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## vicotar® Telecentric Lens - TO30/9.1-85-V-BW

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**Short description:** Telecentric Lens, C-mount, sensor max. 1/1.8",  
aperture F10 - F22, blue

**Order number:** 2-05-549

**EAN:** 4251692621004



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### Characteristics

- telecentric measurement objective with object-sided telecentric beam path
  - color corrected for the visible spectral range and near infrared
  - color correction extended deep into the blue spectral range
  - very well suited for blue LEDs including "Deep Blue" LEDs
  - thus especially suitable for white LEDs, as these have a strong blue light component
  - high resolution, low lateral chromatic aberration, low distortion, low telecentric error
  - adjustable aperture with identification of the aperture numbers, arrestable
  - robust industrial design
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## Technical data

Image scale	0.307
Spectral range	450 nm - 950 nm
Working distance	85.0 mm
WD adjust @ 850 nm	+ 3.2 mm
WD adjust @ 940 nm	+ 4.0 mm
Camera distance (object-camera flange)	190.5 mm
Object field diagonal (max)	30 mm
Sensor format (max)	1/1.8"
Image field diagonal (max)	9 mm
Suitable for camera resolution	9.6 MPixel
Recommended pixel size	2 µm
Aperture	variable (F8 - F22)
Lens mount	C-Mount
Filter thread, object-side	M39 x 0.5 - depth: 7.2 mm
Weight	152 g
Usable object field with:	
• 1/1.8" sensor (7.1 x 5.4 mm <sup>2</sup> )	23.1 mm x 17.6 mm
• 1/2" sensor (6.4 x 4.8 mm <sup>2</sup> )	20.8 mm x 15.6 mm
• 1/3" sensor (4.8 x 3.6 mm <sup>2</sup> )	15.6 mm x 11.7 mm

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## Notices

The lightings combination products shown are a selection. Depending on the application, other colors and light source types can also be used.

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## Can be combined with

Order number	Title	Description
<b><i>TZB38-P-SL series</i></b>		
1-33-232	TZB38-B450-P-SL	telecentric light, blue, lf diameter: 38 mm, smart light
1-33-233	TZB38-IR850-P-SL	telecentric light, IR850, lf diameter: 38 mm, smart light
<b><i>TZB38-P-24V series</i></b>		
1-33-242	TZB38-B450-P-24V	telecentric light, blue, lf diameter: 38 mm, 24V, switchable
1-33-286	TZB38-B450-HP-24V	telecentric light, blue, lf diameter: 38 mm, 24V, switchable, high power
1-33-243	TZB38-IR850-P-24V	telecentric light, IR850, lf diameter: 38 mm, 24V, switchable
1-33-287	TZB38-IR850-HP-24V	telecentric light, IR850, lf diameter: 38 mm, 24V, switchable, high power
<b><i>R-CLR-69-SL series</i></b>		
1-33-007	R-CLR-69x41-B470-SL	ring light, blue, coaxial, lf diameter: 41/69 mm, smart light technology
<b><i>RK2036-24V series</i></b>		
1-29-602	RK2036-B470-24V/C	ring light, blue, coaxial, lf diameter: 41/69 mm, controlled, pot.: 0-10V,
<b><i>R-CLR-100-SL series</i></b>		
1-33-012	R-CLR-100x73-B470-SL	ring light, blue, coaxial, lf diameter: 73/100 mm, smart light technology
<b><i>RK3652-24V series</i></b>		
1-29-702	RK3652-B470-24V/C	ring light, blue, coaxial, lf diameter: 73/100 mm, controlled, pot.: 0-10V,

## Accessories for Telecentric Lenses - TO30/9.1-85-V-BW

Order number	Title	Description
<b><i>Adjustment Aids</i></b>		

<b>Order number</b>	<b>Title</b>	<b>Description</b>
5-10-112	Adjustment aid 10	for easy adjustment to 10 mm depth of field, for image scale 0.5 - 0.2
5-10-114	Adjustment aid 20	for easy adjustment to 20 mm depth of field, for image scale 0.2 - 0.1
<b>Lens mount</b>		
2-90-138	Lens Holder d28	Holder for telecentric lenses and lightings with d = 28 mm
<b>Extension tubes</b>		
2-90-415	Extension ring 0.5 mm	26 x 31 x 0.5 reduces the minimum object distance (MOD)
2-90-416	Extension ring 1.0 mm	26 x 31 x 1.0 reduces the minimum object distance (MOD)
2-90-419	Extension ring 0.1 mm	25.5 x 29 x 0.1 reduces the minimum object distance (MOD)
2-90-420	Extension ring 0.2 mm	25.5 x 29 x 0.2 reduces the minimum object distance (MOD)
<b>Lens adapter c-mount</b>		
2-90-414	CS to C-mount adapter 5.0 mm	for connecting C-mount lenses with CS-mount cameras, length: 5 mm
<b>Neutral density filter</b>		
2-91-160	ND filter 1.2 M39x0.5	optical density 1.2 - 6.3% transmission, f-stop reduction 4, filter thread M39x0.5
2-91-150	ND filter 0.6 M39x0.5	optical density 0.6 - 25% transmission, f-stop reduction 2, filter thread M39x0.5
<b>Daylight blocking filter</b>		
2-91-131	IR filter M20.5x0.5	long-pass filter from 830 nm, daylight absorbing filter, filter thread M20.5x0.5
2-91-130	IR filter M39x0.5	long-pass filter from 830 nm, daylight absorbing filter, filter thread M39x0.5
<b>Polarising filters</b>		
2-91-140	Pole filter M39x0.5	linear polarizing filter, range 420 nm - 780 nm, filter thread M39x0.5
<b>Colour filter blue</b>		

<b>Order number</b>	<b>Title</b>	<b>Description</b>
2-91-287	Colour filter blue M39x0.5	band-pass filter, range 350 nm - 600 nm, filter thread M39x0.5
<b>UV Cut-Off Filter</b>		
2-91-120	UV blocking filter M39x0.5	long-pass filter from 350 nm, usable as protective glass, filter thread M39x0.5
<b>Colour filter red</b>		
2-91-259	Colour filter red M20.5x0.5	long-pass filter from 630 nm, red, filter thread M20.5x0.5
2-91-261	Colour filter red M39x0.5	long-pass filter from 630 nm, red, filter thread M39x0.5
<b>Colour filter green</b>		
2-91-300	Colour filter green M39x0.5	band-pass filter, range 430 nm - 620 nm, filter thread M39x0.5
<b>Colour filter yellow</b>		
2-91-274	Colour filter yellow M39x0.5	long-pass filter from 530 nm, yellow, filter thread M39x0.5
<b>Deflection mirror 90° series</b>		
2-25-114	Deflection mirror 90-42	90° deflection, attachment for telecentric lenses and lightings with d = 42 mm
<b>Adapters for attaching lights to lenses</b>		
1-29-674	Adapter ring d41 - M39x0.5	for R-CLR-69x41 and RK2036, for attachment to lenses with filter thread M39x0.5
1-29-771	Adapter ring d73 - M39x0.5	for R-CLR-100x73 und RK3652, for attachment to lenses with filter thread M39x0.5
<b>Beam splitter STE30x30</b>		
1-18-050	STE30x30-VIS	Beam splitter unit for coaxial light system, optimized for 450-700 nm
1-18-025	Adapter STE30x30 - TZ042	Attachment of the STE30x30 to telecentric lenses and lightings with d = 42 mm

## Drawings



Dimensional drawing in mm