Vision & Control GmbH
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# vicotar® Telecentric Lens - TO30/9.1-85-F10-BW-RF

**Short description:** Telecentric Lens, C-mount, sensor opt. 1/1.8", aperture F10, vibration-proof, blue

**Order number:** 2-05-553

**EAN:** 4251692621042

## 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
- fixed aperture
- robust industrial design

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## Technical data

| | |
|---|---|
| Image scale | 0.307 |
| Spectral range | 450 nm - 950 nm |
| Working distance | 85.0 mm |
| Camera distance (object-camera flange) | 190.5 mm |
| Object field diagonal (max.) | 30 mm |
| Sensor format (opt.) | 1/1.8" |
| Image field diagonal (max.) | 9 mm |
| Suitable for camera resolution | 9.6 MPixel |
| Recommended pixel size | 2 µm |
| Aperture | fixed (F10) |
| Lens mount | C-Mount |
| Filter thread, object-side | M39 x 0.5 - depth: 7.2 mm |
| Weight | 150 g |
| Usable object field with: | |
| • 1/1.8" sensor (7.1 x 5.4 mm²) | 23.1 mm x 17.6 mm |
| • 1/2" sensor (6.4 x 4.8 mm²) | 20.8 mm x 15.6 mm |
| • 1/3" sensor (4.8 x 3.6 mm²) | 15.6 mm x 11.7 mm |

## Notices

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

## Can be combined with

| Order number | Title | Description |
|---|---|---|
| ***TZB38-P-SL series*** | | |
| 1-33-233 | TZB38-IR850-HP-SL | Telecentric light, IR, LF diameter: 38 mm, P-LED, smart light, insp. |
| ***TZB38-P-24V series*** | | |
| 1-33-242 | TZB38-B450-P-24V | Telecentric light, blue, LF diameter: 38 mm, P-LED, 24V, measurement |
| 1-33-286 | TZB38-B450-HP-24V | Telecentric light, blue, LF diameter: 38 mm, P-LED, 24V, inspection |
| 1-33-243 | TZB38-IR850-P-24V | Telecentric light, IR, LF diameter: 38 mm, P-LED, 24V, measurement |
| 1-33-287 | TZB38-IR850-HP-24V | Telecentric light, IR, LF diameter: 38 mm, P-LED, 24V, inspection |
| ***R-CLR-69-SL series*** | | |
| 1-33-007 | R-CLR-69x41-B470-SL | ring light, blue, coaxial, lf diameter: 41/69 mm, smart light technology |
| ***RK2036-24V series*** | | |
| 1-29-602 | RK2036-B470-24V/C | ring light, blue, coaxial, lf diameter: 41/69 mm, controlled, pot.: 0-10V, |
| ***R-CLR-100-SL series*** | | |
| 1-33-012 | R-CLR-100x73-B470-SL | ring light, blue, coaxial, lf diameter: 73/100 mm, smart light technology |
| ***RK3652-24V series*** | | |
| 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-F10-BW-RF

| Order number | Title | Description |
|---|---|---|
| ***Adjustment Aids*** | | |
| 5-10-112 | Adjustment aid 10 | for easy adjustment to 10 mm depth of field, for image scale 0.5 - 0.2 |

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| Order number | Title | Description |
|---|---|---|
| 5-10-114 | Adjustment aid 20 | for easy adjustment to 20 mm depth of field, for image scale 0.2 - 0.1 |
| ***Lens mount*** | | |
| 2-90-138 | Lens Holder d28 | Holder for telecentric lenses and lightings with d = 28 mm |
| ***Extension tubes*** | | |
| 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) |
| ***Thread adapter c-mount*** | | |
| 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 |
| ***Neutral density filter*** | | |
| 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 |
| ***Daylight blocking filter*** | | |
| 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 |
| ***Polarising filters*** | | |
| 2-91-140 | Pole filter M39x0.5 | linear polarizing filter, range 420 nm - 780 nm, filter thread M39x0.5 |
| ***Colour filter blue*** | | |

