

# Bi-telecentric lens for 1.1" cameras (VCM111 series)

LS-VCM111 series · Telecentric lenses · 16 models



Bi-telecentric lens series for sensors up to 1.1" (18.5 mm dia. in the table, 18.4 on the model cards), C-Mount. Models are named by object field of view (dia. mm); each lists magnification, working distance, F/#, MTF30, depth of field, distortion <0.1% and telecentricity <0.1°.

## Features

- Matrix design with extremely high imaging quality
- Standard FOV from 26 to 240 mm, covering almost all industrial imaging applications
- Compatible with all C-mount cameras from 1/2.5" to 1.1", and F/M-mount cameras from 4/3" to 59 mm
- More than 168 standard types and hundreds of customised items
- Excellent F-number, high telecentricity, extremely low distortion, very large DoF
- Each lens comes with an imaging quality test report
- Lens mount with conveniently adjustable flange distance (AL)
- Matrix-design with extremely high imaging quality
- Compatible with all C mount cameras from 1/2.5" to 1.1", and F/M mount cameras from 4/3" to 59 mm
- Excellent F number, high telecentricity, extremely low distortion, super large DoF

## Applications

- Industrial imaging applications (standard FOV 26 to 240 mm)

## Common specifications

|                           |            |
|---------------------------|------------|
| Max sensor size (dia. mm) | 18.5(1.1") |
| Distortion (% max)        | <0.1       |
| Telecentricity (deg max)  | <0.1       |
| Mount (selection chart)   | C          |
| FOV range (dia. mm)       | 26 - 240   |
| Telecentricity (° max)    | <0.1       |
| Mount                     | C-Mount    |
| Detector                  | 1.1"       |

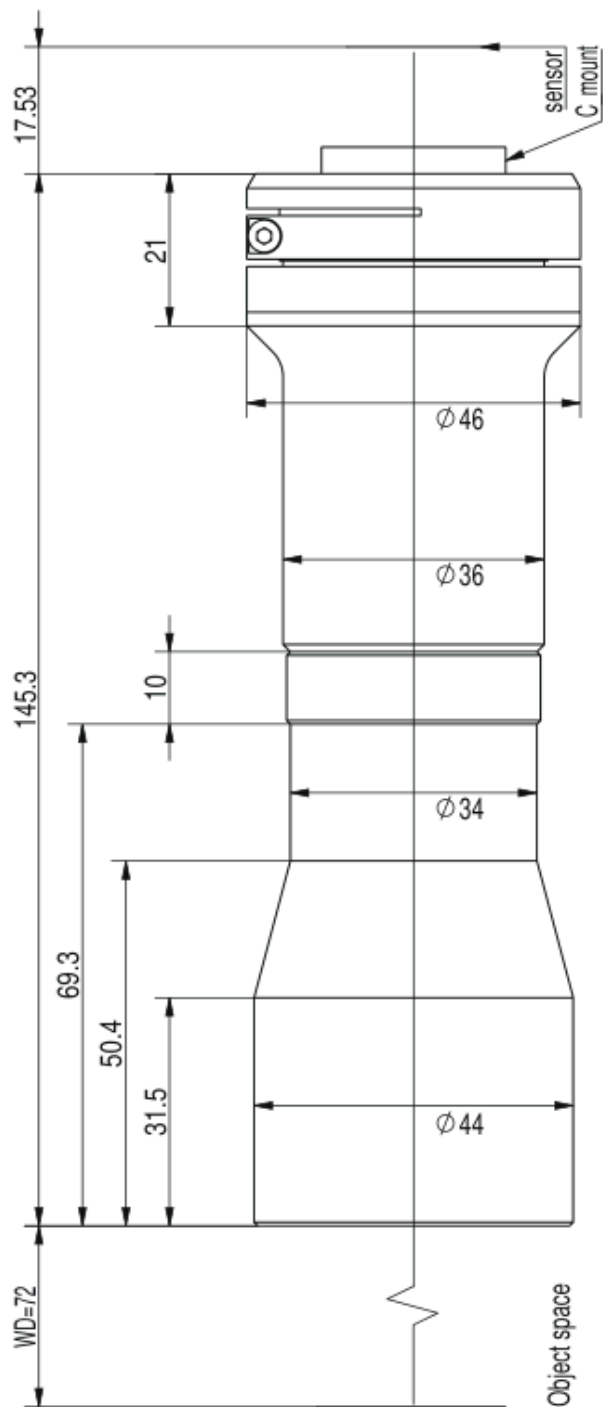
Ordering code: VCM111-<FOV diagonal mm, P variant>-AL (LS-VCM125-64-AL: 125 = largest compatible sensor 1/2.5", 64 = diagonal of FOV 64 mm, AL = lens mount with adjustable flange distance)

