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## vicotar® Telecentric Lens - TO44/11.0-110-V-BW

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<b>Short description:</b>	Telecentric Lens, C-mount, Sensor opt. 2/3", aperture F8 - F22, blue
<b>Order number:</b>	2-05-623
<b>EAN:</b>	4251692621516
<b>Actual Notice:</b>	<b>Also available with fixed aperture on request.</b> (F-numbers in the range as for adjustable aperture)



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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	0.25
Spectral range	400 nm - 950 nm
Working distance	110 mm
Camera distance (object-camera flange)	311.22 mm
Object field diagonal (max.)	44 mm
Sensor format (opt.)	2/3"
Image field diagonal (max.)	11 mm
Suitable for camera resolution	19 MPixel
Recommended pixel size	1.75 $\mu$ m
Aperture	variable (F8 - F22)
Lens mount	C-Mount
Filter thread, object-side	M52 x 0.75
Filter thread, camera-side	M20.5 x 0.5
Weight	328 g
Usable object field with:	
• 2/3" sensor (8.8 x 6.6 mm <sup>2</sup> )	35.2 mm x 26.4 mm
• 1/1.8" sensor (7.1 x 5.4 mm <sup>2</sup> )	28.4 mm x 21.6 mm
• 1/2" sensor (6.4 x 4.8 mm <sup>2</sup> )	25.6 mm x 19.2 mm
• 1/3" sensor (4.8 x 3.6 mm <sup>2</sup> )	19.2 mm x 14.4 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>TZB51-UDC-a Serie</i></b>		
1-10-941	TZB51-B470/UDC/-a	telecentric light, blue, If diameter: 49 mm, flashable by flash controller
1-10-942	TZB51-W5K7/UDC/-a	telecentric light, white, If diameter: 49 mm, flashable by flash controller
1-10-943	TZB51-IR880/UDC/-a	telecentric light, IR850, If diameter: 49 mm, flashable by flash controller
1-10-940	TZB51-R625/UDC/-a	telecentric light, red, If diameter: 49 mm, flashable by flash controller
1-10-944	TZB51-G525/UDC/-a	telecentric light, green, If diameter: 49 mm, flashable by flash controller
<b><i>TZB51 series</i></b>		
1-10-201	TZB51-B470-24V	telecentric light, blue, If diameter: 49 mm, static, cable open-ended
1-10-198	TZB51-W5K7-24V	telecentric light, white, If diameter: 49 mm, static, cable open-ended
1-10-202	TZB51-IR880-24V	telecentric light, IR850, If diameter: 49 mm, static, cable open-ended
1-10-200	TZB51-R625-24V	telecentric light, red, If diameter: 49 mm, static, cable open-ended
1-10-215	TZB51-G525-24V	telecentric light, green, If diameter: 49 mm, static, cable open-ended
<b><i>R-CLR-69-SL series</i></b>		
1-33-007	R-CLR-69x41-B470-SL	ring light, blue, coaxial, If 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, If 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, If diameter: 73/100 mm, smart light technology
<b><i>RK3652-24V series</i></b>		

Order number	Title	Description
1-29-702	RK3652-B470-24V/C	ring light, blue, coaxial, If diameter: 73/100 mm, controlled, pot.: 0-10V,
<b>R-CLR-132-SL series</b>		
1-33-017	R-CLR-132x104-B470-SL	ring light, blue, coaxial, If diameter: 104/132 mm, smart light technology
<b>RK5268-24V series</b>		
1-29-802	RK5268-B470-24V/C	ring light, blue, coaxial, If diameter: 104/132 mm, controlled, pot.: 0-10V,

## Accessories for Telecentric Lenses - TO44/11.0-110-V-BW

Order number	Title	Description
<b>Adjustment Aids</b>		
5-10-112	Adjustment aid 10	for easy adjustment to 10 mm depth of field, for image scale 0.5 - 0.2
<b>Lens mount</b>		
2-90-122	Lens Holder d32	Holder for telecentric lenses and lightings with d = 32 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>Thread adapter c-mount</b>		
5-00-011	Thread adapter C-Mount-M42	Adapter for mounting of lenses with C-mount on cameras with M42x1 mount
2-90-414	CS to C-mount adapter 5.0 mm	for connecting C-mount lenses with CS-mount cameras, length: 5 mm