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| Order number | Title | Description |
|---|---|---|
| 2-91-287 | Colour filter blue M39x0.5 | band-pass filter, range 350 nm - 600 nm, filter thread M39x0.5 |
| ***UV Cut-Off Filter*** | | |
| 2-91-120 | UV blocking filter M39x0.5 | long-pass filter from 350 nm, usable as protective glass, filter thread M39x0.5 |
| ***Colour filter red*** | | |
| 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 |
| ***Colour filter green*** | | |
| 2-91-300 | Colour filter green M39x0.5 | band-pass filter, range 430 nm - 620 nm, filter thread M39x0.5 |
| ***Colour filter yellow*** | | |
| 2-91-274 | Colour filter yellow M39x0.5 | long-pass filter from 530 nm, yellow, filter thread M39x0.5 |
| ***Deflection mirrow 90° series*** | | |
| 2-25-114 | Deflection mirror 90-42 | 90° deflection, attachment for telecentric lenses and lightings with d = 42 mm |
| ***Adapters for attaching lights to lenses*** | | |
| 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 |
| ***Beam splitter STE30x30*** | | |
| 1-18-050 | STE30x30-VIS | Beam splitter unit for coaxial light system, optimized for 450-700 nm |
| 1-18-025 | Adapter STE30x30 - TZO42 | Attachment of the STE30x30 to telecentric lenses and lightings with d = 42 mm |

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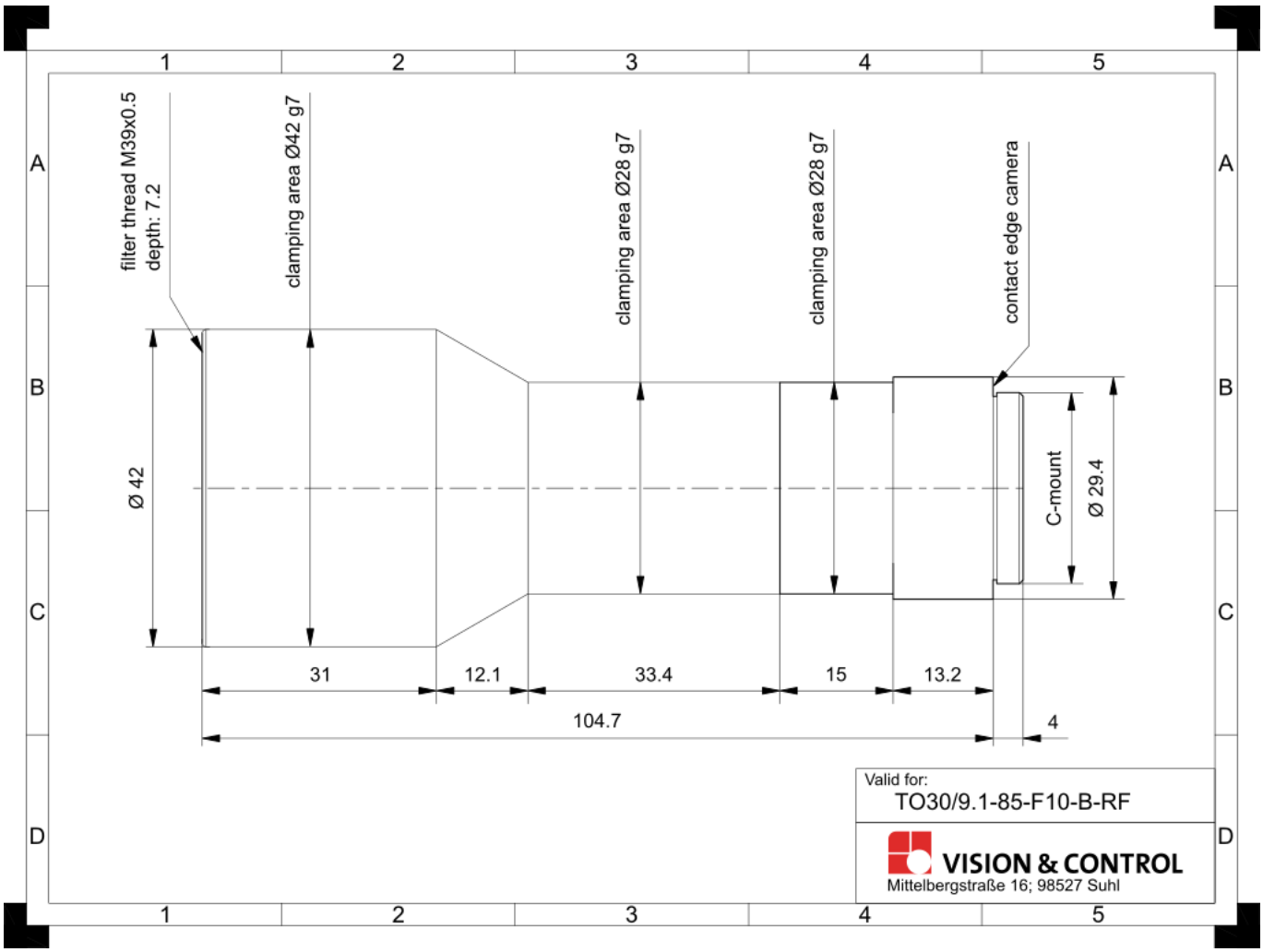
## Drawings




Dimensional drawing in mm