## Models

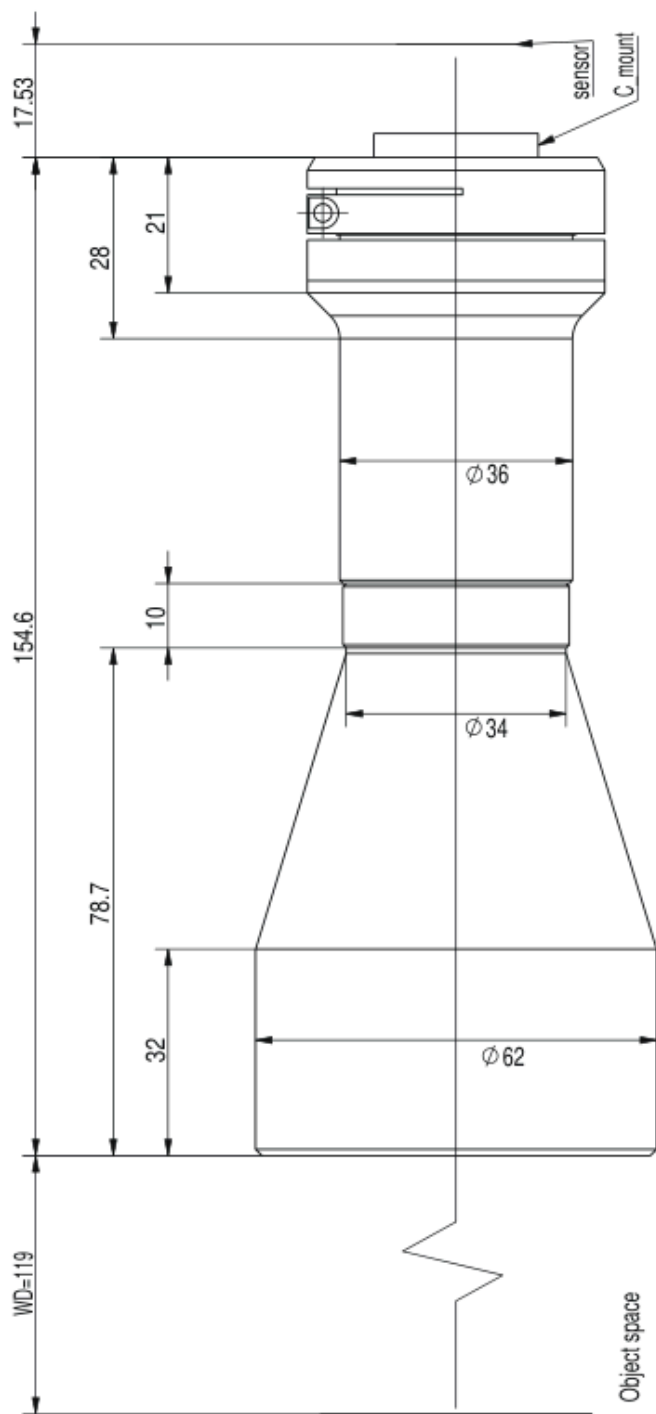
| Model            | FOV (dia. mm) | Mag. (x) | WD (mm) | F/# | MTF30 (lp/mm) | DoF (mm) | Working distance (mm) |
|------------------|---------------|----------|---------|-----|---------------|----------|-----------------------|
| LS-VCM111-26-AL  | 26            | 0.720    | 72±2    | 9.8 | >90           | ±1       | 72±2                  |
| LS-VCM111-36-AL  | 36            | 0.516    | 111±2   | 8   | >110          | ±1       | 111±2                 |
| LS-VCM111-42-AL  | 42            | 0.444    | 119±2   | 8   | >115          | ±1.5     | 119±2                 |
| LS-VCM111-48-AL  | 48            | 0.389    | 128±2   | 6.8 | >125          | ±1       | 128±2                 |
| LS-VCM111-56-AL  | 55            | 0.334    | 138±2   | 6   | >130          | ±1.5     | 138±2                 |
| LS-VCM111-64-AL  | 63            | 0.293    | 187±2   | 8.5 | >100          | ±4       | 187±2                 |
| LS-VCM111-64P-AL | 63            | 0.292    | 159±2   | 5   | >120          | ±2       | 159±2                 |
| LS-VCM111-72-AL  | 71            | 0.260    | 178±2   | 6.3 | >130          | ±3       | 178±2                 |
| LS-VCM111-80-AL  | 79            | 0.233    | 229±2   | 8   | >115          | ±6       | 229±2                 |
| LS-VCM111-100-AL | 92            | 0.201    | 254±3   | 8   | >105          | ±6.5     | 254±3                 |
| LS-VCM111-110-AL | 110           | 0.168    | 251±3   | 5   | >120          | ±5       | 251±3                 |
| LS-VCM111-136-AL | 134           | 0.138    | 288±4   | 5   | >125          | ±9.5     | 288±4                 |
| LS-VCM111-150-AL | 148           | 0.125    | 301±4   | 5   | >130          | ±10      | 301±4                 |
| LS-VCM111-170-AL | 168           | 0.110    | 318±4   | 5   | >115          | ±13      | 318±4                 |
| LS-VCM111-240-AL | 237           | 0.078    | 410±5   | 5   | >130          | ±30      | 410±5                 |
| LS-VCM111-80P-AL | -             | -        | -       | -   | -             | -        | 229                   |

