Telecentric widefield lenses

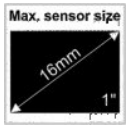
vicotar® | TL380 series

Product features

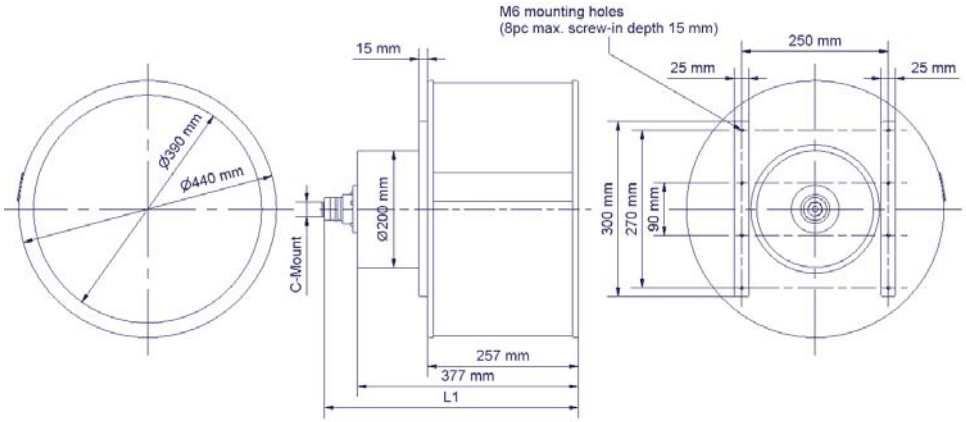


- Object side telecentric light path
- Application for matrix and line cameras up to sensor diagonal/length 16 mm
- Maximum object field diameter 424 mm
- Suitable for checking for the presence, special properties and nondimensional attributes of large objects
- Manual operated iris aperture with fixing
- Robust industrial design: dust-proof, shock-proof, us of plastic lenses
- C-mount (thread connection)
- Telecentric widefield lenses provide the best imaging results in conjunction with monochrome, diffuse vicolux®lighting units

Variants



Engineering drawing



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Telecentric widefield lenses

vicotar® | TL380 series

Properties

Optical properties

Maximum distortion 1,5% / fast lenses

Mechanical properties

Flange focal distance 17.53mm / max. diameter of lenses 445mm / environmental temperature -10°C ... 50°C

Optical data

Name	Order no.	Lateral magnification	Image side aperture (adjustable)	Suppressed wavelength* (nm)	Field of view for 1" sensor** (mm²)	Field of view for ⅔" sensor (mm²)	Field of view for 1/1.8" sensor (mm²)
TL380/0.04-IR	2-05-374	-1 : 24 ... -1 : 26	0.24 ... 0.027	< 830	306×230 ... 333×250	211×158 ... 229×172	170×130 ... 185×140
TL380/0.04-NIR	2-05-373	-1 : 24 ... -1 : 26	0.24 ... 0.027	< 830 > 1200	311×233 ... 339×254	214×160 ... 233×175	170×130 ... 185×140

*Other suppressed wavelength on request
**Corners cut easy
We provide technical information to the depth of focus or the telecentric error of a certain lens by our technical support upon request.
Size of imaging device:
1" - 12.8 x 9.6 mm² | ⅔" - 8.8 x 6.6 mm² | 1/1.8(=5/9)" - 7.1 x 5.4 mm²

Name	Order No.	Max. object field diagonal	Working distance	Total length L1	Mounting points	Weight
TL380/0.04-IR	2-05-374	416 mm	100 ... 750 mm	427 mm	8 × M6	9 kg
TL380/0.04-NIR	2-05-373	424 mm	100 ... 750 mm	433 mm	8 × M6	9 kg

Important advice

Protection glass

High-quality front lens of the objective can be protected against impurities and damages by means of protection glass SG390. You shall be screw-on the 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
2-91-119	SG 390	protection glass for telecentric objectives TL 370/371