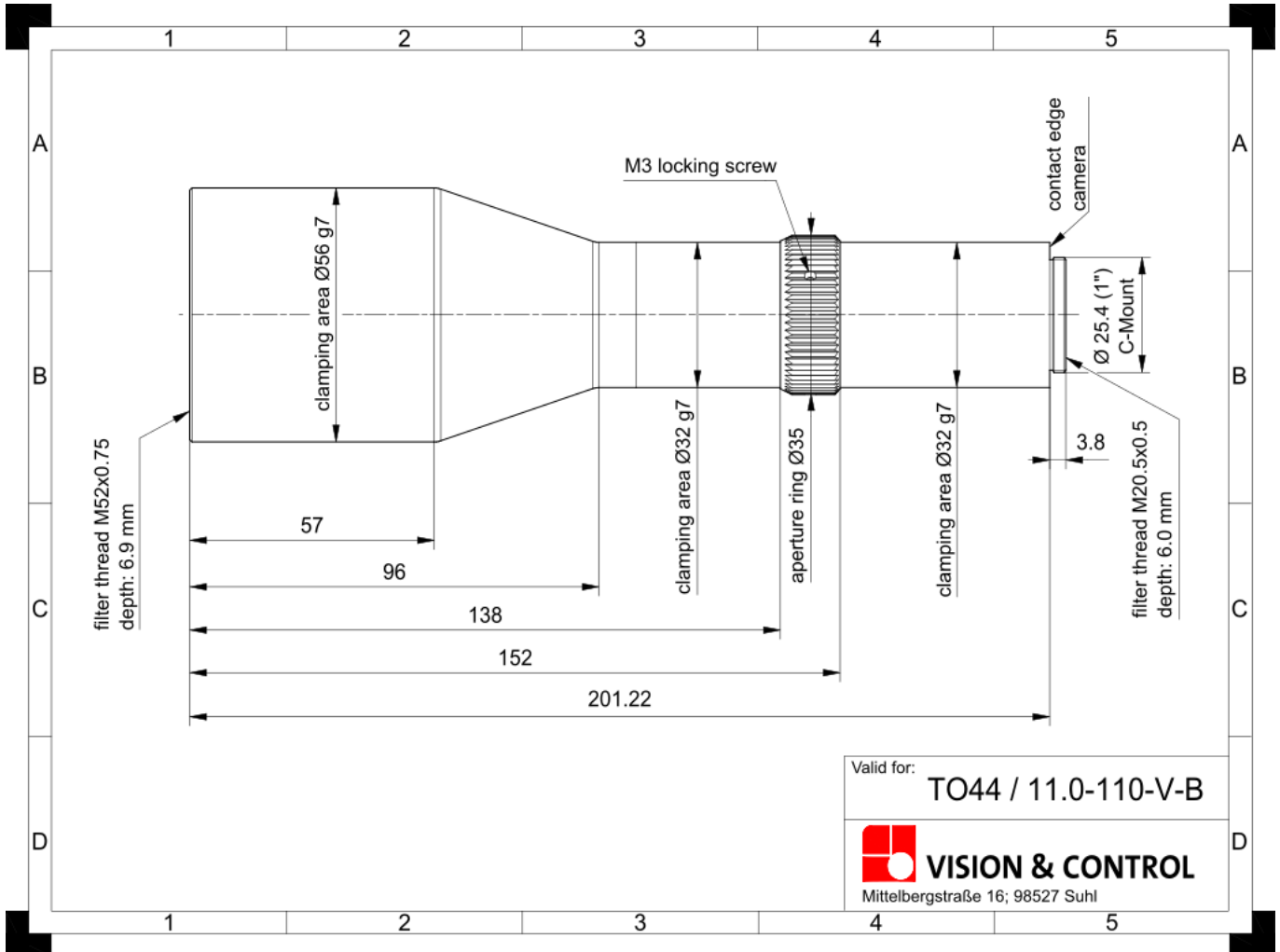
<b>Order number</b>	<b>Title</b>	<b>Description</b>
<b><i>Neutral density filter</i></b>		
2-91-174	ND filter 3.0 M52x0.75	optical density 3.0 - 0.1% transmission, f-stop reduction 10, filter thread M52x0.75
2-91-164	ND filter 1.2 M52x0.75	optical density 1.2 - 6.3% transmission, f-stop reduction 4, filter thread M52x0.75
2-91-154	ND filter 0.6 M52x0.75	optical density 0.6 - 25% transmission, f-stop reduction 2, filter thread M52x0.75
<b><i>Daylight blocking filter</i></b>		
2-91-131	IR filter M20.5x0.5	long-pass filter from 830 nm, daylight absorbing filter, filter thread M20.5x0.5
2-91-134	IR filter M52x0.75	long-pass filter from 830 nm, daylight absorbing filter, filter thread M52x0.75
<b><i>Polarising filters</i></b>		
2-91-144	Pole filter M52x0.75	linear polarizing filter, range 420 nm - 780 nm, filter thread M52x0.75
<b><i>Colour filter blue</i></b>		
2-91-290	Colour filter blue M52x0.75	band-pass filter, range 350 nm - 600 nm, filter thread M52x0.75
<b><i>UV Cut-Off Filter</i></b>		
2-91-124	UV blocking filter M52x0.75	long-pass filter from 350 nm, usable as protective glass, filter thread M52x0.75
<b><i>Colour filter red</i></b>		
2-91-259	Colour filter red M20.5x0.5	long-pass filter from 630 nm, red, filter thread M20.5x0.5
2-91-262	Colour filter red M52x0.75	long-pass filter from 630 nm, red, filter thread M52x0.75
<b><i>Colour filter green</i></b>		
2-91-303	Colour filter green M52x0.75	band-pass filter, range 430 nm - 620 nm, filter thread M52x0.75
<b><i>Colour filter yellow</i></b>		
2-91-277	Colour filter yellow M52x0.75	long-pass filter from 530 nm, yellow, filter thread M52x0.75

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<b>Order number</b>	<b>Title</b>	<b>Description</b>
<b><i>Deflection mirror 90° series</i></b>		
2-25-115	Deflection mirror 90-56	90° deflection, attachment for telecentric lenses and lightings with d = 56 mm
<b><i>Adapters for attaching lights to lenses</i></b>		
1-29-676	Adapter ring d41 - M52x0.75	for R-CLR-69x41 and RK2036, for attachment to lenses with filter thread M52x0.75
1-29-772	Adapter ring d73 - M52x0.75	for R-CLR-100x73 und RK3652, for attachment to lenses with filter thread M52x0.75
1-29-870	Adapter ring d104 - M52x0.75	for R-CLR-132x104 and RK5268, for attachment to lenses with filter thread M52x0.75
<b><i>Beam splitter STE60x60</i></b>		
1-20-050	STE60x60-VIS	Beam splitter unit for coaxial light system, optimized for 450-700 nm
1-20-022	Adapter STE60x60 - TZ056	Attachment of the STE60x60 to telecentric lenses and lightings with d = 56mm

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## Drawings



Dimensional drawing in mm