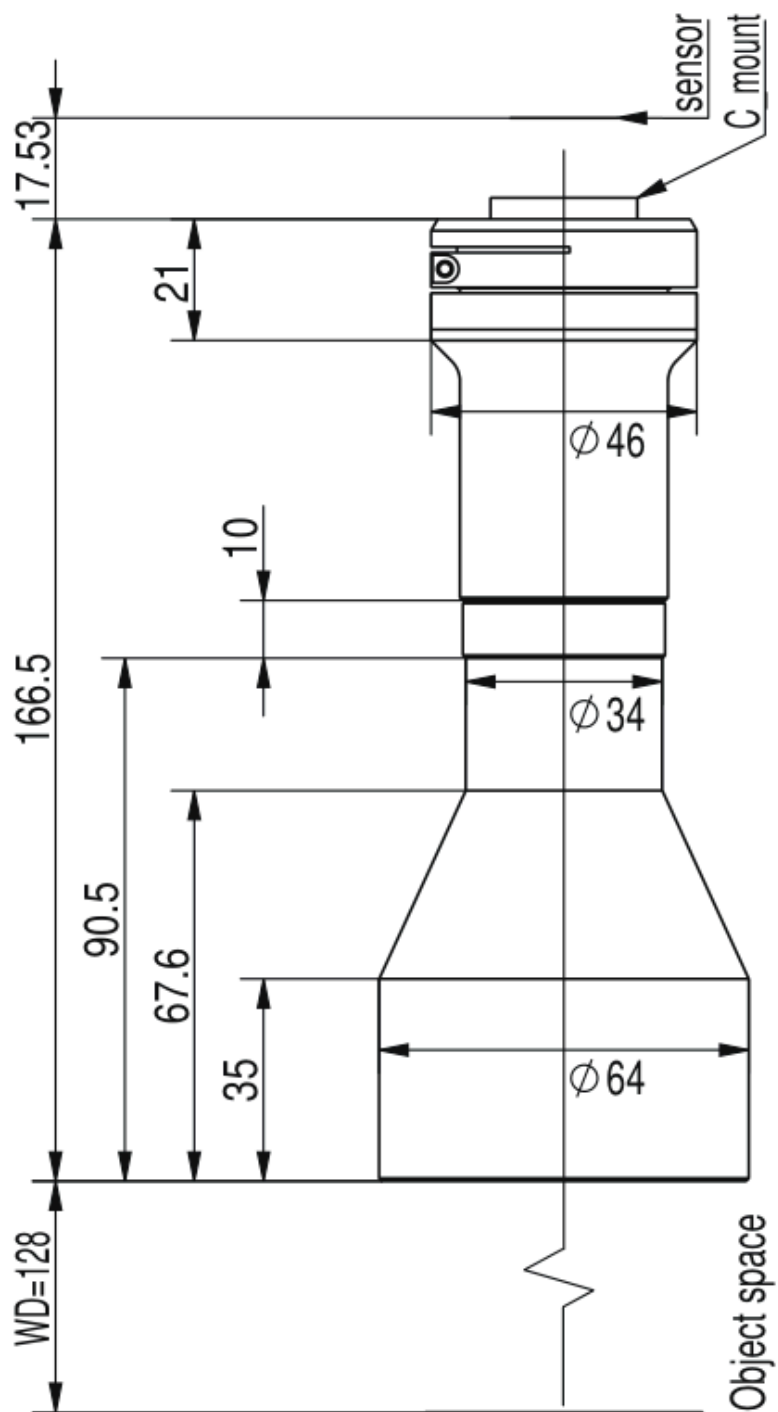
More values per model (I/O (mm), Length (mm), Weight (kg), Mount shown in drawing, Field of view on 1.1" IMX304(14.13x10.6) (mm), Magnification (x), Depth of field (mm), Field of view on 1.1" IMX304(14.13x10.6) (mm x mm), Field of view (dia. mm), Object-to-image distance I/O (mm), Field of view with 1.1" IMX304(14.13x10.6) (mm), Model (spec table)...) are on each product page.

## Dimensions









## Performance

| CCD                        | FOV (mm) |        |        |       |       |       |        |       |        |        |        |        |       |        |        |       | Mount |
|----------------------------|----------|--------|--------|-------|-------|-------|--------|-------|--------|--------|--------|--------|-------|--------|--------|-------|-------|
|                            | Mag (X)  |        |        |       |       |       |        |       |        |        |        |        |       |        |        |       |       |
|                            | 26       | 36     | 42     | 48    | 56    | 64    | 64P    | 72.00 | 80     | 100    | 110    | 136    | 150   | 170    | 240    |       |       |
| LS-VCM125<br>(1/2.5"7.2mm) | 0.277    | 0.199  | 0.172  | 0.15  | 0.129 | 0.113 | 0.1122 | 0.1   | 0.09   | 0.0771 | 0.0647 | 0.0529 | 0.048 | 0.0424 | 0.03   | C     |       |
| LS-VCM120<br>(1/2"8.0mm)   | 0.309    | 0.2217 | 0.192  | 0.167 | 0.144 | 0.126 | 0.125  | 0.112 | 0.1002 | 0.0859 | 0.072  | 0.0589 | 0.054 | 0.0472 | 0.0334 | C     |       |
| LS-VCM118<br>(1/1.8"9.0mm) | 0.348    | 0.25   | 0.217  | 0.188 | 0.162 | 0.142 | 0.141  | 0.126 | 0.113  | 0.097  | 0.082  | 0.066  | 0.061 | 0.053  | 0.038  | C     |       |
| LS-VCM238<br>(2/3"11.4mm)  | 0.409    | 0.293  | 0.252  | 0.221 | 0.19  | 0.166 | 0.165  | 0.147 | 0.132  | 0.114  | 0.095  | 0.078  | 0.071 | 0.063  | 0.044  | C     |       |
| LS-VCM208<br>(2/3"11.4mm)  | 0.439    | 0.314  | 0.271  | 0.238 | 0.204 | 0.179 | 0.179  | 0.159 | 0.143  | 0.123  | 0.103  | 0.084  | 0.076 | 0.067  | 0.048  | C     |       |
| LS-VCM110<br>(1"16.6mm)    | 0.641    | 0.461  | 0.396  | 0.347 | 0.298 | 0.26  | 0.26   | 0.231 | 0.208  | 0.179  | 0.15   | 0.122  | 0.111 | 0.098  | 0.069  | C     |       |
| LS-VCM111<br>(1"18.4mm)    | 0.72     | 0.516  | 0.444  | 0.389 | 0.334 | 0.293 | 0.292  | 0.26  | 0.233  | 0.201  | 0.168  | 0.138  | 0.125 | 0.11   | 0.078  | C     |       |
| LS-VCM179<br>(1.75"29mm)   | 1.115    | 0.798  | 0.686  | 0.603 | 0.517 | 0.456 | 0.452  | 0.401 | 0.36   | 0.312  | 0.261  | 0.214  | 0.193 | 0.171  | 0.12   | F/M42 |       |
| LS-VCM219<br>(2"33mm)      | 1.269    | 0.912  | 0.781  | 0.687 | 0.589 | 0.518 | 0.514  | 0.458 | 0.412  | 0.354  | 0.296  | 0.242  | 0.22  | 0.194  | 0.137  | F/M42 |       |
| LS-VCM71M<br>(39mm)        | 1.503    | 1.08   | 0.929  | 0.814 | 0.698 | 0.613 | 0.61   | 0.543 | 0.487  | 0.419  | 0.351  | 0.287  | 0.261 | 0.23   | 0.163  | F/M58 |       |
| LS-VCM30F<br>(44mm)        | 1.503    | 1.208  | 1.0348 | 0.911 | 0.781 | 0.686 | 0.682  | 0.607 | 0.546  | 0.4681 | 0.3924 | 0.321  | 0.292 | 0.257  | 0.182  | F/M58 |       |
| LS-VCM10K<br>(59mm)        | 2.264    | 1.626  | 1.396  | 1.256 | 1.051 | 0.92  | 0.916  | 0.817 | 0.735  | 0.63   | 0.528  | 0.432  | 0.392 | 0.346  | 0.245  | M72   |       |
| WD (mm)                    | 72       | 111    | 119    | 128   | 138   | 187   | 159    | 178   | 229    | 254    | 251    | 288    | 301   | 318    | 410    |       |       |

## Product views

